



NEWMAN'S
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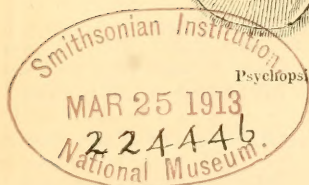
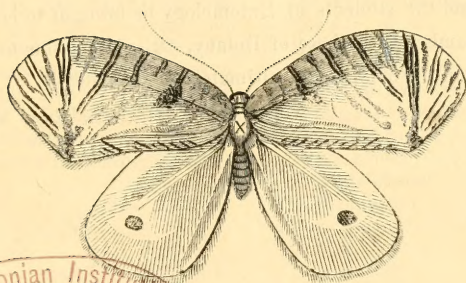
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THE
ENTOMOLOGIST:

CONDUCTED BY

EDWARD NEWMAN.



Psychopsis mimica, page 415

LONDON :

JOHN VAN VOORST, PATERNOSTER ROW.

1840-2.

"Were this neglected but beautiful field of nature more widely cultivated,—could the students of Entomology be brought to bear any comparison in number with those of Botany,—it is impossible to say to what extent science in general might ultimately be benefited."

BIRD IN ENT. MAG. i. 105.

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THE ENTOMOLOGIST.

No. I.

NOVEMBER, MDCCCXL.

PRICE 6D.

ART. I. — *Entomological Notes.* By EDWARD NEWMAN.

(Continued from the 'Entomological Magazine', vol. V. p. 402).

Class.—COLEOPTERA.

Natural Order.—CERAMBYCITES, *Newman.*

Genus.—CALLISPHYRIS, *Newman.*

CAPUT pronum, prothorace angustius; antennæ dimidio corporis vix longiores, 11-articulatæ, simplices, apice paullo crassiores: prothorax lateribus medio dentatis: elytra dimidio corporis manifestò breviora, a basi ad medium pedetentim angustata, ponè medium linearia: pro- et mesopedes breves, simplices, femoribus haud tumescentibus; metapedes elongati, femoribus tibiisque valdè hirsutis.



Call. Macropus. Niger, hirsutus, antennarum basi, elytris, pedibusque flavis: metafemorum spatio mediano, tarsisque omnibus nigris. (Corp. long. 1 unc. lat. .35 unc.)

Inhabits South America. A single specimen, taken by Mr. Darwin on the Island of Chiloe, is in the cabinet of the Entomological Society of London.

This fine insect in some of its characters closely resembles *Odonotocera* of Serville, but the structure of its antennæ, the tooth on each side of its prothorax, and its slender and simple pro- and meso-femora, incline me to consider the similarity merely dependant on its narrowed elytra and hirsute metatibiæ, and not implying any very near approach to that well-known genus.

Family.—PHORACANTHIDÆ, *Newman*.

In this family I would propose to include *Phoracantha* of Newman, *Mallocera*, *Sphæron*, *Cordylomera*, *Trichophorus*, and *Elaphidion* of Audinet-Serville, and several other nearly-allied insects, many of which are at present undescribed. They are generally to be distinguished at the first glance by having a short spine at the extremity of several joints of the antennæ, beginning with the third and usually ending with the seventh: the head is porrected, nearly on a level with the prothorax, and not deeply received into that part as in some of the families of this extensive order. The elytra are generally terminated by an oblique truncature, of which the exterior angle is usually furnished with an acute spine. I have not given the name *Phoracanthidæ* in compliment to a genus of my own, but because that genus is the type of the family, now for the first time collected together or in any way indicated, and because the name is expressive of the principal character by which the family is distinguished.

Genus.—PHORACANTHA, *Newman*.

The genus *Phoracantha* is described in the 'Annals of Natural History,' vol. v. p. 17. It had previously been regarded by Fabricius as part of his genus *Stenocorus*; and the earlier entomologists of the same school, as Donovan and Kirby, followed in his footsteps. The Count Dejean was the first to break up a genus, which, like *Chrysomela* of Linneus, seemed to be used by its author as a receptacle for sundries requiring further investigation, and we find in the 'Catalogue des Coléoptères' three species of *Phoracantha* placed under Serville's genus *Mallocera*, although the last-mentioned author has indicated no such intention: the Count de Castelnau, in his 'Animaux Articulés,' has followed Dejean's arrangement.

The descriptions of the following species, the first only excepted, were ready for publication nearly two years ago. In January last they were actually on their way to the printer's when I heard that Mr. Hope was at work on the same group: I instantly withdrew my descriptions, lest my species should clash with his. Mr. Hope's paper has subsequently been read at the Zoological Society, and he does not appear to possess a single species that I have described. The previously-described species of *Phoracantha* are, 1, *synonyma* of Newman, 'Ann. Nat. Hist.' l. c., synonymous with *Stenocorus punctatus* of Kirby, 'Trans. Linn. Soc.' xii. 471; 2, *punctata* of Donovan's 'Epitome of the Insects of New Holland'; 3, *tenebrosa* of Newman, synonymy-

mous with *Sten. obscurus* of Donovan, but not with *Sten. obscurus* of Fabricius, 'Syst. Eleu.' ii. 307; 4, *semipunctatus* of Fabricius, Olivier, and Donovan, but not of Boisduval; 5, *rubripes* of Boisduval, 'Faune de l'Océanie,' i. 477; 6, *dorsalis* of MacLeay, 'Appendix to King's Voyage,' ii. 451: and 7, *biguttata* of Donovan, which Mr. Hope, in the 'Transactions of the Zoological Society of London,' i. 107, gives as the type of Latreille's genus *Tmesisternus*, and which Dejean and Castelnau place under Serville's genus *Mallocera*. The last species differs in many respects from *Phoracantha*, *Tmesisternus*, and *Mallocera*, and is particularly to be distinguished by its slender and graceful form, its suddenly incrassated femora, and the gaiety of its colours. In this genus-making age it will doubtless be raised to generic honours; in which case it may be called *Callirhœ*.

Phor. hamata. Antennæ corpore vix longiores; articulis 3—7 apice bispinosi: prothorax quàm in cæteris minor, angustior, brevior, dorso rugosus spatio mediano glabro, lateribus spinâ acutâ recurvâ armatus: elytra asperè ac profundè puncta; punctis apicem versus magnitudine pedetentim decrescentibus: color testaceus, oculis nigris; elytra testacea fasciâ communi undatâ quasi VV ante medium maculâque communi suturali ponè medium fuscis. (Corp. long. 1·3 unc. lat. ·375 unc.)

Inhabits New Holland. A single specimen, in the cabinet of the Entomological Club, was taken by Mr. Kirk at Sydney.

Phor. tricuspis. Antennæ corpore valdè longiores, apices gracillimæ, articulis 1—3 apice 1-spinosis: prothorax dorso rugosus, lateribus ponè medium dente obtuso armatus: elytra asperè ac profundè puncta; punctis apicem versus magnitudine pedetentim decrescentibus: color fuscus nitidus; elytra plagâ magnâ medianâ apicibusque luteis signata; plaga mediana fasciâ angustâ undatâ interrupta est. (Corp. long. 1·4 unc. lat. ·3 unc.)

Inhabits New Holland. A single specimen, in the cabinet of the Entomological Club, was taken by Dr. Stanger at Sydney.

Phor. quinaria. Antennæ corpore longiores, articulis 3—7 apice 1-spinosis: prothorax asperè punctus, lateribus dente mediano acuto armatus: elytra asperè ac profundè puncta, punctis apicem versus magnitudine pedetentim decrescentibus: color fuscus, singulo elythro maculis 4 apicibusque luteis. (Corp. long. 1 unc. lat. ·25 unc.)

Inhabits New Holland. A single specimen, in the cabinet of the Entomological Club, was taken by Mr. Davis at Adelaide.

Phor. recurva. Antennæ corpore longiores, quàm in cæteris hirsutiores, articulis 3—7 apice 1-spinosis, spinâ tertii paullò recurvâ: prothorax complanatus, rugosus, spatiis tribus elevatis glabris; lateribus spinâ acutâ armatus: elytra basi asperè ac profundè puncta, apice glaberrima: color fusco-ferrugineus, antennis pedibusque luteo-testaceis; elytra lutea, maculâ sive lineâ obliquâ utrinquè ante medium, fasciâque latissimâ ponè medium fusco-ferrugineis. (Corp. long. 1·2 unc. lat. ·3 unc.)

Stenocorus semipunctatus. Boisduval, 'Faune de l'Océanie,' p. 476.

Inhabits New Holland. This beautiful insect is common in all our collections under the name of *Stenocorus semipunctatus*.

Phor. aberrans. Antennæ corpore vix longiores, articulis 3—6 apice 1-spinosis: prothorax elongatus capite duplò longior, dorso tuberculatus, lateribus 1-dentatus: elytra puncta punctis apicem versus minutis: color fusco-ferrugineus fasciâ latâ fusco-nigrâ ponè medium, ante fasciam maculis obliquis incertis luteis interruptus, subtùs fuscus. E præcedentibus differt gracilitate majori, at planè ejusdem generis. (Corp. long. ·75 unc. lat. ·175 unc.)

Inhabits New Holland. There is a single specimen in the cabinet of the British Museum.

Phor. allapsa. Antennæ corpore vix longiores, articulis 3—6 apice 1-spinosis: prothorax elongatus capite duplò longior dorso tuberculatus, lateribus vix dentatus, tubere minuto mediano instructus: elytra puncta, punctis apicem versus minutis: color fuscus; elytra maculis 7 elongatis albidis ornata; maculæ sic dispositæ, 3, 3, 1. Sternum abdominisque segmentum primum ferruginea, segmenta cætera nigra. (Corp. long. ·75 unc. lat. ·175 unc.)

Inhabits Van Dieman's Land. There is a single specimen in the cabinet of the British Museum.

Phor. senio. Antennæ corpore vix longiores, articulis 3—7 apice 1-spinosis: prothorax asperè punctus, lateribus dente obtuso armatus: elytra asperè ac profundè puncta, punctis apicem versus magnitudine pedetentim decrescentibus: color fuscus, sin-

guli elytri maculis 2 apiceque luteis. (Corp. long. .6 unc. lat. .125 unc.)

Inhabits New Holland. This pretty little insect is also common: Mr. Davis has sent it from Adelaide; Mr. Kirk and Mr. Imeson from Sydney.

Genus.—MALLOCERA, *Serville*.

The genus Mallocera of Serville, as originally described, contains but a single species, *Mal. glauca*: the Count de Castelnau has added a second, *Mal. elongata*, 'Anim. Articulés,' 70 livr. p. 424: the same author also adds to the genus the *Stenocorus biguttatus* of Donovan. The species described below I believe to be new.

Mall. sericata. Antennæ corpore valdè longiores, basim versus quàm in cæteris crassiores: prothorax rugosus, dorso tuberculis 5 minutis instructus, lateribus dente magno obtuso vix recurvo armatus: color fuscus, lanugine sericatâ perpulchrâ gaudens. (Corp. long. .95 unc. lat. .25 unc.)

Inhabits Brazil. There is a single specimen in the cabinet of the British Museum.

Genus.—SPHÆRION, *Serville*.

Serville has proposed the name Sphærion (in the 'Ann. Ent. Soc. of France,' iii. 68), for a division of his genus Elaphidion (Id. iii. 66), distinguished by the species having the elytra simply terminating without truncature, in a single spine. The type of the genus, *Sph. cyanipennis*, is from Rio. There are specimens in the cabinet of the British Museum.

Genus.—CORDYLOMERA, *Serville*.

This genus is closely allied to the foregoing, but the known species inhabit Africa. The type, *Cor. nitidipennis* (described 'Ann. Ent. Soc.' iii. 24), is a very beautiful species; there are specimens in the cabinet of the British Museum. *Cerambyx spinicornis* of Fabricius ('Syst. Eleut.' ii. 271), is referable to this genus.

Genus.—TRICHOPHORUS, *Serville*.

The species *lippus* of Germar, admirably described in that author's 'Insectorum Species,' p. 508, No. 677, is the type of Serville's genus Trichophorus, ('Ann. Ent. Soc. of France,' iii. 17). The species *obli-*

gnus, which is the type of the second division of *Trichophorus*, does not appear to me to be one of the *Phoracanthidæ*. The following species is, I believe, undescribed, and although so very similar to *Tric. lippus*, I think it is distinct.

Tric. distinctus. Ferrugineo-fuscus maculis numerosis albo-tomentosis: prothorax et elytra asperè puncta. (Corp. long. .85 unc. lat. .2 unc.)

The entire colour of this insect is darker than *Tric. lippus*, it is also more rugose and less shining, and the white markings on the elytra are not surrounded with a black margin: the white markings are thus distributed; on the crown of the head are two parallel longitudinal lines; a spot occupies the space between the eye and antenna; on the posterior part of the prothorax is a longitudinal line on each side, each of these joins a marginal transverse line; the scutellum is white: each elytron has three longitudinal lines; the 1st is near the suture and above the middle of the elytron; the 2nd is exterior to the 1st, on a level with the termination of which it commences, it is broken in the middle; the 3rd is exterior to the 2nd, and extends below it, being the longest of the three. Both the species are from Brazil, and are in the cabinet of the Entomological Club.

Genus.—*ELAPHIDION*, *Serville*.

The genus *Elaphidion* was established by Audinet-Serville, in the 'Annales Soc. Ent. of France,' iii. 66. It contains a great number of species, very similar in general appearance, and all of them inhabitants of the New World. The characters by which it is distinguished from the foregoing are slight; the prothorax is rounded laterally, and is without spines; above, it is flattened: the elytra are obliquely truncate, and bear a spine at each angle of the truncature. The typical species is *Stenocorus spinicornis* of Fabricius, 'Syst. Eleu.' ii. 306. The following species I think is hitherto undescribed.

Elaph. deflendum. Antennæ corpore paulò longiores, caput parvum, anticè acuminatum: prothorax glaber: elytra parè ac profundè puncta, apice vix spinosa: color niger, prothorax lætè rufus maculâ magnâ rotundâ dorsali nigrâ: scutellum lanugine albidâ densè tectum: totum insectum pilis albidis sparsis irroratum. (Corp. long. .5 unc. lat. .1125 unc.)

Inhabits the United States of North America. A specimen in the cabinet of the Entomological Club, was taken in Georgia.

Genus.—MALLOSOMA, *Serville*.

This genus is closely allied to the preceding: Serville ('Ann. Soc. Ent. of France,' iii. 68) has scarcely assigned it a single character by which to distinguish it; he has indeed described the termination of the elytra as unarmed, which is erroneous, the exterior angle of the truncature having an obvious spine. A beautiful species, *Mallosoma elegans*, is common in Brazil, and is found running over the trunks and leaves of trees, and flying readily, after the manner of a Clytus, close to which genus it has been placed by the Count Dejean. The following species I think is not previously described.

Mall. fuligineum. Fuligineum, obscurum, lanugine nigrâ dense tectum: prothorax ferrugineus, maculâ magnâ rotundatâ dorsali lineâque laterali nigris: elytra immaculata. (Corp. long. .5 unc. lat. .175 unc.)

Inhabits Brazil. A single specimen is in the cabinet of the Entomological Club.

Genus.—PHACODES, *Newman*.

Caput ferè pronum: antennæ graciles corpore paullò breviores, pilosæ, 11-articulatæ, articulis 3—5 apice 1-spinosis: prothorax ferè cylindraceus lateribus rotundatus inermis, dorso tuberibus tribus glabris instructus: elytra ampla, convexa, apice rotundata, apice ipso truncato, angulo exteriori 1-spinoso: pedes mediocres.

Phac. lentiginosus. Facies Callidii: prothorax rugosus: elytra puncta, quoque pustulata; punctis basim versus crebriores: pustulis passim dispositis. Color fuscus, fasciâ ponè medium valdè indistinctâ lanuginosâ albidâ. (Corp. long. 1.2 unc. lat. .375 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club.

This large and abundant insect seems to have been unknown to Boisduval and MacLeay. Its appearance is that of a large Callidium; in some of its characters it displays an obvious affinity to the Phoracanthidæ.

Genus.—CYLLENE, *Newman*.

Facies Clyti: caput parvum, ferè pronum, antennæ *maris* corpore longiores, *feminae* valdè breviores, 11-articulatæ; articulis externis manifestò crassioribus, 3—6 apice spinâ brevi armatis: prothorax latus,

dorso convexus, lateribus rotundatis dente postico armatis: elytra convexa, apice 1-spinosa: pedes simplices.

Cyll. spinifera. Fusca, obscura, lanuginosa: prothorax maculis duabus glabris ornatus: antennarum articuli basi cinerei: elytra fusca, maculis fasciisve lanuginosis cinereis ornata. (Corp. long. .7 unc. lat. .225 unc.)

Inhabits South America. Specimens taken by Mr. Darwin are in the cabinet of the Entomological Society. I find no description of this insect in Serville's 'Nouvelle Classification,' but it is by no means uncommon in collections: it bears as close a resemblance to *Clytus* as *Phacodes* to *Callidium*.

The descriptions which follow have no reference to any particular family of Longicorns, but are simply recorded as supposed novelties to the science.

Genus.—*ÆMONA*, *Newman*.

Facies ferè Clyti: caput vix pronum, in prothorace ad oculos ferè immersum, anticè elongatum; oculi reniformes subtùs dilatati: antennæ corpore vix longiores, filiformes, 11-articulatæ, articuli 3us 4usque sequentibus paullò breviores: prothorax inermis, latitudine longior, lateribus ferè parallelis, disco transversè rugatus: elytra dorso complanata, apicem versus pedetentim attenuata, apice ipso rotundata: pedes paullò elongati, femoribus simplicibus.

Æmona humilis. Castanea, oculis, femoribus apice tarsisque fuscis: vertex pilis aureis crebrè obsitus, medio lineâ glabrâ longitudinalitèr divisus: scutellum tomentosum cinereum: elytra profundè puncta, pilis canis obsita. (Corp. long. .55 unc. lat. .125 unc.)

Inhabits New Zealand. A single specimen, taken by Mr. Darwin, is in the cabinet of the Entomological Society of London.

Genus.—*ÆME*, *Newman*.

Caput exsertum, transversum; antennæ graciles, corpore breviores, pilosæ, spinis minutis passim instructæ: prothorax ferè globosus, inermis: elytra elongata, prothorace latiora, linearia, apice rotundata: pedes simplices, femoribus paullò compressis.

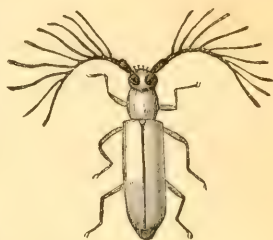
Æme indecora. Testaceo-fusca, unicolor, oculis tantùm nigris:

prothorax punctus : elytra puncta lineis elevatis duabus instructa. (Corp. long. '6 unc. lat. '125 unc.)

Inhabits North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday, at St. John's Bluff, in East Florida. It approaches in habit to *Xystrocera globosa*.

Genus.—*PETALODES*, *Newman*.

Antennæ corpore breviores, lamellatæ, 11-articulatæ, articulus 1us mediocris exteriùs crassior, 2us brevissimus, 3us et sequentes breves, ramulam longissimam emittentes: oculi maximi, infra capitem dilatati, ferè conniventes: prothorax capite haud latior, paullò longior, nullo modo armatus: elytra linearia prothorace paullò latiora, triplò longiora, apice inermia.



Peta. laminosus. Punctus, fuscus, scutello, lineâque laterali latâ pro-meso- et metathoracis albis: abdominis segmentis lateralibus albo bimaculatis. (Corp. long. '8 unc. lat. '2 unc.)

Inhabits New Holland. A single specimen, taken by Mr. Davis at Adelaide, is in the cabinet of the Entomological Club.

Genus.—*HETERACHTHES*, *Newman*.

Generi *Ibidioni* (*Serville*) affinis: caput ferè porrectum; antennæ corpore longiores, 11-articulatæ; articulus 1us mediocris, 2us brevis, 3us, 4us, 5us, et 6us elongati, cylindracei, incrassati, 7us, 8us, 9us, 10us, et 11us elongati, filiformes: oculi magni, reniformes, ad antennarum basim emarginati: prothorax elongatus, cylindraceus, capite angustior, lateribus ferè parallelus: elytra linearia prothorace paullò latiora, apice ferè rotundata: pedes mediocres, femoribus vix tumidis.

Heterach. ebenus. Concolor, niger, opacus, antennarum articulis incrassatis tantùm nitidis. (Corp. long. '4 unc. lat. '075 unc.)

Inhabits North America. In the cabinet of the Entomological Club: taken by Mr. Doubleday in East Florida.

G. N.—*Callidio* affine.

— *picum*. Picum, antennis pedibusque pallidioribus: antennæ corpore breviores, simplices: caput porrectum prothorace

vix angustius: prothorax rugosus, lateribus inermis: scutellum parvum, cinereo-lanuginosum: elytra prothorace latiora, lateribus parallela, apice rotundata inermia, crebrè puncta; punctis profundis, basim versus confluentibus: femora apice manifestò haud repente tumida. (Corp. long. .75 unc. lat. .2 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club &c.; not uncommon.

— *signiferum*. Punctum, ferrugineo-fuscum: elytra maculis 11 flavis signata: femoribus apice tumescentibus basi attenuatis, luteis, tibiis quoque basi luteis. (Corp. long. .3 lat. .075 unc.)

Inhabits New Holland. A specimen in the cabinet of Mr. Waterhouse.

Genus.—HEPHÆSTION, *Newman*.

Caput ferè pronum, exsertum, prothorace haud angustius: antennæ corpore breviores, apice paulò crassiores, 11-articulatæ: prothorax spinis 4 lineâ transversâ collocatis armatus: elytra apice inermia: pedes simplices, graciles, mediocres, metafemoribus tibiisque paulò compressis.

Hephæs. ocreatus. Antennarum articuli 3us 4usque sequentibus breviores, nitidi: elytra linearia rotundata: caput, antennæ, prothorax et sternum nigerima: elytra glaberrima, splendore metallico purpureo mutabili læta: pedes nigri, femoribus croceis: abdomen croceum, apice nigro. (Corp. long. 1 unc. lat. .25 unc.)

Inhabits South America. A single specimen, taken by Mr. Darwin on the island of Chiloe, is in the cabinet of the Entomological Society of London.

Hephæs. macer. Antennarum articuli 3us 4usque sequentibus haud breviores, obscuri: elytra corpore breviora, à basi ad medium pedetentim attenuata, post medium tenuissima, linearia: niger, antennarum articulis 1mo basi, 7mo omninò, 8vo basi albidis: metafemoribus basi metatarsis medio albidis. (Corp. long. .85 unc. lat. .15 unc.)

Inhabits South America. A single specimen, taken by Mr. Darwin on the island of Chiloe, is in the cabinet of the Entomological Society of London.

Genus.—TRACHYDERES, *Dalman*.

Trac. venustus. Piceus, elytrorum fasciis duabus, maculâque singuli subrotundâ apicali lætè stramineis: scutellum elongatum, sublineare, medio longitudinalitè impressum, piceum. (Corp. long. 1·15 unc. lat. ·5 unc.)

Inhabits Demerara. Three specimens of this lovely insect were taken by M. Schomburgk, who kindly allowed me to describe and name the species. The entire colour is pitchy black, with the exception of three large spots on each elytron of a beautiful straw colour: of these spots the first is humeral, transverse, and extends from the costal margin to the scutellum, but does not quite reach the base; the second is median, transverse, and reaches the costal but not quite the sutural margin; the third is nearly apical, almost round, and does not reach either of the margins; the prothorax is rugose, and has five dorsal protuberances arranged thus, ∴; the scutellum is elongate, linear, narrow, and has a longitudinal impression, it is of a clear pitchy black. This description was read before the Entomological Society of London, in 1839.

Genus.—LAMIA, *Fabricius*.

Lamia ahenea. Nigra, lanugine lateritiâ undiquè tecta: elytra puncta, punctis à basi ad apicem magnitudine pedetentim decrescentibus, ahenea, fasciâ angustâ posticè convexâ ante medium, vittâque laterali à medio ad apicem rufis: antennæ et tarsi glabra, nigra. (Corp. long. 1·5 unc. lat. ·5 unc.)

Inhabits the Cape of Good Hope. There are two specimens in the cabinet of the Entomological Club.

Genus.—MICROCLEPTES, *Newman*.

Caput pronum, prothorace vix angustius; facies complanata, lata, trigona: antennæ 11-articulatæ, corpore longiores, articulo basali majori; oculi elongati, medio angustissimi: prothorax valdè convexus, lateribus rectis, spinâ acutâ armatis: elytra valdè convexa, humeris 1-dentata: pedes mediocres, femoribus tumidis, metafemora elytris longiora.

Micro. Aranea. Testaceo-fusca, puncta, punctis magnis, profundis, prævè dispositis, nunc distinctis, nunc confluentibus: facies et scutellum cinereo-tomentosa. (Corp. long. ·225 unc. lat. ·1 unc.)

Inhabits South America. In the cabinet of the Entomological Society of London; taken by Mr. Darwin at Valparaiso. This little longicorn, which a good deal resembles a small brown spider, is very closely allied to the genera *Compsosoma* and *Eusphærium*, but appears to me sufficiently distinct from both.

Genus.—*XYLOTOLES*, *Newman*.

Caput pronum; antennæ corpore longiores, graciles, 11-articulatæ: prothorax ferè cylindraceus, capite triplò longior, lateribus rectus: elytra lateribus convexa, apice acuta: pedes mediocres, femoribus tumidis.

Xylo. lentus. Testaceo-fuscus: scutellum cinereo-lanuginosum, spatio mediano glabro: utrumque elytron maculis oblongis 6 obscurè flavido-lanuginosis signatum: elytra obsoletè 10-striata, striâ suturali cæteris distinctiori; versus elytrorum basim punctis nonnullis magnis profundis pravè dispositis. (Corp. long. .4 unc. lat. .15 unc.)

Inhabits New Zealand. A specimen in the cabinet of the Entomological Society of London was taken by Mr. Darwin.

Genus.—*MEGACERA*, *Serville*.

Mega. parvula. Antennæ corpore duplò longiores: prothorax capite angustior: puncta, elytrorum punctis profundis vix in ordine dispositis: testaceo-fusca, vittis 6 luteis capite prothoracis elytrisque communibus. (Corp. long. .3 unc. lat. .04 unc.)

Inhabits South America. A specimen in the cabinet of the Entomological Society of London, was taken by Mr. Darwin at Bahia. It differs but slightly from *Megacera macrocera* of Serville, except in size, being scarcely more than a seventh part as large; the little projections on which the antennæ are situated are less prominent than in that species, and the extremities of the elytra less pointed and less divaricating.

Genus.—*SAPERDA*, *Fabricius*.

Saper. cana. Nigra, lanugine canâ tecta: elytrorum lineâ suturali et marginali, sterno, abdomineque albidis. (Corp. long. .4 unc. lat. .1 unc.)

Inhabits North America. Two specimens in the cabinet of the Entomological Club, were taken by Mr. Doubleday at St. John's Bluff, East Florida.

Saper. cinerea. Nigra, lanugine cinereâ densè tecta, lineâ longitudinali capitis prothoracisque albidâ. (Corp. long. .45 unc. lat. .125 unc.)

Inhabits Mexico. In the cabinet of the Entomological Club. This and the preceding species are very similar, but on comparison appear distinct: the present is the larger insect; its hue is rather ash-coloured than grey, and it wants the delicate sutural line of the elytra.

Saper. leta. Rufa: caput rufum, oculis antennisque nigris: prothorax rufus, maculis 4 dorsalibus nigris: elytra cana, margine laterali nigrâ: sternum nigrum, lanugine canâ tectum: abdomen rufum: pedes fusi, femoribus rufis. (Corp. long. .35 unc. lat. .1 unc.)

Inhabits Mexico. In the cabinet of the Entomological Club.

Saper. flammata. Nigra, lanugine nigrâ densè tecta: antennæ hirsutæ, articulorum basis tenuissimè testaceus; caput ferrugineum, oculis maculâque verticali nigris: prothorax niger, lineâ latâ laterali ferrugineâ: elytra profundè puncta, lineâ tenuissimâ suturali alterâque costali ferrugineis. (Corp. long. .35 unc. lat. .1 unc.)

Inhabits North America. A specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday at St. John's Bluff.

Saper. juncea. Fusca; antennæ corpore longiores, fuscæ, articulorum omnium basis albidus; articulus apicalis totus albidus: prothorax cylindraceus, elongatus, angulis posticis valdè acutis: elytra elongata, linearia, apice obliquè truncata, puncta, punctis magnis biseriatim dispositis, spatiis alternis paululùm elevatis: pedes breves; metatarsi elytrorum apicem nullo modo attingentes. (Corp. long. .45 unc. lat. .075 unc.)

Inhabits Brazil. In the cabinet of the Entomological Club.

Genus.—*PHÆA*, *Newman*.

Caput pronum; facies trigona; oculi 4, 2 rotundi, prominentes, laterales, 2 minores minùs prominentes, verticales; antennæ corpore manifestò breviores, 10-articulatæ: prothorax inæqualis, dorso gibber, capite haud latior: elytra linearia, prothorace paullo latiora, apicibus rotundatis: pedes breves, femoribus simplicibus.

Phæa Saperda. Rufa; oculis 4 nigerrimis; antennis apice fuscis: elytra nigra, basi rufa: cætera rufa: elytra profundè puncta, punctis vix lineatim dispositis. (Corp. long. .4 unc. lat. .1 unc.)

Inhabits Mexico. In the cabinet of the Entomological Club. In many of its characters this little insect nearly resembles the genus *Tetraopes*.

Genus.—*CALLIA*, *Serville*.

Callia axillaris. Antennæ nigrae; caput chalybeum: prothorax chalybeus, punctus: elytra nigro-purpurea, humeris ferrugineis, obscurè striata, striis subtilissimè punctis: abdomen et pedes chalybea. (Corp. long. .35 unc. lat. .15 unc.)

Inhabits Brazil. This pretty little insect, which occurs in every box of Brazilian insects, has long stood un-named in the cabinet of the Entomological Club. It appears to me to agree exactly with *Serville's* genus *Callia*.

Natural Order.—*LEPTURITES*, *Newman*.

Genus.—*PYTHEUS*, *Newman*.

Caput vix porrectum vix exsertum, oculi mediocres, laterales, ferè rotundi: antennæ dimidio corporis haud longiores; articuli latitudine ferè æquantes; longitudine primo ultimoque exceptis crescentes: prothorax inermis, capite manifestò longior, medio paullò latior, lateribus anticè posticèque constrictis: elytra complanata carinata parallela apicibus inarmatis: pedes breves, femoribus apice tumidis.

Pytheus jugosus. Caput et prothorax rugata: elytra dorso complanata, jugosa, interstitiis profundè punctis, marginibus suturali et laterali elevatis, lineæ quoque 2 discoidales elevatae in angulum analem desinent: caput, antennæ, prothorax, pro-meso- et metasternum coæque nigra: elytra pedes et abdomen ferruginea; elytris maculâ communi dorsali alterâque apicali nigris. (Corp. long. .5 unc. lat. .1125 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Kirk near Sydney.

Natural Order.—CLERITES, *Newman*.

It may be observed of all the Clerites yet discovered as inhabitants of New Holland, that they do not agree generically with those of Europe, and yet present few characters by which they can be made into new genera. Feeling a prejudice against encumbering the science with names, I have described them as belonging to *Clerus* as it stands in Dejean's 'Catalogue,' *Clerus fasciculatus* being the type.

Genus.—CLERUS, *Fabricius*.

Clerus instabilis. Nitidus, pilosus, punctus, colore instabilis, nunc viridis, nunc violaceus: antennæ, protibiæ subtus, protarsi omnino testacei. (Corp. long. .4 unc, lat. .15 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis, near Adelaide.

Clerus carus. Nitidus, subpilosus, elytrorum apicibus exceptis punctus, obscure ferrugineus; elytris purpureis, fasciâ paullo post medium communi angustâ albidâ. (Corp. long. .2 unc. lat. .06 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis, near Adelaide.

Clerus crassus. Nitidus, pilosus, caput et prothorax subtiliter puncta: elytrorum basis asperè ac profundè punctis, elytrorum apex glaberrimus: caput nigrum: prothorax ferrugineus: elytra basi chalybea, apice nigra, maculis utriusque transversis 3 albidis: abdomen pedesque chalybea. (Corp. long. .35 unc. lat. .2 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Imeson at Sydney.

Clerus splendidus. Nitidissimus, pilosus: caput subtiliter punctum: prothorax rugosus, medio longitudinaliter impressus: elytra apicibus præsertim asperè ac profundè excavata: fusco-æneus, fulgore metallico lætus; antennæ flavæ, scutellum aureo-villosum: utriusque elytri maculâ ante, fasciâ post medium albidis signata: femora et tarsi subtus testacea. Corp. long. .5 unc. lat. .1 unc.

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis, near Adelaide.

Clerus simplex. Nitidus, pilosus, punctus, nigro-æneus: scutellum niveo-tomentosum: prothorax utrinquè anticè et posticè, metathorax utrinquè, segmentaque abdominis subtùs maculis niveo-tomentosis signata: antennæ ferrugineæ: femora pilis albidis obsita. (Corp. long. .45 unc. lat. .125 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis near Adelaide.

Clerus obscurus. Opacus, pilosus, punctus, niger, suprâ tincturâ purpureâ, subtùs virescenti obscurè ornata: pectus et abdomen subtùs quoque femora pilis albis insita: scutellum et antennæ nigra. (Corp. long. .5 unc. lat. .125 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis near Adelaide.

Clerus pulcher. Nitidus, pilosus, punctus, nigro-æneus, fulgore instabili metallico lætissimus: antennæ fulvæ: scutellum pilis albis obsitum: utroque elytro maculâ magnâ medianâ fulvâ ornato: abdomen subtùs et femora pilis niveis passim obsita; tibiæ et tarsi fusca. (Corp. long. .325 unc. lat. .1 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken by Mr. Davis, near Adelaide.

Clerus honestus. Nitidus, pilosus: prothorax punctus: elytra basi punctis profundis, magnis, confluentibus, rugosa; versus apicem lævigata; apice ipso lanugine argenteâ vestito: nigro-fuscus: antennæ testaceæ; elytra fasciâ communi medianâ luteâ ornata; ante fasciam vestigiis testaceis obscuris signata; utroque elytro propè basim fasciculus dorsalis setarum nigrarum: femora fusca, tibiis tarsisque testaceis. (Corp. long. .6 unc. lat. .175 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club, taken on Kangaroo Island. It has a very striking similarity to *Clerus fasciculatus*.



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ART. I. — *Entomological Notes.* By EDWARD NEWMAN.

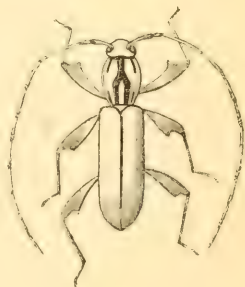
(Continued).

Class.—COLEOPTERA.

Natural Order.—CERAMBYCITES, *Newman.*

Genus.—CURIUS, *Newman.*

CAPUT porrectum, oculis magnis, ferè rotundis, ad antennarum basim vix emarginatis; antennæ corpore longiores, graciles, 11-articulatæ, articulus 1us cæteris paullò crassior, 2us brevis, 3us cæteris longior, 4us et sequentes longitudine ferè æquales: prothorax capite duplò longior, dorso paullò complanatus, lateribus convexus: elytra prothorace latiora, lateribus parallela, apice rotundata: pedes longitudine mediocres, femoribus tumidis, subtùs dente magno mediano armatis.



Curius dentatus. Testaceus, obscurus, subtilitèr ac crebrè punctus; caput fuscum, antennæ pallidæ, articulis apice fuscis: prothorax testaceus, vittâ longitudinali ante marginem posticam divisâ, fuscâ: elytra testacea, fusco nubila: femora apice latè fusca. (Corp. long. .275 unc. lat. .075 unc.)

Inhabits North America. A single specimen, taken by Mr. E. Doubleday at St. John's Bluff, in East Florida, is in the cabinet of the Entomological Club. This curious little insect differs from all the longicorns with which I am acquainted, in the possession of a very strong distinct tooth on the underside of each femur, resembling that of so common occurrence in the genus *Donacia*. The appearance of the insect is very much that of a small *Callidium*, and in no

respect approaches *Donacia* or *Macroplea*, the only remarkable character being the dentate femora. The head and eyes are dark brown: the antennæ are annulated, the basal portion of each joint being pale testaceous, the apical portion dark brown: the prothorax has a dark longitudinal line commencing at its anterior margin; towards the centre of the prothorax it expands and divides, the branches afterwards rather approximating, and both of them reaching the posterior margin: on each side of this median line is a short, dark brown line, commencing, like the first, at the anterior margin of the prothorax, and not quite attaining half its length, when it nearly meets a shorter line proceeding from the posterior margin: on the middle of each side of the prothorax is a dark but ill-defined spot: the elytra are testaceous, variously but very indistinctly clouded with darker shades: the legs are very pale and almost transparent, with the exception of the exterior portion of the femora, which is dark brown: the entire under surface is very pale.

Genus.—*THIA*, *Newman*.

Caput pronum, prothorace latius; oculi maximi, ad antennarum basim profundè emarginati, in verticem ferè conniventes; antennæ graciles, hirsutæ, corpore duplò longiores, 10-articulatæ, articuli longitudine ferè æquales, ultimo breviori excepto; articulus 2us aut mihi invisus aut cæterum more elongatus: prothorax ferè cylindræus, lateribus paullò convexus: elytra linearia apice rotundata, abdomine breviora: pedes simplices, femoribus haud tumescentibus.

Thia pusilla. Testacea; oculis nigris, antennis fuscis: prothorax fuscus, lineis 2 longitudinalibus anticis testaceis: elytra pallidè testacea, humeris, fasciâ ponè medium undatâ, apicibusque fuscis. (Corp. long. .2 unc. lat. .05 unc. Antennarum dilat. .8 unc.)

Inhabits North America. Two specimens taken by Mr. Doubleday in East Florida, are in the cabinet of the Entomological Club.

G. N. — *Callidio* affine.

— *limum*. Caput porrectum, punctum, testaceum, vertice fuscum; oculis elongatis, subtùs dilatatis, nigris; antennæ corpore vix breviores, 11-articulatæ, articulis basi pallidis apice fuscis: prothorax capite longior vix latior, testaceus, dorso glaberrimus, lineis 3 elevatis fuscis instructus, lateribus ante medium gibber, posticè valdè restrictus: elytra glabra, lutosa, lineis 4 obliquis

fuscis, haud benè determinatis, ad suturam conniventibus, VVVV formantibus; ultimâ valdè dilatât: pedes longitudine mediocres, femoribus paullò tumidis. (Corp. long. .2125 unc. lat. .065 unc.)

Inhabits North America. A single specimen, taken by Mr. E. Doubleday at St. John's Bluff, in East Florida, is in the cabinet of the Entomological Club. This little insect will not range with *Callidium*, *Clytus*, *Gracilia*, *Obrium* or *Cartallum*, as these genera are at present constituted: I am therefore inclined to raise it to the rank of a genus, and would propose calling it *Phyton limum*.

Family.—NECYDALIDÆ, *Newman*.

In this family I would propose to include *Necydalis* of Linneus, *Stenopterus* of Illiger, *Odontocera*, *Acyphoderes*, *Tomopterus* and *Colobus* of Serville, *Glaphyra*, *Sphecomorpha*, *Charis*, *Hesthesia* and *Heliomanes* of Newman, and many other small longicorns which I have never yet been able to examine. They are to be distinguished by the possession of abbreviated elytra, which are either truncate and quadrate, or attenuated and pointed at the apex. All the species of which we have any knowledge when living, are very active and fly with great ease, and always in the day-time, frequenting flowers and the leaves of trees. It is certainly questionable whether a group possessing but one structural character in common can be considered strictly natural, but the convenience of so obvious a distinction is beyond dispute. The genera may be arranged in the following order.

Genus.—GLAPHYRA, *Newman*.

Caput ferè pronum, prothorace haud angustius; antennæ vix dimidio corporis longiores, 11-articulatæ, articulis ultra 6um brevioribus, crassioribus: prothorax dorso complanatus, lateribus paullò convexus, nullo modo armatus: elytra valdè abbreviata, apice rotundata, nullo modo metalas tegeitna: pedes mediocres, femoribus pedetentim tumidis, tibiis paullò incrassatis, hirsutis, tarsis brevibus.

Glaph. semiusta. Castanea: prothorax et elytra profundè puncta: color castaneus, abdominis segmentis apicalibus nigerimis. — (Corp. long. .175 unc. lat. .0225 unc.)

Inhabits North America. A single specimen, taken by Mr. Foster at St. John's Bluff in East Florida, is in the cabinet of the Entomological Club.

Genus.—*HELIOMANES*, *Newman*.

This genus is established in the 'Annals of Natural History,' v. 17, for the reception of a new species from New Holland; the typical species however is *Heli. minor*, the *Necydalis minor* of Linneus, 'Syst. Nat.' i. 641. The other ascertained species are *Heli. umbellatarum*, the *Nec. umbellatarum* of Linneus, 'Syst. Nat.' l. c., both of these are natives of Europe and Great Britain; *Heli. sidus* of Newman, from New Holland, 'Ann. Nat. Hist.' l. c.; *Heli. bimaculatus*, the *Nec. bimaculatus* of Say, inhabiting the northern states of the Union: and many other species from the new and old continents, at present only indicated by MSS. names.

Genus.—*NECYDALIS*, *Linneus*.

The genus *Necydalis* was established by Linneus in the 'Systema Naturæ,' 12th edit. i. 641, where it is divided into two sections, the 1st including the species *major*, *minor*, and *umbellatarum*; the 2nd, a variety of *Heteromerous* beetles which are not now considered as belonging to the *Macrocerous* Coleoptera. In the 'Systema Eleutheratorum,' ii. 375, we find that Fabricius has without reason assigned a new generic and two new specific names, changing *Necydalis* into *Molorchus*, *major* into *abbreviatus*, and *minor* into *dimidiatus*: he has however retained the name *Necydalis* for the 2nd or *Heteromerous* division, and to *Molorchus* (the proper *Necydalis*) he has added a fourth species, *variegatus*, from New Holland. This insect is recorded by Fabricius as being in the Banksian cabinet, but I have in vain searched that collection, which is now in the possession of the Linnean Society of London. Audinet-Serville, 'Ann. Ent. Soc. of France,' has very properly restored the Linnean names, but has left the genus, as regards its contents, untouched. In the 'Annals of Natural History,' v. 17, I have divided the genus, retaining only the type, *Necydalis major* of Linneus, a European species, and adding a second, *Necy. auricomus*, a native of New Holland.

Genus.—*HESTHESIS*, *Newman*.

In the 'Annals of Natural History,' v. 17, I have proposed this genus for the reception of *Hes. ferrugineus*, the *Molorchus ferrugineus* of MacLeay, described by Boisduval in his 'Faune de l'Océanie,' p. 487; *Hes. cingulatus*, the *Molorchus cingulatus* of Kirby, 'Trans. Linn. Soc.' xii. 470; *Hes. variegatus*, the supposed *Molorchus variega-*

tus of Fabricius, 'Syst. Eleu.' ii. 375; and *Hes. bizonatus* of Newman, 'Annals of Natural History,' v. 17. This splendid genus is exclusively Australian; it is by no means uncommon, and many other species may be expected to occur from that rich and highly interesting country.

Genus.—*TOMOPTERUS*, *Serville*.

Is described in the 'Ann. Ent. Soc. of France,' i. 546, the typical species, *Tom. Staphylinus* of Serville, is described, *l. c.* There is a second species, of great beauty, at present undescribed: it has an oblique white line on each elytron, the two nearly meeting at the suture, somewhat in the fashion of the letter V. The insect is larger and much handsomer than *Tom. Staphylinus*; should a *courteous* entomologist meet with it, he will adopt for it the name of *Tomopterus pretiosus* of Newman. Both species inhabit Brazil.

Genus.—*CHARIS*, *Newman*.

Caput ferè pronum, elongatum, ferè trigonum; antennæ dimidio corporis haud longiores, apice crassiores, 11-articulatæ, articulis apicalibus brevioribus: prothorax ferè globosus, capite latior, lateribus convexis, nullo modo armatis: elytra valdè abbreviata, cuneata: femora tumescentia, metatibiis elongatis hirsutis.

Charis Euphrosyne. Nigra; antennæ piceæ, basi testaceæ: elytra testacea, marginibus suturali et marginali nigris: abdominis incisuræ argenteo-lanuginosæ. (Corp. long. .45 unc. lat. .125 unc.)

Inhabits Brazil. A single specimen is in the cabinet of Mr. Shuckard. It is a rather robust insect, a good deal resembling *Tomopterus Staphylinus* of Serville.

Charis Erato. Caput nigrum, antennis piceis; oculi nigri, magni, in faciem conniventes: prothorax punctus, niger, vestigiis lateralibus argenteis, lineâque obscurâ posticâ albidâ: scutellum argenteo-lanuginosum: elytra puncta, testacea, marginibus latè nigris, lineâque singuli obliquâ prope suturam argenteâ: pedes ferruginei, tarsi metatibiisque apice fuscis, metafemora basi pallida: sternum nigrum, vestigiis argenteo-lanuginosis: abdomen basi testaceum, apice nigrum. (Corp. long. .4 unc. lat. .05 unc.)

Inhabits Brazil. There is a single specimen in the cabinet of Mr. Shuckard.

Charis Aglaia. Caput et antennæ nigra: oculi magni, in faciem ferè conniventes, marginibus anticis manifestò elevatis: prothorax punctus, niger: elytra basi nigra, profundè puncta, apice attenuata acuminata testacea glaberrima: sternum et abdomen nigra: pedes picei. (Corp. long. .4 unc. lat. .05 unc.)

Inhabits Brazil. A single specimen is in the cabinet of Mr. Shuckard.

Genus.—SPHECOMORPHA, *Newman*.

Described in the 'Entomological Magazine,' v. 397. The only species I have yet seen is *Sphe. chalybea*, Newman, *l. c.* from Brazil; it is in the cabinet of the Entomological Club.

Genus.—ODONTOCERA, *Serville*.

In the 'Ann. Ent. Soc. of France,' ii. 56, this genus is proposed; the typical species, *Odon. vitrea* of Serville, from Brazil, is new. *Odon. gracilis*, the *Stenopterus gracilis* of Klug's 'Entomology of Brazil,' and *Odon. cylindrica* of Serville, both from Brazil, are congeneric.

Genus.—STENOPTERUS, *Illiger*.

This genus was established in Illiger's Magazine, iv. 127, for *Necydalis rufus* of Fabricius, a small Macrocerous insect which that author had erroneously arranged with the Heteromerous division of Linneus' genus. *Sten. rufus* is the type; and in the 'Catalogue des Coléoptères' we find no less than five other species arranged below it: viz., *præustus*, Fab., *nigripes*, Dalman, *femoratus*, Steven, *rufipes*, Latreille, and *cyaneus*, Fabricius.

Genus.—ACYPHODERES, *Serville*.

Serville has rather indicated than instituted this genus, giving it as a division of his genus *Odontocera*, from which however it decidedly differs in many characters, particularly the structure of the prothorax. The type of the genus is *Acyph. aurulenta*, the *Stenopterus aurulentus* of Dalman's 'Analecta Entomologica,' p. 71. It inhabits Brazil abundantly. *Acyph. crinitus*, the *Stenopterus crinitus* of Klug's 'Entomology of Brazil,' is a second species.

Genus.—CALLISPHYRIS, *Newman*.

The type of this genus, *Call. Macropus*, a native of the Island of Chilöedy, is described and figured at p. 1 of 'The Entomologist.'

Genus.—*COLOBUS*, *Serville*.

This genus is placed by Serville, 'Ann. Ent. Soc. of France,' ii. 551, next to *Callichroma*, which, in some of its characters, it appears a good deal to resemble, and its connection with the present family is solely dependant on its abbreviated elytra: the typical, and indeed the only species, is *Colobus hemipterus*, the *Stenocorus hemipterus* of Fabricius, 'Syst. Eleu.' ii. 310, and the *Cerambyx hemipterus* of Olivier, iv. (Capr.) 127, No. 172, tab. xxiii. fig. 181. It inhabits Java, and appears to be a rare insect: there is a fine specimen in the cabinet of the British Museum.

The genera which follow have no reference to any particular family of Longicorns, but are simply recorded as supposed novelties to the science.

Genus.—*CHION*, *Newman*.

Antennæ maris corpore duplò longiores, graciles, articulis apice ferè in dentem productis: prothorax ferè rotundus, dorso paullò convexus, lateribus spinâ acutâ medianâ armatis: elytra ampla, linearia, abdomen tegentia, apice truncata, singulo angulo spinâ acutâ armato: pedes simplices, femoribus nullo modo armatis.

Chion rusticus. Testaceus, prothorace pedibusque saturatioribus: oculis fuscis, subtilitèr ac creberimè punctus, lanugine testaceâ undiquè tectus. (Corp. long. .9 unc. lat. .2 unc. antennarum dilat. 3.75 unc.)

Stenocorus rusticus, Fabricius, 'Syst. Eleu,' ii. 311.

Inhabits North America, not India as Fabricius has said. The specimens in the cabinet of the Entomological Club were taken by Messrs. Doubleday and Foster, at St. John's Bluff, in East Florida.

Chion garganicus.

Stenocorus ,, Fabricius, 'Syst. Eleu.' ii. 305.

Cerambyx ,, Olivier, iv. (Capric.) 39, tab. xv. fig. 105.

,, ,, Palis.-Beauv. 247, tab. xxxvii. fig. 3.

Cerasphorus ,, Serville, 'Ann. Ent. Soc.' ii. 11.

Inhabits North America. The specimens in the cabinet of the Entomological Club were taken at Wanborough, in the State of Illinois. It should be observed in defence of this new genus, that Audinet-

Serville has, in the present as in other instances, combined two types of form in a single genus, constituting each a division; now it appears to me, that as generic subdivision has been carried so far, it must be extended farther, and that those species only can be considered congeneric, *which exhibit a close similarity in those structural characters which are employed as the basis of subdivision*. Audinet-Serville himself lays the greatest stress on these characters in his descriptions, yet unites groups in which they obviously vary.

Genus.—AMPHIRHOE, *Newman*.

Generi *Phoracanthæ* affinis, et certè ejusdem familiæ, (forsan propriè intervenit genus nuper propositum, *Callirhœ*, cujus prothorax elongatus nullo modo armatus, et femora plùs minùsve tumida): caput porrectum, prothorace angustius; antennæ corpore longiores, 11-articulatæ, articulis 3—5 apice 1-spinosis: prothorax capite paullò longior, anticâ constrictus, dorso convexus, lateribus rotundatus, nullo modo armatus: elytra apice truncata: pedes elongati, femoribus apice repentè tumidis.



Amph. decora. Fusca, puncta; elytra ferrugineo-fusca, utroque lineâ medianâ gracili juxta basim interruptâ flavâ ornato. (Corp. long. .8 unc. lat. .15 unc.)

Inhabits Van Dieman's Land. For a drawing of this insect, which is unique in the cabinet of Mr. Melly, I am indebted to Mr. Westwood.

Genus.—ELAPHIDION, *Serville*.

The reader is requested to append to the genus noticed at page 6, the following descriptions.

Elaph. Marylandicum. Magnum, obesum, fuscum, punctum, lanugine cinereâ obsitum, spatiis glabris irroratum: antennæ corpore manifestò longiores, articulis 3—7 apice 1-spinosis: elytra truncata, utroque angulo spinâ acutâ armato. (Corp. long. 1.15 unc. lat. .325 unc.)

Stenocorus Marylandicus, Fab. 'Syst. Eleu.' ii. 306.

Callidium „ Oliv. 70, tab. i. fig. 5.

Inhabits North America. The specimen in the cabinet of the Entomological Club was taken by Mr. E. Doubleday, at the Warm Springs in North Carolina. Great confusion prevails as to the application of the name *Marylandicum* of Fabricius; and it will be found, on a reference to the Banksian cabinet, now in possession of the Linnean Society, that the name is there assigned to a smaller insect.

Elaph. spinicorne. Testaceum, lanugine cinereâ passim irroratum, spatiis intermediis glaberrimis: antennæ corpore ferè longiores, articulis 3—10 apice 2-spinosis: elytra truncata, utroque angulo spinâ acutâ armato: meso- et metafemorum apices spinâ acutâ internâ armati. (Corp. long. .8 unc. lat. .25 unc.)

Cerambyx spinicornis, Drury, i. tab. xli. fig. 4.

„ „ Fab. 'Syst. Eleu.' ii. 271.

„ *torridus*, Oliv. (Capr.) 67, tab. xiv. fig. 95.

Inhabits Brazil. There are two specimens, named by Fabricius, in the Banksian cabinet at the Linnean Society, and one in the cabinet of the Entomological Club. This insect differs from all the others with which I am acquainted, in the possession of a double series of spines on the antennæ.

Elaph. bidens. Fusco-ferrugineum, punctum, lanugine cinereâ sparsim tectum: antennæ corpore valdè longiores, articulis 3—5 apice 1-spinosis: elytra truncata, utroque angulo spinâ distinctâ armato: meso- et metafemorum apices spinâ brevi internâ armati. (Corp. long. 1 unc. lat. .3 unc.)

Stenocorus bidens, Fab. 'Syst. Eleu.' ii. 306; 'Ent. Syst.' ii. 294.

Cerambyx „ Olivier (Capr.), p. 67, tab. vii. fig. 125.

Inhabits Brazil. There are two specimens in the cabinet of the British Museum. The prothorax is covered with a grey pilosity, with the exception of a glabrous, longitudinal line, dilated posteriorly, but not reaching the posterior margin: on each side of this line, towards its anterior extremity, is a glabrous point.

Elaph. irroratum.

Cerambyx irroratus, Linn., 'Syst. Nat.' ii. 633.

„ „ Oliv. (Capri.) 67, tab. xix. fig. 145.

„ „ Drury, i. tab. xli. fig. 3.

Stenocorus irroratus, Fab. 'Syst. Eleu.' ii. 307.

Inhabits North America. The Linnean description of this insect is worded thus:—"Thorace mutico, cylindrico, inæquali, elytris apice bidentatis, albo irroratis, antennis longioribus aculeatis."

Fabricius thus describes it:—"St. thorace mutico, inæquali, elytris apice bidentatis, albo-irroratis, antennis longis aculeatis." Drury's figure, quoted by Fabricius, appears to have two spines on several joints of the antennæ, and in other respects to differ from the following insect, which I formerly supposed to be the *Cerambyx irroratus* of Fabricius. In the Banksian collection, named by Fabricius, the specimens appear to me to be identical with the *Cerambyx glabratus* of Fabricius described below. Until the original insect can be examined, I think it better to leave the name *irroratus* unattached to any of the species with which I am acquainted.

Elaph. tessellatum. Ferrugineo-fuscum, punctum, lanugine cinerea variegatum: antennæ corpore ferè longiores, articulis 3—7 apice 1-spinosis, spina 1ma cæteris longior et paulò recurva: elytra truncata, utroque angulo spinâ acutâ armato: meso- et metafemorum apices spinâ acutâ internâ armati. (Corp. long. .7 unc. lat. .225 unc.)

Inhabits Brazil. A specimen is in the cabinet of the Entomological Club. The prothorax is somewhat rugose and punctured, with the exception of a median elevated line, and four tubercular points, two on each side of the median line, forming a kind of square; the line and points are glabrous, the rugose parts are covered with a grey pilosity: the elytra are deeply and irregularly punctured, the punctures somewhat decreasing in size towards the apex: the pilosity is somewhat symmetrically arranged in patches.

Elaph. ordinatum. Ferrugineo-fuscum, punctum, lanugine canâ maculatum: antennæ corpore longiores, articulis 3—8 apice 1-spinosis: elytra truncata, utroque angulo spinâ acutâ armato: meso- et metafemorum apices spinâ internâ armati. (Corp. long. .8 unc. lat. .275 unc.)

Inhabits Brazil. There is a specimen in the cabinet of the Entomological Club. It is a broad and rather depressed insect; the prothorax is deeply and rugosely punctured, with the anterior and posterior margins, a median longitudinal line, and two somewhat amorphous spots on each side, glabrous: the elytra are deeply punctured; the punctures are crowded in the region of the scutellum, more distant towards the middle and side, and much smaller towards the apex; the

tomentosity is very nearly white, and is somewhat symmetrically arranged in a spot near the base, and another larger one near the centre of each elytron.

Elaph. insulare. Ferrugineo-fuscum, punctum, lanugine cinereâ irroratum: antennæ corpore paullò breviores, articulis 3—6 apice 1-spinosis, spina 1ma cæteris longior et paullò recurva: elytra apice truncata, utroque angulo spinâ brevi armato: meso- et metafemorum apices spinâ brevi armati. (Corp. long. .6 unc. lat. .175 unc.)

Inhabits the West Indies. A specimen from the island of Nevis is in the cabinet of the Entomological Club. The prothorax is rugosely punctured, with the exception of a glabrous, median, longitudinal line, two tubercular points, and two linear elevations, the latter reaching the posterior margin of the prothorax: the elytra are deeply, rugosely and irregularly punctured, the punctures gradually decreasing in magnitude towards the apex: the tomentosity is disposed in irregular blotches, elongate longitudinally.

Elaph. mite. Ferrugineo-fuscum, punctum, lanugine cinereâ obsitum: antennæ corpore vix longiores, articulis 3—6 apice 1-spinosis, articulus 1mus paullò longior paullò recurvus: elytra truncata, utroque angulo dentato: meso- et metafemorum apices dente brevi interno armati. (Corp. long. .6 unc. lat. .175 unc.)

Inhabits Brazil. There are several specimens in the cabinet of the Entomological Club. The prothorax is punctured, with a longitudinal, median, glabrous line, and a tubercular glabrous spot on each side: the elytra are coarsely and deeply punctured, and each has three indistinct elevated lines: the tomentosity covers the entire surface.

Elaph. glabratum. Ferrugineo-fuscum, punctum, complanatum, ferè glabrum, lanugine cinereâ obsitum: antennæ corpore vix longiores, articulus 1mus spinâ longâ, 2us spinâ brevi, 3us spinâ brevissimâ armatus. (Corp. long. .7 unc. lat. .2 unc.)

Stenocorus glabratus, Fab. 'Syst. Eleu.' ii. 307; 'Ent. Syst.' ii. 295.

Inhabits the West Indies. Specimens are in the cabinets of the British Museum and the Entomological Club.

Elaph. mucronatum. Fuscum, punctum, lanugine cinereâ undiquè obsitum: antennæ corpore vix longiores, articulus 1mus spinâ longâ, 2us spinâ brevi, 3us spinâ brevissimâ armatus; articuli

cæteri inermes : elytra truncata, utroque angulo spinâ longâ armato : meso- et metafemorum apices spinâ acutâ internâ armati. (Corp. long. .7 unc. lat. .175 unc.)

Inhabits North America. There is a specimen in the cabinet of the Entomological Club, taken by Mr. E. Doubleday in East Florida.—The prothorax is punctured, with a median, longitudinal, glabrous line : on each side of this is a glabrous spot near the anterior margin, and a smaller glabrous line joining the posterior margin : the elytra are coarsely and deeply punctured, the punctures decreasing in size towards the apex : the scutellum is densely pilose, with a median, longitudinal, glabrous line : on the other parts of the body the pilosity is regularly distributed. The insect is labelled *mucronatum*, Say ; I know not where the name has been previously published. It is distinct from the preceding, being somewhat narrower, of a darker colour, and quite without gloss.

Elaph. incertum. Fuscum, punctum, lanugine cinereâ irroratum : antennæ corpore vix breviores, articulis 3—7 apice 1-spinosis : elytra truncata, utroque angulo spinâ acutâ armato. (Corp. long. .65 unc. lat. .175 unc.)

Inhabits North America. There is a single specimen in the cabinet of the Entomological Club. The prothorax is rugosely punctured, with a median, longitudinal, glabrous line, and an elevated tubercular spot on each side : the elytra are deeply and irregularly punctured, the punctures decreasing in magnitude towards the apex : the tomentosity is sprinkled in dots over the entire surface.

Elaph. villosum. Fuscum, punctum, lanugine cinereâ obsitum, maculisque lanuginosis irroratum : antennæ corpore manifestò longiores, a basi ad medium paullò incrassatæ, articulis 3tio et 4to spinâ minutâ armatis : elytra truncata, utroque angulo spinâ armato. (Corp. long. .6 unc. lat. .15 unc.)

Stenocorus villosus, Fabr. 'Syst. Eleu.' ii. 311 ; 'Ent. Syst.' ii. 302.

Inhabits North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday, at St. John's Bluff, in East Florida. The prothorax is punctured, obscure and pilose, without any glabrous markings : the elytra are thickly but minutely punctured : the entire surface is covered with the tomentosity, which is thickly gathered into little spots irregularly scattered. This

insect came into my hands with the specific name *fucator* attached; I know not whose name it is.

Elaph. parallelum. Fuscum, punctum, lanugine cinereâ tectum, elongatum, lineare: antennæ corpore vix breviores, articulis 2do 3tioque apice 1-spinosis; spinâ 3tii minimâ: elytra parallela, apice truncata, utroque angulo spinâ armato, spinâ externâ longâ paullò incurvâ. (Corp. long. .55 unc. lat. .1 unc.)

Inhabits North America. Specimens in the cabinet of the Entomological Club, were taken in Georgia, East Florida and Delaware States. The prothorax is very pilose, with a slender and short longitudinal glabrous line: the elytra are long, narrow, parallel, coarsely punctured, and beset with an irregularly distributed tomentosity.

Elaph. arctum. Ferrugineo-fuscum, punctum, pilis canis obsitum: antennæ corpore manifestò breviores, articulis 3tio 4toque apice 1-spinosis, spinâ 4ti minutissimâ: prothorax convexus: elytra linearia, apice truncata, angulis spinosis, spinâ externâ majori. (Corp. long. .35 unc. lat. .075 unc.)

Inhabits North America. The specimen in the cabinet of the Entomological Club, was taken by Mr. R. Foster at St. John's Bluff, in East Florida. The prothorax is rounded and without apparent elevations: the elytra are deeply and thickly punctured; the pilosity is somewhat scattered.

Elaph. inerme. Fuscum, punctum, robustum, convexum, lanugine cinereâ irroratum: antennæ corpore breviores, articulis 3—5 apice 1-spinosis: elytra convexa, vix truncata, angulis inarmatis. (Corp. long. .6 unc. lat. .175 unc.)

Inhabits North America. The specimens in the cabinet of the Entomological Club, were taken at St. John's Bluff, in East Florida, by Messrs. R. Foster and E. Doubleday. The prothorax is rounded and shagreened, with a small, longitudinal, glabrous mark on the centre of its disk. The elytra are deeply punctured, the punctures decreasing in magnitude towards the apex. The tomentosity is gathered in small spots, a few of which appear on the prothorax, and very many are sprinkled without order over the elytra.

Elaph. pumilum. Ferrugineo-fuscum, punctum, lineare: elytris parallelis, lanugine cinereâ irroratum: antennæ corpore breviores, articulus 3us apice 1-spinosus: elytra ferè parallela, apice truncata, angulis inarmatis. (Corp. long. .3 unc. lat. .075 unc.)

Inhabits North America. The specimens in the cabinet of the Entomological Club, were taken at St. John's Bluff, in East Florida, by Messrs. R. Foster and E. Doubleday. The prothorax is marked with longitudinal elevated lines, on which the tomentosity is less abundant, and they are consequently of a darker colour. The elytra are deeply punctured, and have three elevated lines, which however are but little apparent, and without a careful examination will escape observation. The tomentosity of the elytra is gathered into little spots.

Elaph. deflendum. See antè, page 6.

Variat prothorace rufo, maculâ minutâ medianâ nigrâ.

—— prothorace toto rufo.

Elaph. sobrium. Nigrum, punctum, pilis canis obsitum : antennæ corpore longiores, articulis 3—7 apice 1-spinosis : elytra paullo complanata, ad suturam depressa, truncata, utroque angulo dense acuto armata : femora apice inarmata, basi lætè rufa. (Corp. long. .5 unc. lat. .125 unc.)

Inhabits North America. There is a single specimen in the cabinet of the Entomological Club. The prothorax is glabrous and without depressions or elevations: the elytra are uniformly but not very deeply punctured; they are thinly but uniformly covered with a grey pile.

Natural Order.—LEPTURITES, *Newman.*

Genus.—PACHYTA, *Megerle.*

Pachyta Ione. Nigra, nitida, glabra; antennis, ore, pedibusque testaceis: elytra lætè violacea. (Corp. long. .45 unc. lat. .175 unc.)

Inhabits ——? There are two specimens of this most lovely little insect in the cabinet of the British Museum, but their habitat appears to be unrecorded. The mouth, antennæ and legs are testaceous, approaching to yellow: the head, prothorax, scutellum, and abdomen, are black: the elytra are of a brilliant and beautiful purple: every part of the insect is glossy and apparently without punctures.

Natural Order.—CARABITES, *Newman*.Genus.—*LEBIA*, *Latreille*.

Lebia civica. Nigra; antennæ nigræ, basi testaceæ: prothorax niger, punctus, lineâ longitudinali impressus: elytra glaberrima, nigra, maculâ utriusque magnâ anticâ albidâ; utraque macula e humero ad suturam obliquè descendit. (Corp. long. .175 unc. lat. .075 unc.)

Inhabits New Holland. A single specimen of this minute insect, in the cabinet of the Entomological Club, was taken by Mr. Davis, at Adelaide.

Lebia lutosâ. Testacea, oculis nigris: elytrorum fasciâ latâ bisinuâtâ obscurè fuscâ: hujus insecti parvuli colores confusi valdè obscuri: prothorax punctus lineâ longitudinali impressus: elytra confertim puncta, occultè sulcata. (Corp. long. .2 unc. lat. .1 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club: taken in some abundance by Mr. Davis, near Adelaide.

Lebia? plana. Plana, depressa, fusco-ferruginea, concolor, oculis tantùm nigris: caput et prothorax glabra nitidissima: elytra obscura confertim puncta, obscurè et pravè sulcata. (Corp. long. .4 unc. lat. .175 unc.)

Inhabits New Holland. In the cabinet of the Entomological Club: taken in some abundance by Mr. Davis, near Adelaide. The species probably belongs to one of the sections divided from *Lebia*, as *Lamprias*, *Orthogonius*, *Colpoderus*, &c.

Lebia russata. Caput elongatum, glabrum, subtilitè punctum, cum antennis obscurè ferrugineum, oculis tantùm nigris: prothorax ferrugineus, transversè subtilitè rugatus, lineâ medianâ longitudinali impressus: scutellum ferè invisum: elytra lata complanata, pravè ac indistinctè striata, striis subtilitè punctis, fusca, margine externo ferrugineo: abdomen subtùs ferrugineum: pedes pallidiores. (Corp. long. .425 unc. lat. .175 unc.)

Inhabits North America. In the cabinet of the Entomological Club: it was taken in some abundance by Messrs. R. Foster and E. Doubleday, at St. John's Bluff, in East Florida.

Genus.—PLOCHIONUS, Dejean.

Plo. amandus. Lætè ferrugineus; caput et antennæ ferruginea, oculis nigris: prothorax ferrugineus transversè rugatus: elytra profundè 9-striata, ferruginea, suturâ fasciâque posticâ latè nigris, abdomen subtùs ferrugineum: pedes pallidiores. (Corp. long. .3 unc. lat. .13 unc.)

Inhabits North America. In the cabinet of the Entomological Club: it was taken in abundance by Messrs. R. Foster and E. Doubleday, at St. John's Bluff, in East Florida.

The colour of the insect is a bright ferruginous red, with the exception of the black eyes and the black cruciform mark on the elytra; this is very wide at the base, nearly reaching from shoulder to shoulder: towards the middle of the elytra it is narrower, and then suddenly widens, spreading on each side to the margin, and extending along the margin upwards and downwards; the margin itself is ferruginous. Mr. E. Doubleday has obligingly furnished me with the following particulars of the economy of this beautiful little Carabite.

"I first found it at Jacksonville, in East Florida, in December, 1837, on the dwarf palmetto. The leaves of this plant are eaten by a small Tineite, which pares the upper surface of the leaves, and covers the part so pared with a stout silken web. The larva of the Tineite appears gregarious, as I found several empty pupa-cases together. In the same hammock all the bushes of the American olive, and some of the red bays, had the ends of the shoots spun together in the same manner as the Yponomeutidæ serve the Euonymi in this country.—The majority of the specimens of Plochionus were taken in these webs; and as I never found any elsewhere, with the exception of those on the dwarf palmetto, I presume their object in seeking the webs was to prey on the pupæ of the Tineites. The moth I have never seen, and the beetle only at Jacksonville, and chiefly on the east side of the town, where the olive-leaves were much spun together."



JOHN VAN VOORST,

PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. III.

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PRICE 6D.

ART. I. — *Entomological Notes.* By EDWARD NEWMAN.

(Continued).

Class.—COLEOPTERA.

Natural Order.—LEPTURITES, *Newman.*

Genus.—MACRONES, *Newman.*

CAPUT porrectum, ante oculos elongatum; oculi rotundi, distantes, laterales; antennæ corpore manifestò breviores, 11-articulatæ, articulus 1mus tribus sequentibus longior, apice tumidus: prothorax capite haud longior paullò latior, inæqualis, anticâ constrictus, dorso asper, lateribus gibber, basi quadratus: elytra elongata, linearia, angustissima, nec metalas neque abdomen tegentia: pedes elongati femoribus simplicibus.



Macrones exilis. Caput nigrum, clypeo oreque rufo-piceis, epicranio confertim puncto, gulâ rugatâ, prothoracem versus rugis transversis ordinatis: prothorax obscurus, rufo-piceus, dorso niger, asper, dorso tuberculis binis glabris instructus: elytra albida, glabra, humeris rufo-piceis, marginibus, lineisque 2 elevatis asperis nigris: meso- et metasternum rufo-picea, nigris nigris variegata: abdomen piceum apice nigrum: femora basi rufo-picea, apice nigra; tibiæ basi rufo-piceæ, apice nigrae, pro- et mesotarsi nigri, metatarsi albidii, unguis fuscis. (Corp. long. .9 unc. lat. .1 unc.)

Inhabits Van Dieman's Land. A single specimen is in the cabinet of Mr. Westwood, to whom I am indebted for the loan of this interesting and unique insect. I am inclined to think that the Rhagiomorphous Macrocera of Australasia are entitled to rank as a distinct family:

they are to be distinguished from the normal *Rhagia* of Europe and North America, by the elongated and often curved basal joint of the antennæ, by the elongation of the head anteriorly, and by the frequency of carinated elytra, having the interspaces either reticulated or thickly punctured. I feel considerable hesitation in proposing a name for a family which, though in all probability very extensive, is known to us only by the occasional arrival of a somewhat approaching form; indeed, in the genus *Rhagiomorpha*, the eyes are more those of a *Cerambyx*; in *Stenoderus*,—to which *Macrones* is almost too closely allied,—those of a *Leptura*. Still the points of resemblance as given above are so striking, that I would propose to unite the genera as the

Family.—RHAGIOMORPHIDÆ, *Newman*.

In addition to *Macrones* its contents, as at present published, are as follows.

Genus.—RHAGIOMORPHA, *Newman*.

This genus is described in the 'Annals of Natural History,' v. 21, and contains two divisions: the species in the first are *Rha. Lepturoides*, the *Stenocorus Lepturoides* of Boisduval, 'Faune de l'Océanie,' 479; *Rha. concolor*, the *Stenocorus concolor* of MacLeay, 'Appendix to King,' ii. 452; and *Rha. sordida* of Newman, 'Ann. Nat. Hist.' v. 21. The second division, containing 'species aberrantes,' should I leave them as *Rhagiomorphæ*, will doubtlessly be separated from the preceding on account of the distinctly carinated elytra, which evince an approach to the following genus. I shall therefore consider these the

Genus.—TROPIS, *Newman*.

Containing as the type *Tropis oculifera*, the *Rhagiomorpha oculifera* of Newman, 'Ann. Nat. Hist.' v. 21; and

Tropis dimidiata. Caput nigrum, glabrum: prothorax flavus, glaberrimus, nitidissimus: elytra basi flava, apice nigra, splendore chalybeo nitentia, parallela, quasi reticulata, basi ferè glabra, singulo 4-carinato: pedes nigri, splendore chalybeo nitentes; pro- et mesofemoribus flavidis: sternum flavidum, abdomen chalybeum. (Corp. long. .7 unc. lat. .155 unc.)

Inhabits New Holland. There is a mutilated specimen in the cabinet of the Zoological Society, and a second in that of the Entomological Club.

Genus.—STENODERUS, *Dejean*.

The type of this genus is *Stenoderus suturalis* of Audinet-Serville, the *Stenocorus suturalis* of Olivier, the habitat and synonymy of which seem involved in almost inextricable confusion.

- Stenocorus suturalis*, Olivier, iv. (Sten.) 29, tab. iii. fig. 29.
 (" " Schönherr, 'Syn. Ins.' p. 409, as quoted by
 Audinet-Serville).
 (*Pterostenus* " MacLeay, as quoted by Laporte).
 (*Saperda* " Fabricius, as quoted by Laporte).
 (*Stenoderus* " Audinet-Serville, 'Ann. Ent. Soc.' iv. 210).
 " " Laporte, 'Animaux Articulés,' Ins. 499.

These authors give the East Indies as the habitat.

- Cerambyx abbreviatus*, Fabricius, 'Syst. Eleu.' ii. 275.
Stenoderus " MacLeay, 'Appendix to King,' ii. 452.
 " " Boisduval, 'Faune de l'Océanie,' p. 521.
Leptura Ceramboides, Kirby, 'Trans. Linn. Soc.' xii. 472.
Stenoderus " Boisduval, 'Faune de l'Océanie,' 522.
 " *dorsalis*, Boisduval, " 521.
 (————? " Fabricius, as quoted by Boisduval).

These authors give Australasia as the habitat.

I have not the slightest doubt that these four names indicate but a single insect, although both Boisduval and Dejean give three distinct species, without hinting that either of them may be identical with the *Stenoderus suturalis* of Audinet-Serville, the black costal margin by which the species are distinguished, being a most fugitive character. The second species is *St. grammicus*, Newman, 'Ann. Nat. Hist.' v. 21.

Natural Order.—CLERITES, *Newman*.

Mr. Walker has obligingly placed in my hands four very interesting insects belonging to this order, from Van Dieman's Land; two of them appear precisely to agree with Hydnocera, previously supposed to be confined to North America, each of the others may, I think, be considered as constituting the type of a new genus.

G. N.?—Generi Clero affine.

Clerus? fatuus. Fuscus, lanugine ferrugineâ tectus; antennæ, pedes et abdomen ferruginea: caput pronum, punctum, oculis

rotundatis, magnis: prothorax punctus, lateribus dente magno obtuso armatus: elytra subtilitèr puncta, 10-striata, striis profundè punctis, punctis apicem versus minùs distinctis. (Corp. long. .45 unc. lat. .15 unc.)

Inhabits Van Dieman's Land. A single specimen is in the cabinet of the Entomological Club. If this be considered a distinct genus I would propose for it the name *Pylus*.

Genus.—ELEALE, *Newman*.

Caput valdè porrectum, nullo modo pronum; os elongatum, labrum elongatum, porrectum, truncatum; mandibulæ curvatæ apice acutæ; maxillarum lacinia elongatæ hirsutæ; maxipalporum articulus basalis invisus, articulis 3 cylindræis, apicali nullo modo incrassato; labipalporum articulus apicalis securiformis: antennæ 11-articulatæ; articuli distincti, apicem versus magnitudine crescentes, clavam distinctam formantes: prothorax dorso complanatus, lateribus ferè rectis.

Eleale aspera. Caput punctum, prothorax transversè rugatus: elytra asperè ac profundè puncta, punctis confluentibus: color nigro-viridis, antennis pedibusque nigris: totum insectum pilis nigris obsitum. (Corp. long. .4 unc. lat. .075 unc.)

Inhabits Van Dieman's Land. There is a single specimen in the cabinet of the Entomological Club.

Genus.—HYDNOCERA, *Newman*.

Hyd. nitens. Nigerrima, glaberrima, antennis, pedibus abdomineque ferrugineis: elytrorum fasciis 3 lineâque brevi juxta scutellum flavidis. (Corp. long. .25 unc. lat. .05 unc.)

Inhabits Van Dieman's Land. A single specimen is in the cabinet of the Entomological Club. The head is very black and shining on the crown, the face and mouth being pale testaceous; the antennæ are ferruginous: the prothorax is entirely black: the scutellum is black and punctured: the elytra are equally black and shining, with several clear yellow markings; the first of these extends along the base, on each side of the scutellum; the second is on the suture, immediately below the scutellum; the third is a band across the middle of the elytra, interrupted at the suture, and does not reach the lateral margins; the fourth is situated half way between this and the apex of the elytra, and may perhaps be described as two lunulate marks reach-

ing neither the suture nor lateral margin, and the convex side of each being turned inwards from the apex. The legs and abdomen are bright ferruginous.

Hyd. Malthinus. Facies omninò Malthini: caput croceum, oculis lineâque verticali nigris: prothorax niger, marginibus anticâ posticâque croceis: scutellum nigrum: elytra nigra, basi tenuè apice latè croceis: pedes crocei, femorum lineâ tarsisque fuscis, abdomen subtùs nigrum. (Corp. long. .225 unc. lat. .03 unc.)

Inhabits Van Dieman's Land. There is a single specimen in the cabinet of the Entomological Club. This insect has very strikingly the figure and appearance of a Malthinus: the head is bright yellow, with the exception of the eyes and a line extending between them on the crown, which are black: the prothorax is black, with the anterior and posterior margins saffron-coloured: the elytra are black, with the base and apex saffron-coloured: the legs are saffron-coloured, with a black line on the upper side of each femur: the under side of the body is black.

Natural Order.—CARABITES, *Newman.*

Genus.—DROMIUS, *Bonelli.*

Dromius crudelis. Caput nigrum, antennis testaceis: prothorax testaceus: elytra quoque testacea, cruce nigerimâ signata: q. e. d. sutura nigra fasciaque paullò post medium latè at pravè nigra: pedes testacei: abdomen nigro varium. (Corp. long. .35 unc. lat. .1 unc.)

Inhabits Kangaroo Island. In the cabinet of the Entomological Club.

Dromius tridens. Caput et antennæ testacea, oculis fuscis: prothorax testaceus: elytra quoque testacea, vittâ suturali haud apicem attingenti, alterâque utriusque submarginali fuscis: pone medium fascia transversa lata vittas conjungit. (Corp. long. .35 unc. lat. .1 unc.)

Inhabits Kangaroo Island. In the cabinet of the Entomological Club. The black markings on the elytra somewhat resemble the trident assigned to Neptune.

ART. II. — *Analytical Notice of the 129th Volume of Lardner's Cabinet Cyclopædia, entitled 'On the History and Natural Arrangement of Insects:'* By WILLIAM SWAINSON, A.C.G., F.R.S. & L.S., Hon. F.C.P.S., and of several Foreign Societies; and W. E. SHUCKARD, Lib. R.S., &c.

THE object of this abstruse volume is to show the applicability of Mr. Swainson's peculiar views of natural arrangement to that portion of the Animal Kingdom which contains the animals commonly called insects. I presume it is pretty generally known to the readers of the 'Entomologist,' that Mr. Swainson has invented a system of his own, resembling, as regards numerical division, the MacLeayian or quinary, but differing therefrom inasmuch as the five groups are characterized as being *one* typical, *one* subtypical, and *three* aberrant; the three aberrant groups combined being considered of equal value with the typical or subtypical taken separately; thus the division is *ternary* in theory, *quinary* in application. It will probably be recollected that MacLeay divided the animal kingdom into five classes:—Vertebrata, Annulosa, Radiata, Acrita and Mollusca. He then subdivided the Annulosa into five orders,—Mandibulata, Haustellata, Arachnida, Crustacea and Ametabola, the last group containing the Myriapoda, Anoplura, Thysanura and Vermes; the Mandibulata were again divided into

1. Coleoptera,
2. Orthoptera,
3. Neuroptera,
4. Trichoptera,
5. Hymenoptera :

and the Haustellata into

1. Lepidoptera,
2. Homoptera,
3. Hemiptera,
4. Aptera,
5. Diptera.

I will now endeavour to show the views entertained by Messrs. Swainson and Shuckard on the subject, by extracting, as nearly as I can, in a tabular form, the divisions which they propose; first premising that they divide the Annulosa into Aptera, Ptilota, Annelides, Vermes and Cirrhipedes, and that the present volume treats only of the Aptera and Ptilota.

CLASS I. PTILOTA, or winged Insects.

ORDER I. LEPIDOPTERA.

- Tribe 1. Papilionides.* (Families. 1. Papilionidæ. 2. Nymphalidæ. 3. Satyridæ. 4. Erycinidæ. 5. Hesperidæ).
 2. *Sphingides.* (Families. 1. Sphingidæ. 2. Orthidæ [Ægeridæ]. 3. Agaristidæ. 4. Zygænidæ. 5. Castniadæ).
 3. *Bombycides.* (Families. 1. Hepialidæ. 2. Bombycidæ. 3. Arctiadæ. 4. Lithosidæ. 5. Cryptophasidæ [an Australian group]).
 4. *Geometrides.* (Families. 1. Tortricidæ. 2. Geometridæ. 3. Tineidæ. 4. Phalænidæ [larva having 12 legs]. 5. Pyralidæ).
 5. *Noctuides.* (Families not specified).

ORDER II. HEMIPTERA.

- Tribe 1. Cimicides.* (Families. Pentatomidæ. Reduviidæ. Nepidæ).
 2. *Cicadides.* (Families. Cicadidæ. Flatidæ. Centronotidæ. Notonectidæ).
 3. *Aphides.* (Genera. Chermes. Aphis. Thrips. Eriosoma).
 4. *Coccides.*
 5. *Aleyrodides.*

ORDER III. HYMENOPTERA.

- Tribe 1. Apides.* (Families. Apidæ. Andrenidæ. Formicidæ. Dorylidæ).
 2. *Sphecides.* [The Sphecina and Vespina].
 3. *Ichneumonides.* [Including Chrysis].
 4. *Cynipsides.*
 5. *Tenthredines.*

ORDER IV. COLEOPTERA.

- Tribe 1. Lamellicornes.* (Families. 1. Cetoniadæ. 2. Scarabæidæ. 3. Lucanidæ. 4. Buprestidæ. 5. Hydrophilidæ).
 2. *Predatores.* (Families. 1. Cicindelidæ. 2. Carabidæ. 3. Dytiscidæ. 4. Silphidæ or Pimelidæ [Heteromera]. 5. Staphylinidæ).
 3. *Capricornes.* (Families. 1. Prionidæ. 2. Cerambycidæ. 3. Lepturidæ. 4. Bostrichidæ. 5. Curculionidæ).
 4. *Monilicornes.* (Families. 1. Cassidæ. 2. Chrysomelidæ. 3. Clythridæ. 4. Erotylidæ. 5. Hispidæ).
 5. *Malacodermes.* (Families. 1. Lampyridæ. 2. Cantharidæ. 3. Lymexylonidæ. 4. Mordellidæ. 5. Cleridæ).

ORDER V. NEUROPTERA.

- Family 1. Libellulidæ.* (Subfamilies. Libellulinæ. Myrmecoleontinæ. Panorpinæ. Termitinæ. Rhaphidiinæ).
 2. *Gryllidæ.* (Subfamilies. Mantinæ. Phasminæ. Locustinæ. Acridinæ. Blattinæ).
 3. *Forficulidæ.*
 4. *Stylopidæ.*
 5. *Phryganidæ.* (Subfamilies. Ephemerinæ. Phryganinæ. Hemerobiinæ. Perlina. Psocinæ).

CLASS II. APTERA.

ORDER I. ARACHNIDA.

II. MYRIAPODA.

III. CRUSTACEA.

IV. SUCTORIA.

V. DIPTERA.

A glance at this arrangement will convince the reader that no charge of plagiarism can possibly be brought against its authors : those who were inclined to suppose that in adopting the magical number of MacLeay, they were following somewhat too closely in his footsteps, will be eager to retract the ungenerous thought : nothing can be more widely different than the two systems before us. If the views of Messrs. Swainson and Shuckard display the slightest approach to nature, then are those of Mr. MacLeay the most distorted, wild and unnatural : there is no point of similarity between the systems except the frequent recurrence of the number five. The bold alteration made by the authors in separating the Diptera from the winged insects, is the most striking feature in the new arrangement ; it proves them to be profound and original thinkers, and not only this, it displays an indifference to the opinions of others, which must be the result of the *mens conscia recti*.

There are several other bold and original ideas which require the deep consideration of entomologists. In Lepidoptera, the Tortricidæ and Tineidæ, the larvæ of which have ten prolegs, are arranged as families of the Geometrides or loopers, distinguished by the possession of four prolegs only. In Hemiptera we find the Nepidæ considered a family of Cimicidæ, and the Notonectidæ a family of the Cicadidæ, and Thrips is placed as a genus of Aphidæ. In Coleoptera I observe that the beautiful group comprising the genera Buprestis and Elater is considered a family of Lamellicornæ, an arrangement which seems to strike me as peculiarly curious and novel. In Neuroptera the whole of Orthoptera are ingeniously treated as a family equivalent to the Libellulidæ ; the Ephemerinæ, Hemerobiinæ, Perlina and Psocinæ are made subfamilies of Phryganidæ ; and the genus Stylops is raised to the rank of a Neuropterous family : its precise similarity to the typical Neuroptera is not pointed out.

I have been led from its title to assign the merits of this volume conjointly to Messrs. Swainson and Shuckard, and have been treating them like the Siamese twins, as inseparables in fame ; but fairness compels me to add that *the system of classification is entirely Mr. Swainson's* : Mr. Shuckard has most ingenuously disavowed any

share in this, the great feature of the work; and I am compelled to place the chaplet of laurel on the brows of Mr. Swainson alone,—*palmarum qui meruit ferat!* Many parts of Mr. Swainson's theory are somewhat above my comprehension; this arises, doubtless, from his considering his readers far advanced in his views: he occasionally makes assertions which the uninitiated are scarcely prepared to admit; for instance, the following.

"As the primary groups of the Annulosa are thus found to represent those of the Vertebrata, *it follows, as a necessary consequence, that they equally represent all other groups, large or small*, which agree in having analogies with the vertebrate series. This is one of the consequences of the law of universal representation, *which, while it saves a world of explanatory details*, reduces all the variations of animal forms to one and the same uniform law."—p. 15. How deeply must every well regulated mind feel indebted to an author, who can thus make assertions which save him *a world of explanatory detail!* I feel rejoiced that one superior mind has settled for ever the gigantic subject of insect classification; for as Mr. Swainson beautifully remarks,—“Every year brings forth a new theory, not of all animals, but of insects only, until entomological classification, having no foundation in inductive philosophy, is now become a quicksand, shifting with every tide that flows”! To deliver us from this quicksand, to purge the mind from idle speculation, to establish a natural and unexceptionable classification, is the high object of the present volume.

I conclude this notice by extracting the most illustrative table which I can find: it will at once exhibit Mr. Swainson's views, and demonstrate the tact with which he detects analogies which have been hidden from all other observers, and unless disclosed by him might have remained hidden to the end of time.

Analogies of the HEMIPTERA to the COLEOPTERA.

Families of the Predatores.	Tribes of the Hemiptera.	Analogies.	Tribes of the Coleoptera.
<i>Cicindelidæ.</i>	CIMICIDES.	{ Rapacious; feeding upon other insects.	PREDATORES.
<i>Curabidæ.</i>	CICADIDES.	{ Saprophagous; feeding upon vegetable fluids.	LAMELICORNES.
<i>Dyticidæ.</i>	ALEYRODES.	?	MALACODERMES.
<i>Silphidæ.</i>	COCCIDES.	{ Body short, oval; antennæ mo- niliform; frequently apterous.	MONILICORNES.
<i>Staphylinidæ.</i>	APIIDES.	Antennæ very long and slender.	CAPRICORNES.

EDWARD NEWMAN.

ART. III.—*Memorandum on the Fire-flies of Jamaica.* By ROBERT HEWARD, Esq., F.L.S., &c.

5, Young St., Kensington.

MY Dear Sir,

Wishing to hand you such information as I possess respecting the fire-flies of Jamaica, I have jotted down all that I can remember of those evening glisteners which so astonish and delight the newly-landed European. The fire-flies of Jamaica, that I observed, were of two genera,—*Elater* and *Lampyris*; but it is most likely that there are more than one species of each genus bearing the name of fire-fly, but I am not entomologist sufficient to assure you of that fact. The *Elater* makes its appearance as soon as it becomes dark, and frequents houses much more than the *Lampyris*; as soon as the candles are lighted, we generally find some of them striking against the glass candle-shades and falling on the table. The light they show whilst on the wing, proceeds from two small spots on the thorax of the insect; it is of a remarkably beautiful palish green colour, and continues very steady, not appearing and disappearing at intervals like the light from the *Lampyris*. I never observed the light when the insect was in a quiescent state. If the insect falls or is placed on its back, in its endeavours to recover its proper position it shows a pale red light from the intervals between the rings of the abdomen; this light is also steady, like the light from the head, but I never saw the insect exhibit it except when lying on its back. The appearance of the two colours, when shining together, is very beautiful. When the light in the thorax is not shining, the spots from which it proceeds are of a dull straw colour, and in form rather oval than perfectly circular. The amount of light a single insect gives from the thorax alone (for I never remember trying the abdominal light) is sufficient, on holding the insect near the paper, to read print in rather a small type. It is a common practice in Jamaica, for persons requiring to know the hour during the night, to enclose one or two of these insects in a vial, and shaking them to induce them to show their light, the party is thereby enabled to see the time by his watch.

The other fire-fly, the *Lampyris*, is seen in great numbers at wood-sides, (more particularly of a damp evening). Its light is emitted at short intervals, every quarter of a minute probably; it is of a deep yellow or flame colour, and the effect of hundreds of these lights spark-

ling at the same moment is lovely in the extreme; a constant flashing of a small brilliant flame is going on around you, while ever and anon the steady light of the Elater is seen sailing through the brilliant group, diversifying the scene with its pale green lamps.

I regret that I cannot give you any information respecting the habits, food, reproduction &c. of these interesting tribes, for not making Entomology my study while in Jamaica, I neglected those opportunities that any one having a love for that branch of science would have made good use of.

Believe me to be,

My dear Sir,

Yours very truly,

ROBERT HEWARD.

To the Editor of 'The Entomologist.'

ART. IV.—*Analytical Notice of the 'Transactions of the Entomological Society of London,' Vol. II. part 4; with 5 plates.* London: Longman.

THE fourth part of the second volume of these Transactions has just made its appearance: it contains a list of the members of the Society, of additions to the library, a journal of Proceedings, and 72 pages of original matter. The following are the articles.

XL.—*On the Characters of the Chigoe or Jigger.* By J. O. WESTWOOD, F.L.S., &c.

The author of this paper cites the opinions and observations of previous writers on the jigger; and concludes by giving it a new generic name, *Sarcopsylla*, and detailing its characters. *Sarc. penetrans*, the *Pulex penetrans* of Linneus, is the type of the genus, and the author thinks there is another species, which however he has not described. Mr. Westwood further remarks of some specimens which he has examined:—

"These individuals presented the ordinary swollen appearance described by most authors, but I was most surprised at the comparatively minute size of the exposed parts of the front of the body and limbs: these were placed in the centre of a membranous space somewhat like a reversed trilobed leaf, and within the thin skin of the abdomen at the broadest part of the circumference, might plainly be perceived many oval bodies, which, on breaking the skin, proved to be ova enclosed in a membranous egg-duct, and placed end to end, the eggs at the other extremity of the egg-tubes being very minute and globular; the size of the oval eggs seemed very considerable

compared with that of the insect itself. On opening one of these eggs, in order to ascertain whether the larva might not be enclosed therein, as would be the case were Dr. Rodschied's opinions correct, I found nothing but an immense number of exceedingly minute globular masses of different sizes, as represented in my figure.—Now as these jiggers had in all probability been extracted at the time considered most fit to prevent the extension of the injury to the patient's foot by the deposition of the eggs within the wound, it seems to me evident that these large sized eggs were in a fit state for deposition, and that consequently the larvæ are not developed in the abdomen of the female, like those of the *Hippoboscidæ*, but within the wound; the immense quantity of the eggs also is in opposition to such an opinion. If this be the case, the larvæ would continue to feed within the flesh, and they might either burrow out when full grown, or might undergo their transformations in the foot, escaping only when arrived at the perfect state. The circumstances connected with the wounds produced by the insect when left untouched, have not been related; they would, of course, supply a solution to some of the questions respecting which we are still in doubt. But it must be evident that the ordinary habit of the jigger cannot, from its great numbers, be that of burrowing into the human foot.

"On each side of the head is a black and circular space, evidently an eye, but appearing to be of a simple construction, like an ocellus, and behind this is a space or impression, within which the antenna was evidently placed, but of which I was unable to ascertain the structure. The six legs are formed like those of the common flea, the tarsi five-jointed and long, with long and simple unguis. The proboscis is very long, acute and horny, apparently composed of a single inarticulated piece; but on examining this, it divided into three pieces of horny texture, one very slender and rather curved at the tip, representing the tongue, and the two others identical in structure, flat, broader, less acute at the tip, with the sides obliquely channelled or guttered; these are the mandibles. Of the maxillæ I could not discover any trace, although the maxillary palpi are very distinct and four-jointed, the second joint being the longest. Of the labium and labial palpi, which in *Pulex* are very conspicuous, I also obtained no other trace than a small and slender piece of membrane observed behind the tongue, and which I am by no means sure formed part of the mouth.* Thus it is evident that the elongation of the horny mandibles and tongue, is obtained at the expense of the labium, labial palpi and maxillæ. The basal joint of the legs is very large and plate-like, as in *Pulex*, and the abdomen, when distended, exhibits no trace of articulation, being entirely membranous."—p. 202.

XLI. — *Description of a minute Crustaceous Animal from the Island of Mauritius.* By ROBERT TEMPLETON, Esq., R.A.

The author has named this little animal *Zeuxo Westwoodiana*; and after describing it with elaborate care and minuteness, he adds the following notice of its affinities.

"This singular little animal, which I have inscribed to my friend Mr. Westwood, would seem to take precedence of all the genera in the division *Amphipoda* of Latreille, to which I believe it correctly belongs. It resembles, however, very much in

* Both Messrs. Dugès and Guérin have also detected this organ as forming part of the mouth, so that it must evidently represent the labium."

its gait and habits, the *Squillæ*, and the resemblance is still more striking, from the excessive development of the hand, and the mode in which it is carried, pressed close up against the cephalic ring; and also in the form of the swimming feet. Nevertheless the chelæ, the simply clawed feet, the styled tail, subpedunculate eye, and the mode of origin of the antennæ, reduce it to its proper place among the *Gammaridæ*, but in a section distinct from any as yet described."—p. 206.

Mr. Westwood has added in a parenthesis, that he considers *Zeuxo* nearly allied to the genera *Tanais* and *Rhæa* of M. Edwards.

XLII. — *Notes respecting the Nest of Cteniza nidulans.* By W. SELLS, Esq.

The author observes of this extraordinary spider, that it

"Selects for the scene of its labours some spot under the rocks or trees in a sheltered situation, and where the soil is not exposed to the effects of the extremes of heat and moisture."—p. 208.

"Those parts of this ingeniously contrived fabric which more strikingly call for our particular admiration, are the *lid*, and a *valvular apparatus* that is found inside, and immediately below the hinge.

"The lid bears some analogy to the upper shell of the oyster, inasmuch that the upper surface of it is rough, laminated, thick and strong near the hinge, and becomes gradually thinner towards the surrounding edges. The elastic force with which the lid, upon being opened, closes of itself, is principally accomplished by a fold or duplicature of the webbing at each end or angle of the hinge, so that upon raising the lid, which cannot be done without violence much beyond a right angle with the aperture, this fold is also opened, and the threads of the webbing are put upon the stretch in proportion to the extent to which the lid is elevated, and which, doubtless, in its proper use, by its lawful owner, never exceeds the insect's requirements."—p. 209.

"*Valvular apparatus.*—About two months since I obtained a supply of four fresh nests, and, being tolerably well stocked before, I could afford to open them longitudinally, in order to examine their internal structure. One of them had no appearance whatever of any valves, but the other exhibited a beautiful instance of two regularly formed ones; one placed immediately beneath the hinge, and the other about three quarters of an inch lower down."—p. 209.

"Mr. Sells thinks that "in newly constructed nests the reacting elastic power of the hinge may be all-sufficient, and continue so for a considerable time; but from long continued use, the effect of weather, or other incidental causes, it may lose its spring, when the superadded construction of the valves may effectually restore its efficiency; as it is evident, upon close inspection, that the opening of the lid acts first upon the upper one, the decussating fibres of the crura of the upper valve act upon the lower one, which again sends out numerous elastic threads downwards."—p. 210.

XLIII.—*On some Doubts respecting the Œconomy of Ants.* By the Rev. F. W. HOPE.

The object of this paper is rather to draw the attention of entomologists to the subject of ants laying up during summer a store of

provisions for the winter, than to lay down any positive laws on the subject. The author suggests the following enquiries.

- "1. What is the general food of our European ants?
- "2. What is the food of the *Atta providens* and other species of Asia?
- "3. Do exotic ants, particularly those of the genus *Atta*, derive any sustenance from *Aphides*? If not, the æconomy of the races are distinct, and it is probable that the hoarded grains are their usual food.
- "4. Do the ants of tropical countries become torpid during any part of the year? Probably not."—p. 213.

Mr. Hope cites in a note the following interesting passage from Meer Hassan Ali's 'History of the Mussulmauns.'

"'More industrious little creatures cannot exist than the small red ants, which are so abundant in India; I have watched them at their labours for hours, without tiring; they are so small that from eight to twelve in number labour with great difficulty to convey a grain of *wheat* or *barley*, yet these are not more than half the size of a grain of English wheat. I have known them to carry one of these grains to their nest, at a distance from 600 to 1000 yards; they travel in two distinct lines over rough or smooth ground, as it may happen, even up and down steps, at one regular pace. The returning unladen ants invariably salute the burthened ones, who are making their way to the general storehouse, but it is done so promptly that the line is neither broken, nor their progress impeded by the salutation. The natives tell me these little pests will feed on the human body if they are not disturbed; when any one is sick there is always great anxiety to keep them away.—Vol. ii. p. 99."

XLIV.—On *Caprifigation as practised upon the Figs in the South of Europe and the Levant, with Descriptions of the Insects employed for that purpose; and Observations upon the Agaon paradoxum of Dalman.* By J. O. WESTWOOD, F.L.S. &c.

The author, in citing the opinions of various writers on the subject of caprifigation, quotes the following highly interesting passage from Tournefort.

"Of the thirty species or varieties of the domestic fig-tree which are cultivated in France, Spain and Italy, there are but two cultivated in the Archipelago. The first species is called *Ornos*, from the old Greek *Erinos*, which answers to *Caprificus* in Latin, and signifies a wild fig-tree. The second is the domestic or garden fig-tree. The former bears successively in the same year, three sorts of fruit, called *Fornites*, *Cratitires*, and *Orni*; which, though not good to eat, are found absolutely necessary towards ripening those of the garden fig. These fruits have a sleek even skin, are of a deep green colour, and contain in their dry and mealy inside several male and female flowers, placed upon distinct foot-stalks, the former above the latter. The *Fornites* appear in August, and continue to November without ripening; in these are bred small worms, which turn to a sort of gnats, nowhere to be seen but about these trees. In October and November these gnats of themselves make a puncture into the second fruit, which is called *Cratitires*. These do not show themselves till towards the end of September. The *Fornites* gradually fall away after the gnats

are gone; the *Cratitires*, on the contrary, remain on the tree till May, and inclose the eggs deposited by the gnats when they pricked them. In May the third sort of fruit, called *Orni*, begins to be produced by the wild fig-trees. This is much bigger than the other two, and when it grows to a certain size, and its buds begin to open, it is pricked in that part by the gnats of the *Cratitires*, which are strong enough to go from one fruit to another to deposit their eggs. It sometimes happens that the gnats of the *Cratitires* are slow to come forth in certain parts, while the *Orni* in those very parts are disposed to receive them. In this case the husbandman is obliged to look for the *Cratitires* in another part, and fix them at the end of the branches of those fig-trees, whose *Orni* are in a fit disposition to be pricked by the gnats. If they miss the opportunity, the *Orni* fall, and the gnats of the *Cratitires* fall away; none but those that are well acquainted with the culture know the critical moment of doing this, and in order to know it their eyes are perpetually fixed on the bud of the fig, for that part not only indicates the time that the insects are to issue forth, but also when the fig is to be successfully pricked; if the bud is too hard and compact, the gnat cannot lay its eggs, and the fig drops when the bud is too open.

“The use of all these three sorts of fruit is to ripen the fruit of the garden fig in the following manner. During the months of June and July the peasants take the *Orni* at the time their gnats are ready to break out, and carry them to the garden fig-trees; if they do not nick the moment, the *Orni* fall, and the fruit of the domestic fig-tree not ripening, will in a very little time fall in like manner. The peasants are so well acquainted with these precious moments, that every morning in making their inspection they only transfer to their garden fig-trees such *Orni* as are well-conditioned, otherwise they lose their crop. In this case, however, they have one remedy, though an indifferent one, which is to strew over the garden fig-trees another plant in whose fruit there is a species of gnat, which answers the purpose in some manner.”—p. 217.

Mr. Westwood describes the *Blastophaga Sycomori* of Gravenhorst, and a new insect which he names *Sycophaga crassipes*, both of these he appears to consider the instruments of caprification, and suggests that the remarkable *Agaon paradoxum* of Dalman may be an insect of the same family, viz. the Chalcididæ: he however very justly remarks on the fruit-feeding habits of these little insects being so entirely different from what we know of the economy of the Chalcididæ.

XLV.—*Descriptions of two new Coleopterous Insects, from the Collection of Sir Patrick Walker.* By G. R. WATERHOUSE, Esq., Curator to the Museum of the Zoological Society.

The author in this paper has described two very interesting Macrocerous Coleoptera. The first, which he has named *Dorysthenes Baladeva Walkeri*, is closely allied to the *Dorysthenes rostratus* of Vigers, synonymous with the *Prionus rostratus* of Fabricius, ‘Syst. Eleu.’ ii. 257, fine specimens of which extraordinary insect are in the Banksian collection of the Linnean Society; but Mr. Waterhouse remarks that the new species may be distinguished by the absence of

the large spine on the prosternum, and by the prothorax being produced at the sides, and forming on each side three large spines.

“In size it greatly exceeds the *Prionus rostratus* of Fabricius, and is proportionately broader, but agrees with that species in the structure of the antennæ, palpi and legs; the tarsi however are broader: it moreover has the hinder portion of the head greatly elongated, the large transverse eyes separated above by a narrow space, and the large mandibles which we observe in the insect just mentioned.”—p. 226.

This fine insect inhabits the East Indies, in common with the cognate species, *rostratus* and *paradoxus*.

The second insect is *Callona tricolor*. Mr. Waterhouse observes that—

“The general form of the head is that of *Callichroma*; the basal joint of the antenna is stout, as in that genus, and the remaining joints differ only in being a trifle shorter; they bear the same relative proportions one to another: the two terminal joints unfortunately are lost, but if present, the antennæ would no doubt, when bent backwards, extend nearly to the apex of the elytra; the thorax is broader than long, and nearly equal in width to the elytra; the upper surface is slightly uneven, and has scattered punctures, but no distinct tubercles. In the prothorax there is a great resemblance between this insect and the species of *Callichroma*, excepting that it is proportionately broader and shorter, and has the lateral projecting tubercle somewhat obtuse, instead of acute, as in that genus; the prosternum is also of the same structure. The mesosternum differs in having an obtusely pointed tubercle situated between the middle pair of legs. The elytra are broader than in *Callichroma*, more obtusely terminated, and also differ in having a glossy brilliant surface, instead of the somewhat dull and silk-like texture, so general in that group. The legs are less compressed and rather shorter, and the hinder tibiæ are not curved. The tarsi resemble those of the genus with which I am comparing it.”—p. 228.

The insect is supposed to be from Caraccas. It is of a splendid green colour, the head, antennæ, prothorax, tibiæ and tarsi being black: a lunulate spot on each side of the prothorax, the femora and abdomen are red: the segments of the abdomen are black posteriorly.

EDWARD NEWMAN.

(To be continued).



JOHN VAN VOORST,

PATERNOSTER ROW.

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ART. IV. — *Analytical Notice of the 'Transactions of the Entomological Society of London,' Vol. II. part 4; with 5 plates.* London: Longman.

(Continued).

XLVI. *On the Use of the Antennæ of Insects.* By GEORGE NEWPORT, Member of the Royal College of Surgeons, and V.P. of the Entomological Society of London.

THE author commences his essay by remarking that the idea we must naturally form of the great importance of antennæ, from their form and situation, is not borne out by experiment; for one of them may be removed without much apparent injury to the insect: yet are they ever regarded with solicitude by their possessors. What then is their use? Are they the organs of smell, touch, or hearing? On this point anatomists are not agreed; and the only mode of settling the question is by actual experiment on their uses and structure. The organ of smell in vertebrate animals is situated in the face, and consists of two or more apertures, of delicate structure interiorly, and furnished with minute blood-vessels, anastomosing in small glands, which secrete mucus over the surface, the olfactory nerves ramifying beneath: acuteness of smell in man, quadrupeds, birds and fishes, is often found co-existent with great development of this organ. How are the antennæ of insects fitted to exercise the faculty of smell? In no instance are they lubricated, "and in only one or two cases are they perforated." Latreille observed that *Silphæ* and other beetles perceive decaying substances at a distance; and remarking that in insects possessing this faculty, the antennæ were much developed, he concluded that these organs were the seat of smell: Huber seems to believe the antennæ to be organs both of touch and smell: and Mr. Samouelle, founding his opinion on the often-quoted observations of the late Mr. Marsham, considered them organs of smell.

In July, 1829, Mr. Newport found that the antennæ of *Ichneumon Atropos* were perforated with minute holes, and that this is the gene-

ral structure of setaceous antennæ. On making a section of the antenna, he found its interior supplied with a limpid fluid, and that it possessed, in addition to a delicate central nerve, two silvery tubes or tracheæ, derived from some cruciform branches in the head: "their structure in every respect resembled that of other tracheæ;" and Mr. Newport imagines that many branches of these antennal tracheæ communicate with the minute holes on the exterior of the antenna.

Mr. Newport next relates the result of his experiments on living insects; and first on a *Silpha obscura* which had lost one of its antennæ: on his approach the insect, instead of running away, stopped and moved its remaining antenna in every direction without apparent object. He confined a second specimen for sixteen hours without food, and placing it in a glass, attached a small piece of flesh to a wire, and brought it within half an inch of the insect. The antennæ moved about on either side, the head was elevated and the palpi were vibrated with rapidity; the insect approached the meat and touched it several times with the antennæ, but suddenly withdrew them: it soon afterwards commenced feeding, and the motion of the palpi then ceased. "During the experiment it was sufficiently proved that the creature discovered its food by the faculty of smell, and its immediate contact by that of touch with the palpi and antennæ;" but nothing was observed tending to prove that the sense of smell resides in the antennæ. In the summer of 1830 Mr. Newport observed many water-insects sticking to the sides of an out-house that had been newly tarred; it occurred to him they must have been attracted by the smell of the tar, as it emits an odour of carburetted hydrogen gas, which gas is formed abundantly in stagnant pools, the usual resort of the species which he observed. Experiments on fish prove that they may be attracted from a distance by immersing odoriferous substances in the water which they frequent. Mr. Newport kept a specimen of *Hydaticus cinereus* three days in a cup of water, without food; he then introduced a piece of meat on a wire, passing it along the sides of the insect, and then near its antenna, when, without moving that organ, the insect began to vibrate its palpi very briskly: the antennæ were then touched with the meat, and the insect withdrew them as if annoyed; the insect afterwards seized the meat when placed in front of it, and began to devour it: from this experiment Mr. Newport again concluded that antennæ were not the organs of smell. The next experiment was on an individual of *Lucanus Cervus*, which had been kept fourteen days without food: a piece of wheaten bread moistened with water was placed about a foot from the insect: it raised its head, extended its antennæ, moved its palpi and

protruded the laciniae of its maxillae: the antennae were raised and lowered as if exploring, "touching everything within reach of them;" the insect attempted to tear, with the forked extremities of its mandibles, the green cloth on which it was placed, then applied its laciniae to the imaginary wound it had inflicted; on being disappointed, it moved its palpi and explored with its antennae as before: the bread was placed nearer the antennae, and then near the spiracles, but no effect was produced, then in front, within reach of the mandibles, and the movements were renewed. Hence it appeared that the insect was sensible of the presence of its food; that it discovered it by the sense of smell, and that the sense of smell resides in the anterior part of the head. The antennae of *Lucanus*, though used for touching and exploring, are stretched out on the occurrence of a loud noise, and the plates widely separated, as if to catch the vibrations of the atmosphere. Mr. Newport admits that "the antennae are used as organs of touch in many insects, though not in all."

Mr. Newport cites Huber's often-quoted observations on the queen bee, and thence concludes "it was thus proved that bees communicate with each other by means of the sense of touch, and that this resides in the antennae." And again, speaking of ants, he observes that "by means of touching with the antennae, ants bred in the same nest are enabled to recognise each other, though separated for weeks;" and also that ants induce the *Aphides* to give out their honey-dew by patting them "rather briskly on each side with the extremities of the antennae;" and again, — "many of the *Ichneumons* and other tribes of Hymenopterous insects use their antennae as tactors." Mr. Newport observed a most singular action of the antennae in individuals of *Eupelmus puparum*, a Hymenopterous parasite; the males with their antennae striking those of the female with quick alternating strokes, and the females returning the strokes, but with less rapidity. "Most of the species with setaceous antennae use them occasionally as tactors:" the *Acridae* explore in a similar manner to the *Ichneumons*; *Acri. viridissima* "touches its food cautiously with its antennae before it eats;" when walking it explores its way with them: after keeping several individuals of *Acr. grisea* without water, and subsequently giving them moistened leaves, they touched the water "two or three times with their antennae, and afterwards with their palpi;" and when the water was nearly consumed, the insects felt with their antennae about the veined or channelled parts for more. Cockroaches employ their antennae in a similar manner with the *Acridae*; the *Trichoptera* also use them as tactors; the *Telephari* rarely touch objects with them, the

Carabi more frequently ; the Staphylini employ them in this way occasionally.

Among the insects which never use their antennæ as organs of touch are the Sphinges, Phalænæ and some of the Papiliones, also the Cicadæ, Notonectæ, Libellulæ, and in the latter groups the diminutive size of these organs renders such a use impossible : in other insects the structure is at variance with such a supposition. The Diptera have the antennæ too short for the purpose, and a numerous class of insects have no antennæ at all.

The death-watch is cited as a sufficient proof that insects possess the faculty of hearing. Its call is distinctly audible to ourselves, and is distinctly answered by his mate ; each advancing nearer and nearer, continues the tapping until they meet : from this and other instances there is no reason to doubt that insects possess the sense of hearing. To proceed with the argument :—it appears that hearing, in the higher animals, is purely mechanical ; the parts employed in the exercise of this faculty consist of “ the ear or external portion, so constructed as to receive within its cavity the vibrations of the atmosphere, which, being collected within a passage, are considerably augmented and thrown with greater force upon the tympanum, a tense and delicate membrane extended across the bottom of the passage,” from this the sensation is conveyed to the brain : a long, tubular, external organ, as in the hare, is possessed by animals supposed to have the auditory power in great perfection. In *Copris Molossus*, Mr. Newport has found this form of organ : the antennæ are composed of ten joints ; the last three are elongate, concave on the under side, and supplied with nerves which extend through the antennæ to the brain ; these plates are extended when the insect is in motion, and on the occurrence of a loud noise are closed, and the antennæ retracted. In *Scarabæus Hercules* the two exterior plates are convex outwardly and concave within ; the concavity being covered by a tense membrane resembling a drum : this structure Mr. Newport considers conclusively proves the auditory function, since it can be adapted to no other end. The author goes on to suggest that Mr. Marsham’s ichneumons might be endeavouring to hear the larva breathe, as probably as for the purpose of smelling it : he then adduces the established site of the ear in the lobster, at the base of the antennæ, as corroborative of his supposition, and enquires if the antennæ of the Phalænæ, Muscæ, &c., be not organs of hearing, for what other purpose could they serve ? The males of *Bombyces* fly immense distances in search of their mates, and that they find them by means of their antennæ is highly probable, and

still more so that the power of the antennæ is auditory rather than olfactory.

“In conclusion,” says our author, “from all that has been observed of the antennæ, it seems probable that in all insects they are the auditory organs, and that the means by which they are fitted for the function of hearing are varied in different insects, to adapt them to the perception of sounds according to the habits of the species: that in some species they are also endowed with the sense of touch.”

XLVII.—*Memoir on the Genus Holoptilus.* By J. O. WESTWOOD, F.L.S.

The author enters on a careful investigation of the principal characters of this singular group of Hemipterous insects: he observes that the basal joint of the rostrum occupies two thirds of its entire length, the two apical ones being short. St. Fargeau, Serville and Burmeister describe the second joint as by far the longest. After citing the opinions of various authors as to the affinities of *Holoptilus*, the author thinks it will be the most natural course to regard it as osculant between *Reduvius* and some of the *Cimicidæ*. The geographical range of *Holoptilus* is wide, specimens having been received from the Cape of Good Hope, Van Dieman's Land, Java and Nepaul. Mr. Westwood divides the genus into two subgenera: 1st, *Holoptilus*, in which the antennæ appear three-jointed; the second joint very elongate, curved and armed with a triple series of bristles, and the third joint very minute, the head truncate posteriorly, the nervures of the membranous portion of the fore wings obscure, the hind wings small and without veins, and the metatibiæ armed with a triple row of bristles: and 2nd, *Ptilocnemus*, in which the antennæ are four-jointed, the second being elongate and curved, the third and fourth small and the bristles irregular; the membranous portion of the fore wings has stout nervures, the hind wings are small and have three longitudinal nervures; the metatibiæ are pilose. *Holoptilus* proper contains *Hol. Ursus* of St Fargeau and Serville in the ‘*Encyclopédie Méthodique*,’ p. 280; and the *Holoptilus Ptilocnemus* contains 1st, *Hol. Pti. fuscus*, the *Ptilocnemus fuscus* of Gray, ‘*Zool. Misc.*’ p. 34; 2nd, *Hol. Pti. Lemur*, ‘*Trans. Ent. Soc.*’ ii., a new species from Van Dieman's Land of a yellowish colour, clothed with black hairs; and 3rd, *Hol. Pti. affinis*, ‘*Id.*’ ii., a second new species from Java of a pale brown colour, and clothed with brown hairs.

XLVIII.— *Notice of some Peculiarities in the Cornea of the Eyes of certain Insects.* By ROBERT J. ASHTON, Esq.

The object of Mr. Ashton's paper is to point out that the facets of which the eyes of insects are composed, are frequently of very different dimensions: thus in *Libellula vulgata* each eye is divided by a somewhat sinuous line across the middle; the facets below the line being only one-fifth of the size of those above; in *Scæva selenitica* the larger facets occupy the upper part of the cornea, and run down the centre of the eye in the form of a tongue; and in *Asilus crabroniformis* there is only a narrow portion of the anterior part of the cornea composed of large facets. In *Volucella inanis* the diminution of the size of the facets is gradual and regular. The author has observed a greater degree of opacity in the upper or larger facets.

XLIX. — *On Insects and their Larvæ occasionally found in the Human Body.* By THE REV. F. W. HOPE, F.R.S. and Pres. Ent. Soc.

The object of Mr. Hope's paper is to show that independently of Entozoa, true hexapod insects have been found in the human body: for this purpose he has constructed a table, exhibiting upwards of a hundred instances in which this kind of parasitism has been proved; the table is divided into columns, giving the name of the insect, the authority, country, reference to the record or figure; the local affection, sex, age and station in life of the sufferer; the date, result, and name of museum in which the specimens are preserved. The ascertained species of insects are *Sphodrus leucophthalmus*, *Dytiscus marginalis*, *Dermestes murinus* and *lardarius*, *Pæderus elongatus*, *Oxyporus subterraneus*, *Staphylinus splendens*, *politus*, *fuscipes* and *punctulatus*, *Geotrupes vernalis*, *Tenebrio molitor*, *Blaps mortisaga*, *Melœ proscarabæus* and *Maialis*, *Balaninus nucum*, *Forficula auricularia*, *Pontia Brassicæ*, *Crambus pinguinalis*, *Phrygania grandis*, *Musca larvarum*, *vomitorea*, *Cæsar*, *caritaria*, *domestica*, *nigra* and *cibaria*, *Helophilus pendula*, *Æstrus Bovis*, *Hominis* and *Guildingii*, besides unascertained species of *Melolontha*, *Mordella*, *Noctua* and *Stratiomys*.

EDWARD NEWMAN.

ART. V. — *Characters of three new Genera of Notodontidæ, from North America.* By EDWARD DOUBLEDAY, Esq.

THE characters of three new genera of Notodontidæ which I now venture to publish have been long drawn out, but from various causes have lain by with those of several other new genera of the same group, awaiting a revision. At the time when they were first roughed out, I had thought of describing the whole of the North American species of this family in my collection; but two reasons induced me to abandon my plan, the one an unwillingness to venture on ground likely to be occupied by a far more competent person, the other, that I found myself aiming at what was beyond my abilities. In all probability these fragments of my projected treatise would, like the rest of it, have been utterly lost to the scientific world, and ultimately have been stowed away in that receptacle for all things lost on earth,—the moon, had I not, through the great kindness of my friend Mr. Raddon, been enabled to accompany them with a plate, representing the singular larvæ of the insects to be treated of, and also a most curious insect allied to Mr. Stephens's genus *Thyridopteryx*, of which more anon. Moreover I have learned by recent letters from Dr. Harris, that what I am now about to do will in nowise interfere with anything he has in hand, and therefore I have tried to put them in a state fit for publication, others must judge if I have done so.

The drawings from which the accompanying plate was taken, form part of a large series executed by that indefatigable artist John Abbot, and now in the possession of Mr. Raddon, to whom I am indebted for their loan for some months, and also for the plate—the better half of this paper; for both which marks of his friendship I seize this opportunity of publicly returning him my most sincere thanks; my readers ought to thank him for the latter. These drawings are the most beautiful of any of Abbot's that I have seen, and as a large portion of them represent species not in the seventeen volumes of his drawings in the British Museum, they would, if Mr. Raddon could be induced to part with them, make a valuable addition to that collection.

Family.—NOTODONTIDÆ, *Steph.*

Genus.—HETEROCAMPA, *Doubleday.*

Maxillæ very short and slender: labial palpi short, porrect, triarticulate, densely clothed with scales and, towards the base, with setæ; first joint cylindrical, curved; second joint one half longer than the first, nearly cylindrical, slightly curved; third joint fully one-third the

length of the second, cylindrical, rounded at the apex : antennæ of the male strongly bipectinate for about two-thirds of their length, the pectinations fringed with delicate setæ ; of the female simple : head densely clothed ; a fascicle of hair-like scales at the base of the antennæ : thorax densely clothed, slightly crested behind : wings entire ; anterior rather broad : anterior tibiæ of the male furnished with an elongate corneous lobe : posterior tibiæ quadrispinose : abdomen tapering, rather long ; anal tuft short.

In the perfect state this genus very much resembles *Stauropus*, whilst the larva is not very unlike that of *Cerura*, as will be seen by a reference to figs. 1 and 3 of the plate. Its situation is evidently near to both those genera, probably between them. From *Stauropus* it may at once be known by its quadrispinose posterior tibiæ, its more elongate maxillæ and its triarticulate palpi : *Stauropus*, too, has the pectinations of the antennæ longer, the abdomen shorter, more tufted at the extremity and furnished with dorsal tufts, which are wanting to the present genus. Its antennæ at once distinguish it from *Cerura*.

This genus appears to be confined to the warmer parts of the United States, for I am not acquainted with any species save the three in my possession, which were all captured at St. John's Bluff, East Florida, by means of my lamps, in the months of April and May, 1838. The only one of these which I shall describe is the species which I consider typical, and to which the larva and pupa figs. 1 and 2 belong.—The others I leave to be described by Dr. Harris, who at present has my most perfect specimens.

The larvæ figs. 3 and 5 and the pupa fig. 4, belong to one of these, a fine moth, with the anterior wings olive green, slightly clouded with ferruginous, and marked near their outer margin with a row of subtriangular blackish spots. My object in giving the outlines of these two larvæ is to call particular attention to the lower figure, which, in the drawing, is represented crawling on a branch of *Styrax grandifolium*, evidently using its posterior prolegs to hold by. As no memorandum is attached to the drawing, we are left to conjectures only. The most probable is, that the young larvæ are able to use these prolegs up to the time of their last moult, when they become useless. The younger? larva fig. 5 is green, with the markings flesh-coloured, the older? fig. 3 is buff, mottled immediately above the legs with greenish and white ; the large dorsal patch, prolonged at the sides nearly to the head and tail, is of a lilac hue, marked on the sides with darker, and on the back with buff-coloured dots.

Hete. Astarte. Alis anticis viridi-cinereis, strigis transversis lunulæque centrali ferrugineis; maculâ juxta apicem lunatâ albâ.
(Alar. lat. 2 unc.)

Head ash-colour; antennæ ochraceous: thorax varied with ash-colour and purplish brown, the latter predominating on the disk, the former on the sides.

Anterior wings pale ash, tinged with greenish; an abbreviated transverse striga near the base, a short longitudinal vitta immediately below it, a duplex rather indistinct transverse striga before the middle, a central lunule and a series of five small lunules on the outer margin ferruginous. Beyond the middle is a striga composed of slender fuscous lunules followed by a large white crescent, of which one extremity touches the apex of the wing, the other reaches the second branch of the radical nervure near its termination; the inner margin of this crescent is bordered with ferruginous, beyond which a sub-plumbeous spot extends to the outer margin of the wing. The base of the wing is pale ash approaching to white, as are also a large sub-quadrate spot on the costa before the central lunule, three or four minute costal spots near the apex and a small ill-defined spot near the anal angle. Cilia grey. Posterior wings silvery white, slightly clouded on the margins with fuscous; anal angle with a fuscous spot. Cilia nearly white.

Abdomen ash-coloured, paler on the sides; a fuscous spot on the back near the base.

I captured several specimens of this insect, as stated above, at St. John's Bluff, all which were males. The female, according to Abbot, has the strigæ rather more distinct, and those parts of the anterior wings which are white in the male, of a greenish ash-colour, the ground colour being browner.

The larva is green, dotted thickly with red on the sides. The back of the head is marked by two short black streaks, from which spring two fine red lines bordered with yellow, which diverge on reaching the fourth segment, and soon after approximating are continued to the styliform anal prolegs. The space enclosed between these two lines is yellow, with two short red lines on the eighth and ninth segments.—The fourth and succeeding segments have a yellow line immediately below the spiracles, which is bordered on each side by a row of distinct red dots, except on the three last segments. Pupa nearly black.

Genus.—*LOCHMÆUS*, *Doubleday*.

Maxillæ moderate, as long as the thorax: labial palpi porrect,

short, triarticulate, densely clothed; first joint stout, compressed, widest at the apex; second joint nearly thrice the length of the first, cylindrical, slightly curved, tapering slightly towards the apex; third joint much slenderer than the second, not one third its length, cylindrical, rounded at the apex: antennæ of the male more or less deeply bipectinate for about two thirds of their length, the pectinations beautifully fringed with most delicate setæ; of the female simple: head densely clothed, a fascicle of hair-like scales at the base of the antennæ: thorax densely clothed, scarcely crested: wings entire: anterior tibiæ of the male furnished with an elongate corneous plate; posterior tibiæ quadrispinose: abdomen tapering, rather long and not very stout; anal tuft in the male moderate, in the female none.

It will be seen from the above characters that this genus differs but little from the preceding in structure, except in its longer maxillæ and the proportionate length of the joints of the palpi, and in the antennæ, which though more deeply pectinated in some species than in others, are always less so than in *Heterocampa*; but the larvæ of the two genera are so widely different, that little doubt can rest on the propriety of the separation. This genus is chiefly found in the northern states; all my specimens were taken at Trenton Falls. Of the eight or nine species that I took there I shall only describe one which occurs also in the south, as, besides the evidence of Abbot's drawing, I have seen a specimen from Georgia. The general colouring of the genus is greyish, more or less tinged, in some species, with olive, and marked with fuscous strigæ.

Loch. Manteo.* Alis anticis cinereo-fuscis, strigis numerosis, transversis, obscurioribus, serie marginali punctorum nigrorum, guttâque centrali albâ in quâ punctum geminatum nigrum. (Alar. lat. 1.75 unc.)

Head, thorax and abdomen deep ash-coloured: antennæ ochraceous.

Anterior wings pale ash at the base, beyond darker ash, more or less tinged with fuscous, crossed by various rather indistinct fuscous strigæ, one considerably before the middle, followed immediately by an abbreviated one not reaching to the median nervure: beyond are three or four indistinct strigæ, often almost coalescing so as to form a fuscous

* *Manteo*, an Indian chief, invested by Raleigh lord of Roanoke; the first British American peerage.

cloud; these are followed by a more distinct one near the outer margin: near the centre of the wing is an oval white or whitish spot, in which are two small black dots placed close together: on the margin is a series of black dots, and the cilia, which are ash-coloured, have a black dash opposite the termination of each nervure. Posterior wings fuscous ash, cilia the same.

This species is rather variable. In some individuals the white spot is destitute of the black dots, in others the dots are united and the white around them is less distinct. It is just possible that there may be two species among the specimens I have placed together, but there are so many intermediate specimens between the extreme variations, that I am inclined to believe they constitute but one species.

Abbot's drawing coincides exactly with the Georgian specimen in having the white spot very distinct, and the two black dots clear and separate. I have one northern specimen in which the white is immaculate, and another in which the united black dots cover the whole of the space which in general is white. The larva (fig. 6) is of a dull green, with a darker dorsal line. In the south its food is *Pinckneya pubens*, I do not know on what it feeds in the north.

Genus.—*SCHIZURA*, *Doubleday*.

Maxillæ about as long as the thorax: labial palpi moderate, porrect, triarticulate, densely clothed; first joint nearly cylindrical, slightly incrassated at the apex, curved; second joint one half longer than the first, cylindrical, very slightly curved, obliquely truncated at the apex; third joint less than one third the length of the second, much slenderer, oval, inserted below the apex of the preceding one: antennæ of the male bipectinate for about half their length, the pectinations fringed with very fine setæ; antennæ of the female setaceous: thorax densely clothed, not crested on the disk, anterior margin with two small almost conical tufts of hair-like scales directed forwards and inwards, so as to meet above the head, to which at first sight they appear to belong: anterior wings trigonate, rather elongate, entire: anterior tibiæ furnished, in both sexes, with an elongate corneous plate; posterior quadrispinose: abdomen not very stout, elongate, of the male with a bifid anal tuft, of the female not tufted.

This genus is certainly near to *Notodonta*, but may at once be known from that genus by its antennæ, and the presence of the posterior stigma, which in the females is very distinct. I captured three species in the United States, two in East Florida, one, by far the most beautiful, at Trenton Falls.

Schi. Ipomææ. Alis anticis ferrugineo-fuscis cinereo irroratis, fasciâ mediâ indistinctâ cinereâ, stigmatè cinereo ferrugineo pupillato, neuris apicem versus nigris. (Alar. lat. 1·6 unc.)

Antennæ, palpi, head, thorax and abdomen brown, thorax slightly tinged with vinous and towards the sides with fuscous.

Anterior wings of a somewhat vinous brown, sprinkled with ash-coloured scales, which, near the middle of the wing, predominate so as to give the appearance of an ash-coloured fascia: near the base is a sub-quadrate patch of a darker brown, and before the middle a slender, waved, dusky striga, edged internally with whitish ash-colour.—The stigma is pale, surrounded by a fuscous-brown cloud and pupilled with ferruginous: on the margin of the wing, between the extremities of the nervures, is a series of small whitish dots, preceded by a short black line not very distinct: nervures, especially towards their extremities, black.

Posterior wings silvery white, nervures and anal angle tinged with brown.

The larva of this species (fig. 8) is of a purple hue, with a green patch anteriorly, a white dorsal one and an angular band on the tenth and eleventh segments also white: the dorsal processes are bright red as are also the legs: pupa chestnut. The food of the larva, according to Abbot, is *Ipomæa coccinea*, on which account I have given it the name *Ipomææ*. Two specimens only, both males, were taken at St. John's Bluff, East Florida, in April, 1838.

EDWARD DOUBLEDAY.

ART. VI. — *Memorandum on the Larva of Papilio Philenor.* By T. W. HARRIS, Esq., M.D. Communicated in a Letter to Mr. E. DOUBLEDAY.

THIS summer I have made the interesting discovery of the larvæ of *Papilio Philenor* in Massachusetts, having found three just hatched on the *Aristolochia Sipho* in our Botanic Garden, on the 5th of this month (August). The *Philenor* has never, to my knowledge, been observed before in the New England States, though it is said to be common in New Jersey, near New York City. *Aristolochia Sipho* grows wild in the woods about New Haven, Connecticut, which is the nearest locality of this genus of plants to Cambridge. It is possible that the *Philenor* may be found there, and from thence an impregnated

female may have migrated, or may have been carried by the winds to this place.

I do not know of any other plants of the genus *Aristolochia* in this vicinity, except those which are cultivated in our botanic garden. In the middle and southern States the *Philenor* inhabits *Aristolochia Serpentaria*.

The young larvæ of the *Philenor*, before the first moulting, closely resemble in form and in their tubercles, the figure of the larvæ of *Ornithoptera Helicaon*, copied in Boisduval's 'Hist. Nat. des Lepidopt.' from Dr. Horsfield's Catalogue. After the first moulting the first pair of tubercles increase in length and become proportionably much longer than the others, and the body itself more elongated; Abbot's figure of the full-grown larva in the 'Insects of Georgia,' tab. iii., may be considered quite correct, except that the last pair of dorsal tubercles should have been curved backwards and outwards, and the yellowish or rather orange-coloured spot on the first segment, should have been placed between the first pair of horn-like tubercles immediately in contact with the head, and not behind them. The pupa is not well done in Abbot's work; and both larva and pupa in Boisduval and Leconte's '*Lepidoptera Americana*' are miserably represented. The pupa approaches more nearly in form to that of *Ornithoptera Helicaon* than it does to that of any other butterfly known to me.

I have preserved specimens in spirit. It appears to me that the *Philenor* may be considered as one of the connecting species between *Ornithoptera* and *Papilio* proper, while *Podalirius*, *Asterias* &c. should come at the end of the genus, connecting it, perhaps, with *Doritis*, *Colias*, &c.

The larvæ of *Philenor* live in company, and cover the surface on which they are about to move with zigzag lines of silk, and seem unable to crawl or hold on without this precaution, for when placed on a fresh leaf the least motion causes them to fall off. This is not the case with the larvæ of *Asterias*, which is solitary, and does not carpet its path. Those of *Turnus* and *Troilus* are also solitary, and they cover the leaves on which they live with a complete coating of silk, and bind up the sides of the leaf to form a kind of trough, in which they remain when at rest. Hence the three groups of which these species are the representatives, differ as much in habits as in the forms of the larvæ.

T. W. HARRIS.

ART. VII.—*Analytical Notice of the 38th Number of the 'Annals and Magazine of Natural History,' dated January, 1841.* London: Richard and John E. Taylor.

ART. XLII.—*Carabideous Insects collected by Charles Darwin, Esq., during the Voyage of H.M.S. Beagle.* By G. R. WATERHOUSE, Esq.

In this portion of Mr. Waterhouse's communication, contained in the January number of the 'Annals,' he has carefully and minutely described six species of Carabideous insects, all of them from Maldonado, La Plata.

1. *Brachinus maculipes*. Black, with the head, prothorax, legs and sternum ferruginous; the knees black; the antennæ fuscous, with the 1st and 2nd joints ferruginous, the 3rd and 4th black; the elytra are slightly costate. This insect much resembles *Bra. crepitans*, but is twice the size, being $6\frac{1}{2}$ lines in length and $2\frac{3}{4}$ in breadth: a single specimen only was brought by Mr. Darwin. (Annals, vi. 351).

2. *Brachinus Platensis*. Ferruginous, with the elytra fuscous-black and slightly costate; the abdomen blackish at the apex. This species also resembles *Bra. crepitans* but is rather larger, being $4\frac{1}{2}$ —5 lines in length and 2 — $2\frac{1}{4}$ in breadth; the 3rd and 4th joints of the antennæ are red instead of black; the prothorax is longer and less dilated anteriorly; the elytra are wider and more distinctly ridged. In Mr. Darwin's collection are five specimens agreeing with the above description, and a sixth differing only in being considerably larger. Resembling these is another specimen, which differs from *Bra. Platensis* in having the head and prothorax impunctate, the latter shorter and the striæ of the elytra less distinct; and from *Bra. crepitans* it further differs in having the four basal joints of the antennæ red. Mr. Waterhouse leaves it as a variety of *Bra. Platensis*. (Id. 351).

3. *Brachinus nigripes*. Black, with the head, prothorax, sternum and coxæ ferruginous; the 1st joint of the antennæ is black, tinted with red at the base, the 2nd, 3rd and 4th joints are black, the rest pitchy; the legs are black, with red coxæ and pitchy tarsi; sternum centrally reddish, otherwise, as well as the abdomen and elytra black. There are four specimens varying from $2\frac{3}{4}$ —3 lines in length and from $1\frac{1}{3}$ — $1\frac{1}{2}$ in breadth. (Id. 352).

4. *Chlenius violaceus*. Black, above violet; head punctured between the eyes; the prothorax is punctured, slightly narrowed posteriorly and impressed with two foveæ; the elytra are deeply striated, with the interspaces slightly punctured and somewhat convex. There are but

two specimens, in one of them the upper surface is a beautiful steel blue, with the exception of the prothorax, which is violet; in the other entirely violet. The length is $7\frac{1}{2}$ lines, breadth $3\frac{1}{4}$. (Id. 353).

5. *Chlœnius Platensis*. Mr. Waterhouse thinks it probable that this is the *Chlœnius Braziliensis* of Dejean's Supplement, the only difference he points out being that of size; it also much resembles the *Chl. nemoralis* of North America, but the head is larger and the prothorax more attenuated posteriorly; it is green above, the antennæ and legs being testaceous, the head shining, the prothorax punctured, posteriorly attenuated and bifoveate, the elytra are striated, with the interspaces thickly but finely punctured. There are five specimens, $5\frac{1}{2}$ lines in length, $2\frac{1}{2}$ in breadth. (Id. 353).

6. *Chlœnius Westwoodii*. Head green, covered with minute wrinkles; prothorax scarcely wider than the head, attenuated posteriorly, and together with the elytra, green without gloss: the under surface is red, the legs, palpi and three basal joints of the antennæ red: $5\frac{1}{2}$ lines in length, $2\frac{1}{2}$ in breadth. (Id. 354).

Mr. Waterhouse adds that the collection contains three specimens of *Geobius pubescens* of Dejean; in all of which the anterior tarsi are simple, a character probably common to both sexes.

EDWARD NEWMAN.

ART. VIII. — *Memorandum on the Death-Watch*. By GEORGE LUXFORD, A.L.S., &c.

65, Ratcliff Highway,
January 29, 1841.

MY Dear Sir,

In the following communication on the habits of the "death-watch," as observed by me several years ago, I believe I have nothing new to offer on the subject, but knowing that considerable difference of opinion still exists respecting the insect to which this ominous name properly belongs, I willingly contribute my mite towards clearing up the mystery.

In the year 1828 I was favorably situated for observing the proceedings of a species of *Anobium*, which had located in some old buildings with much wood about them. I cannot now speak confidently as to the species, but believe it to have been *An. tessellatum*: this I know, that one species only was concerned in the doings here recorded.

These insects were most active and noisy in May and the beginning

of June, and during that period I could command a ticking concert almost whenever I chose, merely by laying a watch on a shelf, or by ticking on the wood with the finger-nail, the point of a knife, or any similar instrument. This would soon be answered, from various quarters, by the excitable *Anobia*, who would sally out and proceed slowly towards the point whence the challenge proceeded, ever and anon stopping, just to have a tick themselves.

I used to keep these beetles in chip boxes, and have had numerous opportunities of witnessing their mode of producing the ticking, both in confinement and at liberty. They do not go to work head foremost, like a battering ram, but, elevating themselves to their utmost height, and standing as it were on tip-toe, they rapidly oscillate their bodies up and down, exactly in the same way as some of the *Tipulidæ* do when not on the wing; with this difference, however, that the bodies of the *Tipulidæ* do not touch the substance to which their feet cling when thus exercising themselves, while the *Anobia* strike it at every oscillation, either with the closed mandibles or the mesosternum (most probably the former), and thus produce the ticking. This sound is not continuous, like the ticking of a watch, but after giving about six or eight strokes the beetle rests for awhile, then gives six or eight more, and so on.

I once in the month of May found a piece of an old post, about 18 inches in length, which had long been lying by in an out-house, and was perforated in all directions by the larvæ of these amusing fellows; it was a regular colony of death-watches. Some of the perfect insects were hammering away on the outside, others within were answering them, many were emerging from the entrances of the holes, and all were in a bustle, and apparently acting on the determination to make the most of their time.

I am, My dear Sir,

Yours very truly,

GEO. LUXFORD.

To the Editor of 'The Entomologist.'



JOHN VAN VOORST,

PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. V.

MARCH, MDCCCXLI.

PRICE 6D.

ART. IX. — *Notes on Captures.* By J. W. DOUGLAS, Esq.

SIR,

As everything that tends to facilitate the collection of specimens, and thereby adds to the pleasures of the votaries of science, is desirable, and knowing the advantage that lists like the following have been to myself, I offer these Notes for the pages of 'The Entomologist.'

And am, Sir,

Your obedient Servant,

J. W. DOUGLAS.

To the Editor of 'The Entomologist.'

COLEOPTERA.

Tarus angularis. Near Freshwater, Isle of Wight, June; and Boxhill, October.

Licinus depressus. } Boxhill, October; under stones.
„ silphoides. }

Tetratoma Fungorum. Putney Heath; decayed trees in winter.

Copris lunaris. Near Ventnor, Isle of Wight, June.

Aphodius depressus. Richmond Park, February.

Aleurostictus nobilis. Banks of the Thames, Putney, on the flowers of elder; not uncommon.

Elater rufipennis. In a garden at Brixton Hill.

„ bipustulatus. Putney Heath, decayed elms; November.

Anobium pertinax. Richmond Park, old thorn trees; May.

Cis bidentatus. Richmond Park, Boleti; March.

Dendroctonus piniperda. } New Forest, on Scotch fir; June.
Hylastes palliatus. }

Plinthus caliginosus. } Near Dover; August.
Molytes germanus. }

Otiorhynchus sulcatus. Kingston Hill, on flowers of ivy; October.

Leptura nigra. } New Forest, on Umbelliferæ; June.
„ 6-guttata. }

Pachyta livida. Isle of Wight; June; common.

Chrysomela Banksii. Isle of Wight; June.

Helodes Phellandrii. Putney Heath, on aquatic plants; May.

Endomychus coccineus. West Wickham Wood; May.

Hypophlæus bicolor. Putney Heath, decayed elms; winter.

Bolitophagus Agricola. Richmond Park, rotten elms; May.
Mordella abdominalis. Putney Heath, flowers; June.
Ischnomera cærulea. Putney Heath, rotten poplar; winter.
Oncomera femorata. Mickleham, flowers of ivy; October.

LEPIDOPTERA.

Deilephila Elpenor. } Putney Heath, in a garden, feeding in the evening from the
 „ *Porcellus*. } flowers of *Rhododendrons*; 10th of June.
Sesia fuciformis. } West Wickham Wood; May; more abundant here than at
 „ *bombylifomis*. } Darenth or Birch Wood.
Notodonta Ziczac. Wimbledon Common; May.
Leiocampa dictæa. Putney Heath; May.
Petasia Cassinea. Clapham Common, on gas lamps; November.
Nemeophila Plantaginis. West Wickham Wood; June; common.
Lithosia quadra. Putney Heath, on flowers of lime trees; July.
Rusina ferruginea. Wimbledon Common; July.
Agrotis radia. Putney Heath, on palings; June.
Graphiphora augur. Putney Heath; July; common.
 „ *triangulum*. Wimbledon Common; July.
 „ *festiva*. Ditto, ditto.
 „ *C. nigrum*. Kingston Hill, on ivy-blossom; 30th September.
Orthosia miniosa. Wimbledon Common; April.
 „ *litura*.
 „ *Pistacina*.
 „ *lunosa*.
 „ *Lota*.
 „ *flavilinea*.
 „ *macilenta*. } Kingston Hill, ivy-bloom; October; common.
Mythimna grisea. Putney Heath; August.
 „ *conigera*. Wimbledon Common; July.
Caradrina glareosa. Kingston Hill, on ivy-bloom; 30th September.
Glæa rubricosa. Wimbledon Common; 14th April.
 „ *Satellitæ*. Kingston Hill, on ivy; October.
 „ *Vaccinii*.
 „ *spadicea*.
 „ *subnigra*.
 „ *polita*. } Kingston Hill, on ivy; October; common.
Xylina semibrunnea. Mickleham, on ivy; October.
Apamea nictitans. Putney Heath, flowers of lime-trees; July.
Miselia Oxyacanthæ. } Kingston Hill, ivy; October.
 „ *Aprilina*. }
Polia flavocincta. Putney Heath; end of September.
 „ *seladonia*. Kingston Hill, ivy; October; very common.
Thyatira derasa. Wimbledon Common; July.
Xanthia flavago.
 „ *fulvago*.
 „ *rufina*. } Kingston Hill; ivy-bloom; October.
Leucania pallida. Camberwell, among willows; 15th September.
 „ *fluxa*. Clapham Common; 15th September.
Cucullia Chamomillæ. Putney Heath; end of May.

Plusia percentationis. } Wimbledon Common; July.
 „ *chrysis*. }

Stilbia anomalata. Near Cader Idris, N. Wales; August.

Amphidasis pilosaria. Richmond Park; April; not rare.

Nyssia hispidaria. Richmond Park; 3rd March; on oak trees.

Hipparchus Papilionarius. Coombe Wood; July.

Cidaria quadrifasciaria. Ripley; end of June.

Harpalyce Galiata. Isle of Wight; June.

Eucosmia undulata. Wimbledon Common; end of June.

Lobophora viretata. Putney Heath; end of June.

Wimbledon Common is a good locality, particularly on that side next to the Kingston Road. The part referred to above, lies immediately behind the Bald-faced Stag Farm. The captures at Kingston Hill were made from the flowers of ivy, growing on the wall of Richmond Park, at the entrance on the top of the hill.

The flowers of lime-trees I found to be greatly frequented by *Noctua*, and the flowers of *Centranthus ruber* were, during the summer, their favourite haunt.

J. W. DOUGLAS.

4, Waterloo Place, Coburg Road, Kent Road,

February 15, 1841.

ART. X. — *Entomological Notes*. By EDWARD NEWMAN.

(Continued from p. 37).

THE scattered and desultory manner in which the descriptions of North American Coleoptera have been published, appears to give something like a sanction to a continuance of the plan, and at the same time serves in some degree as an apology to the adventurous entomologist on this side the Atlantic, who, through the difficulty in obtaining access to the various periodicals which contain such descriptions, may inadvertently merely swell the list of synonymes by his most careful lucubrations. Although we confidently anticipate the eventual appearance of a work on the Coleoptera of the United States, in which the various detached essays may be methodically arranged, still those who possess materials, collected with great labour and at considerable cost, are little justified in withholding from the public the information they have obtained, through a disinclination to interfere with some remote treatise, the very outline of which is scarcely yet imagined.—The immense collection of Coleoptera brought from the United States by Messrs. E. Doubleday and R. Foster, having been submitted to Dr. Harris of Boston, and in great measure named by that learned and

excellent entomologist, has been placed in my hands ; and it is only to those few species that were unknown to Dr. Harris, or which he pronounced to be undescribed, that I have ventured to attach names and descriptions of my own.

Class. — COLEOPTERA.

Natural Order.—LEPTURITES, *Newman*.

Family.—LEPTURIDÆ, *Leach*.

Genus.—TOXOTUS, *Megerle*.

Tox. dives. Niger, lanugine cinereâ obsitus : antennis flavis, basi nigris. (Corp. long. .8 unc. lat. .25 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday at Trenton Falls, in the State of New York. The collection contains no other example of the genus.

Genus.—STRANGALIA, *Serville*.

Of these singularly formed insects the collection contains three distinct but approximate species ; the first of these is *Stran. luteicornis*, the well-known *Leptura luteicornis* of Fabricius ; the other two appear to be new.

Stran. famelica. Antennæ nigræ ; caput nigrum, maculâ pone oculos testaceâ : prothorax testaceus, vittis 2 nigris : elytra luteo-testacea, utriusque maculâ medianâ alterâque ante apicem nigris : pedes testacei ; metafemoribus apice, metatibiis nonnunquam, tarsisque nigris aut fuscis. (Corp. long. .45 unc. lat. .1 unc.)

Inhabits the United States of North America. The two specimens in the cabinet of the Entomological Club were taken by Mr. Doubleday.

Stran. emaciata. Caput, antennæ et prothorax nigra : elytra flavida, marginibus lateralibus præter nigris : femora flavida, apice nigra, tibiis tarsisque nigris : abdomen piceum. (Corp. long. .5 unc. lat. .1125 unc.)

Inhabits North America. The only specimen I have seen is in the cabinet of Mr. Waterhouse, to whom I am indebted for the loan of it ; the precise locality seems uncertain.

Stran. strigosa. Insectum valdè strigosum : caput testaceum, oculis emarginatis, lineâ inter antennis gulâque nigris : prothorax testaceus, marginibus vittisque duabus discoidalibus saturatioribus, vittæ nonnunquam medio interruptæ maculas 4 formantes : scutellum testaceum : elytra testacea, flavido bifasciata, fasciis nigro marginatis : pedes testacei, coxis nigris, metafemoribus apice nigris : abdomen testaceum. (Corp. long. .6 unc. lat. .1 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club were taken by Messrs. Doubleday and Foster, at St. John's Bluff, in East Florida. They were found in abundance on the blossoms of *Rhamnus minutiflorus* and *Cactus opuntia*, near the margins of a swamp.

Genus.—LEPTURA.

Lep. badia. Nigra, aureo-lanuginosa : elytris badiis, vestigiis incertis flavis : pedes badii : prothorax crebrè punctus, punctis magnis profundis. (Corp. long. .65 unc. lat. .2 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Mr. E. Doubleday on the flowers of *Olea Americana*, in the hammocks near St. John's Bluff, in East Florida. The deep chestnut colour of its elytra and legs, and its coarsely punctured prothorax, induce me to believe it distinct from *Lep. velutina*, in company with which insect it has never been found.

Lep. nobilis. Aureo-lanuginosa : caput et prothorax fusca ; antennæ nigrae : elytra flava, apicibus humerisque ferrugineis, fasciis 3 nigris ornata : prothorax subtilitè punctus : pedes et abdomen lutea. (Corp. long. .5 unc. lat. .175 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Mr. E. Doubleday on the blossoms of *Olea Americana*, in the hammocks near St. John's Bluff, in East Florida. Nearly allied to this beautiful species are two others, which appear abundant in the United States, and enjoy a wide geographical range. 1. *Lep. velutina* of Olivier, synonymous apparently with *Leptura fugax* of Fabricius, which seems to have been an accidental variety in which the superior fasciæ of the elytra were obsolete, and the apical one apparent only as a yellow spot on each: this species was taken by Messrs. Doubleday and Foster on the

blossoms of *Ceanothus microphyllus*, and also in Canada by Dr. Bigsby : Mr. Kirby, in the 'Fauna Boreali-Americana,' p. 181, has given it the new name of *Lep. tenuior*. 2. *Lep. zebrata* of Fabricius, *Zebra* of Olivier, quoted by Dr. Harris in his 'Animals of Massachusetts,' as synonymous with *Lep. nitens* of Forster : it was found in profusion by Messrs. Doubleday and Foster on the blossoms of *Cactus opuntia*, at St. John's Bluff, in East Florida.

Lep. sinuata. Nigra, lanugine aureâ obsita ; caput nigrum, antennis fusco-ferrugineis : prothorax convexus rotundatus piceus : elytra flavida, humeris lætè ferrugineis, vestigiis nigris ornata ; q. c. d. suturâ, fasciâ ante medium, utriusque maculâ rotundâ medianâ, fasciâ pone medium bisinuatâ, apicibusque nigris : sternum nigrum : pedes et abdomen ferruginea. (Corp. long. .4 unc. lat. .15 unc.) Insectum perpulchrum.

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. R. Foster, at St. John's Bluff, in East Florida.

Lep. aurigera. Nigra, lanuginosa, ore flavo : antennæ fuscæ : orbitus oculorum aureus : prothorax aureo-lanuginosus, disco mediano subnigro : elytra apice truncata haud acuminata, nigra, fasciis 4 aureis, margine costali ferrugineâ : subtùs splendide aureo-lanuginosa : pedes testacei. (Corp. long. .4 unc. lat. .15 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Mr. R. Foster at Trenton Falls, in the State of New York. This beautiful insect is frequently labelled as the *Lep. Zebra*, to which, regarded superficially, it bears a considerable resemblance.

Lep. biforis. Nigra, aureo-lanuginosa ; antennis pedibusque fuscis ; elytra obscuro-testacea, maculâ utriusque laterali nigrâ : abdomen testaceum ; prothorax capitem versus profundè transversè impressus, disco profundè longitudinalitèr impressus. (Corp. long. .6 unc. lat. .2 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. R. Foster at Trenton Falls, in the state of New York.

Lep. mutabilis. Nigra, punctissima; elytris nonnunquam omninò testaceis, nonnunquam testaceis apice fuscis, nonnunquam nigerimis; apice rotundatis. (Corp. long. '5 unc. lat. '125 unc.)

Inhabits the United States of North America. Four specimens of this supposed species were taken in May, at Trenton Falls, on the blossoms of *Cerasus Virginianus*; they vary equally in size and colour but agree in the following characters. The antennæ have the four basal joints shining, the others without gloss; the fourth joint is much shorter than those which follow: the prothorax is rather narrowed anteriorly, it is not constricted at either extremity, and its sides are straight, having no convexity whatever; the elytra are flattened, and have a basal notch or depression between the shoulder and scutellum.

Lep. capitata. Nitida, parallela, nigra, capite prothoraceque rufis; antennæ graciles, elongatæ, articulo 3tio elongato: elytra puncta: oculi, antennæ, elytra, pedes et abdomen nigra. (Corp. long. '3 unc. lat. '075 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Mr. E. Doubleday, at Trenton Falls, on the blossoms of *Cerasus Virginianus*.

Lep. directa. Testacea, puncta; oculis prominentibus nigris; antennis nigro annulatis: prothorax valdè convexus: elytra flavida vittis 5 nigris, 1 communi suturali, 1 utriusque discoidali, 1 utriusque laterali. (Corp. long. '3 unc. lat. '09 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday at New York.

Lep. indirecta. Nigra, puncta, subtùs lanugine argenteâ vestita: elytra flavida, vittis 5 nigris, 1 communi suturali, 1 utriusque discoidali instabili, 1 utriusque laterali. (Corp. long. '35 unc. lat. '08 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club were taken by Mr. E. Doubleday at New York. Besides having a black head, antennæ, thorax and abdomen, this species differs from the last in wanting the prominent eyes and globose prothorax, and in being a longer and more slender insect.

Lep. interrupta. Hirta, parallela, nigra, utriusque elytri vittâ, ante medium interruptâ, testacea: caput, antennæ et prothorax hirta, nullo modo nitida: elytra crebrè ac profundè puncta: sternum et abdomen lanugine argenteâ obsita. (Corp. long. .425 unc. lat. .1 unc.)

Inhabits the United States of North America. There is a single specimen in the cabinet of the Entomological Club; its exact locality is not known.

Lep. stictica. Nitida, parallela, puncta, nigra, elytrorum maculis 8, metafemorum basi, metatarsisque albidis: sternum et abdomen subtùs lanugine sub-argenteâ obsita. (Corp. long. .425 unc. lat. .1 unc.)

Inhabits the United States of North America: a few specimens, now in the cabinet of the Entomological Club, were taken by Messrs. R. Foster and E. Doubleday at Trenton Falls, in the State of New York.

Lep. vibex. Caput nigrum, ore flavido, antennis piceis: prothorax convexus, nitidus, niger: elytra nigra, utriusque vitta albida e basi ultra medium extendens: pedes pallidi, profemoribus maculâ minutâ, meso- et metafemoribus apice latè nigris. (Corp. long. .325 unc. lat. .08 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday at Trenton Falls, on the blossoms of *Cerasus Virginianus*. It is allied to but not identical with the *Leptura longicornis* of Kirby.

Lep. allecta. Caput nigrum, ore rufo; antennæ nigrae, articulis 1 et 2 rufis, maculâ nigrâ signatis: prothorax ferè globosus, nitidus, rufus: elytra puncta, nigra: pedes pallidi, femoribus maculâ magnâ nigrâ subapicali signatis: abdomen argenteo-lanuginosum. (Corp. long. .3 unc. lat. .075 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken near New York by Mr. Foster. It appears much to resemble *Lep. ruficollis* of Say.

Lep. paupercula. Caput et antennæ fusca, ore piceo: prothorax ferè globosus, niger, nitidus: pedes pallidi, profemoribus medio, meso- et metafemoribus apice fusco signatis. (Corp. long. .3 unc. lat. .075 unc.)

Inhabits the United States of North America. The specimens in

the cabinet of the Entomological Club, were taken by Mr. E. Doubleday near New York.

Lep. exigua. Caput nigrum, antennæ fuscae, articulo basali flavido : prothorax niger, lanugine aureâ obsitus : elytra puncta, nigra : propedes flavidi, meso- et metapedes femoribus basi flavidis, apice nigris, tibiis tarsisque fuscis. (Corp. long. .225 unc. lat. .04 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. Doubleday at Trenton Falls. This and the two following species probably belong to Serville's genus *Grammoptera*.

Lep. hæmatites. Caput nigrum; ore rufo; antennæ nigrae: prothorax ruber obscurus: elytra parallela, nigra, obscura, puncta: propedes rubri, meso- et metapedes nigri: antennæ graciles, breves. (Corp. long. .2 unc. lat. .035 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Mr. R. Foster, at Trenton Falls.

Lep. nana. Nigra, puncta, ore ferrugineo: propedes pallidi, femorum macula elongata nigra; meso- et metapedes nigri, femoribus basi pallidis. (Corp. long. .175 unc. lat. .03 unc.)

Inhabits the United States of North America. In the cabinet of the Entomological Club is the only specimen of this, the smallest species of *Leptura* I have ever seen; it was taken by Mr. R. Foster at Trenton Falls.

Natural Order.—HISPITES, *Newman*.

Genus. — *HISPA*, *Linneus*.

Hispa quadrata, Fabricius; Syst. Eleu. ii. 60.

„ *rosea*, Weber? Ins. 66. 5.

„ *marginata*, Say?

Inhabits the United States of North America. Mr. Doubleday took a single specimen at St. John's Bluff. The following account of the economy of this, or a closely allied species, from the pen of Dr. Harris of Boston, U. S., is highly interesting.

“ Towards the end of July, 1820, I perceived upon an apple-tree several leaves which had large brownish spots upon them. These spots were not occasioned by dis-

case, but by the destruction of the internal pulpy substance or parenchyma of the leaf, while the cuticle or skin, both above and below, remained entire. When a leaf was held between the eye and the light, there could be seen, through the discoloured but semitransparent cuticle, a little, whitish, flattened grub, which had devoured the parenchyma, and lay enclosed in the cavity thus formed between the two layers of skin. On being disturbed, this insect moved, with a wriggling motion, from one part of its retreat to another, backwards quite as readily as forwards. The shape of the spots was irregular, and they varied somewhat in size; but on an average, each one might have been about an inch square. Several leaves containing larvæ, among which was one that had already passed into the pupa or chrysalis state, were shut up in a box. Soon afterwards the insects passed through their transformation, and, leaving the cast-off pupa-skin nearly entire, within the cavities which they had occupied, they made irregular perforations through the dried cuticle, and came out upon the surface of the leaves. The insects, thus disclosed in the perfect or winged state, proved to be little beetles belonging to the genus *Hispa*; but as they were subsequently lost, it is not in my power positively to identify them with any of the species now in my collection.

"In June, 1827, I discovered a leaf of the poplar-tree which contained a small dead larva, very closely resembling that of the *Hispa* of the apple-tree; but it was not till the 17th of July, 1829, that an opportunity of observing in detail the habits of these insects again presented itself. Upon this day I found larvæ, like those of the apple-tree, feeding, in the same manner, upon the parenchyma of the leaves of the white oak. Each one of these insects, when fully grown, measured from 20 to 27 hundredths of an inch in length. The head was horny and of a brownish black colour;



the body, consisting of 11 segments, flattened and broad near the head, gradually narrower behind, was yellowish white, except the greater part of the upper side of the first segment, a spot in the middle of the under side of the same, and the upper part of the tip of the last segment, which were dark brown or nearly black. The head was small in proportion to the size of the first segment, and partially drawn within it. Minute antennæ were perceptible, and the jaws were short, strong, somewhat triangular, and simple or scarcely indented within. The legs were six, short, and of a brown colour, a pair beneath the first, second and third segments. The other segments were dilated at the sides, and terminated by small brown tubercles. Above these lateral mammillary projections

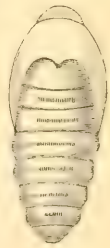
was a series of seven smaller ones, each bearing a spiracle or aperture for respiration. The second segment, at the sides, near its anterior edge, was furnished with two large spiracles, and two, still larger, were situated upon the upper part of the terminal segment, near its tip. The fourth and remaining segments, except the last, had, both above and below, a transverse callous spot, covered with minute projections like a rasp, which appeared to be designed to aid the insect in its motions. On the 5th of August five of these larvæ were transformed to pupæ, four of which assumed the perfect state on the 11th, and the 5th on the 12th of the same month; from which it appears that the pupa state lasts only six or seven days. The colour of the pupa was a yellowish white, but, as it approached the period of its final change, the body became reddish and the wing-sheaths brown. Its body was rather shorter and broader than that of the larva; the abdominal segments were tuberculated at the sides, and were furnished, both above and beneath, in the centre of each segment, with a transverse series of elevations, much larger and more prominent than those of the larva, and tipped with

short bristles. The sheaths of the wings and legs were folded on the breast, and those of the antennæ under the lateral margins of the first and second segments. When disturbed, the pupa moved about in its habitation by means of the rasps upon its body, which served instead of feet. This insect, in its perfect form, resembles *Hispa rosea* of Weber, in sculpture, size, and shape, and indeed offers no character by which it may be distinguished from that common insect, except its dull yellow colour, and the much deeper crimson tint of the lines with which it is adorned: possibly it is merely a variety arising from a difference of food, or from other causes of an accidental nature."—*Boston Journal of Natural History*, i. p. 142.

Hispa suturalis. Fabricius. Syst. Eleu. ii. 63.

Inhabits the United States of North America. Mr. Doubleday took a single specimen at New York. The following particulars are from the publication quoted above.

"Towards the end of July, 1829, I discovered some larvæ within the leaves of the *Robinia pseudacacia*, which differed in appearance so much from those of the oak-leaf, that I had no doubt of their belonging to a different species. In form they were more elongated and not so much depressed; the body was not so broad before, and the lateral tubercles were more acuminate and directed backwards, so as to give the sides of the body a serrated appearance. In other respects they agreed with the previously-discovered species. The pupæ were exceedingly active, and moved about when disturbed in their cavities, backwards and forwards, by an upward and downward action of the abdominal segments. The pupa state lasted seven days, and on the 12th of August I had the pleasure of seeing the perfect insects in the box in which they had been raised. They proved to be the *Hispa suturalis* of Fabricius."—p. 146.



Hispa vittata, Fabricius. Syst. Eleu. ii. 64.

Inhabits the United States of North America. Mr. Doubleday took a single specimen at New York. The following is Dr. Harris's account of this insect.

"On the 14th of July, 1833, I found full-grown larvæ of a *Hispa* in the leaves of *Solidago lævigata*, a plant abounding upon the margins of our salt marshes, where I was led to look for these larvæ in consequence of having discovered *Hispa vittata* in the perfect state in the axils of the leaves, during the month of September, 1832. These larvæ measured $\frac{40}{100}$ of an inch in length: they were more elongated than the two preceding species, more acuminate before and behind, and the lateral tubercles were much more prominent. The body was whitish, the head and feet dusky or blackish; the disk of the first or thoracic segment was marked with a transversely oval brown spot, near the anterior part of which were two black dots. The last segment was brownish above. The sides of the rings were prominent, toothlike, pointing backwards, and tipped with small, acuminate black points on the sides of each segment, except the first, third and last. There were tubercular rasps on the body, as in other species. The



pupæ bore a general resemblance to those of *Hispa suturalis*; and in the course of about a week disclosed the *Hispa vittata* of Fabricius. * * This insect I first saw on the marsh golden rod, in September, 1829; again in September, 1832, in great numbers in the axils of the leaves of the same plant; and upon the 10th of June, 1834, I found it celebrating its nuptials, and discovered on the leaves of the plants frequented by it, little black grains which, I presume, were the eggs of the insect.—These granular bodies were about $\frac{7}{100}$ of an inch long, somewhat elliptical, flattened upon the side which was glued to the leaf, and covered upon the rest of the surface with a rough, black substance. They were in clusters of four or five, placed side by side, and adhered closely together, and to the leaf on which they were fixed. Upon the leaves of the plants inhabited by the other species of *Hispa*, I have often observed somewhat similar eggs, not however in clusters, but placed singly, and of a more irregular or angulated shape. Never having traced the development of these eggs, I cannot positively affirm them to belong to the *Hispæ*, though I have but little doubt on the subject.

“I am by no means certain whether, or how, the *Hispæ* pass the winter, but presume that they hibernate, in the perfect state, among the roots of herbage; for there does not seem to be more than one brood in the season, and the perfect insects of the different species appear, at their proper times, during the spring or summer, before the larvæ are to be found. It may be well to remark that the habits of these insects, in their natural state, are precisely the same as those which they exhibit when reared in confinement, and that I have repeatedly observed larvæ, pupæ, and perfect insects within the subcutaneous retreats where they pass through all their transformations, and which they leave only when they are about to provide for a continuation of their race. Secure as they may seem to be, while in their larva state, they are not without their enemies; for a small *Ichneumon* is endued with the faculty of discovering them, and is furnished with a long piercer, with which it perforates the cuticle of the leaf and the skin of their tender bodies, into which it conveys its eggs, committing only one to a single larva. The grub hatched from the egg of this parasitic insect, lives within the body of its victim, which has barely sufficient strength to undergo the change to a pupa, when it dies, exhausted by the remorseless gnawings of its intestine foe. The latter completes, in a few days, its own transformations within the empty pupa-skin of the *Hispa*, from which it eventually emerges in the winged state. Those which I obtained came out during the month of August, 1829, from the pupæ of *Hispa rosea*? and *H. suturalis*.”—p. 147.

Hispa scapularis, Olivier.

„ *lateralis*, Say.

Inhabits the United States of North America. A single specimen was taken by Mr. Doubleday at St. John's Bluff, in East Florida.

Hispa Bacchus. Nigra, prothorace, sterno, abdomineque lætè rubris: prothorax scaber, profundè punctus: utrumque elytron seriebus 10 punctorum profundorum impressum; in medio elytrorum series tantum 8; inter 2um et 3um, quoquè inter 4tum et 5tum linea elevata nitida. Insectum longum. (Corp. long. .25 unc. lat. .075 unc.)

Inhabits the United States of North America. Mr. Doubleday captured the specimens in the cabinet of the Entomological Club, by sweeping the grasses and Eriocaulons growing round a large pond at St. John's Bluff, in East Florida.

Hispa Ariadne. Nigra, prothorace tantum rubro : prothorax profundè punctus : utrumque elytron 3-carinatum, marginibus quoque elevatis : interspatiis seriebus 2 punctorum profundorum impressis. Insectum longum. (Corp. long. .175 unc. lat. .05 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club were taken by Mr. Doubleday at St. John's Bluff, in company with *Hispa Bacchus*, which, however, was the rarer species.

Hispa Erebus. Nigra : prothorax et elytra foveis magnis præ dispositis excavata. Insectum ovatum. (Corp. long. .2 unc. lat. .1 unc.)

Inhabits the United States of North America. Two specimens in the cabinet of the Entomological Club were taken by Mr. Doubleday at St. John's Bluff, in East Florida.

Hispa Pluto. Nigra : prothorax profundè punctus : utrumque elytron bicarinatum, marginibus quoque elevatis ; interspatiis seriebus 2 punctorum profundorum impressis. Insectum oblongum. (Corp. long. .125 unc. lat. .05 unc.)

Inhabits the United States of North America. A single specimen, in the cabinet of the Entomological Club, was taken by Mr. Doubleday at Trenton Falls.

Hispa Hecate. Nigro-ænea, nitida : prothorax punctis magnis excavatis : elytra vix carinata, utrumque seriebus 8 punctorum oblongorum impressum, interspatiis alternis paullò elevatis, glaberrimis. Insectum oblongum. (Corp. long. .2 unc. lat. .075 unc.)

Inhabits the United States of North America. A single specimen, in the cabinet of the Entomological Club, was taken by Mr. Doubleday near the Warm Springs, in North Carolina.

Hispa Xerene, Newman, 'Ent. Mag.' v. 390.

Hispa Baucis, Newman, l. c. I expressed an opinion that this might prove the female of the following species, but Mr. Doubleday having

subsequently taken both sexes of each species, has proved them to be distinct.

Hispa Philemon, Newman, Ent. Mag. v. 390.

Hispa metallica, Fabricius. Syst. Eleu. ii. 66.

Natural Order.—CHRYSMELITES, *Newman*.

Genus.—CRYPTOCEPHALUS.

Cryp. binominis. Niger, maculis utriusque elytri 2 magnis coccineis, quarum 1mâ humerali, ramulum ferè ad suturam emittente, alterâ rotundâ apicali: prothorax glaber, nitidus: elytra strio-puncta, striis 9 quarum 7us et 8us valdè indistinctis. (Corp. long. .2 unc. lat. .1 unc.)

Variat maculis croceis nec coccineis.

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club, were taken by Messrs. Doubleday and Foster at St. John's Bluff, East Florida. I had formerly ticketed this insect as the *Crypt. ornatus* of Say, but from its being unknown to Dr. Harris, I presume it is distinct.

Cryp. quadriforis. Niger, nitidus, utriusque elytri maculis 2 rufis, quarum 1mâ humerali, alterâ apicali: prothorax nitidus, lateribus subtilitè punctis: elytra subtilitè puncta, punctis haud ordinatim dispositis. (Corp. long. .175 unc. lat. .1 unc.)

Inhabits the United States of North America. A single specimen in the cabinet of the Entomological Club, was taken by Mr. E. Doubleday at the Warm Springs in North Carolina.

Cryp. quadruplex. Niger, antennis fuscis, utriusque elytri maculis 2 rufis, quarum 1mâ humerali alterâ rotundâ apicali: prothorax glaber: elytra strio-puncta, striis 9 apicem versus obsoletis.—(Corp. long. .125 unc. lat. .075 unc.)

Inhabits the United States of North America. A single specimen, in the cabinet of the Entomological Club, was taken by Mr. Doubleday at Trenton Falls.

Cryp. lateritius. Lateritius, oculis fuscis: prothorax lutosus, crebrè punctus, punctis confluentibus: elytra lutosâ, fasciis 3 undatis

lateritiis, puncta, punctis magnis numerosis vix ordinatim dispositis. (Corp. long. .15 unc. lat. .075 unc.)

Inhabits the United States of North America. The specimens in the cabinet of the Entomological Club were swept by Mr. E. Doubleday in February, at St. John's Bluff.

Cryp. sparsus. Niger, albo præ irroratus: caput et prothorax puncta, elytra profundè puncta, punctis nullo modo ordinatis. (Corp. long. .075 lat. .05 unc.)

Inhabits the United States of North America. The specimen in the cabinet of the Entomological Club, was taken by Mr. Doubleday at Trenton Falls.

See also 'Magazine of Natural History,' new series, vol. iv. p. 249, for descriptions of eight other new species of *Cryptocephalus*, collected by Messrs. Doubleday and Foster in the course of their journey.

Natural Order.—CERAMBYCITES, *Newman.*

Genus.—NIRÆUS, *Newman.*

Niræus equestris. Caput chalybeum, margine posticâ rufâ; antennarum articuli 1mus et 2dus rufi, 3us, 4us 5usque albidii, 6us niger, basi albidus, cæteri nigri: prothorax parçè punctus rufus: scutellum angustum, longitudinalitèr impressum, apice acutum, rufum, marginibus chalybeis: elytra basi rufa, apice chalybea: pedes chalybei. (Corp. long. 1 unc. lat. .3 unc.)

Inhabits ———. There is a single specimen in the cabinet of the Zoological Society.

Genus.—CURIUS, *Newman.*

Curius scambus. E *Curio dentato* valdè differt. Antennarum articulus 3us 5to brevior, 4tus sequentibus brevior: caput vix porrectum, oculi magni, rotundi, ad antennarum basin vix emarginati: prothorax ferè cylindræus, dorso haud complanatus, lateribus haud convexus: pedes longitudine mediocres, femoribus repentè valdè tumidis, subtùs dente magno mediano armatis, tibiis paullò curvatis: color luteolus fusco varius, antennarum articulis basi pallidis, apice fuscis: prothorax glaber, subtilitèr punctus, colore varius: elytra profundè puncta, luteola fusco varia. (Corp. long. .275 unc. lat. .065 unc.)

Inhabits the United States of North America. A single specimen, taken by Mr. Doubleday in low brushwood near the margin of a swamp, at St. John's Bluff, in East Florida, is in the cabinet of the Entomological Club.

Genus.—BARDISTUS, *Newman*.

Caput vix pronum: antennæ corpore breviores, 11-articulatæ, articulus 5tus cæteris longior: oculi magni, trifariam extensi, epicranium versus, quoque orem quoque gulam: prothorax capite vix latior, latitudine longior, dorso inæqualis, lateribus 1-dentatus: scutellum breve apice rotundatum: elytra elongata, parallela, apice rotundata: pedes breves, femoribus subdilatatis compressis.

Bar. cibarius. Flavido-badius, capite, prothorace, et articulo antennarum basali saturatoribus: elytra mollia, bicarinata, carinaque brevis scutellaris in suturam ferè ad apicem desinens. (Corp. long. 1·5 unc. lat. ·325 unc.)

Inhabits King George's Sound, where it is very abundant, and under the name of *Bardé* forms a favourite food of the natives, who eat it, according to Captain Grey, in its perfect as well as preparatory states. The only specimen I have seen is in the cabinet of the British Museum; and I have pleasure in acknowledging my obligation to Mr. Adam White, for the interesting fact in its history which I have now recorded.

This longicorn affords us an opportunity of making another addition to the interesting list of insects which have been recorded as holding an important station in the economy of nature, by supplying man, in his savage state, with agreeable and wholesome food. It is much to be desired that its history may be more accurately worked out by some of the ardent entomologists who have lately adopted Australia as their country.



JOHN VAN VOORST,

PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. VI.

APRIL, MDCCCXLI.

PRICE 6D.

ART. XI. — *Analytical Notice of 'The Canadian Naturalist, a series of Conversations on the Natural History of Lower Canada.'* By P. H. GOSSE. London : Van Voorst.

EVERY volume that treats of the Natural History of the Canadas, or indeed the northern portion of the North American continent, is valuable to the zoologist as serving to throw some light on the highly interesting question of the parallelism of species inhabiting the old and new worlds. In Mr. Gosse's amusing volume we find constant mention of the names of insects, familiar as household words to the ears of the English entomologist; as for instance, *Acheta campestris*, *Ammophila sabulosa*, *Apis centuncularis*, *Biston hirtarius*, *Boreus hymnalis*, *Byrrhus varius*, *Calyptra libatrix*, *Cheimatobia vulgaris*, *Chrysis cyanea*, *Cynthia Cardui*, *Gastrus Equi*, *Gomphus vulgatissimus*, *Gyrinus æneus*, *Hemerobius Perla*, *Ips 4-punctata*, *Lampyrus noctiluca*, *Lycæna Phlæas*, *Megachile Willughbiella*, *Meloë Proscarabæus*, *Æstrus Bovis* and *Ovis*, *Orgyia antiqua*, *Phlogophora meticulosa*, *Phyllodecta vitellina*, *Plusia Gamma*, *Pæderus riparius*, *Sirex Juvencus*, *Smerinthus ocellatus*, *Vanessa Antiopa* and *Xerene albicillata*: and these form a very considerable portion of the insects of which the author has occasion to speak. Thus we find that many of our well-known insects are common to the new and old continents.* It is not, however, Mr. Gosse's object to enforce this conclusion, it is simply the result of my own analysis of his recorded observations.

The work is written as a dialogue between father and son, the author thinking that "many little trifles might be thus touched, which could be noticed in no other form, but which, nevertheless, all help to make up a true picture. Thus too we may ramble from one subject to another, often by a transition more abrupt than could be permitted in a systematic discourse." The work is adorned with illustrations of

* It must be distinctly understood that I arrive at this conclusion, supposing that Mr. Gosse has named his species correctly, on which subject no evidence is before me.

the various objects described, in most instances cut from the author's own drawings on the wood, and all of them executed with great taste and scrupulous fidelity. The work is chronologically arranged, the early appearance of insects in March, on the snow, being thus noticed.

"*F.*—You have not yet observed any symptoms of activity in the insect tribes, I presume? *C.*—Few, except such as are to be found throughout the winter, are to be met with: a few tipulidan gnats fly abroad on sunshiny days. I have lately observed in pine-woods in one particular place, several insects crawling about the snow, exactly resembling small Tipulæ, even having halteres, but totally destitute of wings. They are about one-fourth of an inch in length: they have been rather numerous; I took six of them in one evening. *F.*—They are doubtless the *Chionea Araneoides*: it is singular that I have observed these in company with another very remarkable apterous insect, belonging to a winged family (*Panorpidæ*), in some numbers. I allude to *Bo-reus hyemalis*, an insect much like a flea. I have never seen either but in one spot, the black-woods to the south of the Masuippi, near its junction with the Coatacook; it was at this season, and on the snow."—p. 51.

The following remarks, if not altogether novel, exhibit the care with which Mr. Gosse has observed, and the accuracy with which he records facts.

"It would appear from many experiments and observations, that insects, and perhaps all animals with cold fluids, are able to resist the effects of very low degrees of temperature. I have myself had larvæ so hard frozen as to be broken in two like a piece of solid ice, and yet found that on being thawed, those which had not been broken, but had been just as solid as the others, were quite lively and apparently uninjured. A few days ago, I found a large thick larva of a chafer (*Melolontha*?) in the heart of a birch-tree, surrounded by its ejecta, which, as well as the grub itself, were hard frozen. In this instance, too, the insect was found to be alive, when thawed by the warmth of the house. I have had ants (*Formicæ*) inclosed in the midst of a piece of solid ice, having fallen into the water before it had frozen, which, on being melted out and placed awhile in the sunbeams, gradually gave signs of life, and at length crawled about, as if nothing had happened. These and other observations show that insects sustain, without injury, severities of cold which would be fatal to the superior animals; but it seems that in general those species which survive the winter in the imago state become torpid; and this negative sort of existence is found in other animals to be a preventive of the ordinary effects of great cold on vitality."—p. 61.

In the month of May the mosquitoes make their appearance, and Mr. Gosse gives us a fearful picture of them.

"It is more particularly by night that they make their insidious attacks; they swarm in our bed-chambers, and it is a very common thing to see in the morning many of them lazily pitched about the walls and ceiling, their abdomens distended, and almost bursting with the blood which they have extracted from our veins at their leisure. It is almost impossible to do anything in the fields after sunset, as one hand is perpetually in requisition to drive them from our faces, but they return most pertina-

ciously to the attack, and, notwithstanding all our efforts, manage to cover our faces, necks, heads, hands and legs with their bites. Their ringing hum, which always announces their approach, is listened to with a feverish anxiety, and as it approaches the ear, is heard with a dread and horror that is almost laughable, when we consider the size of the enemy. There are two species at least, if not more, of the true musquito (*Culex*); and besides them there is the Black Fly, a small species of dipterous fly, with black body, the legs ringed with black and white (*Simulia*?), whose bite is similar in its effects to that of the musquito, but it does not usually come into our houses. There is also a very minute insect, likewise dipterous, with mottled wings, the sand-fly or midget, so small as to be scarcely visible: they appear in myriads at nightfall, and bury their heads in the flesh; their bite is not unlike a spark of fire, but it is not followed by tumours; a slight inflammation continues for a few minutes, with itching. Neither of these two utters any sound as it approaches, so that their attack is still more insidious than that of the musquito.

"When they are too bad to be borne any longer, our housewives make what they call a *smudge*; that is, little fires to windward of the house, covered with wet chips and earth, which, smothering the flame, make a dense smoke; this being wafted by the wind around the house, prevents the approach of the flies, as they cannot abide smoke, so we tolerate one inconvenience to dispel a greater. There is no other help but patience. Salt dissolved in water, rubbed on a recent bite, prevents much of the evil effect. But we know little, after all, of this evil, compared with those bold and hardy men who first penetrated this vast wilderness, and set up their solitary dwellings in the midst of the forest, before roads were cut, or clearings made, or marshes drained: when clouds of venomous insects rose out of the rank swamps, to which those we encounter are as nothing. I have heard some of the first settlers declare, that they did not dare to go out to work without a pine torch continually blazing on their hats, to keep, by its smoke and flame, a small space around their heads clear of these minute but formidable foes."—p. 99.

In June another insect torment appears, which leads our author into the following observations.

"The large Whame-flies (*Tabanus*) are beginning to be troublesome to the horses and cattle: I have been told by surveyors and others, whose business leads them to penetrate the forests far from human settlements, that these large flies are so numerous and virulent that sometimes it is impossible to proceed. It is not uncommon for persons in such circumstances to have their faces and limbs so bitten, as, with the venom infused, and the consequent irritation combined, to cause dangerous wounds or ulcers. I have never been attacked by them myself, nor have I ever known them to molest man in the open clearing in this country, except in one instance, in which one of the little clouded whameflies (*Chrysops sepulchralis*?) suddenly darted at the hand of my brother three successive times without alighting, inflicting a wound each time: it left hard whitish lumps, attended by severe pain. The mouth of these insects is a fine piece of mechanism: a fleshy case contains two spiny serrated needles, and two broad lancets, shaped like a knife, working laterally; these are to cut and enlarge the wound, and increase the flow of blood; within these is a fine tube enclosed in a separate sheath, through which the blood, probably diluted by some injected fluid (which causes the inflammation and pain) is sucked into the stomach. The palpi are short,

straight and fleshy, and being situated one on each side of the proboscis, guide and guard it from injury while piercing an animal. The whole apparatus, being little larger than the point of a pin, is well worthy of regard and admiration. I have taken the larger species from my horses, so full of blood, that the abdomen was swollen almost to bursting, and of a deep red colour. It appears that on such occasions, as well as in mosquitoes, ticks, &c., the vessels and intestines must be either disrupted, the blood flowing among the whole viscera, or else capable of such enormous distension, as almost to fill the whole body."—p. 196.

The fireflies of America are well known to entomologists, and their intermittent light has already been noticed in the pages of 'The Entomologist,' yet I trust the following quotation will not be unacceptable.

"C. — What light is that before us? F. — It is the firefly (*Lampyris corusca*); which illuminates our summer nights with its radiance. When I came up the country from the St. Lawrence, travelling late one evening, I first saw these pretty insects. The light, you see, is of a yellow colour, like that of flame, and very different from the blue gleam of our English glow-worm; from this circumstance, I at first took them for candles in the woods, and though told what they were, at every one that appeared, the same idea would come across my mind, that it was some one in the woods carrying a candle, until I became more familiar with them. Even now, if I see one suddenly, without having expected it, the impression momentarily recurs. They more frequently give out the light while flying, than when crawling or resting, though we may often observe the intermittent gleam as one crawls up a stalk of grass, or rests on the leaf of a tree. They fly slowly, and as they fly, emit and conceal their light with great regularity, at intervals of two or three seconds; making interrupted lines of light through the air, gleaming slowly along for about a yard, then suddenly quenched, and appearing again at the same distance a-head. The insect is a pretty beetle, with soft elytra, of a light brown colour, marked with red, and handsomely striped; the light proceeds from the last three segments of the abdomen, which are of a delicate cream colour by day. At night these three segments are bright at all times, but at the regular intervals I have mentioned, they flash out with dazzling splendour. If this part be plucked off and crushed, many patches of brilliance occur for a few moments among the flesh, but they gradually die away. In summer evenings they often occur in great numbers, especially over wet and marshy ground: I have seen the whole air, for a few yards above the surface of a large field, completely filled with them, thicker than the stars on a winter night; and, flashing and disappearing, every one moving about in their mazy evolutions, it is really a very beautiful sight; it is commonly believed these numbers precede rain. Notwithstanding their abundance, they are not often seen by day. They are usually known here by the name of lightning-bugs."

That the light of the fireflies "has some end useful in their economy may not be doubted; but what that end is, we are entirely ignorant. It has been concluded and taken for granted, that in a parallel case, that of the common glow-worm of England (*Lampyris noctiluca*), its purpose is to direct the winged male to the wingless female. But it is surely forgotten that other insects have no difficulty in finding the females which are stationary, but that, on the contrary, they possess a peculiar power of discovering them, even when totally concealed from sight, as when enclosed in boxes, and even coming down chimneys, and beating against windows, to obtain access to them;

on which power, the plan of taking males called "sembling" is founded. And whether or not, the explanation of the phenomenon would not answer in this instance, where both sexes are winged."—p. 204.

The propensity of butterflies to settle on moist or muddy places in woods &c., has been noticed by Harris, Haworth, Doubleday and others. The same fact has been observed by Mr. Gosse, who records his observations in the following words: the notice of the *Pentatoma* preying on larvæ is perhaps foreign to the subject, but still is a memorandum worthy of preservation.

"C.—Look! what a congregation of butterflies on that little muddy spot! and all of one species, the clouded sulphur (*Colias Philodice*). I should think there are near twenty within a square foot. F.—This species is very fond of assembling in such places to assuage thirst, but other butterflies have the same habit. I once saw fifteen of the tiger swallow-tail (*Papilio Turnus*) in a space not exceeding a foot square; and my brother soon after counted fifty-two of the same fine species together; besides many more which were hovering about the spot, on the wing.—— See; here is an instance of tyranny and rapine, though on a small scale. A large flat bug (*Pentatoma*) has caught an unfortunate caterpillar, and plunged his sucker or rostrum into its body; this rostrum is usually bent up under the breast; but now it is extended straight from the head, holding the caterpillar at the end of it. Observe how fiercely he holds on, and won't let me take it away from him. All the bug tribe are carnivorous, and live by sucking the juices of other insects, and sometimes of larger animals. I have succeeded in rearing plant-bugs to the perfect state, by supplying them with house-flies, which I maimed and threw into the box."—p. 223.

At page 231 Mr. Gosse notices the capture of *Pteronarcys regalis*; he seems to have been struck with its remarkable size, and gives an accurate and elegant figure of the insect, clearly exhibiting the complicated reticulations of the wings, which induced me to separate it as a genus from the *Perla* of Geoffroy: he also records the capture of my cognate species *Pteronarcys Proteus*.

A passage occurs at page 246, which will forcibly remind the reader of Haworth's spirited description of the pugnacious propensities of our Purple Emperor. Haworth assigns to his monarch of the woods the topmost branch of some lofty oak, while Mr. Gosse's species, of a less aspiring nature, contents himself with taking up his station at its foot. Speaking of the pearly-eye (*Hipparchia Andromacha*) Mr. Gosse observes—

"It is indeed a rarity. Say, if I mistake not, mentions it as being confined to the Southern States; and I have seen it in abundance there, but never have heard of its being found here before. In the south, I have known one frequent the foot of a particular tree for many days; whence he would sally out on any other passing butterfly, either of his own or of another species, and after sundry circumvolutions, retire to his

post again. Sometimes one of the same species, after having had this amicable tussle, would likewise take a stand on a neighbouring spot, and after a few minutes both would simultaneously rush to the conflict, like knights at a tournament, wheel and roll about as before, and each return to his own place with the utmost precision, and presently renew the combat with the same result, for very many times in succession.—p. 246.

As autumn advances the humming-bird hawk-moths make their appearance on the wing, and as we might expect, their evolutions are watched with great interest by our Canadian entomologist.

“C.—I have found the blossoms of the milk-weed (*Asclepias*) very productive of lepidopterous insects. The large zebra hawk-moths have been very numerous: I caught on one evening eight, and on another seven of them, and saw many more.—What a very striking resemblance exists between these hawk-moths and the humming-birds! Their straight arrowy flight, their sudden arrest in front of a flower, the rapid vibration of their wings, the insertion of their long tongue, the glancing of their bright eyes, their loud hum, their jealous alarms, and even the shape of their bodies, and their size, are so exactly a counterpart of the ruby-throat, that at first one is tempted to think it is actually a humming-bird protracting his nectar-seeking excursions into the night. Among these flowers, almost immediately after sunset, we hear a loud humming, and looking to the spot, see the large moth suspended on the wing in front of a blossom; presently one is seen in another direction; then another, and another; and the small moths begin to swarm, and hurry from flower to flower, seeming to increase with the increasing darkness, until the eye fails to follow them, but still dimly sees the swift-winged hawk-moth, directed by the more acute perception of the ear. They are large and thick, though of a graceful shape, and possess considerable muscular strength; I have had them actually within my fingers, yet have failed to hold them, as they have forced their way out by the mere strength of their wings. On almost every one that I caught, there were little, soft, club-shaped filaments, about one-sixth of an inch long, projecting from the head, generally from the eyes: do you know what they are?

“F.—They are parts of the milk-weed blossom, which adhere to the head of the insect, when eagerly sucking the nectar, and come away with it. I was much at a loss myself when I first observed them, but having seen the same substances, in the south, attached to the heads of swallow-tailed butterflies, which I had taken in the act of sucking an allied species, the orange milk-weed (*Asclepias incarnata*), I had no longer any doubt of their origin. They are the little bags of pollen that I mentioned before, which are found within the anthers.”—p. 258.

The circumstance of the club-shaped filaments projecting from the head of these diurnal moths, has not escaped my own observation; I have noticed it in *Macroglossa stellatarum*, and still more frequently in some species of bees, — *Anthophora retusa* and *Saropoda vulpina*. The filaments, in these instances, appear to have been the pollen-masses of orchideous flowers. The Rev. G. E. Smith has described the remarkable structure of these pollen-masses, and alluded to the circumstance of their adhesion to the heads of insects, in the following passage.

“*Platanthera* is the genus of *M. Richard*, characterized by the lateral position of the anther-lobes, whose foot rests upon a concave, glutinous, projecting scale, upon which scale the fertilization of the stigma depends. Without these scales the anther-lobes must fall from the flower. The nectar is distilled in a tube, which opens immediately below the stigma. Early in the day the treasure is robbed ;—

“ ‘ Through the soft air the busy nations fly,

“ ‘ Cling to the bud, and with inserted tube

“ ‘ Suck its pure essence, its ethereal soul.’—*Thomson*.

But the eager insect, in thrusting forward its head, comes in contact with the scales : the lobes are withdrawn, and decorate the robber with no light appendage ; his feet are applied to remove the incumbrance, and the pollen is brushed upon the stigma. This process, which compensates for the stolen nectar, is a beautiful instance of provision, distinct from the provision made in other cases in the same tribe, and may rank with the well-known instances in the birth-wort, the fig and the berberry.”*

The process of beating for caterpillars in September, forcibly calls to mind the practice so common among our lepidopterists here. I quote the following paragraph to show how observant is our author, even on this branch of his subject.

“ While the leaves of the trees are yet green, I am diligent in beating them for lepidopterous caterpillars : I have had much success in obtaining these lately, some of which I will mention to you. I have taken several of the fine green velvety caterpillars of the tiger swallow-tail (*Papilio Turnus*), with violet spots on the body and two eye-spots. It spins a bed of silk, so tightly stretched from one edge of a leaf to the other, as to bend it up, so that a section of it would represent a bow, the silk being the string. On this elastic bed the larva reposes, the fore parts of the body drawn in so as to swell out that part, on which the eye-spots are very conspicuous. I have taken it from willow, poplar, and bass-wood, but chiefly from brown ash. Before it spins its button and suspending girth, it gradually changes colour to a dingy purple. The chrysalis is brown, with many darker blotches. The caterpillars of the muff moth (*Lophocampa tessellaris*) are also numerous on ash, willow, poplar, and apple trees ; these are very pretty, covered with a thick, soft, long fur, generally bright yellow in the middle, and black at each end ; but in many the yellow, and in others the black, predominates, to the almost total exclusion of the other colour. They spin oval cocoons, slight and thin in texture, being in a great degree composed of the hairs of the caterpillar ; these are found attached to the under sides of stones &c., in spring. I find caterpillars of that division called puss-moths (*Cerura*), of all ages, on the willows ; some recently hatched, with the double tail sticking out in the air unreasonably long ;

* ‘Catalogue of Rare Plants of South Kent,’ under *Habenaria bifolia*, p. 48.

some larger, the tail much shortened, handsomely coloured with bright green and brown; others of the same size, differing in having the back white; they spin close cocoons, abrading particles of the wood from the box in which they are kept, and mixing them with the silk."—p. 293.

The book is filled with such passages as I have been quoting, and these not only entomological, but relating to every branch of Natural History. Its importance and utility as a book of facts, are quite on a par with its value and interest as an agreeable and amusing work to the general reader. As throwing light on the high northern range of many Lepidoptera previously supposed to be confined to the Southern States, the geographical entomologist must ever consider it a valuable addition to his library.

EDWARD NEWMAN.

ART. XII.—*Notes on the Entomology of Adelaide, South Australia.*
By A. H. DAVIS, Esq., F.L.S.

Adelaide, 26th July, 1840.

My Dear Friend,

You may well wonder how I find time to attend to Entomology; the truth is, I do *not* find time, but chance throws a good many things in my way, and persons who know I am interested in insects, bring them to me. I have not gone out for the object professedly, for eighteen months, and there is little probability of my doing so for that time to come. Still, when business calls me to the farm, I take a pincushion and can pin a fly when I catch him. I have not been able to devote any time to the small insects, which are very numerous, particularly Chalcidites, and minute Cicadites, the latter evince very singular habits here. I have now by me the leaf of a Eucalyptus, covered with little habitations perfectly like shells, the form



even of the ribs being faithfully represented, as in the annexed drawing: there are a dozen on one leaf, and they are scarcely half the size here depicted; the shell is of a dirty brown colour: some species of the same family make white shells, and the shell fabricated by one species resembles that of a limpet. We

have a caterpillar now out which congregates in a mass on the young stems of the gum-tree; it is black, covered with little tubercles and rows of spines of a pure white colour; it has six true legs: on being touched

these caterpillars hold tight by the third pair of legs, and erect the anterior part of the body, spreading out the first and second pair, and endeavouring to look formidable, at the same time curling the posterior part of the body, as represented in the accompanying sketch, and protruding a yellow appendage from the telum : I also observed that a thick yellow juice was exuded from the last two or three segments. The legs are of a pale yellow colour. I have set a person to watch one or two of the masses in his garden, and see what becomes of them. They grow to be as large as a full-grown larva of *Cerura Vinula*.



Your's &c.

To the Editor of
'The Entomologist.'

A. H. DAVIS.

[It appears to me that the caterpillar mentioned and drawn by Mr. Davis, must be tenthredinidous ; the manner of erecting the anterior legs and of curving the tail seems to favour this opinion, while the size, that of a full-grown larva of *Cerura Vinula*, I must acknowledge to be rather startling, for the largest New Holland Tenthredinites with which I am acquainted are those of the genus *Perga*, a new and beautiful species of which Mr. Davis has sent me, together with a pair of minute insects belonging to the same natural order, but apparently of a genus hitherto uncharacterized. I append descriptions of both these novelties.

Genus.—*PERGA*, *Leach*.

Perga bella. Testacea : caput testaceum, oculis nigris ; ocelli nigri in maculâ concolori siti ; antennarum articuli 1 et 2 aterrimi, apicibus tenuitèr albis, 3 fuscus, cæteri lutei ; antennæ tubere albo sitæ ; oculorum margo anticus albus, genæ quoque albæ ; epicranium asperum, maculis 2 albis signatum ; clypeus testaceus, lateribus albis : prothoracis scutellum margine posticâ albâ : mesothoracis scutum asperum, punctum, lineâ medianâ marginibusque lateralibus elevatis albis, lineis quoque nonnullis nigris ; mesothoracis scutellum dentibus 2 posticis sublongis obtusis instructum ; mesopleura puncta, margine imo falciformi latè albo : metapleura nigro varia, maculâ elevatâ medianâ subtrigonâ albâ : mesosternum aterrimum glaberrimum : pedes flavidi coxis albis : abdomen testaceum, maculis 7 lateralibus elongatis albis, sub-

tùs testaceo nigroque varium. (Corp. long. .7 unc. alar. lat 1.4 unc.)

Inhabits New Holland. A single specimen of this beautiful insect now in the cabinet of the Entomological Club, was taken taken by Mr. Davis, near Adelaide.

Genus.—EURYS, *Newman*.

Antennæ capite vix longiores, 9-articulatæ; articuli 1 et 2 breves incrassati, 3 gracilior, longior, cæteri pedetentim breviores crassiores: corpus brevis latus obesus: proalarum radi-areola 1, cubit-areolæ 4, quarum 2us et 3tius nervuram recurrentem emittent.

Eurys æratus. Caput nigro-æneum, labro albo, oculis antennisque nigris; ocelli 3, quoque nigri; pro-meso- et metathorax nigro-ænea: abdomen nigro-æneum sed manifestò obscurius: alæ hyalinæ, nullo modo nebulosæ: coxæ et femora nigro-ænea obscura, genubus, tibiis tarsisque flavido-testaceis. (Corp. long. .2 unc. alar. dilat. .45 unc.)

Inhabits New Holland. Two specimens of this pretty insect, taken at Adelaide by Mr. Davis, are in the cabinet of the Entomological Club.

EDWARD NEWMAN.]

ART. XIII.—*Entomological Notes*. By EDWARD NEWMAN.

(Continued from p. 80).

THROUGH the kindness of Mr. Miers I am enabled to make the following interesting additions to the Necydalidæ and Phoracanthidæ.

Family.—NECYDALIDÆ.

Mr. Miers informs me that the species of this family are mostly taken on the leaves of trees, and he does not recollect ever having seen them on flowers, which are the favourite resort of the more northern but apparently cognate genera, *Heliomanes* and *Necydalis*.

Genus.—CHARIS, *Newman*.

Charis Mneme. Nigra; antennis fuscis: oculi magni, nigri, in faciem ferè conniventes: prothorax rotundatus, asperè punctus,

capitem versus lanugine albidâ obsitus: elytra puncta, nigra, maculâ utriusque obliquâ albidâ: abdominis segmentum basale rufum, cætera nigra subnitida, lanugine tenui argenteâ obsita: pedes nigri, femoribus asperè punctis, metatibiis hirsutis. (Corp. long. .45 unc. lat. .1 unc.)

Inhabits Brazil. Three specimens, taken by Mr. Miers near Rio, are in that gentleman's cabinet.

Charis Aæde. Nigra, antennis subserratis, fuscis, testaceo annulatis; oculi magni, nigri, in faciem ferè conniventes: prothorax niger, asperè punctus, tuberculis 3 glabris instructus, 1 juxta capitem, 2 versus elytrorum basin: elytra asperè puncta, nigra, utriusque maculâ obliquâ albidâ: pro- et mesopedes fusci vel nigri, femoribus tumidis; metapedes testacei, femorum lineâ superiori nigrâ, tibiarum scopâ magnâ posticâ nigrâ. (Corp. long. .55 unc. lat. .075 unc.)

Inhabits Brazil. A single specimen, taken by Mr. Miers near Rio, is in that gentleman's cabinet.

Charis Melete. Nigra; antennis apice dilatatis nigris, basi piceis; oculi nigri, magni, in faciem ferè conniventes: prothorax asperè punctus, niger, utrinquè litterâ V niveâ lanuginosâ signatus: elytra puncta, nigra, vittâ utriusque testaceâ: pedes rufo-picei, tarsi saturationibus; meso- et metafemoribus vix tumidis, basi flavidis: mesosternum et abdomen cingulis niveis ornata. (Corp. long. .45 unc. lat. .075 unc.)

Inhabits Brazil. A single specimen, taken by Mr. Miers near Rio, is in that gentleman's cabinet.

Genus.—ODONTOCERA, *Serville*.

Odon. Dice. Caput aureum, circa oculos lanugine aureâ obsitum, maculâ inter antennis sitâ quoque aureâ: antennæ dimidio corporis breviores, fuscae, basi nigrae: prothorax nigerrimus, marginibus, fasciâ parvâ transversâ laterali, vittis discoidalibus 2 basi conjunctis, aureis: scutellum albidum: elytra basi asperè puncta, nigra, maculâ utriusque subtrigonâ juxta scutellum flavidâ; deindè ad apicem nitida semihyalina, testacea, angustissima: pedes fusco-testacei, metafemoribus vix tumidis: sternum et abdomen nigra, lanugine aureâ varia. (Corp. long. .525 unc. lat. .1 unc.)

Inhabits Brazil. A single specimen taken by Mr. Miers near Rio, is in that gentleman's cabinet. This and the two following species are allied to those placed by Serville in his genus *Odontocera*, but will eventually, in all probability, be considered generically distinct.

Odon. Eirene. Puncta, nigro-chalybea metatarsis albis: antennæ dimidio corporis vix breviores, apicem versus crassiores, vix dentatæ: facies elongata medio sulcata: elytra attenuata apice truncata, paullò abbreviata, neque metalas nec abdomen tegentia: metapedes elongati, metatibiis hirtis, femoribus vix tumidis. (Corp. long. .5 unc. lat. .06 unc.)

Inhabits Brazil. A single specimen, taken by Mr. Miers near Rio, is in that gentleman's cabinet.

Odon. Eunomia. Caput porrectum, elongatum, flavidum, oculis nigris, antennis apice crassioribus, subdentatis, dimidio corporis longioribus, fuscis, articulis basi pallidioribus: prothorax flavidus, dorso fuscus, punctus: scutellum nigrum: elytra attenuata, apice truncata, paullò abbreviata, neque metalas nec abdomen tegentia; nigra, vittâ suturali apicem versus acuminatâ testaceâ: femora tumida, metapedes elongati, metatibiis hirtis, pro- et mesopedes, sternum et abdomen flavida; metapedes (basi femorum pallido excepto) nigri. (Corp. long. .35 unc. lat. .05 unc.)

Inhabits Brazil. A single specimen, taken by Mr. Miers near Rio, is in that gentleman's cabinet.

Odon.? Maia. Badia, lanugine argenteâ obsita, oculi magni, nigri; caput ante antennas elongatum, longitudinalitèr sulcatum: antennæ corpore manifestò longiores, apice haud incrassatæ, nullo modo dentatæ, 11-articulatæ, articulus 1mus badius, 2—7 nigri, 8 albus, 9 albus apice nigro, 10 et 11 nigri: prothorax capite manifestò longior, vix latior, ferè cylindræus, badius, nitidus: scutellum albo-lanuginosum: elytra attenuata, haud abbreviata, apice subtruncata, nitida, puncta, pallidè testacea, lateribus fuscis: femora paullò tumida, metapedes elongati, metatibiis hirtis; abdomen subtùs et pedes pallida, metatarsis albidis. (Corp. long. .4 unc. lat. .07 unc.) Manifestò genus alterum.

Inhabits Brazil. A single specimen, taken by Mr. Miers near Rio, is in that gentleman's cabinet. This insect, as will be seen by a perusal of the description, is of a most aberrant form.

Family.—PHORACANTHIDÆ.

Genus.—NEPHALIUS, *Newman*.

The following insects, differing from the typical *Trichophori* in the possession of simple femora, and in having the antennæ almost without pilosity, I have separated under the name of *Nephalius*. It may be observed of all the species, that the elytra are punctured and clothed with a short down, and that they are likewise furnished with bristles, each of which is situated in a deeper and more conspicuous puncture; these large punctures are distant, but generally arranged in something like a regular series. The colour of the species which have come under my notice, is very plain and without any variety.

Neph. amictus. Fuscus, lanugine cinereâ crebrè tectus: antennæ corpore vix breviores; articulis carinatis, 3—7 apice 1-spinosis: oculi arcuati, subtùs dilatati: prothorax dorso inæqualis, tuberibus binis instructus, lateribus dente medio armatus: elytra prothorace manifestò latiora, apicibus acutis 1-spinosis: pedes mediocres, femoribus subcompressis, nullo modo tumescentibus, apicibus haud armatis. (Corp. long. 1·25 unc. lat. ·3 unc.)

Inhabits Brazil. Mr. Miers has a single specimen captured near Rio.

Neph. serius. Fuscus, antennarum articulo basali, elytra et pedes testacea: antennæ corpore vix breviores, articulis angulatis vix carinatis, 3—7 apice 1-spinosis; oculi arcuati, subtùs valdè dilatati: prothorax dorso inæqualis, foveis nonnullis impressus, lateribus medio 1-dentatus: elytra puncta, punctis minutis, seriebus quoque 4 punctorum magnorum impressa, in quorum utroque seta rigida sita; apicibus acutis 1-spinosis: pedes præcedentis. (Corp. long. ·8 unc. lat. ·175 unc.)

Inhabits Brazil. Mr. Miers has a single specimen captured near Rio.

Neph. exutus. Lateritius, lanugine cinereâ sparsim tectus: antennæ corpore longiores, articulis canaliculatis, 3—7 apice 1-spinosis: prothorax gibber, convexus, lateribus haud dentatis: elytra prothorace vix latiora, lanuginosa, setis rigidis nonnullis sparsa, apicibus acutis, 1-spinosis: pedes mediocres, femoribus paullò compressis paullò tumidis, apicibus haud armatis. (Corp. long. 1 unc. lat. ·25 unc.)

Inhabits Brazil. Mr. Miers has a single specimen captured near

Rio. Mr. Waterhouse has an insect so nearly resembling the species above described, that I cannot venture to characterize it as distinct. Its antennæ are scarcely so long as the body, and comparatively slender, and each elytron has a fuscous mark rather below the middle, in the form of the letter V: the specimen appears to be a female, whereas the one previously described is a male.

Neph. cassus. Testaceus; oculis fuscis, arcuatis, subtùs valdè dilatatis; antennæ corpore vix breviores, articulis 3—7 apice 1-spinosis: prothorax sericatus, dorso inæqualis, lateribus haud armatus: elytra lutosâ sive pallidè testacea, marginibus tenuitèr badiis, spinâ saturatori; puncta; lineis utriusque 2 ferè obsoletis, setis quoque rigidis sparsim obsita; apicibus subrotundatis spinâ acutâ armatis: pedes mediocres, femoribus paullò tumidis, apicibus haud armatis. (Corp. long. .9 unc. lat. .2 unc.)

Inhabits Brazil. Mr. Miers has a single specimen captured near Rio.

Genus.—MALLOCERA, *Serville*.

Mall. opulenta. Fusca; antennæ corpore paullò longiores, articulis carinatis, 3—7 apice 1-spinosis, spinâ 1mâ paullò recurvâ: prothorax ferè cylindræus, dorso inæqualis, lateribus medio gibberi, lætè aureo-lanuginosus: scutellum parvum, rotundatum, aureo-lanuginosum: elytra parallela, prothorace valdè latiora, aureo-lanuginosa, lateribus medio fusco variata, apice rotundata, haud armata: pedes simplices, meso- et metafemoribus apice 1-spinosis. (Corp. long. .8 unc. lat. .2 unc.)

Inhabits Brazil. Mr. Miers has a single specimen, taken near Rio.

Genus.—TRICHOPHORUS, *Serville*.

Tric. variatus. Fuscus: antennæ hirsutæ, corpore vix breviores, basi badiæ, apice fuscæ, articulis canaliculatis, 3—6 apice 1-spinosis; caput asper, lanugine subaureâ sparsum: prothorax convexus, fuscus, maculis indeterminatis lanuginosis subaureis, asperè punctus, punctis magnis haud profundis, ferè confluentibus: scutellum parvum, apice rotundatum, lanuginosum, subaureum: elytra asperè puncta, basin versus punctis magnis, profundis, confluentibus, apicem versus minoribus; utriusque elytri lineâ longitudinali perpaulùm elevatâ; badia, setis rigidis obsita, fasciâ difformi medianâ apicibusque albidis, apicibus truncatis, angulo externo 1-spinoso, spinâ longâ fuscâ: femora

sublonga apice tumida ; tibiis paullò curvatis. (Corp. long. .75 unc. lat. .175 unc.)

Inhabits Brazil. Mr. Miers has a single specimen taken near Rio.

Family.—RHAGIOMORPHIDÆ.

Genus.—STENODERUS, *Dejean*.

Sten. rectus. Ferrugineus ; oculis, antennis, elytrisque fuscis : elytri singuli marginibus suturali et laterale, quoque lineis 2 parallelis elevatis albidis. *Sten. grammico* simillimus, at lineis elytrorum parallelis haud medio divergentibus, quoque lineâ exteriori breviori, haud longiori, manifestò differt. (Corp. long. .325 unc. lat. .05 unc.)

Inhabits New Holland. A single specimen, taken by Mr. Davis, is in the cabinet of the Entomological Club.

Sten. deustus. Fuscus ; oculis saturationibus : elytri singuli marginibus suturali et laterali, quoque lineis 2 parallelis, elevatis, tertiâque indistinctâ, brevi, humerali, albidis. *Sten. dubio* simillimus, at colore capitis prothoracisque fusco haud ferrugineo, lineâque humerali elytrorum manifestò differt. (Corp. long. .3 lat. .045 unc.)

Inhabits New Holland. There is a single specimen, presented by Mr. Waterhouse, in the cabinet of the Entomological Club.

Genus.—BRACHYTRIA, *Newman*.

Bra. latebrosa. Nigra, lineâ prothoracis medianâ, marginibusque elytrorum lateralibus sanguineis : asperè ac profundè puncta, punctis magnis confluentibus : utriusque elytri lineæ 3 elevatæ, interna et medianao bsoletæ, externa distinctissima : totus insectum pilosum, apicibus elytrorum terè fasciculatis. (Corp. long. .8 lat. .2 unc.)

Inhabits New Holland. Two specimens, sent by Mr. Davis from Kangaroo Island, are in the cabinet of the Entomological Club : one of these wants the red linear mark on the prothorax.

EDWARD NEWMAN.

ART. XIV.—*Notice of the peculiar economy of certain Larvæ, in eating the Egg-shell which previously contained them.* By R. WARRINGTON, Esq.

[I HAVE often remarked the circumstance to which Mr. Warrington alludes, but find it by no means a universal law in the economy of the insect tribes. Many Lepidopterous larvæ, immediately on escaping from the egg, commence feeding on the leaf on which the egg was laid by the parent: others, particularly some species of Bombyces and Arctiæ, make their first meal on the shell of the egg which contained them, precisely in the manner spoken of by Mr. Warrington. This is one of those wonderful provisions for the support and well-being of animals, in the earliest and most helpless stage of their existence, which the study of Natural History is continually displaying, thus forcibly reminding us of the constant care of the Great Creator, even for the apparently most insignificant of his creatures.—E. N.]

Percy Villa, South Lambeth,
March 18th, 1841.

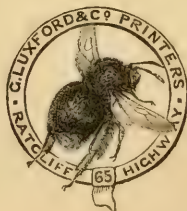
Dear Sir,

In my endeavour to obtain the egg of a Lepidopterous insect in a permanent state as a microscopic object, I was met by two great obstacles, the first arising from the shrinking of the body of the contained caterpillar drawing in the walls of the egg, and thereby destroying its beautiful markings; the second from the fact that if the caterpillar were allowed to break its way through the shell, and remain alive for a few hours, that the whole of the shells had disappeared, and only the glossy circular spots of their attachment to the leaf remaining. On closer observation I found that directly the caterpillar was thoroughly clear from the shell, its first act was to commence its work of feeding on it, until the whole had disappeared. It is my intention to follow these observations more closely the present spring.

Yours obediently,

R. WARRINGTON.

JOHN VAN VOORST,



1, PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. VII.

MAY, MDCCCXLI.

PRICE 6D.

ART. XV. — *Remarks on some North American Lepidoptera.* By
EDWARD DOUBLEDAY, Esq. *Including a Communication from*
T. W. HARRIS, Esq., M.D., of Boston, U.S.

DURING my short stay at Charleston, S. C., in December, 1837, I observed on the numerous trees of *Cupressus Thyoides*, in the squares and gardens of that city, a great many cocoons evidently belonging to one of the Sackträger. These cocoons were fusiform, with an opening at the bottom, and were suspended from the younger branches by a short footstalk. They were composed of strong greyish silk, intermixed with fragments of the branches and leaves of the tree. Within them was a fattish, brown larva, with no prolegs, but with the legs much developed, especially the posterior pair. The head and three thoracic segments were hard, corneous, of rather a deeper brown, with a few short, longitudinal, pale lines down the back. I collected a good many of them there, and afterwards found a few more in East Florida, chiefly on a large species of *Ambrosia*. From some cause, I know not what, all the larvæ chose to die; and as Natty Bumpo says of the *Injuns*, "when they choose to die they will, and you can't help it." I was much grieved at this example of obstinacy, because I knew just exactly what ought to have come out of the cocoons, but did not know exactly what ought to stay in; in other words, I knew the male, for Dr. Bachman had given me one he himself had raised, but did not know the female.

This male, the only specimen of the insect in my possession, is a *Thyridopteryx*, and I think identical with the one described by Mr. Stephens, the *Sphinx Ephemeræformis* of Haworth, though Mr. Stephens thinks otherwise. I was unable, a thing I much regretted, to make any further observations on this interesting insect, but what was wanting to me a more lucky observer has obtained. When in Alabama, Mr. Gosse had a full opportunity of going into the whole of the "crittur's" history, and has a most beautiful set of drawings of it in all its stages, and a world of observations on its habits which he told

to me, but which I don't feel justified in publishing. Why does not he enlighten the world on its history?

“Paulum sepultæ distat inertiae
“Celata virtus.”

What little I did observe confirms Mr. Stephens's opinions as to its place being not amongst the Sphinges, but near to *Psyche* and *Oiketicus*, a fact which will be more apparent by a reference to figs. 9 to 15 of the accompanying plate, which are copied, as I have before said, from a drawing by Abbot in Mr. Raddon's possession.

The larva, fig. 9, closely resembles that of *Thyridopteryx*, in fact its sole difference is in its smaller legs, especially the posterior. In outline the cocoon is the same; it is composed of similar materials, similarly arranged, but has the opening near the top instead of at the bottom. The pupa of the male, fig. 11, of the female, fig. 10; the female itself, fig. 12 (lateral view), and fig. 13 (dorsal view), seem not exactly to resemble those of *Oiketicus*, and as far as memory serves me, resemble those of *Thyridopteryx* as drawn by Mr. Gosse. But the male is a true *Oiketicus*, closely allied to *Oi. Kirbii*, Guild., in fact chiefly differing in size. The colour is dull chocolate, less bright, if Abbot has coloured it correctly, than the brown of *Oi. Kirbii*; on the disk is a darker cloud, and in the place of the usual stigma is a somewhat trilobed whitish spot. On first seeing *Oi. Kirbii* in the Entomological Society's collection, I was almost induced to consider Abbot's insect as identical with it, but smaller and duller from the influence of climate, as is the case with very northern specimens of *Papilio Turnus*, *Colias Philodice* &c. But the larva-case, as figured by Guilding, is so different that there can be no doubt of their specific distinction, independent of any other reasons drawn from the pupa and female. As Abbot sent large remittances of *Lepidoptera* to England, it is probable that specimens of this moth exist in some British cabinets; should this be the case, I should be most grateful for the information through the medium of 'The Entomologist.'

The drawing in the British Museum is marked "*P. B. Paradoxa F. var.*" and has a memorandum upon it, stating that it feeds on the red haw, sassafras, persimmon, and many other plants. "It spins itself a house in which it lives, hanging to the stalk, and feeds by drawing the leaves to it. It fastens pieces of dry stalks on the outside, which it enlarges as it grows bigger. When disturbed it draws the opening close together." One larva is stated to have finally closed the opening on the 16th of June, the moth appeared on the 5th of July: another

which closed its cocoon in the early part of September, appeared on the 27th of April. The larva is said to be frequent; the male is rare and flies with great swiftness. Seldom more than one larva is found on a plant! How is this to be accounted for? All the trees on which I found larvæ of *Thyridopteryx*, had a great quantity of new and old cocoons. Those cocoons which I obtained from off the *Ambrosiæ* in East Florida were mostly solitary; possibly these were Abbot's insect. The cocoons were slightly different, but only from the difference between the stalks of the *Ambrosia* and the young shoots of *Cupressus* intermixed with the silk. I did not pay attention to the opening, as they all seemed closed up finally.

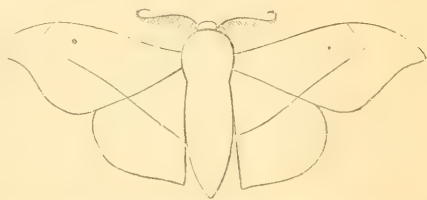
And now it remains for me to speak of a third insect from the United States, which in the larva state makes a house for itself, but which seems to belong to a different group of the *Lepidoptera*.

Of this moth I possess but one specimen, taken in July, 1838, at the Warm Springs, in the lovely valley of the French Broad river, on the western frontier of North Carolina. For the details which follow I am indebted to Dr. Harris, who communicated them to me in a letter bearing date Sept. 26th, 1840.

After some remarks on other *Lepidoptera*, he says —

“Do you recollect the moth you sent me for examination, numbered 266, and respecting which are these remarks in your manuscript? — ‘266 I took in July, at the Warm Springs; it seems allied to *Dryocampa*, but distinct: it will come under no English genus.’ Your specimen is a female; we have a much larger one, a male, in our Society's collection, and Dr. Melsheimer has recently sent me a pair, with the cocoon. The annexed sketch may recal the insect to your recollection; it is from the largest specimen.

“Light reddish ash-colour or pale fawn, finely sprinkled all over with minute black dots, with a larger blackish dot on each fore wing, and a narrow dusky band across both wings, angulated near the margin of the fore wings. Antennæ bipectinated to the tip in both sexes, but much wider in the male, and suddenly tapering and bent towards the tip. Palpi very small, maxillæ obsolete.



“In its form and falcated fore wings it resembles *Bombyx Mori*, but the neuration is somewhat different, and the wings do not seem to be reversed in repose, that is, the front edge of the hind wings does not

seem to be sufficiently prominent to project beyond that of the fore wings when closed. In *Dryocampa* the wings are very distinctly reversed and are very slightly covered with scales, being almost pellucid; in this they are thickly clothed. The socket and bristle are wanting, and the thorax is not crested, which characters remove it from the *Notodontiadae*: hence I concluded it must be an aberrant genus of the *Bombyciadae*. A few days ago one of my pupils brought me a cocoon exactly like that which had been sent me by Dr. Melsheimer, and containing a living caterpillar which used it for a habitation. — This brought to my recollection a remark made by Dr. M. in one of his letters, that he had got what he supposed to be an *Oiketiscus*, and would send me a specimen, but when the insects were sent no name was attached to them, and I did not suspect them to be his *Oiketiscus*. Though not indeed a species of *Oiketiscus*, it is a *Sackträger* as the Germans would call it, for it drags along its bag-like cocoon whenever it moves from place to place. In the margin is a sketch of the cocoon of the natural size, with the caterpillar stretching itself out, as it is wont to do when looking around. The cocoon, for such it really becomes at last, is made of two oval pieces of a leaf very strongly fastened



together at the edges, and forming an oblong, ovate cavity, thickly lined with brown silk, and there is a circular opening at each end just large enough for the caterpillar to crawl out. The head of the caterpillar is black and roughly punctured; on each side of it, just behind the five ocelli, is a slender, flexible, spatulate, black, antenniform process, without joints, and incapable of motion. It has four palpi, two retractile and concealed, and two long ones (maxillary) partly retractile, three-jointed, and always kept in brisk motion when the caterpillar emerges from its case. — The first segment of the body is black and corneous, as are the first three pairs of legs, which are conical and about equal in size. The rest of the body is reddish, the spiracles black. The prolegs, of the full number probably (for I could not see the last pair), are very short, with only the terminal coronet of hooks exerted. The hinder extremity is obliquely truncated,

the truncated portion circular, and forming a flat, drab-coloured plate, which exactly fits and closes the hinder orifice of the cocoon when the larva has retired within it. The caterpillar was found on the oak, the leaves of which it eats. It feeds mostly by night, and moors its

case to the leaf when it wishes to be stationary. When it wants to change its place it comes partly out, cuts off the threads, and then stretching further out, lays hold of the leaf with its true legs, and suddenly shortening its body brings up its cocoon with a jerk: in this way it goes along half an inch at a time. It never voluntarily deserts its cocoon, and all my attempts to make it come out without using violence, were ineffectual. The cocoon sent by Dr. Melsheimer contains the chrysalis and vestiges of the caterpillar's skin, of which only the corneous head and anal plate were entire. The cocoon was closed at each end by little circular pieces, of the colour and thickness of stiff brown paper, one of which had been pushed off when the moth came out, but still hung by a few threads. The chrysalis has, on the middle of the edges of six dorsal segments, a transverse row of little teeth which could be shut into corresponding cavities on the surface of the contiguous segments, forming six sets of nippers, which were evidently intended to help the chrysalis in advancing in its cocoon, and in taking firm hold when engaged in pushing off the lid. The tail is truncated or blunt, with six minute points. The form of this caterpillar and the structure of its cocoon are very different from those of *Oiketicus* and *Psyche*, and the moths, both sexes of which are winged, and differ only in the structure of the antennæ, cannot be referrible to either *Oiketicus* or *Psyche*. I therefore propose to call the genus *Saccophora*, the species *Melsheimeri*.

"Will not this singular and interesting insect remove some of your difficulties respecting the transition from *Psyche* to *Bombyx*? It may be that it is allied to some of the *Notodontiadae*, but I am wanting in several genera, as *Stauropus*, *Chaonia*, *Peridea*, with which to compare it."

Such is the account of this curious moth furnished me by Dr. Harris, and such is his opinion of its position. My own is, that it is near to *Dryocampa*, and that its *Sackträger* habits only indicate an analogy. In their own circle the *Dryocampæ* appear to me to symbolize the true *Oiketici*, as *Oi. Kirbii*, and perhaps Abbot's insect; a fact made evident, I think, by the form of the *male* *Dryocampæ*. The habits of this new insect and its affinity to *Dryocampa*, especially *Dry. rubicunda*, support this supposition. What if we find *Sackträger*s in each natural division of the Linnean *Bombyces*! Three I imagine we have them in already.

EDWARD DOUBLEDAY.

ART. XVI.—*Captures of Moths on the Blossoms of Sallows, in Epping Forest.* By HENRY DOUBLEDAY, Esq.

Epping, March 31st, 1841.

My dear Friend,

I send you a few particulars relative to the capture of immense numbers of moths on the blossoms of the willows; if you like to print them in 'The Entomologist,' they are quite at your service.

About the 15th of March I first went out to the willows which were in flower, to look for moths. My plan for taking them is to hold a net under the willow-branches, and then strike them smartly with a stick, when the Noctuæ fall, and remain motionless in the net, and with a light I select those specimens which I want. The Geometræ are not quite so easily taken, as many of them fly off. At the time above mentioned *Orthosia cruda* and *stabilis*, and *Semiophora Gothica*, were plentiful, and in two or three days they abounded to such a degree, that I had seventy in my net at once from one willow bough. *Orthosia instabilis* now made its appearance in countless numbers; the specimens varying greatly in size and colour. A few specimens of *Orthosia subplumbea* and *sparsa* have also been captured; one of *Orthosia munda*, a small number of *Hadena lithorhiza*, and others which I shall soon enumerate. From capturing such immense quantities I have been enabled to form a pretty correct idea of the relative scarcity of the species in the neighbourhood, as well as the varieties of the respective kinds, and which I will now endeavour to show you.

Semiophora Gothica. Excessively numerous; I believe I have seen at least a thousand specimens in the last two weeks. Very variable in colour; I have one specimen of a brilliant purplish red.

Orthosia stabilis (and var. *pallida*). Equally numerous with the last, and varying in colour from a very pale drab to bright red brown. Very variable in size.

Orthosia instabilis. Extremely abundant at this time (March 31st) and in beautiful condition. Far more variable than either of the above. I have some splendid varieties; one exactly the colour of *Mamestra Pisi*, others almost black. The light varieties are far rarer than the darker ones.

Orthosia cruda. Plentiful, but not nearly so common as the three preceding species, and but slightly variable.

Orthosia subplumbea. This seems a rare species here, I have only captured six specimens, which differ but little from each other.

Orthosia sparsa. This delicately-coloured insect is just appearing : I have only obtained seven, all males. I believe it is far from a numerous species in this vicinity.

Orthosia munda. One male is the only specimen I have captured : it seems very uncommon.

Glea polita, *Vaccinii* and *Satellitica*. These three species have occurred pretty commonly, but of course in faded condition, having lived through the winter.

Glea rubricosa. Of this beautiful insect I have only obtained six specimens ; it seems rare.

Hadena Lithorhiza. A few specimens have occurred.

Hybernia stictaria. Plentiful.

Lampropteryx badiata. Not uncommon. This insect is certainly not double-brooded.

Euthalia miata. Common. This insect appears late in autumn as well as at this time of the year ; but from the freshness of the specimens I think they cannot have hibernated : it is probable some remain in the chrysalis till the spring.

I have now enumerated the principal species of Lepidoptera which I have observed at the salallows within the last fortnight ; should the weather be favourable, I doubt not I shall capture others on the late-flowering species of *Salix*. It is difficult to account for the appearance of some of the species in such immense profusion, except by supposing that they remain more than one winter in the chrysalis ; as last season I scarcely saw a score of specimens altogether, and but very few of the caterpillars of any of the species, though some of them are very plentiful in most years. Many other early Lepidoptera were abundant in February, as *Anisopteryx leucophaea*, *Cheimatobia rupicaprarica*, *Phigalia pilosaria*, *Nyssia hispidaria*, &c.

In consequence of the success attending my visits to the salallows in the forest, I cut some boughs and brought them home, and having stuck them in the hedge of our garden, found that they attracted abundance of Noctua.

Your's very truly,

HENRY DOUBLEDAY.

ART. XVII.—*Scraps from the Note-Book.* By J. W. DOUGLAS, Esq.

CUCUJUS dermestoides. This rare insect was taken under the bark of oak trees at Hainault Forest, last summer, by Mr. Norman and others, on the authority of Mr. Hindley, of the Society of Practical Entomologists.

Tiresias serra. The larvæ of this beetle I have taken this season, and also in former years, under the loose bark of oaks in Richmond Park, always in company with a certain species of spider, with which they seem to live in perfect harmony. Mr. Waterhouse ('Ent. Mag.' ii. 273) believes that these larvæ feed on the web-like case which the spider makes and in which it lives; but I think rather, that they subsist on the wood or bark of the tree, having kept some for some months without any thing else they could possibly eat.

I was much pleased, during the last summer, to see the honey-bee and one or two species of *Bombus* obtain the nectar from the flowers of *Chelonia barbata*, of which many plants were growing in the garden where I witnessed the ingenious performance. The tube of the flower was too long to permit them to reach the nectarium from the top, and the inside was covered with bristles that would have made the passage anything but convenient; so like experienced burglars they went the most effectual way to work, and by biting holes in the corolla, near the bottom, they easily secured the spoil. And it was interesting to see them, in every instance, proceed direct to the aperture, without trying to force a passage down the tube. Does not this look very much like reason — contriving a way to get at the treasure they could not obtain in the ordinary manner, and which they must have *thought* they could thus procure; and then carrying it into effect just at the most appropriate spot? I much wished to see them at the work of breaking in, but though every flower was punctured, I did not succeed. — The same contrivance for obtaining honey from flowers of honey-suckle has been noticed before, but it was not in this instance the less interesting to me; and I mention it here to induce others to observe, being an example how a fact, involving a most interesting speculation as to the mental faculties of some of the lower animals, may be within the notice of almost every one.

In August, 1838, some friends and I, on a hasty tour in Scotland, took the following insects.

Colymbetes subnebulosus. Near Musselburgh.

Carabus glabratus. Moors between Blair Athol and Loch Tay.

Serica brunnea. In many places.

Oiceoptoma thoracica. Ben Lomond.

Argynnis Aglaia. Shores of Loch Katrine.

Hipparchia Blandina. Pass of Killicrankie.

Lasiocampa roboris. Several larvæ were found on the moors near Blair Athol, feeding on *Calluna vulgaris*. I brought them to London and reared from them the perfect insect.

Chareas graminis. On ragwort flowers between Dunkeld and Blair Athol, and also on Ben Lomond, where it was flying in profusion, but with great swiftness.

Agrotis.— This fine moth I took on Cairn Gowr, in Perthshire, at an elevation of 3,000 feet. Although the species of *Agrotis* are subject to great variation, this is decidedly a new one, and is now in the hands of Mr. Stephens, who will give to this “airy something, a local habitation and a name.”

Graphiphora brunnea. Perth.

Plusia circumflexa. A most beautiful specimen was found on the moors near Blair Athol, by one of my friends; and another, but very much faded, I took at Dunkeld.

Xylophasia polyodon. Between Dunkeld and Blair.

Polyphasia amœnata. Blair Athol.

„ *marmorata*. Ditto.

Steganolophia prunata. Dundee.

Cidaria didymata. Birnam Hill.

Aplocera cæsiata. Ditto.

Bryophila perla. Dundee, in great abundance.

There were so many things claiming our attention, that comparatively little time was given to Entomology; but I doubt not that any one paying more attention to it, in the region through which we passed, would find many new and rare things. Very much might also be done if the peasantry and others residing on the spot had a taste for such things; which I hope will be the case, when the advantages of Natural History as a branch of general education shall be appreciated, a subject briefly but powerfully advocated by Mr. Patterson of Belfast, in his late publication on that subject.*

J. W. DOUGLAS.

* Natural History as a Branch of General Education, by Robert Patterson, Belfast: Phillips, Green, Hodgson, and M'Comb. 1840.

ART. XVIII. — *Notice of a Nest of Vespa Britannica.* By GEORGE NEWMAN, Jun.

THE nest in question was suspended from a slender branch of the spruce fir, not more than an inch in circumference. It was nearly spherical, and rather more than twenty-one inches in circumference; the only aperture was at the lowest part, so that the wasps must have flown upwards, in order to enter the nest; the aperture was an inch and a half in diameter, and its edges were ragged and apparently torn.

On making a vertical section of the nest, I found it to consist of an exterior wall or covering, and a number of combs. This wall was composed of fifteen sheets of the thin, dingy-coloured, papery substance which all kinds of wasps employ in the fabrication of their nests. The sheets hung loosely one over the other, each being occasionally joined to the next by some glutinous secretion: the entire wall was rather more than an inch in thickness. The internal cavity was nearly spherical, the upper portion being occupied by a number of small chambers, composed of the same substance as the walls. These chambers were now perfectly empty. Below this were five combs or ranges of cells; each comb was deeply concave above and convex below; the mouths of the cells all opened downwards, and the inferior surface of each comb being from its convexity of considerably greater superficies than the superior surface, each cell was consequently larger at its mouth than at its base. The combs were united together by strong condensed portions of the papery substance attached to the central cells of the underside, and the central portion of the upper surface of each comb: the combs were not attached to the covering or wall of the nest. The first or upper comb contained two hundred and fourteen cells; the second, four hundred and sixteen; the third, three hundred and fifty-three; the fourth, one hundred and fifty-one; the fifth contained no perfect cell, but fifty-eight rudimentary ones, which had never been used for the purposes of the hive; similar to these cells were many others surrounding each of the combs. The average depth of the perfect cells was $\frac{6}{10}$ of an inch, and their diameter at the mouth $\frac{22}{100}$. More than seven-eighths of the cells were empty, but those round the margin of each comb were still closed with highly convex and papery covers, evidently constructed by the perfect insect, and were not anything approaching to a cocoon spun by the larvæ. On removing these covers, each cell was found to contain a male wasp.

GEORGE NEWMAN.

ART. XIX. — *Analytical Notice of the 41st Number of the 'Annals and Magazine of Natural History,' dated April, 1841.* London: Richard and John E. Taylor.

ART. XVI.—*Carabideous Insects collected by Charles Darwin, Esq., during the Voyage of H.M.S. Beagle.* By G. R. WATERHOUSE, Esq.

(Continued from p. 63).

IN this portion of his communication in the April number of the *Annals*, Mr. Waterhouse describes ten new species of *Feronia*, besides noticing several others characterized by previous writers.

1. *Feronia Corinthia*, Dejean, 'Spe. Coleop.' iii. 304. This is the *Molops Corinthia* of Germar, and the *Carabus striatulus* of Fabricius. Several specimens were taken at Maldonado, and two at Monte Video.

2. *Feronia chalcea*, Dejean, iii. 308. Four specimens taken at Maldonado.

3. *Feronia cordicollis*, Dejean, iii. 306. Seven specimens taken at Monte Video.

4. *Feronia Dejeanii*. Black and shining: the prothorax cordate, less convex and less suddenly contracted behind than in *Feronia Corinthia*; it is impressed posteriorly with two large shallow foveæ: the elytra are rather long, nearly parallel, very distinctly striated, and have the interspaces somewhat convex. This species is furnished with wings: it is $7\frac{1}{2}$ lines in length and 2 in breadth. Mr. Darwin found a single specimen at Monte Video. (*Annals*, vii. 121).

5. *Feronia submetallica*. Black, with a nigro-æneous tint on its upper surface: the prothorax is rounded at the sides, and slightly attenuated posteriorly, being scarcely cordate; the posterior foveæ are in the form of longitudinal grooves, which are rather short, deep, and minutely punctured: the elytra are rather widest in the middle, the striæ moderately deep and without punctures, the interspaces being slightly convex. This species is furnished with wings, it is $6\frac{1}{2}$ lines in length and $2\frac{1}{3}$ in breadth. Mr. Darwin brought one specimen from Maldonado and a second from Monte Video. (*Id.* 122.)

6. *Feronia assimilis*, Dejean, Supp. v. 773. One specimen at Monte Video.

7. *Feronia Bonellii*. Black: the prothorax is cordate, narrowed posteriorly, the angles being right angles; the posterior fovea on each side is a long narrow groove, without punctures: the elytra are distinctly striated, the striæ being faintly punctured, especially those nearest the suture and towards the base of the elytra. This species is

indicated by Mr. Waterhouse as belonging to that portion of *Feronia* to which the name of *Pterostichus* has been assigned: it is apterous, and measures $5\frac{1}{2}$ lines in length and nearly 2 in breadth. Mr. Darwin brought specimens from Ynche Island, Valdivia and East Chilöe. (Id. 123).

8. *Feronia ærea*, Dejean, iii. 279; synonymous with *Osmaseus marginalis* of Curtis, Linn. Trans. xviii. 191. Five specimens from Valparaiso.

9. *Feronia Nebrioides*, the *Osmaseus Nebrioides*, Curtis, Lin. Trans. xviii. 191. Two specimens from East Chilöe, one from Valparaiso, and a fourth from Concepcion.

10. *Feronia lucida*, the *Pterostichus lucidus*, Curtis, Lin. Trans. xviii. 192.

11. *Feronia meticulosa*, Dejean, Supp. v. 762. Mr. Darwin brought three specimens of this insect from Valparaiso. (Id. 124).

12. *Feronia marginata*. Black or piceous, with the antennæ and feet rufo-piceous: the prothorax is subquadrate, and rather broader before than behind, and has all the angles rounded: the posterior foveæ are indistinct: the elytra are but little wider than the prothorax, and striated; the sutural stria is quite distinct, the following four are scarcely so, the third has a basal and median impressed point, the lateral margins have three distinct striæ. Mr. Waterhouse places this insect in the section that has been called *Steropus*: it is $3\frac{3}{4}$ lines in length and $1\frac{1}{2}$ in breadth. Mr. Darwin brought many specimens from Valparaiso and Concepcion. (Id. 124).

13. *Feronia Peruviana*, Dejean, iii. 233.

14. *Feronia Chaudoirii*, Guérin.

15. *Feronia Guérinii*. Black, shining: prothorax subquadrate, with the posterior foveæ in the form of narrow grooves, the space between them being punctured: the elytra are striate, and the striæ indistinctly punctured: the three basal joints of the antennæ are nearly black in the middle, with the extremities red. Mr. Waterhouse considers this species as belonging to the division *Pœcillus*: it is 5 lines in length and 2 in breadth. Mr. Darwin found a specimen of this insect at sea, 60 miles from Rio de la Plata. (Id. 125).

16. *Feronia depressa*. Black, cupreous or æneo-cupreous above: prothorax nearly square, somewhat contracted anteriorly: all the angles rather obtuse: the posterior foveæ long, impunctate, groove-like, situate midway between the dorsal channel and the outer margin: the antennæ are rather short and stout, with the three basal joints testaceous. This is also a *Pœcillus*: it is $5\frac{1}{4}$ to $5\frac{3}{4}$ lines in length and $1\frac{3}{4}$

to 2 lines in breadth. Mr. Darwin took three specimens at Monte Video. (Id. 126).

17. *Feronia Patagonica*. Black, the underside inclining more or less to pitchy red: this little insect Mr. Waterhouse thinks may probably be the *Feronia oblita* or *Fer. Bonariensis* of Dejean: the prothorax is subquadrate, rather narrower posteriorly, without punctures and having the foveæ groove-like: the elytra are considerably broader than the prothorax, and striate, the striæ being impunctate. This is an Argutor of our British arrangements: it is $3\frac{1}{4}$ lines in length and $1\frac{1}{4}$ in breadth. There are specimens from Maldonado, Monte Video, Santa Fé &c.; all, with the exception of one from Monte Video, are furnished with wings. (Id. 126).

18. *Feronia Brulléi*. Pitchy black, the suture and outer margins of the elytra inclining to pitchy red: the prothorax is subquadrate, narrower posteriorly; the posterior foveæ are long, narrow grooves, extending to the posterior margin: the elytra are considerably broader than the prothorax, and deeply puncto-striated. This species is also an Argutor, and is furnished with wings; it is $3\frac{3}{4}$ lines in length and $1\frac{1}{3}$ in breadth. A single specimen was brought from Santa Fé. (Id. 127).

19. *Feronia Audouini*. Black: the prothorax is subquadrate and without punctures, broader than long, the angles being slightly rounded: the posterior foveæ are long, narrow grooves, extending to the posterior margin, and are connected by a transverse groove; the elytra are striated, but the striæ are impunctate. This species (also an Argutor) is furnished with wings; it is 4 lines long and $1\frac{1}{2}$ broad.—Mr. Darwin brought it from Santa Fé. (Id. 128).

20. *Feronia apicalis*. Black, with a distinct pitchy red patch at the tip of the elytra, which are striated, the striæ near the suture being deeper, the lateral one faint, and all without punctures: the prothorax is subquadrate, rather narrower posteriorly, and without punctures.—This species (also an Argutor) is furnished with wings, and is $4\frac{1}{2}$ lines in length and $1\frac{2}{3}$ in width: it is from Maldonado. (Id. 128).

21. *Feronia (Argutor) Chilensis*, Dejean, iii. 251. Of this species Mr. Darwin brought two specimens from Valparaiso, and one from South Chilöe.

EDWARD NEWMAN.

ART. XX.—*Entomological Notes.* By EDWARD NEWMAN.

(Continued from page 95.)

Family.—PHORACANTHIDÆ.

Genus.—ELAPHIDION, *Serville*.

Elaph. conspersum. Fuscum, lanugine cinereâ maculatim irroratum: antennæ corpore breviores, articulis 3—9 apice 2-spinosis: elytra truncata, utroque angulo spinâ acutâ armato. (Corp. long. 1 unc. lat. .3 unc.)

Inhabits the islands of Hayti and Tortola. There is a single specimen, captured in Hayti and presented by Mr. Hearne, in the cabinet of the Zoological Society, and two from Tortola in that of Mr. Waterhouse. This species closely resembles *Elaph. spinicorne*, with which I think it may have been confounded: the prothorax is convex, and covered with a pilosity of a yellowish grey colour, with a longitudinal, dorsal, glabrous line, on each side of which is a round glabrous spot, rather nearer the anterior than posterior margin: the pilosity on the elytra is collected into numerous, distinct, roundish spots, the surface unoccupied by these spots having scattered hairs of the same colour, and tolerably large but not deep punctures distributed over their entire surface, those however towards the apex being less distinct: the apices of the elytra are truncate, each of the angles being furnished with a distinct spine, of which the exterior is the larger: the apices of the meso- and metafemora are furnished with a spine, which in the Hayti specimen is very distinct. This species will occupy a place between *Marylandicum* and *spinicorne*.

Elaph. fullonium. Testaceum, caput cano-lanuginosum, oculis fuscis; antennæ pallidè testaceæ, corpore vix breviores, articulis 3—8 apice 1-spinosis: prothorax convexus, fuscus, cano-lanuginosus, lineâ medianâ maculisque nonnullis glaberrimis: elytra pallidè testacea, lanugine canâ lætè variata, paululùm divaricata, apicibus obliquè truncatis, angulis externis 1-spinosis: pedes longiores, femoribus apice inarmatis. (Corp. long. .7 unc. lat. .2 unc.)

Inhabits the island of Hayti. There is a single specimen in the cabinet of the Zoological Society, captured and presented by Mr. Hearne. There is no other species with which the present insect can be confounded; I should place it between *spinicorne* and *bidens*.

Elaph. cerussatum. Nigricans : antennæ corpore breviores, articulis 3—7 apice 1-spinosis : prothorax asperè punctus, spatio mediano glabro, niger, maculis nonnullis, lateralibus, difformibus, lanuginosis, albis : scutellum lanuginosum, album : elytra profundè ac asperè puncta, punctis apicem versus magnitudine decrescentibus, nigricantia, utriusque maculis 3 (medianâ sesquialterâ) lanuginoso-albidis, apicibus truncatis angulis spinosis : pedes et abdomen fusco-picea, lanugine cinereâ obsita. (Corp. long. .8 unc. lat. .2125 unc.)

Inhabits South America. A single specimen in the cabinet of Mr. Miers was taken at Buenos Ayres. The conspicuous, round, white spots on the nearly black elytra, sufficiently distinguish this species from any previously described.

Elaph. exornatum. Fuscum : antennæ corpore breviores, articulis haud canaliculatis, 3—5 apice 1-spinosis, spinâ 1mâ elongatâ, paullò recurvâ ; caput asperè punctum : prothorax ferè cylindraceus, capitem versus paullò constrictus, punctus, spatio elongato mediano glabro, punctis magnis, profundis, nonnunquam confluentibus, lanugine cinereâ obsitus : elytra puncta, punctis basi magnis, profundis, ferè confluentibus, apicem versus minutissimis ; nigra, basi badia, fasciâ undatâ paullò pone medium apicibusque albidis : elytrorum apicibus ferè rotundatis, nullo modo armatis : femora haud elongata vix tumida. (Corp. long. .55 unc. lat. .1125 unc.)

Inhabits South America. A single specimen in the cabinet of Mr. Miers was taken near Buenos Ayres. It is a beautiful species, and very aberrant in its appearance.

Elaph. maurum. Obesum, nigrum, magnum, punctum : antennæ corpore valdè breviores, articulis haud canaliculatis, 3—5 apice 1-spinosis ; caput rugosum : prothorax valdè rugosus, dorso maculis 3 indistinctis glabris signatus, lateribus dente parvo acuto mediano armatus : scutellum parvum glabrum : elytra asperè puncta, punctis basin versus magnis, profundis, confluentibus, apicem versus valdè minoribus, dorso convexa, apicem versus rotundata, paullò angustata, apice truncata, utroque angulo dente minuto acuto armato : pedes picei, aureo-hirti, femoribus apice nullo modo armatis. (Corp. long. 1.5 unc. lat. .45 unc.)

Inhabits South America. A single specimen in the cabinet of Mr.

Miers, was taken by that gentleman near Rio. It is another aberrant form of the genus, distinguished by its dentate prothorax.

Elaph. amabile. Nigrum, pilis canis obsitum, prothorace femoribusque rubris; antennæ corpore paullò breviores, articulis 3—7 apice 1-spinosis: elytra suturâ depressa, apice obliquè truncata, angulis 1-spinosis. (Corp. long. .55 unc. lat. .125 unc.)

Inhabits Mexico. There is a single specimen in the cabinet of Mr. Waterhouse. The species *deflendum*, *sobrium* and *amabile* form a very distinct division of the genus.

Genus.—NEPHALIUS, *Newman.*

Neph. blandus. Caput rufum; antennæ corpore manifestò longiores, articulis canaliculatis, angulatis, 3—6 apice 1-spinosis, imò rufo, cæteris nigricantibus, lanuginosis: prothorax dorso inæqualis, asperè punctus, lateribus dente mediano magno armatus; rufus: elytra puncta, punctis mediocribus, æqualibus, nullo modo ordinatim dispositis, apice vix truncata, angulo externo acutè 1-spinoso; rufa, utriusque maculâ magnâ discoidali ante medium albidâ nigro circumdatâ; maculæ marginem vix lateralem, nullo modo suturalem, attingunt: pedes mediocres, femoribus vix incrassatis, apice nullo modo armatis, rufis, tibiis tarsisque nigris. (Corp. long. 1 unc. lat. .225 unc.)

Inhabits Brazil. There is a single specimen in the cabinet of the British Museum. This beautiful insect, like those previously described of the proposed genus *Nephalius*, will not range with *Trichophorus* on account of its differently formed prothorax, and its spinose antennæ distinguish it from *Eburia*, to which genus its general structure and ivory coloured spots indicate an affinity.

EDWARD NEWMAN.

JOHN VAN VOORST,



1, PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. VIII.

JUNE, MDCCCLXI.

PRICE 6D.

ART. XXI. — *Analytical Notice of the 1st Number of 'Arcana Entomologica, or Illustrations of New, Rare, and Interesting Exotic Insects.'* By J. O. WESTWOOD, ESQ., F.L.S., Sec. of the Entomological Society, etc. etc. *Published May 1st, 1841.* London: William Smith, 113, Fleet Street.

I BEG to introduce to the notice of entomologists, a new entomological periodical containing sixteen pages of letter-press, and embellished with four coloured plates.

The first plate represents four Asiatic cornuted species of Cetoniidæ, and the accompanying paper gives a sketch of the previous labours of entomologists on these highly interesting insects. Figs. 1 and 2 of this plate represent the *Mycteristes Phaedimus Cumingii* of Waterhouse, whose previously unpublished description Mr. Westwood has given at length: the colour is resplendent green, the elytra, legs, and somewhat pubescent under surface being tinged with yellow; the head is produced into an upright horn, broad at the apex and slightly notched, and having besides an obtuse tubercle in front; the prothorax is convex, rather narrowed behind, and produced anteriorly into a strong horn, which is bent over the head and notched at the extremity; the elytra are rather longer than wide, and somewhat narrowed posteriorly; the legs are long and strong, the tibiæ are furnished with a brush of hair, but have no external denticulations, the claws are very large: the length of the male is $12\frac{1}{2}$ lines, the female is less and without the horns. A male and female, brought by Mr. Cuming from the Philippine Islands, are unique in the cabinet of the British Museum. ('Arcana Entomologica,' i. 5. Tab. i. fig. 1 ♂, 2 ♀).

Figure 3 represents the *Goliathus rhinophyllus* of Wiedemann, an insect of great rarity found in the interior of Java. It is previously figured in Gory and Percheron's 'Monographie des Cétoines,' tab. 62 fig. 5. Mr. Westwood's drawing is from a specimen in the collection of the Rev. F. W. Hope. (Id. i. 2, tab. i. fig. 3 ♂).

Figure 4 represents *Dicranocephalus Wallichii* of Hope, described in Gray's 'Zoological Miscellany,' p. 24. This insect is also previ-

ously figured in Gory and Percheron's Monograph, tab. 26, fig. 1. Mr. Westwood's drawing is from a specimen in the cabinet of the British Museum. (Id. i. 5, tab. i. fig. 4, ♂.)

The author also gives an outline of *Narycius opalus* of Dupont, a species from Madras of which no specimen exists in this country. It has been previously figured in Guérin's 'Magasin de Zool.' pl. 128. (Id. i. 5, tab. i. fig. 5, ♂.)

The paper concludes with a synoptical table of MacLeay's peculiar views of the arrangement of the Cetoniites, as divulged in Dr. Smith's work on African Zoology.

The second plate represents four species of the singular Hemipterous genus *Phyllomorpha*. Fig. 1 is *Phyllomorpha paradoxa*, the *Cimex paradoxus* of Sparmann, an inhabitant of Africa, in the vicinity of Cape Town, and now in the cabinet of the British Museum. (Id. i. 7, tab. ii. fig. 1).

Figure 2 represents *Phyllomorpha Capicola* of Westwood, the *Phyl. paradoxa* of Guérin, 'Revue Zool.' 1839, p. 232. It is an inhabitant of the vicinity of Cape Town: there are specimens in the cabinets of Messrs. Hope and Westwood. (Id. i. 8, tab. ii. fig. 2).

Figure 3 is the *Phyllomorpha Latreillii*, of Guérin, the *Coreus Syromastes phyllomorphus* of Latreille, 'Règne Animal,' iii. 438, tab. 19, fig. 3. It inhabits Senegal, and there are specimens in Mr. Westwood's cabinet. (Id. i. 8, tab. ii. fig. 3).

Figure 4 represents *Phyllomorpha Persica*, Westwood, a species now first described. It is of a pale whitish colour, covered with long spines; the lobes of the body are conical and obtuse; the third joint of the antennæ is almost twice as long as the second; its length is 5 lines. It inhabits Persia, and there is a single specimen in Mr. Westwood's cabinet. (Id. i. 8, tab. ii. fig. 4).

The author notices but does not describe four other species.

In plate III. Mr. Westwood has figured the larva, pupa, and imago of *Papilio Hector*, from the drawings of General Hardwicke.

Plate IV. represents two Orthopterous insects, closely allied to *Truxalis*, and forming the new genus *Systella* of Westwood. The head is produced in front of the eyes, the face is very oblique and not carinated; the antennæ differ in the sexes, those of the male being composed of 15 joints, which from the 5th gradually taper to the apex; those of the female are 14-jointed, much shorter and stouter in proportion, more especially at the 4th or 5th joint; the fore and middle legs are short, the hind legs longer and formed for leaping; the fore wings are large and leaf-like, elevated horizontally above the

back and notched at the apex. The species are 1. *Systella Rafflesi*, which is of a yellowish green colour, the fore wings being green, and marked with a large ocellus in the costal area; the expansion of the wings is $34\frac{1}{2}$ lines. A single specimen (probably from Sumatra) is in the cabinet of the Zoological Society, presented by Sir Stamford Raffles; a second, destined for the British Museum, was collected by Mr. Cuming in the Philippine Islands. (Id. i. 12, tab. iv. figs. 1 and 2).

The second species, *Systella Hopei* of Westwood, is brown, the fore wings being variegated with brown, yellow and whitish, and narrower than in the preceding species; the notch at the apex is not conspicuous; the expansion of the fore wings is 35 lines. This species is Chinese, and unique in the cabinet of the Rev. F. W. Hope. (Id. i. 12, tab. iv. fig. 3).

The remainder of the number is occupied by entomological chit-chat. The removal of Mr. Samouelle from the British Museum: the projected Encyclopædia of generic names: Mr. Paterson's pamphlet on Natural History as a branch of education: Mr. Cuming's Philippine Island insects: the Entomological Society of London: and Dr. Royle's hypothesis that silk is a modification of caoutchouc.

EDWARD NEWMAN.

ART. XXII.—On the AULACIDÆ, a family of *Hymenoptera pupivora*; and that *Trigonalys* is one of its components: with the description of a British species of this genus, and incidental remarks upon their collateral affinities. By W. E. SHUCKARD, Lib. R.S.

MY Dear Sir,

Chelsea, May 6, 1841.

It affords me much pleasure that my first contribution to the 'Entomologist,' is for the purpose of introducing to your readers a new native insect that must greatly interest British entomologists, belonging as it does to a genus, the affinities of which seem to have perplexed, without any reason, an English entomologist of some repute, and of which genus this specimen is the first recorded European representative. I shall make no apology for not limiting myself to a bare indication of the genus and a description of the species, but if you can spare me room, I will add descriptions of some new species of the typical genus, and a new North American genus closely proximate to *Trigonalys*; with remarks upon the affinities of *Megalyra*.

When Mr. Westwood described the genus *Trigonalys*, he made the following observations upon it. "Genus anomalum familiæ dubiæ.

Caput et antennæ Lydæ, abdomen Mutillæ. Alarum nervi ut in Myrmosa dispositi.”* He here, however, assigns no situation to it; and in 1840, in his ‘Introduction to the Modern Classification of Insects,’ he says, towards the end of his remarks on the Mutillidæ,† “I may here mention another anomalous genus, which I have described under the name of Trigonalys, having somewhat of the aspect of a male Mutilla, but with the head flattened and the antennæ longer, very slender at the tips, and composed of twenty-three or twenty-four joints, very like those of Lyda; the legs are simple, and the abdomen punctured. The veins of the wings are nearly as in Myrmosa and Mutilla Europæa, mas. The type, *T. melanoleuca*, is from the Brazils.”

Mr. Westwood should not have been long in doubt as to the affinities of the genus in question, as the antennæ, in the first place, ought to have told him that its position could not be near Mutilla and Myrmosa, for although the aculeated Hymenoptera have sometimes apparently fewer than the normal number of joints, that is, twelve in the female and thirteen in the male, no instance is yet known, I believe, of their *exceeding* that number. Presenting thus, therefore, at once, this almost insuperable objection to the situation he assigned it, he might have looked further into its structure, and he would then have found that the trochanters are two-jointed,—a peculiarity not yet known to occur in the aculeated Hymenoptera, and presenting itself exclusively in Latreille’s Pupivora. And here, a moment’s reflection would have told him sufficiently, that the only genus yet described in this division with two recurrent nervures and a closed first submarginal cell, is Aulacus; and having arrived here, other very proximate affinities must have immediately exhibited themselves, namely, in the form of the head, and its attachment by a neck to the prothorax, the insertion of the antennæ, and the structure of the mandibles and palpi. All this is still further confirmed by the insertion of the abdomen in the new genus I shall describe below, which, although not placed upon so long a projection of the metathorax as in Aulacus, the projection is still longer than the posterior coxæ. I therefore, without any hesitation, place it next to it, and conjunctively form of them a family, the designation of which I derive from the genus first described, although perhaps it is not normally its type; this however is in strict adherence to the law of priority. That Aulacus should be removed from the Evaniadæ, there can be no doubt; for the insertion of the

* Proceedings of the Zoological Society. April, 14, 1835, No. 28, p. 53.

† Introd. to Mod. Class. Vol. ii. p. 215.

abdomen in the latter is so very different, besides their having but one recurrent nervure, their differently formed head, mandibles, and palpi &c. present characters which it would be incongruous to associate together, and I presume Latreille united them because he knew but the single genus *Aulacus*, in which, it is true, some points of structure apparently agreed, but wherein there were certainly more, and more peculiar ones, that disagreed; but I expect he was unwilling to construct a family of a single genus.

Having thus given my reasons for what I am about to do, I will proceed to the matter in hand, namely, in the first place, to some collateral affinities.

Family. — EVANIADÆ, as restricted by Shuckard.

Abdomen usually inserted closely to the scutellum and compressed, and springing abruptly from the surface of the metathorax. Superior wings with either a closed first submarginal cell, which receives the single recurrent nervure, or without any, but some of the ordinary basal nervures.

Superior wings with

a complete marginal and submarginal cell :

abdomen attached by means of an abrupt petiole. 1. EVANIA.

abdomen increasing gradually from its insertion. 4. FÆNUS.

neither marginal nor submarginal cells :

basal cells completely enclosed.....2. BRACHYGASTER.

basal cells unenclosed.....3. HYPTIAM.

The preceding genera constitute, according to my views, all that truly pertain, as far as I know the Hymenoptera, to the Evaniadæ, which, from the mode of attachment of the abdomen, forms so peculiar and insulated a group in the Hymenoptera.

The careful investigation of affinities, in obscure groups, being a subject always replete with interest, and the most instructive perhaps in the study of the natural sciences, as it necessarily involves an intimate and comprehensive knowledge of structure; I shall make no apology for incidentally introducing here my views as to the true position of Mr. Westwood's genus, *Megalyra*, included by that Entomologist, together with *Aulacus* and *Pelecinus*, in the family Evaniadæ, but from which it is as distinct, and especially from the latter, as are *Stephanus* and *Paxylomma*.

We invariably see that where nature leaves one normal type of form to assume another distinct one, in her struggle to divest herself of the old relations, new, abnormal, and insulated forms are generated, and

these we usually find extremely limited in the number of species; for being but a transitory passage from one group to another, we may assume that in the route she has not had leisure to look around her, and create connate creatures, but has hurried on, to speak metaphorically, until, having again settled in a new domicile, we find radiating from this centre, and variously ramifying from the several branches, a host of allied forms, all participating in some predominant characteristic with the radical type. At first the progress is gradual, but having reached the extreme verge of the quitted group, and proximate to the renewed-transformation the throes are convulsive, and the structure becomes most eccentric, exhibiting frequently affinities to several points. The present group admirably illustrates these opinions. Thus in the transition from the Tenthredinidæ to the Ichneumonidæ, we find the progress at first gradual, by means of the remarkable genus *Xyela*, if this be its true place, although it has, in so many respects, an intimate affinity with the former family, yet fewer with the subsequent *Cephus*; and here the first jump is made to *Sirex*, which by means of *Xyphidria* is connected with *Oryssus*, but from each of these steps however there is a leap. Having arrived at the limit of the group in *Oryssus*, the contortion is very violent, for in this eccentric genus, with all its anomalies of structure in the antennæ and anterior tarsi of the female, differing from everything else and peculiar to itself, we find conjunctively a triple series of affinities, namely, one in a divergent course by means of its ovipositor to *Cynips*, and two in a regular line, forming the connection, through *Megalyra*, between the Tenthredinidæ and Ichneumonidæ: and that this, in a family by itself, is the true position of the genus *Megalyra*, the following brief summary of connecting resemblances will sufficiently show. In the first place, the neururation of the superior wings in *Oryssus* and *Megalyra* is very nearly identical; in the next place, in both genera we find a channel for the reception of the scape of the antennæ running obliquely downwards from their insertion, past the base of the mandibles, and which occurs nowhere proximately on the Ichneumon side of affinities; the specific character of a fascia across the superior wings, is also subsidiary to their corroboration: and then, the greatest transition having to be made from a cylindrical sessile abdomen to a petiolated one, what could we find so aptly executing this as in *Megalyra*, where we observe an elongated metathorax embracing the base of the abdomen, which is also cylindrical, a form nowhere found amongst the normal Ichneumons, and the ventral plates likewise are of a firmer consistence than in these, thus resembling those of the cognate Aulacidæ,

possession, of two of the genera of Evaniadæ, and shall then go on with the Aulacidæ.

Section I. Petiole of abdomen abrupt, and inserted at the superior extremity of metathorax; claws with a tooth beneath.

Genus 1.—EVANIA, *Fab.*

Type. *Sphex appendigaster*, Linn. Many species known.

Genus 2. — BRACHYGASTER, *Leach.*

Type. *Evania minuta*, Oliv.

As a brief generic characteristic in addition to that contained in the table above, and which the accompanying wood-cut illustrates, it may be observed that the face is more prone than in the following genus, the metathorax less gibbous, and the antennæ filiform.



1. *Br. minuta.*

Evania minuta, Oliv. 'Ency. Méthod.' vi. 453.

Inhabits Northern Europe. There are English specimens in my own collection.

2. *Br. Xanthops.* Nigra: facie, genis, antennarum articulo primo subtùs, pedibusque quatuor anticis flavis. Mas. Long. $2\frac{1}{2}$ lin. Inhabits Brazil. In my own collection.

Genus 3.—HYPTIAM, *Illiger.*

Type. *Evania petiolata*, Fabr.

The annexed wood-cut shows the character mentioned in the table, to which may be added that the antennæ are slightly subclavate, head vertical, and metathorax disproportionately large and very abruptly truncated. The chief sexual distinction appears to be a slight difference in the length of the scape of the antennæ, and their being rather more clavate in the female.



1. *Hyp. petiolatum*, Illig. in Rossi 'Fauna Etrusca' ii. 82, 8vo. *Evania petiolata*, Fab. 'Sup. Ent. Syst.' 242.

2. *Hyp. thoracicum.* Atrum: thorace rufo, varioloso. Mas. Long. $2\frac{1}{4}$ lin.

Inhabits North Carolina. In my own collection.

Var. thorace dorso tantùm rufo. Mas. Long. $2\frac{1}{2}$ lin.

Inhabits North Carolina. In the cabinet of the Entomological Club.

3. *Hyp. ruficeps*. Nigrum: capite, antennarum scapo, prothorace subtùs, pedibusque quatuor anticis rufis: metathorace posteriore densè sericato. Mas et Fem. Long. $2\frac{1}{4}$ lin.

Inhabits Brazil. In my own collection.

I am acquainted with other species.

Section II. Abdomen originating gradually from metathorax, and inserted closely beneath the postdorsolum: claws simple.

Genus 4.—FÆNUS, *Fabr.*

Type. *Ichneumon jaculator*, Linn.

I have several species of this genus, but there is not room to describe them at present here.

Family.—AULACIDÆ, *Shuckard.*

Head usually large and subglobose or flattened above, and attached to the prothorax by a distinct neck. Antennæ elongate, usually slender and tapering to the extremity, inserted above the clypeus near the middle of the face, and 14- or 24-jointed. Mandibles robust, with three regular teeth, the external one the largest and the most acute. Max. palpi with 6 and lab. palpi with 4 joints, the terminal ones of the former slender, and of the latter subsecuriform. Superior wings with three or four submarginal cells and two recurrent nervures. Abdomen attached to the metathorax by an elongation of the latter, always projecting beyond the posterior coxæ, the former either elliptical or subfusiform, slightly clavate. Four posterior tibiæ with two calcaria at the extremity of each, and tarsal claws small, and either serrated or bifid.

Superior wings with

Four submarginal cells and claws bifid;

Ventral segments plane1. TRIGONALYS.

Second ventral segment produced posteriorly beneath2. LYCOGASTER.

Three submarginal cells and claws serrated3. AULACUS.

Genus 1.—TRIGONALYS, *Westw.*

Type. *Trig. Melanoleuca*, Westw.

In addition to the brief generic character given by Mr. Westwood,



I may add that in the type the second submarginal cell is sometimes petiolated, and that the first submarginal cell receives the first recurrent and the third the second. In the English species described beneath, these nervures inosculate with the transverse ones which separate the first from the second and the third from the fourth cells, and in the British species also the antennæ are inserted on the external side of two small central facial processes. To exhibit the most striking differences between this and the next genus, the woodcut to each shows the anterior wing and the profile of the abdomen.

1. *Trig. melanoleuca*, Westwood, 'Proceed. Zool. Soc.' April 14, 1835, No. 28, p. 53. Long. $4\frac{1}{4}$ lin. Alar. Exp. $8\frac{1}{2}$ lin.

Inhabits Brazil. In my own and the Brit. Mus. collections.

2. *Trig. Anglicana*. Atrâ, nitidâ: thorace punctulato: alis hyalinis, fasciâ subapicali brunneâ. Long. 4. lin. Alar. exp. 8 lin.

Inhabits the west of England. There is a specimen in my own collection. Entirely of a deep black, brilliantly glossy on the head and abdomen. Antennæ inserted on the external side of a couple of small flat facial processes. Thorax densely punctulate, making it subopaque; metathorax rugose, with a central longitudinal carina and two lateral, curving and divergent. Wings hyaline, with a dark cloud covering the basal half of the marginal cell and the apical half of the first and the entire second and third submarginal cells.

This species, which is the first European representative of the genus to which it belongs, and also the first recorded British specimen of the family to which I assign it, was taken either at Bristol or Swansea, as I am informed by Mr. Thwaites, by the late Mr. Millard, in whose collection it was purchased by Mr. Walton, who, with his accustomed liberality, knowing the interest I take in the order, kindly presented it to me. It may or may not have been imported with plants from America, but until the identical species be known as a native of that continent, I cannot see any reason to doubt the possibility of this being indigenous with us, particularly as the West of England abounds in many extraordinary Hymenoptera. The antennæ in this insect are mutilated; on the longest side only fourteen joints are left, but they hence even appear not to have that gradual inflation in the middle found in the type, and even more conspicuously in the next genus.

Genus 2.—LYCOGASTER, *Shuckard*.Type. *Lyc. pullatus*, Shk.

Head large, square above and somewhat flattened; eyes lateral, prominent, ovate, ocelli placed in an obtuse triangle. Antennæ inserted near the middle of the face, setaceous, gradually tapering to the slender extremity, with twenty-four joints, the scape the most robust, the second small, the third rather longer than the scape, the remainder gradually decreasing in length. Clypeus slightly emarginate. Mandibles tridentate, the teeth subequal, the external being the largest. Max. palpi filiform, longer than the labial, 6-jointed, the three first rather robust, the second longer than the preceding, the third subobconic, short, the following slender and subequal, the fourth the longest and as long as the second. Labial palpi with the first joint short, the second the longest, subobconic, the third and fourth subsecuriform. Head attached by a short neck to the prothorax. The thorax oval, prothorax short, but embracing it laterally as far as the insertion of the superior wings; mesothorax with three longitudinal furrows, the external ones slightly curving; scutellum broad, quadrate, divided by a channel in the centre; metathorax rounded, obtuse, with a slight furrow down the middle. Superior wings with one marginal and four submarginal cells, the first and fourth largest, the latter extending to the apex, the second triangular, the transverse separating nervure curving into the first, the second receives the first recurrent at its commencement, the third cell nearly square, and receiving the second recurrent in its centre. Legs slender; two calcaria to the four posterior tibiæ: tarsi having their terminal claws bifid. Abdomen inserted upon a projection of the metathorax, extending beyond the posterior coxæ, elliptical, much narrowed at both extremities, with seven apparent segments, and curving downwards from its third; the first short and small, the second very large, broad and subdepressed above, but the ventral portion projecting backwards in a spine, the remainder decreasing in length and width, the terminal one with two acute longitudinal carinæ, between which there is a deep channel, and recurving to meet the ventral projection of the second. Ovipositor not exposed. The cut exhibits the abdomen in profile.

This genus is named from *λυκος* a hook, and *γαστήρ* the belly, in allusion to the projection of the second ventral segment. It is to be observed that the projection of the metathorax upon which the abdomen is inserted, is greater here than in the preceding genus, whence the affinity with *Aulacus* is closer.

Lycog. pullatus. Atra, subnitida, subpunctulata: alis hyalinis, nebulâ subapicali signatis: tibiis externé plantisque basi et abdominis segmentis 2—4 maculâ lateralitèr albidis. Long. $4\frac{3}{4}$ lin. Expans. al. 9 lin.

Inhabits North Carolina. I am indebted for a specimen of this interesting insect to the kindness of E. Doubleday, Esq. who captured it. In addition to the above description it may be observed that the upper part of the head, the face, the scutellum and the abdomen slightly shine, that the metathorax is rugose, and that of the lateral white spots upon the abdomen, the first is the largest.

Genus 3.—AULACUS, Jurine.

Type. *Aulacus striatus*, Jurine.

In addition to the generic characters already given by Jurine, Latreille (Genera, tom. iv. pp. 385, 6) and St. Fargeau (Ency. Met. tom. x. p. 30), I may observe that the posterior coxæ have always an acute tooth within, and that the tarsal claws are serrated.

Sect. 1. The first and second cells receiving each a recurrent nervure.

1. *Aul. striatus*, Jurine, 'Hymenop.' p. 90, pl. 7, gen. 3.
Long. $3\frac{1}{4}$ lin. Inhabits Switzerland.
2. *Aul. Patrati*, Serville, 'Ann. Soc. Ent. de France,' t. 7. vii. 413.
Long. 5 lin. Inhabits Touraine, South of France.
3. *Aul. fasciatus*, Say, 'Contrib. Macl. Inst.' vol. i. p. 67.
Long. 6 lin. Inhabits Ohio, N. America.
4. *Aul. Latreilleanus*, Nees von Esenbeck, 'Monog. Evania.' 304.
Long. $5\frac{1}{4}$ lin. Inhabits central Germany.
5. *Aul. flagellatus*, Dahl. Nees, ib. p. 305.
Long. $5\frac{1}{4}$ lin. Inhabits Austria.
6. *Aul. niger*. Totus niger: alis hyalinis, maculâ ad stigma et nebulâ apicali brunneis. Corp. long. $7\frac{1}{2}$ lin. Exp. alar. 12 lin.
Var. Segmento primo rufo, basi tantùm nigro.
Inhabits North America. My own collection.
7. *Aul. signatus*. Niger: scapo antennarum pedibusque 4 anticis rufo-testaceis: alis hyalinis, maculâ ad stigma brunneâ. Long. $5\frac{1}{2}$ lin. Exp. alar. $9\frac{1}{2}$ lin.

Inhabits Ceylon. My own collection.

8. *Aul. lateritius*. Lateritius: abdominis et alarum basi, antennarum apice nigris, articulisque 7 et 8 flavo-albidis. Long. $8\frac{1}{2}$ lin. Exp. alar. 16 lin.

Inhabits New Holland. A specimen from Sydney is in my own collection. Besides the above character this fine insect has a small brown spot at the apex of its wings, and only the two terminal segments of the abdomen above, and the four terminal laterally, reddish chesnut, the posterior tibiæ and tarsi are externally brownish, its face and mouth also slightly inclined to yellow. The antennæ are less slender than in the preceding species.

9. *Aul. variegatus*. Niger: thoracis dorso rufo, abdominis segmento primo fasciâ flavâ: pedibus rufo-flavis variegatis: antennarum scapo rufo, et apice flavo-albidis, alis hyalinis apice brunneo. Long. 5 lin. Exp. alar. 11 lin.

Inhabits New Holland. A specimen from Sydney is in my own collection. This pretty insect differs from its congeners in having its antennæ porrect, shorter, and more robust; its abdomen is shorter and more clavate; and its ovipositor curves upwards over the back, with an inclination to resemble that of *Leucopsis*.

Sect. 2. The second submarginal cell receiving both the recurrent nervures.

10. *Aul. compressus*, Spin. 'Ins. Lig.' vol. ii. fas. 2. p. 48, No. 39. Inhabits Northern Italy. In the collection of the Marquis Spinola.

I have been accidentally led wider than I intended upon commencing this paper, which I am afraid, upon comparing its contents with its title, will be charged with treating "de omnibus rebus et quibusdam aliis."

Yours very truly,
W. E. SHUCKARD.

To the Editor of 'The Entomologist.'

ART. XXIII.—*Varieties by Various Contributors.*

1. *Mosquito*. English colonists generally misname the gnat of the tropics, mosquito. The mosquito, a small fly, as its name bespeaks,

is a species of *Simulia*, and is called in the colonies, sand-fly ; the gnat or *zancudo* of the Spaniards is a *Culex*.—*Schomburgk on Guiana*.

2. *Prionus cervicornis* inhabits the Canuku mountains, and I can confirm the statement of former travellers of its peculiar habit of seizing a branch of a tree or shrub between its powerful serrated mandibles, and of flying round and round with the rapidity of a windmill, till it has succeeded in sawing it quite through.—*Id.*

3. *Termes destructor*. The appearance of swarms of winged ants that darken the air, is the sure harbinger of the rainy season. It is, I believe, the perfect insect of the *Termes destructor*, or common wood-louse of the West Indies. A large species of winged ant, when roasted or boiled, is considered a great delicacy by the Indians, and equal to the *grugru* worm, or *Calandra Palmarum*.—*Id.*

4. *Insects of Lapland*. The woods of Lapland, from the beginning of June to the end of September, are inhabited by almost all the genera of insects common to Sweden. Diptera, and those chiefly of aquatic habits, are especially abundant. This region has many insects peculiar to it, which are not, or scarce ever, found in the rest of Lapland. The alpine region has 20 species of Diptera peculiar to it, and 47 common to lower Sweden ; 122 species are found in the subalpine and maritime part of Nordland and Finmark, and scarce anywhere else ; 518 species more or less common in Lapland, but not, or scarce ever, found in Sweden. Excepting the Sargi, some *Muscæ*, *Scævæ* and *Dolichopi*, all their colours are dark yellow or ferruginous. — *Zetterstedt's 'Insecta Lapponica.'*

5. *Papilio Feronia*. This butterfly generally frequents the orange groves. Although a high flyer, yet it very frequently alights on the trunks of trees. On these occasions its head is invariably placed downwards, and its wings are expanded in a horizontal plane, instead of being folded vertically, as is commonly the case. This is the only butterfly which I have ever seen that uses its legs for running. When flying it makes a noise similar to that produced by a toothed wheel passing under a spring catch. The noise was produced at short intervals, and could be distinguished at about twenty yards distance.—*Darwin's 'Voyage of the Beagle.'*

6. *Butterflies*. One evening when we were about ten miles from the Bay of San Blas, vast numbers of butterflies, in bands or flocks of countless myriads, extended as far as the eye could range. Even by the aid of a glass it was not possible to see space free from butterflies. More species than one were present, but the main part belonged to a kind very similar to, but not identical with, the common English Co-

lias Edusa. Some moths and Hymenoptera and a Calosoma accompanied the butterflies.—*Id.*

7. *Crab living on Cocoa-nuts.* A crab (Birgos Latro?) lives on the cocoa-nuts; it is very common on all parts of the dry land in Keeling Isle, and grows to a monstrous size. This crab has its front pair of legs terminated by very strong and heavy pincers, and the last pair by others which are narrow and weak. It begins by tearing the husk, fibre by fibre, and always from that end under which the three eye-holes are situated; and when this is completed, the crab commences hammering with its heavy claws on one of the eye-holes, till an opening is made; then turning round its body by the aid of its posterior and narrow pair of pincers, it extracts the white albuminous substance. I think this is as curious a case of instinct as ever I heard of, and likewise of adaptation in structure between two objects apparently so remote from each other in the scheme of nature as a crab and a cocoa-nut tree. The crabs inhabit deep burrows which they excavate beneath the roots of trees, and here they accumulate quantities of the fibres of the cocoa-nut husk, on which they rest as on a bed.—*Id.*

8. *Gossamer Spider.* On its first arrival on the ship, about sixty miles from land, it appeared very thirsty, and with exerted maxillæ drank eagerly of water; may it not be in consequence of its having passed through a dry and rarified atmosphere? Though quite calm, the atmosphere can never be so tranquil as not to affect a vane so delicate as the thread of a spider's web; and the effect of an ascending current of heated air would probably be sufficient to carry with it so light an object as the little spider on its thread. Virey's observations ('Bull. des Sci. Nat.' xix. 130) seem to prove that small spiders, in an atmosphere perfectly tranquil, and without the aid of any web, have the power of darting through the air. He believes that by means of a rapid vibration of their feet, they walk the air; but in other cases we must suppose that the several threads which were sent forth, served as sails for the atmospheric currents to act on. It appears to me far from improbable that the little aéronaut actually did unite, as I suspected, its feet together by some fine lines, thus forming artificial wings.—*Id.*

9. *Aphis Sonchi.* Found underground in clusters on the roots of the sow-thistle, in September and October. It appears again in March, and equally infests young and full-grown plants. The insects observed were pale green, covered with white pubescence, and had no wings.—*Francis Walker; Southgate, May 8, 1841.*

10. *Aphis Dauci.* Found in October underground, on the roots of the carrot. Its colour was pale yellow, and it also had no wings.—*Id.*

11. *Tachinus bipustulatus*. November, in decayed turnips.—*Id.*
12. *Ptinus crenatus*. March, on decayed carrots.—*Id.*
13. *Cryptophagus cellaris*. March, on decayed apples.—*Id.*
14. *Julus terrestris*. The roots of decayed cauliflowers and other vegetables are infested in March by clusters of young Juli and Polydesmi, particularly the former, which are of a white colour, with a row of pink spots on each side, but after death become black, like the full-grown insect. They are the *Julus pulchellus* of Leach. A few *Lithobii*, *Geophili* and *Onisci*, are found in the same situations, also some species of *Gyrophypnus*, *Oxytelus*, *Carpalimus*, *Proteinus*, *Anthobium*, *Tachyporus*, *Aleochara*, *Cercyon* and *Borborus*.—*Id.*
15. *Lophopteryx carmelita*. On the 25th of April last, I took a fine male of this rare insect at Birch-wood, which I believe is a new locality. Thirty years since it was taken at Darenth, by the elder Mr. Standish.—*Alfred Lambert* ; 6, *Trinity St., Borough, May 12, 1841.*
16. *Lebia crux minor*. I beat a single specimen of this insect from the blossoms of a hawthorn-bush, at Coombe Hurst, near Croydon, yesterday.—*T. Ingall* ; *Camberwell Grove, May 14, 1841.*
17. *Rhinomacer Attelaboides*. A few days since I had the good fortune to capture a single specimen of this rare insect about four miles from this place : it had previously occurred in one or two Scotch localities, but I believe it has never before been taken in England.—*T. C. Heysham* ; *Carlisle, May 16, 1841.*
18. *Noctua perspicillaris*. A very beautiful specimen of *Noctua perspicillaris*, now in my collection, was taken two years ago in a garden in this town, at the end of the month of June. It had only just emerged from the chrysalis, for, when first observed, its wings were not expanded, and it was resting upon a boarded fence, which partly surrounds the garden.—*C. J. Paget* ; *Yarmouth, May 17, 1841.*
19. *Nonagria pilicornis*. It may perhaps be worth noticing that “inter alia” last year produced me several fine specimens of *Nonagria pilicornis*, which is considered, I believe, a rare British insect. The female is the rarer sex. Some specimens are much paler than others.—*Id.*



JOHN VAN VOORST,

1, PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. IX.

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PRICE 6D.

ART. XXIV.—*Notice of A Familiar Introduction to the History of Insects, being a new and greatly improved edition of the Grammar of Entomology.* Published May, 1841. By EDWARD NEWMAN, F.L.S., Z.S., ETC. London: John Van Voorst.

THE following is an extract from the preface :—

“Teachers in science are nearly equally divided into two classes;—those who know too much, and those who know too little. Those of the first class, overloaded with science, cannot admit the possibility of meeting with readers who have none; and, therefore, their essays and introductions are so worded that it requires a tolerable proficiency to understand them. The teachers of the second class fall into the opposite error; they curtail, garble, and popularize the writings of others without understanding them, forgetful that it requires a consummate knowledge of any science to abridge a work which treats of it ably and at large. The author submits, with much humility, that both classes are in error: he submits also that introductory works should be written *for* those who know nothing of the subject on which they read, and *by* those who possess, in themselves, some practical knowledge of the subject on which they write.

“In accordance with these views the author has written the following pages; he supposes his reader utterly ignorant of Entomology, and endeavours to show him that it is the History of Insects, and the Art of Preserving Insects, and the Physiology of Insects, and the Classification of Insects: he does not address himself to the professed Entomologist; to such this work will be of little value.”

I next copy the Table of Contents.

BOOK I. HISTORY OF INSECTS.

CHAP. I. History of Insects in general; of the Simulia; of the Ichneumon; of the earwig; of the locust; of the ant-lion. CHAP. II. History of the silkworm; its introduction into Europe; its introduction into England; changes of skin; spinning; eggs. CHAP. III. History of breeze-flies; breeze-fly of the horse; of the sheep; of the ox. CHAP. IV. History of the honey-bee; of the queen bee; of the drones; of the queen's laying eggs; of swarming; of the combs; of the honey. CHAP. V. History of the yellow ant; description of an ants' nest; mode of building it; of the larva; of the pupæ or ants' eggs; care taken of the larvæ and pupæ; final escape of the winged ants; their aerial journey; slave ants. CHAP. VI. History of the sexton beetle. CHAP. VII. History of the white ants; description of their hills; internal structure of the nest; subterranean passages; winding road and bridges; labourers, soldiers, kings and queens; oviposition of the queen; wild bulls stand on the hills. CHAP. VIII. Metamorphosis of insects; metamorphosis described, Amorphia, Necromorphia, Isomorphia, Anisomorphia.

BOOK II. ON THE COLLECTION AND PRESERVATION OF INSECTS.

CHAP. I. Apology for the Entomologist. CHAP. II. Of the dress and implements for the collector of Insects. CHAP. III. Of collecting Insects. CHAP. IV. Of killing, setting, naming and arranging Insects; of cabinets; of entomological books; of investigating Insects.

BOOK III. PHYSIOLOGY OR ANATOMY OF INSECTS.

CHAP. I. Of the organs of support or skeleton. CHAP. II. On the head, legs, and wings of Insects; head; antennæ; eyes; mouth; wings; legs; of surface. CHAP. III. On the internal anatomy of Insects; of the muscles; nerves; the alimentary canal; organs of circulation; the tracheæ.

BOOK IV. ON SYSTEM OR CLASSIFICATION OF INSECTS.

CHAP. I. Classification of Insects in general. CHAP. II. Of the Classification of Lepidoptera. CHAP. III. Of the Classification of Diptera. CHAP. IV. Of the Classification of Hymenoptera. CHAP. V. Of the Classification of Coleoptera. CHAP. VI. Of the Classification of Orthoptera, Hemiptera, Neuroptera, &c.

The work concludes with an explanatory Index, I believe the first that has been attempted: of this a specimen is given below.

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- Corcula, the reservoirs in the dorsal channel through which the blood of insects flows, 187
- Coriaceæ, (proalæ) when composed of a tough substance which bends without breaking, but never folds, 166
- Coriaria, (lacinia) long, leathery and flexible, as in bees, 162; figured, 161, *u* 4
- Lætus, implies that a colour is very bright, 175
- Lævigatus, when the surface is perfectly smooth, without impressions or elevations, 176
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- Lamellatæ, (antennæ) when the apical portion only is flabellate, 156; figured 156, 9
- Pectiniformes, (antennæ) when the joints are furnished on one side with slender processes resembling the teeth of a comb, 156; figured 156, 7
- Pedunculated insects, are so called when they have the sixth segment or podoon slender and thread-like, as the wasp, &c., 145
- Perforatæ, (antennæ) when a portion of each joint is dilated and flattened, and the remaining portion being cylindrical, appears like a thread on which the dilated parts are strung, 158
- Pulvilli, the soft cushions on the under surface of the joints of the tarsus in some insects, 170
- Pulvinulus, a soft ball at the end of the tarsi, 171
- Puniceus, red inclining to orange, 174
- Puncto-striatus, when the longitudinal impressed lines are punctured, 176
- Punctus, when the surface has the appearance of having been thickly punctured by the point of a pin, the pin not passing through, but simply making an impression, 176
- Pupa is the quiescent state which some insects assume when full fed, prior to their undergoing the final change, 2
- Pustulosus, when covered with pustules, resembling those occasioned by the small pox, 176

- Sericatus, covered with a short, thick and silky down, 177
- Serratæ, (antennæ) having each joint produced on one side, at the apex, so that together they resemble the teeth of a saw, 156; figured 156, 6
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- Setosæ, (antennæ) when furnished throughout with irregular, harsh, bristly hair, 157; figured 157, 12
- Sexton beetle, history of the, 53; its habits described, 54; figured, la. pu. im. 53
- Shape of insects, 175
- Shellac, a gelatinous substance of great value in the manufacture of hats, &c., is secreted by an insect on the trunks of trees in the East Indies, 86

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Pimpla	Tinea	Bombylius	Cantharis
Bombyx	Cecidomyia	Conops	Anobium
Æstrus	Mymar	Dolichopus	Lampyrus
Apis	Aphodius	Volucella	Brachinus
Formica	Ripteryx	Tephritis	Pseudopsis
Necrophorus	Acanthosoma	Sirex	Cassida
Termes	Æschna	Sapyga	Hispa
Acheta	Ægeria	Dasypoda	Heliomanes
Apatura	Deilephila	Ceraphron	Balaninus
Sesia	Notodonta	Asticta	Gryllotalpa
Vanessa	Tortrix	Lophyrus	Hydrometra
Hydrous	Alucita	Phyllæus	Notonecta
Macraspis	Tabanus	Melolontha	Cicada

and about fifty other figures, most of them anatomical.

EDWARD NEWMAN.

ART. XXV.—*Analytical Notice of the 44th Number of the ‘Annals and Magazine of Natural History,’ dated June, 1841.* London: Richard and John E. Taylor.

ART. XXXVI.—*Description of a South American Wasp, which collects Honey.* By Mr. ADAM WHITE, M.E.S.; an Assistant in the Zoological Department of the British Museum.

SOME of the American wasps construct their nests of solid paste-board of considerable thickness; of these nests that of the *Vespa nidulans* of Fabricius, described in Reaumur’s sixth volume, is the best

known example. These nests are attached to the branches of trees ; they vary in length from a few inches to two feet : the smaller ones are round, containing four or five horizontal combs, each attached by its circumference to the inner wall of the nest, and having an aperture through the middle, by which the wasps ascend to the upper compartments : the larger nests are cylindrical, possessing additional combs. In a bell-shaped West Indian nest, now in the British Museum, the under surface is flattened, the entrance-hole being on the extreme edge : this nest has several partitions, the lowest of which is without cells, the second has one circular cell, and the upper ones have the usual hexagonal cells. A similar nest was described and figured by Cuvier, who named its constructor *Vespa Tatua*. Lacordaire, who had an opportunity of observing these nests in their native forests, declares that the communities which inhabit them are not annually dissolved, as in the case of our European wasps. In Guiana they are suspended from branches, three or four feet from the ground : they appear to be constructed during the dry months, viz., July to December ; afterwards, from January to June, when much wet prevails, none but perfect ones are to be met with. A nest, sixteen inches in length and a foot in breadth, has been presented to the British Museum by Mr. W. Hawkins : this is the more immediate object of the present memoir. It differs from those previously known in being covered with conical knobs, some of which are pointed, and three quarters of an inch in length : these knobs are solid throughout, and, like other portions of the external coating of the nest, are composed of several layers of paper, so closely blended as to be hardly distinguishable. The entrance-holes are protected from the weather by projections or pent-roofs, and the ways leading to the interior are intricately twisted, to prevent the entrance of noxious intruders. The substance of which the nest is composed is very hard, and the texture close and matted : it is said by the natives to be fabricated of the dung of the Capincha. On opening the nest Mr. White found, near the top, a globular mass completely enclosed by two combs : a third comb, approaching a circular form, nearly enclosed the other two ; and eleven other combs, in the form of inverted arches, follow each other in regular succession below, the interstices between them being equal. These combs are attached to the interior walls of the nest, small apertures being left for the passage of the insects. An admirable figure exhibiting a section of the nest, as well as others of its exterior form, are given, and thus a much clearer view of its structure may be attained than by any description. Many of the uppermost cells were filled with honey of a reddish brown

colour, but in its present state nearly devoid of smell or taste; thus corroborating the statements of Azara and Auguste St. Hilaire, that honey is made by the wasps of South America. The insects found within the nest appear to Mr. White to be scarcely referrible to any existing genus; he therefore proposes to establish for them a new genus called *Myrapetra*, which is distinguished by the following characters. Head wider than thorax: ocelli in an equilateral triangle; antennæ 12-jointed; mandibles long, stout, nearly parallel, 4-toothed at the tip: fore wings having "the marginal cell extending considerably nearer the apex of the wing than the third submarginal, which is dilated on the outer side at the base; second submarginal cell contracted toward the marginal, but has a part of the radial nervure common to both:" tarsi of metapedes longer than tibiæ: 1st segment of abdomen narrowed into a turbinate pedicel, not quite so long as the other segments taken together. The species *Myrapetra scutellaris* of White is of a sooty brown colour, with the mesothoracic scutellum and metathoracic præscutum yellow; the wings are hyaline, with brown stigma and nervures. It inhabits South America, and there are specimens in the cabinet of the British Museum. (Annals, vii. 320: tab. iv. fig. 1—7).

EDWARD NEWMAN.

ART. XXVI.—*Descriptions of some new species of Chalcidites, in the collection of John Curtis, Esq., F.L.S.* By FRANCIS WALKER, Esq. F.L.S.

Genus.—SMIERA, *Spinola*.

Smi. Enyo. Mas. Flava fulvo et nigro varia, caput piceum, abdomen suprâ nigrum, antennæ piceæ, alæ limpidæ apice subfuscæ. (Corp. long. lin. 4; alar. lin. $7\frac{1}{2}$).

Mas.—Corpus convexum, subnitens, hirtum, parce rude et indistincte punctatum: caput breve, transversum, vix thoracis latitudine; frons excavata: oculi sat magni, extantes, subrotundi: ocelli approximati, vertice triangulum fingentes; medius perparum antepositus: antennæ 13-articulatæ, filiformes, compactæ, dense at brevissime pubescentes, thorace paullo longiores; articuli valde approximati; articulus 1mus longus, sublinearis, in frontem receptus; 2dus brevis, subrotundus; 3us minimus; 4tus et sequentes sublineares, usque ad 10um curtantes; clava longiconica, non acuminata, articulo 10mo duplo longior: thorax breviovatus, altus: prothorax brevis, transversus, postice incurvus, mesothorace angustior: mesothoracis scutum magnum, transversum; parapsides magnæ; suturæ bene determinatæ, postice approximatæ; scutellum magnum, subrotundum, postice bicornutum: metathorax declivis, sat magnus: petiolus gracilis, linearis, thorace brevior: abdomen ovatum, altum, compressum, nitens, fere læve, petioli vix longitudine; segmentum 1mum dorsale maximum, abdominis dimidium occupans, 2dum 1mo paullo minus, 3um et sequentia minima; segmenta ventralia dorsalibus obiecta: propedes et mesopedes graciles, simplices, subæquales: metapedes maximi, nitentes, pubescentes; coxæ longissimæ; trochanteres parvi; femora dilatata, subtus dentibus 13 armata, 1mum magnum, 2dum et sequentia parva subæqualia; tibiæ arcuatæ, femoribus applicatæ, apice in dentem acutum productæ; tarsi simplices, articuli 1mo ad 5um curtantes; ungues et pulvilli parvi: alæ amplæ, pubescentes; nervus

humeralis ulnari fere duplo longior, radialis ulnari paullo longior cubitali triplo longior, cubitalis sat longus radiali angulum peracutum fingens stigmatè non terminatum at nervulos 2 breves spurios emittens: metalis nervus unicus sub costam emissus dein eam attingens et spatio brevi abruptus.

Flava: caput piceum: oculi et ocelli picei: antennæ piceæ, basi fulvæ: thoracis discus fulvus: mesothoracis dorso vitta abbreviata nigra: cornua apice nigra: macula proalæ ejusque basi nigra: abdominis dorsum nigrum: metapedum coxæ extus nigro vittatæ, tibiæ nigræ: alæ limpide, fulvo minime tinctæ, apice subfuscæ; squamulæ fulvæ; nervi picei.

Inhabits Brazil. In the collection of Mr. Curtis.

Smi. Masus. Fem. Fulva piceo et nigro varia, abdomen nigrum, antennæ piceæ, alæ fuscæ. (Corp. long. lin. 4; alar. lin. $7\frac{1}{2}$).

Precedentis structura: *fem.* petiolus thorace multo brevior: abdomen longiovatum, petiolo paullo longior; segmenta 1mum et 2dum magna, 3um et sequentia parva; ventralia occulta: oviductus non conspicuus.

Mas.—Fulva: caput piceum, antice fulvo varium: oculi et ocelli picei: antennæ piceæ, basi fulvæ: prothorax antice piceus: mesothoracis discus niger; cornua apice nigra: proalæ ejusque basi macula nigra: metathoracis basi macula parva nigra: abdomen nigrum, basi fulvum, subtus fulvo varium: metapedum coxæ extus nigro vittatæ, femora subtus nigro breviter vittata, tibiæ nigræ: alæ obscure fuscæ, apice sublimpidæ; squamulæ fulvæ; nervi picei.

Fem.—Mesothorax fulvus; dorso vitta brevis nigra: petiolus fulvus; dorsum nigrum: abdomen nigrum, subtus fulvo varium: alæ fuscæ, basi et antice obscuriores.

Var. β. *Fem.*—Petiolus omnino fulvus: abdomen fulvum; discus niger; venter nigro vittata.

In the collection of Mr. Curtis, and in the British Museum.

Genus.—*CHALCIS, Fabricius.*

Chalcis Augarus. Fem. Picea, pube fulvâ vestita, antennæ piceæ, pedes fulvo varii, alæ subfuscæ. (Corp. long. lin. 4; alar. lin. $7\frac{1}{2}$).

Fem.—Corpus crassum, convexum, obscurum, pubescens, dense et conferte punctatum; caput breve, transversum, convexum, thoracis latitudine; frons impressa, abrupte declivis: oculi mediocres, non exstantes: ocelli approximati, vertice triangulum fingentes, medius perparum antepositus: antennæ subelavata, compactæ, pubescentes, thorace non longiores; articuli approximati, 1mus longus, sublinearis, in fronte receptus; 2dus brevis, subrotundus; 3us minimus; 4tus et sequentes sublineares, usque ad 10um curtantes; clava longiconica, non acuminata, articulo 10mo fere duplo longior: thorax subovatus, altus; prothorax mediocris, transversus, utrinque angulatus, postice incurvus: mesothorax mediocris, longitudine latior; scutum sat magnum; parapsidum suture optime determinatæ; paraptera et epimera magna; scutellum mediocre, postice in aciem productum incurvum: metathorax brevis, transversus, declivis, rugosus: petiolus brevissimus, sat gracilis: abdomen ovatum, altum, læve, dense hirtum, postice acuminatum, thorace vix longius; basi laminæ 2 laterales ubi insedent metacoxæ glabræ, nitentes; segmentum 1mum dorsi plus trientem occupans, 2dum et 6 sequentia breviter subæqualia: propedes et mesopedes subæquales: metapedum coxæ magnæ, crassæ, sat longæ, læves, nitentes, fere glabræ; trochanteres parvi; femora ovata, dilatata, nitentia, pubescentia, scite punctata, subtus dentibus armata; tibiæ arcuatæ, femoribus applicatæ; tarsi robusti, pubescentes: alæ mediocres; areolis nervus humeralis ulnari plus duplo radiali plus quadruplo longior; cubitalis radiali multo brevior, stigma fingens minutum et nervulum spurium in alæ discum emittens; nervi quoque nonnulli basi in discum recurrentes spurii; metalis nervus trans alæ medium costam attingens, ibi setis hamatis instructus et mox abruptus.

Picea, fulvo pubescens: oculi et ocelli fulvi: antennæ articulus 1mus fulvus: abdomen pilis fulvis dense vestitum: genua fulva; tibiæ fulvo vittatæ; metapedum femora fulvo vittata, tibiæ fulvæ: alæ subfuscæ, basi ad costam fulvescentes; squamulæ fulvæ; nervi fuscæ.

Brazil. In the collection of Mr. Curtis.

Genus.—*PHASGONOPHORA, Westwood.*

Fem. Corpus convexum, validum, subnitens, rudè punctatum, parè pubescens: caput breve, transversum, thoracis latitudine; frons

magna, profundè impressa, abruptè declivis : oculi subrotundi, mediocres, extantes : ocelli approximati, vertice triangulum fingentes, medius perparum antepositus : antennæ subfiliformes, graciles, compactæ, thorace vix breviores ; articuli approximati ; 1mus longus, sublinearis, in frontem receptus ; 2dus parvus, subrotundus ; 3us minimus ; 4tus et sequentes longi, lineares, usque ad 10um curtantes ; clava fusiformis, articulo 10mo multo longior : thorax ovatus : prothorax transversus, mediocris, anticè angustior : mesothoracis scutum sat magnum ; parapsides optimè determinatæ ; scutellum mediocre, subhexagonum, longitudine paullò latius : metathorax declivis, mediocris, posticè angustior : petiolus brevissimus : abdomen fusiforme, nitens, læve, apice productum et attenuatum ; segmentum 1mum magnum, longitudinis trientem occupans ; 2um et sequentia brevia, transversa ; ultimum in terebram subincurvam productum abdominis triente longiorem : propedes et mesopedes simplices : metapedum coxæ magnæ, basi latiores ; trochanteres sat magni ; femora maxima, subdilata, subtùs dentibus 5 armata, quarum apicalis denticulis 2 adjuvatur ; tibiæ arcuatæ, femoribus applicatæ, apice in dentem incurvum productæ : alæ mediocres, angustæ, abdominis apicem non attingentes : proalis nervus humeralis ulnari vix duplo longior ; radialis brevissimus, cubitali non longior ; cubitalis brevissimus, stigma fingens mediocre bifurcatum.

Phas. Condalus. Fem. Nigra, rufo varia, alæ subfusæ. (Corp. long. lin. $4\frac{1}{2}$; alar. lin. 6).

Nigra : oculi et ocelli picei : prothorax utrinque rufus : metathoracis latera rufa : abdomen basi et subtus rufum ; pedes nigri ; genua picea ; tarsi rufi ; alæ subfusæ ; squamulæ rufæ ; nervi picei.

Inhabits Brazil. In the collection of Mr. Curtis.

FRANCIS WALKER.

ART. XXVII.—*Description of an apparently new species of Hemipterous Insect from the Fort of Accra.* By ADAM WHITE, Esq., an Assistant in the Zoological Department of the Brit. Museum.

IN a small collection of insects kindly shown to me by H. N. Humphreys, Esq., the artist of the elegant ‘British Butterflies and their Transformations,’ I found the specimen described below. It comes from nearly the same locality as the *Canopus punctatus* of Leach, viz., the west coast of Tropical Africa. There were three boxes sent by Mr. Ridley, of the Coast Service, who collected them, but unfortunately only one reached this country ; of this, which principally contains Lepi-

doptera, I mean to give an account of on some other occasion, Mr. Humphreys having obligingly permitted me to do so. The gentleman who sent them was devotedly attached to the study of nature, and gave promise of excelling in Entomology, but he has fallen a victim on those ungenial shores, so characteristically named in some parts, "the white man's grave." To a beautiful Lepidopterous insect in the collection, I mean to assign his name, as a small tribute to one who hazarded his life in the service of his country, and who well merits the honour I hope to pay him, from the love he displayed for our favourite science.

The insect I describe is not far removed from the *Plataspis cocciformis* of Hope's Catalogue, coming in the 2nd section of *Thyreocoris*, as laid down by Burmeister and Germar, the section named by Laporte *Platycephala*, which name, on account of its being preoccupied in Entomology, has been altered by the secretary of the Entomological Society, to *Plataspis*. I purpose drawing up for the 'Entomologist' a synoptic account of such species of *Plataspis*, *Coptosoma*, and allied subgenera, as I can find in the London collections. I am now inclined to think that the raven-coloured Javanese insect, of which I some time ago gave a description and rude outline in the 'Magazine of Natural History,' will form a distinct subgenus, as I intimated at the time. Perhaps the following will also constitute another subgenus, prominently marked by the singular structure of the head. I believe, from the notched scutellum, that it is a female, but have not further means of ascertaining this, as the posterior segment of the body is wanting.

Genus.—*PLATASPIS*, *Westwood*.

Plataspis Bucephalus. *Fuscescenti-flava, nigro punctata et vermiculata; scutello basi medio 5 lineas radiatas nigras emittente, ad marginem obsoletas, infra cinerea, pedibus totis flavis, abdominisque lateribus flavo maculatis.* (Corp. long. 6 lin. lat. $4\frac{1}{2}$ lin.)



Inhabits the western coast of Africa, near the Fort of Accra. Mr. Humphreys has presented the specimen, in Mr. Ridley's name, to the cabinet of the British Museum. The whole of the upper part is of a dusky yellow, much spotted and marked with black; all the black parts have impressed dots. The yellow surface quite smooth. The head at the sides in front is horned; the anterior margin is subsemicircularly incised; the

sides are deeply notched, the angles being nearer the eyes than the tips of the horns, which bend slightly inwards; an impressed longitudinal line, deepest and broadest behind, extends from the middle of the anterior margin to a slight protuberance behind, on the sides of which the stemmata are placed.

The head is flat, and somewhat hairy beneath; the antennæ arise from a depressed part of the under side, nearly midway between the eyes and the origin of the beak; they are 5-jointed, the joints subcylindrical, the 1st and 3rd nearly equal, the 2nd very small, the 4th smaller than the 5th, which is elongated and nearly as long as the 1st, the last three are most slender at the base, and are sparingly covered with short hairs. The beak reaches to the beginning of the 2nd pair of legs, 2nd joint the longest, 3rd thicker than the 2nd, except perhaps at the end, and furnished with a few hairs. The thorax is rather wider than the abdomen, and is dilated at the sides, emarginate in front, gradually ascending to the middle behind, which is truncated, the extremities of the truncated margin sloping forward to the rounded sides. Legs rather compressed, the tibiæ fitting into the grooved margin of the femora, and the tibiæ are also grooved for the reception of the 2-jointed tarsus, as the insect seems, like the *Histeres*, and many other insects, when surprized to draw in the legs, which in this way being in little compass, fit into the depressed parts of the abdomen, the whole insect then appearing just like a dirty sand-coloured pebble: the tibiæ at the end are densely clothed with hairs, as is the sole of the 1st joint of the tarsus, the hairs on the sides of the 2nd joint are longer, but less thickly placed. The scutellum is narrowest at the base, and the surface is gradually sloped down, in a rounded manner, to the edge from the posterior margin in the middle, where it is highest. The external margins of the hemelytra are prominent, and as they are similarly coloured to the scutellum, make the latter look broader than the thorax; the wings and hemelytra, in the only specimen I have seen, are mutilated. The figures are larger than the natural size: the upper is a lateral, the lower a dorsal view.

ADAM WHITE.

ART. XXVIII.—*List of Butterflies taken at Compton, in Lower Canada.* By P. H. GOSSE, Esq.

Hackney, May 16, 1841.

DEAR SIR,

As local lists of insects generally possess interest, I have thought that perhaps it may not be unacceptable to your readers to

see a list of such butterflies of Lower Canada as I have myself taken, thrown into a more connected and tabular form than I was able to do in my 'Canadian Naturalist.' The locality, within three miles of which all the species were captured, is the township of Compton in the county of Sherbrooke, Lower Canada, about 45° 15' N. Lat. and 72° W. Long. They were taken in the years 1835, 36 and 37.

Papilio Turnus, Linn., appears in May : abundant until July.

Colias Philodice, Godart, appears in May : abundant until October.

Pontia oleracea, Kirby, May ; rare and brief in continuance.

Melitæa Myrina, Fab., June ; common through the summer.

„ *Tharos*, Cramer, June ; abundant.

„ *Phaeton*, Fab., very rare ; a single specimen taken in June, 1837.

Argynnis Aphrodite, Fab., June ; abundant until September.

„ *Cybele*, Fab., July ; common until September.

Grapta argenteum, Kirby, July ; not uncommon.

„ *C. album* ? Boisd., July ; rather common.

„ *Progne* ? Fab., April ; abundant until October.

„ *interrogationis*, Fab., and *G. C aureum*, Fab., July, rather numerous until the middle of October.

Vanessa Antiopa, Linn., May ; common at intervals until October.

„ *furcillata*, Say, April ; common in the spring and early summer.

„ *J. album*, Boisd., May, rather scarce ; through the summer until October.

„ *Atalanta*, Linn., May ; very scarce.

Danaïs Archippus, Godart, July and through August, but very scarce.

Limenitis Arthemis, Say, abundant during the former half of July ; appears and disappears very suddenly. I have seen a solitary individual as late as 20th September.

Hipparchia transmontana, Say, July ; extremely numerous during the latter part of summer, and in autumn.

„ *Andromacha*, Say, very rare ; a single specimen taken in July, 1836.

Lycæna Phlæas, August and September, common.

Polyommatus Lucia, Kirby, rather common for a week or two in May only.

Thymeles Brizo ? Boisd., June ; scarce.

Pamphila Paniscus ? Fab., July ; only a single specimen taken.

Pamphila Peckius, Kirby, June; common until August.

„ *Cernes*, Boisd., June; common with the preceding until August.

„ ——— undescribed, July; one specimen only captured.

„ *Zabulon*, Boisd., June; only one specimen captured.

I have little doubt that *Papilio Asterias*, *Vanessa Orithya*, *Cynthia Huntera* and *C. Cardui* might be added to the above catalogue, but as I have not taken them myself, I have not mentioned them.

Yours &c.,

P. H. GOSSE.

To the Editor of 'The Entomologist.'

ART. XXIX.—*Note on Mr. Shuckard's Memoir on the Aulacidæ, &c. at page 115 of the Entomologist.* By J. O. WESTWOOD, Esq., F.L.S.

Hammersmith, June 5, 1841.

DEAR SIR,

I much regret that my first communication to the 'Entomologist' should be one of complaint against a paper which has appeared in its pages by a writer, who, from having devoted a great share of attention to the order Hymenoptera, has deservedly attained a distinguished reputation as an authority upon the insects of which it is composed. But Mr. Shuckard is not the only Hymenopterologist; and if I (who had carefully studied the order for years before that gentleman appeared as an entomologist) have had previous occasion to differ from him on some subjects connected with its various groups, it has been with as much regret as I now feel in having again to come before the public to vindicate my own scientific character.

When I first described the genus *Trigonalys* I had not given it the detailed examination requisite for a monograph; but having since carefully examined, dissected and delineated the typical species, and become acquainted with several others belonging to the same genus, I ascertained its relation to the *Evaniidæ*, and introduced it accordingly into my 'Memoir on *Evania* and the allied genera,' the commencement of which was read before the Entomological Society in 1836, and the completion of it on the 1st of February, 1841.* Of course I am happy to find my views confirmed by another entomolo-

*A notice of this appeared in the *Literary Gazette* and *Athenæum* of March 6th, 1841; Mr. Shuckard's memoir is dated May 6th, 1841.

gist, whose opinion (although founded upon other considerations than my own) is a tower of strength upon such a subject. I may however be allowed to add that in the Royal Museum of Berlin, under the arrangement of Drs. Klug and Erichson* (both eminent Hymenopterologists), and in the cabinets of M. Serville and the British Museum, I found the genus arranged amongst the aculeated Hymenoptera, amongst which (as we find other anomalies, such as flabellated antennæ, antennæ with a *decreased* number of joints, and male antennæ with twelve joints) there is no reason why we should not find them with an *increased* number of articulations. As to the biarticulated trochanters, they are not exclusively confined to Latreille's Pupivora, as Mr. Shuckard asserts.

As an abstract of my memoir, which contains long generic details of *Evania* (with 24 species), *Pelecinus* (9 species), *Monomachus* (7 species), *Fœnus* (16 species), *Aulacus* (15 species), *Megalyra* (1 species), *Trigonalys* (4 species) and *Stephanus* (10 species), will appear in due course with the 'Journal of the Proceedings of the Entomological Society,' so soon as space can be given to it in the 'Annals of Natural History,' (in which periodical the Journal of Proceedings is published). I regret that in the interim Mr. Shuckard should have published a memoir containing many of the same genera and species, some of the latter of which will thus be burdened with synonymical names.

Yours very sincerely,

JNO. O. WESTWOOD.

To the Editor of the 'Entomologist.'

ART. XXVIII.—*Varieties by Various Contributors.*

20. *LARENTIA MULTISTRIGATA*. On the 4th of April, at the bottom of palings in Richmond Park: this moth is designated in books as being rare, but Mr. Lambert tells me he has taken it in the above lo-

* The Marquis Spinola, one of the most accomplished Hymenopterists, who has published two articles on this genus (which Mr. Shuckard appears to be unacquainted with, although in one of them he evidently predescribes *Trigonalys anglicana* under the name of *T. Hahnii*), thus speaks of it. "Il appartient aux Ichneumonides par le nombre des articles de ses antennes, aux Formicaires par quelques traits de la tête, aux Mutillaires par la forme de l'abdomen, son premier anneau abdominal, et ses teintes de couleurs le rapprochent des Labidus; les trochanters lui donnent des rapports avec un grand nombre de Térébrants." Is it astonishing that without having minutely examined and dissected the insect, I should have failed in ascertaining the legitimate situation of so anomalous a form?

cality in profusion.—*J. W. Douglas; Coburg Road, Kent Road, May 1, 1841.*

21. *Cucujus dermestoides*. On the 9th of April, in company with two friends, I succeeded in capturing twenty-six specimens of this insect under the bark of a tree that had been lately felled in Heinault Forest, and was partially stripped of its bark. We observed that they moved backwards with great facility; the power of doing so must be of great service to them, as from the very small space between the bark and the wood it would, notwithstanding their flattened form, be easier for them to go backwards than to turn.—*Id.*

22. *Sinodendron cylindricum*. On the 25th of April, being on my way to West Wickham Wood, I dug this insect out of an old ash.—*Id.*

23. *Cerylon Histeroides*, *Rhyzophagus cribratus* and *rufus*, *Tomiscus laricis* and *Aradus betule*. On the 25th of April I found these insects under the bark of birch stumps in West Wickham Wood.—*Id.*

24. *Pyrochroa coccinea*. On the 1st of May under the bark of a decayed oak: it had just assumed its perfect state, and the elytra were of a pale cream colour: I put it into a pill-box, and on looking a few hours afterwards the elytra had become of a faint reddish hue, and in about twelve hours were of the usual bright red, although during the whole time, except while I was looking at it, it had been secluded from the light.—*Id.*

25. *Bitoma crenata*. Under the bark of oak stumps in Heinault Forest.—*Id.*

26. *Dioctria Meigenii*. The following description of a new and conspicuous dipterous insect, is a contribution to the British Fauna for which I am indebted to J. Walton, Esq., who purchased it with Millard's collection of insects, by whom it was captured in the vicinity of Bristol. DESC. Black, the moustache yellowish white. Thorax with the usual white lines, and two humeral spots, and two just behind the insertion of the wings close to the base of the scutellum, reddish yellow. Legs testaceous. All the tarsi and the apex of the tibiae brown. Wings hyaline, their base yellowish, and the apex of the 3rd, 4th, and 5th segments of abdomen testaceous. Length $7\frac{1}{2}$ lines. Expans. of wings 13 lines. This conspicuous insect is a female, and as large as the *Dioc. Celandica*. It is dedicated with much pleasure to the veteran Meigen, whose work on the order is a monument of skill, patience and perseverance.—*W. E. Shuckard; Chelsea, May 6, 1841.*

27. *Brepha Parthenias*. I have captured and bred this moth from the 26th of March to the middle of April. I believe its larva is very imperfectly known, although Mr. Curtis, in his beautiful work entitled

‘British Entomology,’ has figured the perfect insect, he has neither figured nor described the larva, and few of the old collectors are acquainted with it. Such of them as know the larva by sight consider it a cannibal [or a caterpillar that feeds on other caterpillars.] It is difficult to secure in a chip box, and will make its way through every thing but very hard wood or iron: even when safely retained it is very rarely bred owing to the general ignorance that prevails respecting its economy. When full fed this larva is two-thirds of an inch in length, rather flat, and of a dark green colour, having a faint yellow line on each side: it is very rough and warty. When about entering the pupa state it gnaws a hole in decaying wood, and having buried itself, stops the aperture either at the surface or a quarter of an inch below, with a kind of door or covering [composed of a cement, manufactured by mixing a glutinous matter ejected by the larva with the particles of wood which it has detached by gnawing.] On attaining its perfect state it forces its way through this covering and emerges. I have found this caterpillar feeding on hazel and sawtooth from the 15th of June to the end of the month.—*Alfred Lambert; 6, Trinity Street, Borough, May 12, 1841.*

28. *Brepha Notha*. The larva of this moth is perfectly similar in its economy to that of *B. Parthenias*, but differs in being of a light green colour, and nearly free from the wart-like protuberances which distinguish that species.—*Id.*

29. *Ceropacha flavicornis* and *C. ridens*, *Clostera reclusa* and *curtula*. I have both taken and bred these four species in April; the larvæ of all of them are very similar in their habits. I believe them to be night-feeders, at least they never issue from their homes until sunset: in these homes, which are formed by drawing two or three leaves together and fastening them by a web, the larvæ remain concealed throughout the day. In a breeding cage I have noticed that they feed in the evening at very opposite sides, and during the day I have frequently removed them from their dwellings, but the following morning have invariably found them at home. *Cer. flavicornis* and *ridens*, when about changing, bury themselves in the earth just below the surface, but *C. reclusa* and *curtula* spin up between the leaves. The larva of *Cer. flavicornis* feeds on the birch, that of *Cer. ridens* on the oak, both of them in July; those of *Clos. reclusa* and *curtula* are found in June and October feeding on the sawtooth and aspen.—*Id.*

30. *Lampronia Capitella*. The currant-trees in this neighbourhood are greatly injured, and in some places totally destroyed by the larva of a minute moth, the *Lampronia capitella* of Stephens, which feeds

in the interior of the young shoots : many trees are leafless, every one of the young shoots being totally destroyed.—*Henry Doubleday ; Epping, May 7, 1841.*

31. *Cockchafers in France.* For many years cockchafers have not been so abundant in France as in the present year. The trees in many parts were so completely stripped by their ravages, that they were, in the middle of May, as bare of leaves as in winter. The number of these insects was so immense, and the noise of their buzzing in an evening so great, as to oblige persons engaged in conversation to talk loudly in order to be heard. They hung in great quantities from the branches of some kinds of trees, giving them the appearance of being covered with brown leaves, so that a person unaccustomed to the country, instead of speaking of a tree as a beech, an oak, &c. would have called them cockchafer-trees.—*G. Newman ; Minerva Terrace, Cannon Street Road, June 9, 1841.*

32. *Polyommatus Argiolus.* Why is it that we have this year no *Polyommatus Argiolus*, which used to be seen in plenty vapouring about our hollies, at this season, and in such weather as we have had lately ? I have seen the insect fresh on the wing before the end of March ; but it generally makes its appearance about the middle or end of April if the weather is favorable ; as yet we have not seen one specimen this year. It seems almost as if some insects, like some species of birds, had disappeared from particular districts.—*W. T. Bree ; Allesley Rectory, May 14, 1841.*

33. *Tortrix Mitterbachiana.* A few days since, whilst passing through Kensington Gardens, my attention was drawn to what I considered to be the backward state of many of the elms, as they appeared not yet to have put forth their leaves. On approaching them more nearly however, I found that their want of foliage did not depend on their backwardness, but on the attacks of an insect. On examining the branches I found upon the decaying buds and leaves great numbers of a small green caterpillar, and wrapped up in the folds of many of the decayed leaves, in much greater numbers, a small brown chrysalis. These insects were only to be found on the small-leaved elm, (*Ulmus campestris*), for although the broad-leaved elm (*Ulmus montana*) grows in the gardens, none of them were found on this species.—*Edwin Lankester ; University College Hospital, June 9, 1841.*

34. *Linnean Society, 1st June, 1841.*—The secretary read ‘A Synopsis of the family Paussidæ ; with descriptions of a new genus and four new species :’ by J. O. Westwood, Esq., F.L.S. In this paper Mr. Westwood removes the genus *Trichoideus* from the family Paussidæ,

and places it with the Endomychidæ. The entire number of species now constituting the family is forty-five. The new species are *Pausus fulvus* from India, in Mr. Westwood's collection; *Paus. cognatus* and *Paus. tibialis*, from Bengal, in Westermann's cabinet; *Paus. Saundersii* from India, in Mr. Saunders' collection. The new genus is *Ceratoderus*, founded on the *Paussus bifasciatus* of Kollar. June 15. Mr. Westwood added a description of *Paus. Stevensianus*, a new species from the East Indies, in the cabinet of Mr. Stevens.—*E. Newman.*

35. *Entomological Society*, 7th June, 1841.—The Marquis de Brême was elected a foreign member of the Society. Mr. Marshall exhibited part of a honey-comb entirely destroyed by the larvæ of *Achroia alvearia*, and noticed the peculiarity of the cocoon, although formed of white silk, being encased in a layer of black excrement, which it was difficult to account for; he also noticed the excessive vibratile action of the antennæ of the moth. Mr. S. Stevens exhibited a small collection of Indian insects, including three species of *Paussidæ*, one of which was new: likewise living specimens of several rare English insects—*Leptura scutellata*, *Calosoma inquisitor*, *Elater ephippium* &c.: he also brought a number of living specimens of *Trichius nobilis* for distribution among the members. Mr. Hope exhibited a number of splendid exotic *Coleoptera*, obtained by him during his late visit to Paris; likewise a fossil, presumed by its discoverer to be the wing of a butterfly, but which appeared to be part of a fossil fern, of the genus *Holopteris*. Mr. White exhibited some curious cocoons from Honduras, which he believed to be either those of a *Coleopterous* or *Cimbicidæous* insect; one end was furnished with a trap-door of beautiful construction. He also exhibited a drawing of a fine butterfly in the collection of the British Museum, to which, if new, he intended to apply the specific name of *Papilio Iswara*. The completion of a monograph on the *Panorpidæ* by the secretary, was read. The president announced that the future meetings of the Society would be held in other and more commodious apartments, in the house in Old Bond Street.—*J. O. Westwood.*

JOHN VAN VOORST,



1, PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. X.

AUGUST, MDCCCXLI.

PRICE 6d.

ART. XXXI. — *Analytical Notice of the 2nd Number of ‘Arcana Entomologica, or Illustrations of New, Rare, and Interesting Exotic Insects.’* By J. O. WESTWOOD, Esq., F.L.S., Sec. of the Entomological Society, Etc. Etc. *Published July 1st, 1841.* London: William Smith, 113, Fleet Street.

THE appearance of the second number of this periodical in July, and the announcement on the wrapper that “No. III. will be published on the 1st of September,” fixes the time of appearance to alternate months, or six in a year. I mention this because I cannot find the announcement in the prospectus or elsewhere.

Plate V. represents two very singular lepidopterous insects, which, although possessing all the habit and colouring of butterflies, Mr. Westwood considers to be moths. In both species the antennæ are unfortunately wanting, and the author grounds his opinion that they are moths on the structure of the feet and the arrangement of the veins of the wings; and constructs for their reception the new genus *Epicopeia*. The most striking characters are these: maxillæ none: hind wings elongate, with notches between the veins and a large notch or incision on the external margin: the protibiæ are armed with broad moveable spines, the mesotibiæ are two-spined at the apex, and the metatibiæ are double-spined both at the apex and also before it.

Figure 1 represents *Epicopeia Polydora* of Westwood: it has the anterior wings of a yellowish grey colour, with black veins, and the hind wings black, with an abbreviated, white, median fascia, and five stirrup-shaped, blood red, marginal marks, besides an anal lunule of the same colour. The expansion of its wings is 5 inches: it is from Assam, and unique in Mr. Solly’s cabinet. (Arc. Ent. i. 19. tab. v. fig. 1).

Figure 2 is the *Epicopeia Philenora* of Westwood: it has the anterior wings greyish lined with black, and a blood-red costal spot beneath; the hind wings black with a chalybeous tint, and having a small spot near the external angle, and another near the anal angle, of

a blood red. The wings expand $4\frac{1}{2}$ inches: the specimen is from Assam, and unique in Mr. Solly's cabinet. (Id. i. 19. tab. v. fig. 2).

Plate VI. represents four species of *Coccites* belonging to the genus *Monophlebus* of Leach; in the accompanying paper Mr. Westwood describes four new species and four old ones.

1. *Monophlebus Fabricii*, Westwood; *Chironomus dubius*, Fab. Syst. Ant. 46.*

2. *Monophlebus atripennis*, Klug, Handb. 2, 80.

3. *Monophlebus Leachii*, Westwood, Zool. II. 20, p. 452.

4. *Monophlebus Burmeisteri* is pitchy black, with the thorax and abdomen fusco-carneous, the scutellum and a fascia between the wings being whitish; the wings are rather broad and pitchy, somewhat paler at the base, with two whitish hyaline lines: the antennæ are longer than the body: the abdomen emits on each side 5 pilose branches. The wings expand 8 lines. The specimen is in the author's cabinet, its country is unknown. (Id. i. 22. tab. vi. fig. 2).

5. *Monophlebus Saundersii* is powdered with white, the head, antennæ, legs, and dorsum of the thorax being brown; the sides of the thorax and the entire abdomen are testaceo-carneous: the latter emits on each side 2 short pilose branches and 2 longer ones at the extremity: wings brown, with a dilated posterior margin and two white hyaline lines. The wings expand 4 lines. The specimen is in the cabinet of Mr. W. W. Saunders, and comes from the northern parts of India. (Id. i. 22).

9. *Monophlebus Raddoni* is fulvo-carneous, the antennæ and legs being of the same colour, the dorsum of the thorax is pitchy, the wings are brown with two white hyaline lines, the costa fulvo-carneous, and the post-costal nervure blood-red: the sides of the abdomen emit small pilose lobes, and its extremity has two larger oval ones. The wings expand $7\frac{1}{2}$ lines. The specimen described is from the Gold Coast, and preserved in the cabinet of the author. (Id. i. 22. tab. vi. fig. 3).

7. *Monophlebus Illigeri* is blackish, the head and margins of the thorax and abdomen being red-brown; the antennæ and feet are black, the wings brown with a darker costa, and the post-costal nervure blood red: the sides of the abdomen are furnished with small pilose lobes. The wings expand 5 lines. The specimen is from Van Dieman's Land, and in the author's cabinet. (Id. i. 22. tab. vi. fig. 4).

8. *Monophlebus fuscipennis*, Burmeister, 'Hand. d. Ent.' ii. p. 80, tab. 2, fig. 46.

Plate VII. represents four species of *Tenthredinites*.

* Should not this have been *Monophlebus dubius*?

Fig. 1 is *Perga Lewisii*, a species whose interesting economy is detailed in 'Transactions of the Entomological Society of London,' i. 234.

Fig. 2. *Hylotoma Schizocera australis* is a new species: its colour is bright blue, with the mouth and two spots behind the eyes fulvous: the wings have a broad, indistinct, brown band beyond the middle: the legs are black, the protibiæ and tarsi fulvous. Its length is 3 lines. The specimen is in Mr. Hope's cabinet, and was brought from Western Australia by Mr. Gould. (Id. i. 23. tab. vii. fig. 2).

Fig. 3 represents a new genus, *Pachylota* of Westwood; it is allied to *Hylotoma*, the antennæ being three-jointed, the second joint short, the third long: mandibles large, stout, and acute at the tip: maxillæ and labium small and membranaceous; maxi- and labipalpi short and four-jointed: the wings have one marginal and four sub-marginal cells: the legs are short, strong and depressed; the tibiæ are without spines at the tip. The species, *Pach. Audouinii*, is blue-black, the head, antennæ, prothorax and fore legs being yellow; the middle and hind legs are black; the wings are brown, the fore wings having a pale, subcostal, triangular spot, and the lower an oval, pale spot in the costal area. The wings expand 15 lines. The habitat is Africa, and the specimen described is in Mr. Westwood's cabinet. (Id. i. 24. tab. vii. fig. 5).

Fig. 4 represents another new genus *Dictynna** of Westwood. The antennæ are short and nine-jointed, after the third slightly incrassated; the wings have one marginal and four submarginal cells, the second and third of these receive a recurrent nervure: body short, robust: meso- and metatibiæ unarmed in the middle. The species, *Dict. læta*, is of a bright green colour, with a somewhat silky abdomen: antennæ black: legs testaceous, with brown tips to the tarsi. Length of the body $3\frac{1}{2}$ lines. Inhabits Van Dieman's Land. In Mr. Westwood's cabinet. (Id. i. 24. tab. vii. fig. 4).

Plate VIII. is a figure of *Phasma Craspedonia gibbosa*,† the *Phasma gibbosa* of Burmeister, 'Handb. d. Ent.' ii. p. 575.

The chapter of varieties contains 'Société Entomologique de France,' 'Popular information relative to the habits of Insects obnoxious to vegetable productions': this should rather have been entitled 'A reference to the authorities giving popular information, &c. ;' the author enumerates Ratzeburg, Bouché, Kollar, M. F. Audouin, Walcknaer, Major, Hereman, Knight, Le Keux, Newport, Rusticus, Westwood, Duncan and Curtis: on nomenclature as instanced in *Phyllomorpha*: and a notice of Burmeister's 'Genera Insectorum.' EDWARD NEWMAN.

* I cannot distinguish this from *Eurys* of Newman, at p. 90 of 'The Entomologist.'

† *Phasma* in the Greek is neuter.

ART. XXXII.—*History of the Gooseberry-Grub.* By RUSTICUS OF GODALMING.

Godalming, 27th June, 1841.

MY DEAR NEWMAN,

None but yourself could have drawn me from my lurking hole. Many a pretty bait has been dropped just before my nose and bobbed temptingly along the top of the water; but I wouldn't deign to rise. There were reasons enow for my shyness; and not the least weighty of these were the piracies committed on my letters on blight. My very blunders were copied,—without acknowledgment, to be sure, that is some comfort,—yes, copied as servilely and solemnly as they had been the most infallible oracles. And worse than this, histories half worked out were constantly reprinted with imaginary sequels. This annoyed me at the time, and now that it is blown over another difficulty comes in the way. Suppose that an author who has gained some little reputation, in a sudden fit of ill temper sticks his quill behind his ear, and doggedly says "I'll write no more;" suppose that he has strength of mind to keep his resolution for half a dozen years or thereaway; suppose that he alters his mind, draws out his quill, sits down to his table, his face all a-blaze with smiles and good humour, and begins "Dear public,—

"Ille ego, qui quondam," &c.

The chances are ten to one that the "dear public" has forgotten him entirely, and like Rip Van Winkle after his nap in the Sleepy Hollow, he will have to rub his eyes again and again, unwilling to believe their testimony that he is in a world of strangers. It seems to me a hazardous experiment this of making a second appearance, unless I were blest with a genius sufficiently inventive to indite that most imaginary of all compositions, an auto-biography. Yet since you wish it, —

"Sed si tantus amor,——"

Quanquam animus meminisse horret, luctuque refugit:
Incipiam."

——

I have never known the gooseberry-grub such a nuisance as it has been this year. In April I saw the fly was very busy on the wing, and it continued so to the middle of May. I prophesied the havoc it would make, but I managed to save my own gooseberries by keeping the garden in a cloud of smoke for the benefit of the apple-trees; a practice

not altogether grateful to the optics or olfactories, but decidedly beneficial to the fruit crops, not that the fruit thrive on smoke, but that the enemies of fruit abominate it. In many of my neighbours' gardens the gooseberry-bushes are all but dead: the old stems are naked as in winter, and the shoots of the year so withered, shrunk and lithesome that you might tie them in knots without breaking them: and then the poor gooseberries are shrivelled into disgusting abortions, after making a futile attempt to redden into ripeness.

Now the history of the pest is on this wise. Unconnected with its object, that of giving birth to one of the greatest nuisances that ever afflicted a fruit-garden, the parent fly is a pleasing and good-looking insect, and is rather a favourite with gardeners, who think it the harmless harbinger of the cloudless skies which accompany its visit. I have often watched these flies glancing in the sunshine, chasing each other over the leaves, spreading out their gauzy and glassy wings, the hind wings projecting from beneath the fore wings like those of the lappet-moth, and enjoying to the top of their bent the genial influence of that delicious mock summer which we always have before the chill eastern blasts which usher in the real one, and which are supposed to bring the grub into existence. I will describe the fly: the wings are four, perfectly transparent, and in bright sunshine reflect the tints of the rainbow: the head and antennæ are nearly black: the thorax is yellow with a large black spot above and below, the upper spot is generally divided into three: the body is of a clear, delicate, unspotted yellow: the legs are yellow and the feet black. I send you drawings of the fly, the leaves and the grub, which, if you copy faithfully on wood, will greatly add to the interest of this history. The fly is magnified, the leaves and grubs are of the natural size. The life of the fly is but another example of implicit obedience to nature's universal law, the heaven-descended command "increase and multiply."

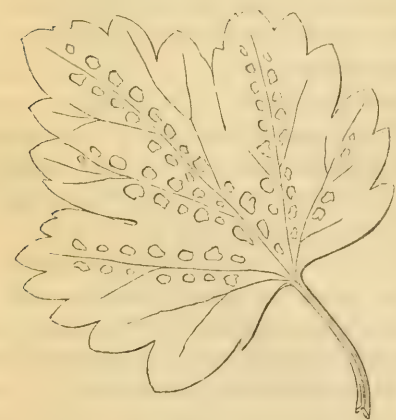


Very shortly after the due celebration of the nuptials the female repairs to the under side of a leaf and standing directly over its mid-rib, her back downwards, her wings closely folded, and her antennæ stretched straight out and continually shivering, she bends her saw under her so as to give her body a curve, and deposits her first egg on the rib itself; then a second, a third, and so on to the tip of the leaf, or as near the tip as she can find convenient standing room. She then goes to one of the side ribs, then to another, and so on till all the principal

ribs are garrisoned with her eggs ranged in the prettiest rows ; the eggs are very long and are placed lengthwise, end to end, like oblong beads on a string, yet not touching, for there is generally a space of about half an egg's length between each two. The eggs are very soft and of a half-transparent white colour. After the first day the eggs begin to grow, and before the end of a week they have grown to three times their original size : the head of the egg is always towards the tip of the leaf and is distinguished by having two black eyes, placed very far apart, and quite on the sides, indeed so far asunder are these eyes, that, like the behind buttons of the coat of a certain illustrious coachman immortalized by Dickens, it is very difficult to bring them both into the same field of view.

It is seldom more than a week before the grub makes his exit from the eggs, and entrance into active life, but the period is not a constant one, varying from four to twelve days ; he comes out head foremost, his head, by the way, like that of most young animals, being of an unseemly size : his body is nearly transparent, but just tinged with smoke colour ; the eyes so conspicuous in the egg still being very observable, but as the head becomes darker these gradually disappear. The grub is ready to begin eating directly, so crawling down from the rib he commences operations on the fleshy part of the leaf, in which he gnaws a little round hole. Immediately after making his first meal, the green of the leaf communicates its colour to his body and he is forthwith a green, instead of a smoke-coloured grub, but still so transparent, that

the particles he has eaten show through his skin as a green line down the middle of his body, and it is this green line which tinges all the other parts. The little grubs descend from the rib in equal numbers, right and left, leaving the skins of the eggs attached to the rib, and looking like a row of empty silver purses. The depredations are now visible above, from the sudden appearance of small round holes ranged in irregular rows : in each of these holes one of the tiny gluttons may be seen clasping the eaten part of the



leaf between his legs and elevating the end of his body in the air.

I give you a sketch of the leaf, showing this first stage of the evil, because at this period the progress of the plague may be arrested, and I consider it important to make horticulturists acquainted with its exact appearance: the grubs are too small to be shown, you will therefore understand that the appearance of the leaf is all that I aim at in the figure. At this nick of time, by a little care and industry, you may save your gooseberries. Now that leaf has sixty-seven grubs feeding on it: each grub will eat three leaves before it is full fed: argal, if you destroy that one leaf and all its inhabitants you save two hundred and one leaves. If you have no time to look for these leaves yourself get some children to do it: they will soon take an interest in the occupation, particularly if backed by a few coppers; surely you would not object to give a child a halfpenny a score for such leaves, and that price would be quite sufficient to clear the vision and sharpen the intellects of many a hungry boy. I would also recommend *young ladies* to look after such leaves and pick them into a hand-basket, the contents of which may be emptied into a bucket of water standing near, or disposed of in a variety of ways. If you neglect the trees at this critical time, each infected leaf will be quickly stripped of all its green, the ribs alone remaining: the grubs then descend its footstalk, and wandering in different directions each finds a leaf for himself, and the work of devastation begins in earnest.

The grub is known to every gardener, indeed so well known that you may perhaps consider it a waste of time and paper to describe it here; yet some of your readers may be glad of a description, so here it is. There is a great difference between the grubs of sawflies—the gooseberry grub is that of a sawfly—and the caterpillars of moths, which your thorough-paced entomologists don't seem to have noticed. The caterpillars of moths and butterflies have six legs, and ten, six, or four holders, two of which are quite at the end of the body and are very powerful prehensile organs, excepting—and the exception establishes the rule—in the caterpillars of puss-moths and their allies, in which the hinder extremity is without these organs, and often elevated in a most remarkable manner. In all the grubs of saw-flies that I have seen the tail or last segment of the body is either without holders or does not use them, but just curls its tail on one side and uses it after the fashion of a finger to steady its hold on the leaf, or else sticks it up in the air, and even then the extreme end is curled round though holding nothing. The legs are longer than those of real caterpillars and have more joints. The gooseberry-grub has six legs, and in this all insects that have any legs at all seem to agree, and twelve holders

besides the curled tail: it always stands on the edge of the leaf, generally on the part where it has just been eating: the fore legs are held away from the leaf and move with each movement of the head in gnawing, as the grub takes mouthful after mouthful. It is amusing to watch one of these fellows feeding, he stretches his mouth to the farthest



point it can possibly reach, and then takes mouthfuls by a series of jerks, till he has brought his mouth nearly in contact with his middle pair of legs, he then moves it slowly back again, and seems to lick or plane the fresh gnawed edge till he gets his neck stretched to its fullest reach, and he then brings it up by jerking out mouthfuls as before. The middle and hind legs, as well as the holders, grasp the leaf very tight during the operation of gnawing, which is almost incessant. The

head of the grub is now quite black, and its eyes are no longer to be seen: the colour of the body is a dull, bluish green, with a yellowish space just behind the head and another just before the tail; it is indistinctly divided into twelve rings, and each ring has a number of black warts; these warts on all the rings except the 1st, 2nd, 3rd, and 12th, are ranged in three indistinct transverse rows, and on each side of each ring is one larger and more conspicuous wart; from each wart rises a strong, upright, black bristle, and there are several of these bristles on the head itself; the last ring has a black plate ending behind in two short rather hooked points.

When about half an inch in length the grub leaves off eating, a very remarkable event, for its appetite is not intermittent like that of almost all other created beings, but a continued gnawing, craving, never-ceasing, all-consuming propensity. The black head separates from the neck and splits down the middle, and the skin of the neck also splits, thus together making an opening large enough to let the grub poke out his new head, which feat he forthwith performs and gazes about him, moving his head slowly and majestically from side to side, as though he were just landed in a new world, though a world totally unworthy any expression of wonder or approval: after the head comes the body, which is wriggled through the opening by tedious, laborious,

and seemingly painful struggles. When the skin is completely cast the grub has none of the black spots which before distinguished it, the warts and black hairs are present but the warts are colourless: the head is clear as glass, and the two black eyes so conspicuous in the egg and newly hatched grub, are again visible. In about twenty minutes the black spots begin to define, and in about four hours become as distinct and the head as black as before the moult. When the grub has regained its colour it again begins to eat, and eats away night and day without stopping, for four or five days more. It then sickens again for its last moult, and this is performed in the same way as the first: but this time the spots, warts and bristles are cast with the skin, and return no more. The grub is now of a pale delicate green colour, except the yellow patch near each end, which it still retains. It has now done with eating: when hard enough and strong enough after this last moult, it marches to the stem of the bush, and quietly descends till it reaches the earth: sometimes it crawls along a hanging branch and drops from the extremity.

The object of gaining the earth is to burrow beneath its surface; and as soon as the grub once feels the soil, he begins forcing his way into it head foremost, after the fashion of a mole. When he is deep enough to answer his purpose, the depth varying by the way from two to eight inches, according to the hardness or lightness of the soil, he makes a little oblong cell in the earth, and therein spins or constructs a tough black cocoon, attached all round to the walls of the cell: although I say spins, the material he uses is not silk or thread, but something between silk and glue, or what we might suppose to arise from the hardening of fluid silk, an illustration rather of the uncouthest, but for want of a better it must go. In this cocoon or case he disposes himself to await the change to a chrysalis, and soon after to a fly.

The time occupied in this round of existence is very variable: many of the eggs laid in May, before the middle of the month, produce grubs that go through every change and are again on the wing by the 24th of June; and eggs laid about that day will go through their changes as far as the cocoon by the 10th of July, or 15th at the latest: the first brood thus taking about twenty-eight days, and the second generally remaining under ground till the next spring. It is not however clear that in all instances this insect has two broods: on the contrary I am nearly certain that many of the late hatches never reproduce during the year, but the time of their first appearance is so variable, that a constant succession is kept up, the earliest having reproduced before the later hatches are gone down.

In my war on blight I always weigh well the remedies : many a tree has been killed to get rid of its blight : this plan is efficient but impolitic, energetic but unwise : some will white-wash a gooseberry-bush, the effect of which is cheerful and pleasing to the eye but rather injurious to the leaves, and moreover gives an unpleasant flavour and a kind of grittiness to the berries : some will water the bushes with strong brine, thereby greatly annoying the grub by killing the leaves : quicklime has a very similar effect. It strikes me that no nostrum will ever be found that shall be perfectly efficient as regards the grub and harmless as regards the tree : it would therefore be my plan to attempt to lessen an evil that is not to be cured. I have already mentioned the good effects of smoke ; the picking of the perforated leaves I have also recommended : another benefit will arise from treading the ground very hard about the roots of the bushes. An observant gardener cannot fail to notice that when gooseberry-bushes stand singly at the end of patches of potatoes, peas or beans, they are sure to be more infested than when in a close bed : the reason for this seems to me that the soil for all our culinaries is made as light as possible ; this is effected by constant digging, hoeing or raking : in a bed filled with gooseberry-bushes, on the contrary, there is but little moving of the earth going on, and it gets trodden hard when the gooseberries are ripening, and commonly remains so through the year. This hardening of the soil prevents the grubs from burrowing when they come down from the bushes, so they go wandering about and become a prey to the hedge-sparrows, house-sparrows, whitethroats, robins, and other birds that are always on the look-out for them : it also prevents so feeble an insect as the fly from forcing its way upwards from the cell in which it has changed ; thus those on the surface and those under the surface are alike assailed by the simple expedient of hardening the soil. I have tried numberless experiments on the grubs themselves, and find them very easy to kill : brine, tobacco-water, snuff-water, and other mixtures are fatal ; but these remedies, like the once celebrated flea-poison, require the capture of the animal in order to their being administered with effect.

Believe me very truly yours,

To the Editor of the Entomologist.

ART. XXXIII.—*Captures in Lepidoptera.* By HENRY DOUBLEDAY, Esq.

Epping, July 10th, 1841.

My dear Friend,

Having in the May number of 'The Entomologist' made a few remarks on the profusion in which the early Lepidoptera appeared this spring, I venture to add a short account of my captures at Epping during the last fortnight. Although last summer was so particularly unfavourable to the *Noctuidæ*, that many species usually abundant were not seen at all, it has had little influence on their appearance this season: indeed many species have appeared in far greater plenty than I ever recollect to have seen them before, while others are certainly not so abundant as usual.

Agrotis segetum and *exclamationis*. These two species have positively swarmed.

Graphiphora Augur. In the greatest plenty.

„ *brunnea*. In very great abundance.

„ *festiva*. Not so common as the two preceding species, but still very plentiful.

„ *crassa*. I took a single specimen last night (July 9), it is the only one I ever saw here.

„ *triangulum*. Only a few specimens have occurred.

Polia advena and *bimaculosa*. These two species have been very common.

Leucania comma. In profusion everywhere.

„ *impura* and *pallens*. Not so plentiful as *L. comma*, but very common.

Hama aliena. Very common.

Hadena remissa. Not very abundant.

Mamestra furva. Not common.

Rusina ferruginea. I have obtained about twenty specimens of this species: the males are more abundant than the other sex.

Apamea I-niger, *furca*, *rava*, *oculea* and *didyma*. Plentiful, and I believe these reputed species to be all referable to one most inconstant insect. The black streak on the upper wings, resembling the letter I, which some specimens possess, is of no value as a specific character, as many specimens of *Miana æthiops* possess it, while others exhibit no trace of the mark.

Miana latruncula and *strigilis*, common; and *æthiops*, abundant. It is probable these will all prove varieties of one species.

Polia Herbida and *tincta*. A single specimen of each taken.

Thyatira Batis. Not so common as usual.

Chaonia crenata. The first British specimen of this insect was taken in Ongar Park Wood, in June, 1839; and a second in the same place, in June of the present year. Both specimens were females.

Acronycta megacephala. Common. This insect is remarkable for the length of time it occurs in the perfect state. The caterpillars change to the chrysalis state in September, and the moths first appear in May following, and continue to come out till the beginning of August. The first specimen I saw this year was on the 3rd of May, and at this time (July 10th) I have several specimens just out of the chrysalis.

Lophopteryx Camelina, *Leiocampa Dictæa*, &c. keep changing from the chrysalis at intervals for several weeks.

The following insects were taken between the 3rd and 20th of June, in Huntingdonshire and Northamptonshire.

Pieris Cratægi. Plentiful in Monk's Wood, Hunts., on the 3rd of June.

Thecla Pruni. Just appearing on the 18th of June, in Monk's Wood.

Pamphila Paniscus. In profusion in Monk's Wood and in a wood near Oundle, Northamptonshire.

Polyommatus Arion. I captured a single male of this species near the village of Wigthorpe, Northamptonshire. It is a rather singular variety, and not larger than *P. Argus*.

Melitæa Artemis. In Monk's Wood, Holme Fen, and in profusion near Aldwinkle in Northamptonshire.

Lycæna dispar. Caterpillars of this species very plentiful in Holme Fen on the water-dock (*Rumex Hydrolapathum*).

Hypogymna dispar has quite disappeared from the fens, and I was informed that none have been seen since the year 1836.

Zeuzera Arundinis. Of this insect, which is new to Britain, I found a single male floating on the water in a dyke on the border of Holme Fen.*

Nemeophila Plantaginis. In profusion in Monk's Wood.

Stauropus Fagi. I took a remarkably large female in very fine condition, in a wood near Sudboro', Northamptonshire.

Sesia fuciformis, (Stephens). Plentiful in the fens, and in a boggy piece of ground near Aldwinkle.

* See note by Mr. Stephens, page 160.

Hadena Genistæ and *contigua*. Tolerably plentiful in the woods of Northamptonshire.

Emmelesia rivulata. Pretty common in Monk's Wood.

Boarmia extersaria. I captured a pair in Monk's Wood.

Phibalapteryx lignata. Near Aldwinkle.

Anticlea rubidata. A single specimen near Aldwinkle.

Yours very truly,

HENRY DOUBLEDAY.

To the Editor of the *Entomologist*.

ART. XXXIV.—*Notes on Captures*. By J. W. DOUGLAS, Esq.

Coburg Road, Kent Road,
July 8th, 1841.

ORCHESTES Quercus. During a visit to the New Forest from the 8th to the 13th of June, I was struck with the brown appearance of the oaks; and on examination I found that nearly every leaf contained between its cuticles a larva of an elongate, flattened form, which had eaten the parenchyma of half the leaf, and by destroying its vitality made it seem as if it had been scorched. About the concavity formed by the separation of the upper and under skins of the leaf, the larvæ wriggled with much activity when shaken or disturbed. In the majority of the leaves which I examined, the larvæ had become pupæ, and in a few days pupæ only were to be found. These retained all the activity of the larvæ when touched, but otherwise they remained at rest in one part of the leaf, which just there had an inflated appearance. I brought home with me several of the leaves, and on the 26th of June the perfect insect emerged by making an aperture in the leaf.

The leaves of the beech, I observed, had been attacked in a similar way, and to as great an extent, but the depredator had escaped from his cover. I beat a great number of *Orchestes Fagi* from the trees, and have no doubt that they had done the deed.

Thanasimus formicarius. I witnessed the carnivorous habits of this insect in the New Forest. Having taken one from under the bark of an oak, I put it into a bottle, and immediately afterwards a *Tomieus*, which was at once seized with the mandibles and held until nothing but the horny shell remained. I have therefore no doubt that the *Thanasimus* feeds on the wood-eating beetles and their larvæ, which were in great plenty where I found it.

Tiresias serra. In addition to what is stated at page 104, I have to

say that the larvæ assumed the pupa form *within* the skin of the larvæ, which split and opened longitudinally on the back, during the fourth week in April, and in the third week in May they appeared in the perfect state.

Hylobius Abietis. Mr. Snow, the gardener at Wrest Park, Bedfordshire, writes me word that he has taken this weevil by candlelight, eating the leaves of camellias and vines; and that he has seen the rhododendrons and laurels eaten in the same way, and doubts not that the mischief was caused by the same insects, although he never caught them in the act.

Psilura monacha. The caterpillars, which are black, hairy, and having large heads, I found on the trunk of oaks in the New Forest. They became pupæ about the 20th of June, and were perfected on the 3rd of July.

Pyrophila tetra. I beat the larvæ from an oak in Richmond Park on the 18th of May; and on the same day they formed coverings of the leaves in which to undergo their change, and became moths on the 2nd of July.

Hipparchus papilionarius. I beat the larva on the 3rd of May from a birch tree at Birch Wood; on the 18th it suspended itself to a leaf, and appeared in its perfect state on the 13th of June.

I have taken the following insects, among many others, during May and June.

Leiodes humeralis, West Wickham, under bark.

Engis rufifrons, West Wickham, in Boleti.

Ips 4-guttatus, *Silvanus unidentatus* and *Cucujus monilicornis*, in the New Forest, under bark of oak.

Triphyllus bifasciatus, Hainault Forest, under bark of hornbeam.

Throscus obtusus, Richmond Park, on whitethorn flowers.

„ *dermestoides*, West Wickham.

Elater sanguineus, New Forest.

Cistela fulvipes, New Forest, under bark.

Anobium Abietis, in fir paling, Shirley.

Abdera 4-fasciata, Hainault Forest, under bark of dead hornbeam.

Ischnomera flavicollis, Richmond Park, on whitethorn flowers.

Cleora viduaria, *Alcis consortaria* and *A. extersaria*, New Forest, 8th to the 13th of June.

Alcis roboraria, Hainault Forest, 20th of June.

J. W. DOUGLAS.

ART. XXXV.—*Varieties by Various Contributors.*

36. *Yponomeuta padella*. Another instance of the depredations of the larvæ of some insect is occurring in the squares in the north of the metropolis. The tree attacked in this instance is the common hawthorn, and in many of the squares, as Torrington, Tavistock, Russel and Mecklenburgh Squares, not a hawthorn tree is to be seen that is not almost stripped of its foliage. The caterpillar that produces this destruction is of a dark colour, and forms a web which it spreads over the branches of the tree, giving them the appearance of being 'covered with some fine cloth. Although the hawthorn in these squares is surrounded by other trees, I could not discover that any of these were in the slightest degree attacked by the insect in question.—*Edwin Lankester; University College Hospital, June 9, 1841.*

[The caterpillar produced a small white moth, with black spots: it is the *Yponomeuta padella* of authors. E. N.]

37. *Sympetrum rubicundum*. On the 1st of June a young gentleman of the name of Marsh took a single specimen of this rare dragon-fly in Epping Forest.—*Edward Doubleday; Epping, 15th June, 1841.*

38. *Hydroëssa pygmaea*. My dear Sir,—About a fortnight since while botanizing on the borders of Duddingston Loch, near this city, I captured eighteen specimens of *Hydroëssa pygmaea*, *Dufr.*, all I could find at the moment; none of them winged. I have visited the Loch two or three times since, in order to obtain more, but have not been able to find a single additional specimen. I am not aware of this insect having been observed since Mr. Haliday discovered it in Ireland; and send you the present notice of its capture, in case it may be of sufficient interest for the Varieties of 'The Entomologist.'—Yours very truly, *Robt. Kaye Greville; Edinburgh, 10th July, 1841.*

39. *Manufacture of Oil from Cockchafers*. "We learn from the 'Journal de l'Arrondissement du Havre,' that an experiment, highly interesting to all who are engaged in agricultural pursuits, has just been tried by M. Bréard, Mayor of Harfleur, and owner of an oil-manufactory at Gonfreville-Porcher. This gentleman in May last gave notice that he would buy as many cockchafers as could be procured, at the rate of one franc the hectolitre.* From 17 hectolitres of cockchafers M. Bréard obtained 28 litres of oil, which burnt well, and with a bright clear flame. It is to be regretted that the experiment was not made earlier in the season: however, we may hope that next year the women and children will do their best to collect an abundant supply of these destructive insects. Agriculturists will feel grateful for their labours, and they may themselves find the employment a profitable one. It may be remarked that the apple-crop has this year almost entirely failed in some parts of the arrondissement, owing to the ravages of the cockchafers."—*From the Constitutionnel of Monday, July 5, 1841.*

40. *Aphides and Honey-dew*. Much having been written lately about Aphides and honey-dew, allow me to add my mite by recording what I witnessed some years ago, when residing in the country, and in the habit of noting

—— "Plants, trees and stones,

Birds, insects, beasts, and many rural things."

A cherry-tree, trained against a wall with a western aspect, was annually much infested by Aphides. Towards the evening of a summer's day, I found great numbers of the Aphides at supper on the upper part of the tree, and whilst they were feeding, they ejected a clear transparent fluid in such quantities that it fell in a regular shower, the

* A hectolitre contains one hundred litres, and is rather more than two bushels (English).—E. N.

upper surface of those leaves which projected far enough to catch it, being covered with honey-dew, and the ground, for a short distance from the foot of the tree, appeared quite damp with the same substance, while the more distant part was dry. But the funniest part of the affair was, that the rays of the sun were reflected from this falling shower, so as to form the prettiest little rainbow (or rather *dew-bow*) imaginable, exhibiting the prismatic colours, and being precisely similar, only on a smaller scale, to the effect I have often produced by throwing a stream of water from a large garden-syringe against a dark-coloured wall opposite the sun, with sufficient force to break the stream into very fine spray.—*Geo. Luxford; Ratcliff Highway, July 13, 1841.*

41. *Laphria nigra*. The pupa of this insect inhabits decayed wood. The head, thorax, rudiments of wings, and eight segments of the abdomen are distinctly formed on the outside of the case. There are four large and as many small spines on the head, and the same number occur close together on the tip of the abdomen. The back of each segment of the abdomen is also armed with a transverse row of small spines. The head and thorax are smooth, but on the sides of the abdomen there are a few bristles. *Francis Walker; Southgate, July 15, 1841.*

42. *Zeuzera Arundinis*. "Alis anticis obtusis, albido-cinerascentibus fuscoque irratis; posticis albidis (♂ aut fuscis ♀); abdomine elongato." *Och. Schm. Eur. iii. 98.*

Bombyx Arundinis, Hüb. *Bo. t. 47, f. 200 ♂, f. 201 ♀.*

„ *castanea*, *Esp. Schm. iii. t. xciv. cont. 15. f. 1, 2.*

Anterior wings long and slender, somewhat rounded at the hinder margin, and dilated near the base of the inner edge; brownish, or whitish-grey, slightly dusted with brown, with a black-brown streak towards the costa, the inner edge reddish; cilia dirty-brown, paler in the ♀: posterior wings of the ♂ whitish, of the ♀ brownish-grey: eyes black; head and thorax brownish-grey: abdomen cylindrical, longer than the wings; of the ♂ brownish, of the ♀ whitish-grey: antennæ white, with brown radii, the latter in the ♂ disappearing before the apex. The larva inhabits the stalks of *Arundo Phragmitis*. The above description of this recent addition to our Fauna, made by my friend H. Doubleday, Esq., I have attempted to draw up from *Ochsenheimer*, accompanied by the collation of the figures of the insect, in my copies of *Hübner*, *Esper* and *Engramelle*, trusting that it may suffice for recognizing it, by any person who may be successful in capturing a specimen, the example found by Mr. Doubleday being too much injured for description. The insect (excluding the antennæ) closely resembles a *Leucania*, so that it might readily be mistaken for one in the hurry of collecting, and by twilight; lepidopterists therefore would do well to search diligently in places where the plant upon which it feeds abounds, for a chance of meeting with it, amongst the insects of that genus, which frequently abound in marshy places.—*J. F. Stephens; Eltham Cottage, Foxley Road, Kennington, July 15, 1841.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XI.

SEPTEMBER, MDCCCXLI.

PRICE 6D.

ART. XXXVI.—*Analytical Notice of the 46th Number of the ‘Annals and Magazine of Natural History,’ dated August, 1841.* London: Richard and John E. Taylor.

ART. XLVIII.—*Descriptions of new or little known Arachnida.* By MR. ADAM WHITE, Assistant in the Zoological Department of the British Museum.

THE author has received the whole of the collection of Arachnida formed by Mr. Darwin during the voyage of the Beagle, also others collected by Mr. Gunn in Van Dieman's Land, Mr. Bracy Clark in Switzerland, and Mr. Guilding in St. Vincent's; and the new species contained in these collections it is the object of the present paper to describe. In noticing the singular economy of certain fossorial Hymenoptera in storing up spiders for their future progeny, Mr. White quotes the following interesting observations from the MS. notes of Mr. Abbot, now in the British Museum.

“*Sphex lunata*, Fab. (*Pelopæus lunatus*, Fab. Syst. Piez.), called in Savannah Black and Yellow Mason, and likewise Dirt-daubers: they make oblong cases of clay, which they plaster in layers to roofs, ceilings, and other convenient places; when finished they lay an egg inside at the end, then fill it with spiders and plaster them up. The worm (larva), by the time it eats them all, is full fed, and spins round itself a thin case like gold-beater's skin, in which it changes into chrysalis; it begins to build in May and continues all the summer. What is remarkable, they have the art to embalm these spiders alive, or rather enchant them. Upon opening one, the spiders are alive, but unable to walk or make the least resistance, being just able to move a little, sometimes a leg, and they appear plump and (of a) fresh colour. I imagine they do this by stinging the spiders: this is a wonderful property and provision of nature to provide the worms with fresh and proper food as long as is needful. Upon putting some of these spiders in a box, they continued plump and fresh several days before they began to alter. One fly continues to build several cells alongside and upon each other: they destroy an amazing number of spiders; they commonly put all or the most part of one particular species together in one cell, many of them of very rare species, and such I imagine must live chiefly on the tops of branches of the loftiest trees, as I could never afterwards meet with these specimens of spiders. Upon opening several of these cases at once, it affords (as you may judge) a most curious and pleasing sight—such a large number of spiders of the most beautiful colours and rarest species. Could it be possible still to continue to preserve them in their beauty and freshness, they would make a wonderful collection of natural history.”—p. 472.

1. *Linyphia (Leucauge) argyroabpta*. Brownish yellow with the chelicera darker: abdomen silvery, with 5 brownish-black longitudinal lines meeting at the extremity, which is of the same colour as the lines, with 2 distinct silvery lines. [The generic characters given with each species I omit]. Mr. Darwin captured it near Rio Janeiro. (Annals, vii. 473).

2. *Linyphia? leucosternon*. Body and sternum shagreened: above greyish white, beneath greyish black spotted with white: cephalothorax yellowish, with a paler posterior margin: legs yellowish, with darker joints: chelicera port-wine colour: eyes black. Mr. Darwin captured it near Rio. (Id. vii. 474).

3. *Epeira (Singa) leucogramma*. Greyish brown, darker on the sides, and having 3 longitudinal black-margined white lines above, the middle one being interrupted, and two abbreviated black-margined white lines below: legs greyish brown ringed with black: cephalothorax ferruginous. Captured by Mr. Darwin near Rio. (Id. vii. 474).

4. *Tetragnatha bicolor*. Shagreened and griseous above, with 3 or 4 indistinct brownish lines, sides lighter, beneath darker: legs and cephalothorax brownish yellow. Captured in Van Dieman's Land by Mr. Gunn. (Id. vii. 475).

5. *Eripus heterogaster*, Walckenaer. *Thomisus heterogaster*, Latr. Guérin, Icon. Arachn. pl. 1. fig. 4.

6. *Salticus (Homalottus) pustulatus*. Upper side black, with greenish reflections, covered with papillæ. Taken by the Rev. D. F. Morgan at Sierra Leone. (Id. vii. 476).

7. *Pholcus geniculatus*. Upper side of the body yellowish with 12 black-brown spots, 8 of which are arranged in pairs and decrease in size towards the extremity, under side blackish brown: legs reddish yellow, the first joints ringed with black and yellow, the last pale. Taken near Rio by Mr. Darwin. (Id. vii. 477).

These seven species are in the cabinet of the British Museum.

EDWARD NEWMAN.

ART. XXXVII. *Analytical Notice of the 'Transactions of the Linnean Society of London,' vol. xviii. pt. 4, published August, 1841.*

ART. XXXIX.—*On a Gall gathered in Cuba, by W. S. MacLeay, Esq., upon the leaf of a plant belonging to the order Ochnaceæ. By The Rev. M. J. BERKELEY, M.A., F.L.S.*

AFTER commenting on various striking resemblances between

Cryptogamic plants and galls formed by insects, Mr. Berkeley thus describes the subject of the present memoir.

"On the occasion of making me a most kind offer of collecting Fungi for my herbarium, in Australia, Mr. MacLeay was so good as to transmit to me for examination a leaf studded with the productions in question.

"The discovery of the exuviae in some of them, in addition to a microscopic examination, placed it beyond all doubt that I had before me the production of an insect.

"Twenty or more individuals are produced on the same leaf (in that before me twenty-three), the upper surface of which is furnished with a strong shining cuticle. As soon as the presence of the grub has caused the tissue immediately around it to swell, and to detach itself above and below, by a sort of concentration, from the cuticle, there is an evident attempt, as it enlarges, exactly as in *Æcidium cancellatum* and other allied epiphytall Fungi, to burst indifferently through either surface, but, apparently, it is in general unable to overcome the superior resistance of the upper cuticle, though that is somewhat raised and occasionally a little ruptured, and consequently forces its way through the hypophyllous cuticle, splitting it into a few subacute laciniae.

"Each gall is cylindrical, about a line long, and consists of two distinct substances, the outer of which is dark brown, and evidently a continuation of the inner substance of the leaf; the inner much paler, thinner, shining and horny, as is indeed the case in many galls. The apex is strongly umbilicate with the border, which is formed of the outer coat, slightly expanded, and furnished with a few shallow, obtuse, distinct crenulations. At the bottom of the umbilicus is a nipplelike operculum. The operculum is solid and formed of the outer coat, but is intimately connected with the top of the inner horny sac, which is very thin above, and thus forms a lid to it, which fits on exactly where the outer suddenly diverges from the inner coat, so that little resistance is offered to the egress of the insect, except that of the upper portion of the inner coat, which, as said above, is extremely thin, and, at the point where the operculum fits on, very brittle. There is sometimes a little punctiform depression at the top of the operculum, which is probably the scar of the puncture made by the ovipositor of the insect. Seventeen of the galls were already burst; and out of the remaining six, one only furnished an imperfect grub, and this being exceedingly light and dry, was unfortunately lost whilst the drawing was in progress. Several of the other galls had the remains of exuviae, but too imperfect to furnish any information. I am not aware that there is any instance on record of a gall bursting through the cuticle; and the operculum is very singular." p. 576.

ART. XL. — *Synopsis of the Coleopterous genus Cerapterus*. By JOHN O. WESTWOOD, F.L.S., &c.

The author makes the genus to consist of six sub-genera, and eight species.

Sub-genus 1, *Cerapterus* proper, is distinguished by a very broad prothorax, with rounded sides; very broad antennæ, serrated laterally, and having the terminal joint very large; elytra covering the abdomen; tibiæ very broad, and without internal spine.

1. *Cerapterus latipes*, Swederus. Piccous; elytra with a yellowish,

roundish, apical spot, anteriorly 4-dentate and lobed posteriorly. It inhabits the East Indies. (Trans. Lin. Soc. xviii. 582).

2. *Cerapterus Horsfieldii*. Piceous; elytra with a Y-shaped, yellowish, apical marking: the prothorax is notched anteriorly, and the terminal joint of the labipalpi is decidedly securiform. It inhabits the island of Java: there is a specimen in Mr. Melly's cabinet. (Id. xviii. 583).

3. *Cerapterus 4-maculatus*. Pitchy-black and very shining: prothorax anteriorly slightly notched, and having two large obscurely-rufescent spots: the elytra are very slightly punctured, and have four rufo-fulvous spots; two large oval ones near the scutellum, and two others, still larger and lobed anteriorly and posteriorly, near the apex. It inhabits Java, and is in Mr. Westermann's cabinet; it is 5 lines long, and $2\frac{1}{2}$ broad. (Id.).

Sub-genus 2. *Orthopterus* of Westwood. The prothorax is less than twice the breadth of the head: the antennæ are moderately long, rather broad, flat, with the sides nearly straight, and the last joint moderate: the elytra cover the abdomen: the tibiæ are furnished with an internal apical spine.

4. *Cerapterus (Orthopterus) Smithii*, MacLeay. Pitchy-black, somewhat shining: elytra broader than the prothorax, and almost five times as long; they are marked with a yellow spot. It inhabits South Africa. (Id.)

Sub-genus 3. *Arthropterus* of MacLeay. The prothorax is not broader than the head, sub-quadrate and rather broader anteriorly: the elytra are narrow, and shorter than the abdomen: the tibiæ are furnished with two spurs, the opposite angle being very acute.

5. *Cerapterus (Arthropterus) MacLeayi*, Donovan. Red-brown: the prothorax sub-convex and narrowed posteriorly: the anterior angles rounded: the centre of its disk scarcely furrowed. Inhabits New Holland. (Id. 584).

Sub-genus 4. *Phymatopterus* of Westwood. The prothorax is broader than the head, cordato-truncate, and longitudinally impressed: the antennæ are broad: the elytra oblong-quadrate, and tuberculated at the external apical angle: the tibiæ are broad, internally 2-spurred at the apex, the external angle being rounded: tarsi 5-jointed.

6. *Cerapterus (Phymatopterus) piceus*. Piceous, shining: antennæ and feet pitchy-red, irregularly and slightly punctured. Inhabits New Holland: in the cabinets of Messrs. Gory and Curtis. This is the

Cerapterus MacLeai of Westwood. (Trans. Ent. Soc. ii. 25, tab. x. fig. 7).

Sub-genus 5. *Homopterus* of Westwood. The prothorax is rather narrower than the head, and cordato-truncate: the antennæ are moderately long, rather flattened, and anteriorly somewhat serrated: the elytra are narrow and elongato-quadrate: the femora and tibiæ are very broad; the latter without spurs at the apex, and excavated for the reception of the tarsi, which are short and have the intermediate joints hairy beneath.

7. *Cerapterus (Homopterus) Brasiliensis*. Fulvous-rufescent, with whitish eyes: prothorax foveolate in each of the posterior angles. Length $3\frac{1}{2}$ lines; breadth $1\frac{1}{10}$ line. Taken near Rio, by Mr. Miers, who possesses the specimen. (Id. 584, tab. xxxix. C. fig. a et b.)

Sub-genus 6. *Pleuropterus* of Westwood. The prothorax is twice as broad as the head; it has the lateral margins elevated, the posterior sinuous and produced into a small lobe at each angle: the elytra are oblong-quadrate: the legs long and slender: the tarsi broad.

8. *Cerapterus (Pleuropterus) Westermanni*. Pitchy-red, without gloss: elytra black, posteriorly marked with a red cross; the apex also is reddish. Length $4\frac{1}{2}$ lines; breadth $1\frac{5}{8}$ line. It inhabits the island of Java, and is in Mr. Westermann's cabinet. (Id. p. 585).

ART. XLI.—*Descriptions of some nondescript Insects from Assam, chiefly collected by William Griffith, Esq., F.L.S., Assistant Surgeon in the Madras Medical Service, and attached to the late scientific mission to Assam. By The REV. FREDERICK WILLIAM HOPE, M.A., F.R.S. and L.S.*

1. *Lucanus Forsteri*. Pitchy-black: head flattened and thickly punctured: mandibles internally multi-dentate, armed at the base with a strong tooth both above and below, and forked at the apex: prothorax convex, with the lateral margins serrated: elytra castaneous: mesotibiæ unidentate: metatibiæ unarmed. Length, with mandibles, 2 inches 11 lines; breadth 10 lines. It is from Assam, and in Dr. Cantor's cabinet. (Id. 587, tab. xl. fig. 1).

2. *Lucanus Rafflesii*. Black and shining: head broad, depressed, punctured: mandibles unidentate before the apex, which is obtuse and obliquely truncate: the prothorax is rather broader than the head, and has elevated margins. Length 2 inches 6 lines; breadth 8 lines. Inhabits Bengal, &c. In Mr. Hope's cabinet. (Id. 588).

3. *Lucanus Spencii*. Black: head depressed anteriorly, convex

posteriorly: mandibles robust and unidentate at the base, forked at the apex: thorax with the lateral margins slightly serrated: meso- and metatibiæ unidentate. Length 1 inch 9 lines; breadth 6 lines. It is in Dr. Cantor's cabinet. (Id. 589).

4. *Lucanus curvidens*. Black: head very much depressed, and furnished with two prominent teeth in front: mandibles with a strong curved tooth at the base: elytra strio-punctate, externally rugosely punctate: mesotibiæ unidentate: metatibiæ setose. Length 1 inch 9 lines; breadth $6\frac{1}{2}$ lines. In Mr. Hope's cabinet. (Id.)

5. *Lucanus bulbosus*. Dark chesnut, with the femora coral-red: mandibles armed internally with rounded teeth; acute at the apex: prothorax broader than the head: meso- and metatibiæ unidentate. Length 1 inch 6 lines; breadth 6 lines. Inhabits Assam. In Dr. Cantor's cabinet. (Id. 589, tab. xl. fig. 2).

6. *Lucanus astacoides*. Chesnut; with the antennæ, a spot on each side of the prothorax, the scutellum, and the margins and suture of the elytra black: the head is bituberculate: the mandibles have small black teeth at the base, and are acute at the apex. Length 1 inch 3 lines; breadth 4 lines. (Id. p. 590).

7. *Lucanus foveatus*. Chesnut; with the head pitchy black, the margins and suture of the elytra black, the femora coral red, and the tarsi black: the mandibles have one strong tooth near the middle and four smaller ones nearer the apex; the head has two teeth in front and a deep impression between them. Length 2 inches, breadth 6 lines. Inhabits Assam: in Mr. Griffiths' cabinet. (Id. 590).

8. *Lucanus omissus*. Chesnut; the antennæ, suture and margins of the elytra, and tarsi, black: the mandibles have two teeth near the base and four others nearer the apex. Length 1 inch 9 lines, breadth 6 lines. In Mr. Hope's cabinet. (Id. 591).

9. *Lucanus serricollis*. Black, polished: the mandibles are short and sinuate: the sides of the prothorax are serrated: the club of the antennæ has five leaflets. Length 1 inch 3 lines, breadth 6 lines. (Id. 591).

10. *Lucanus punctiger*. Black, punctured, especially the anterior part of the head: lateral margins of the prothorax serrated: elytra strio-punctate. Length $9\frac{1}{2}$ lines, breadth 4 lines. In Mr. Griffiths' cabinet. (Id. 592).

11. *Cheirotonus MacLeaii*. Æneous green, the elytra being ornamented with numerous yellow-brown spots: the prothorax is coarsely punctured, it has a longitudinal channel down the middle and its lateral margins are serrated; the body beneath being clothed with long

hair: the femora are green and shining in the middle; the tibiæ are armed with strong teeth. Length 23 lines, breadth 13 lines. Mr. Hope considers this insect generically distinct from *Propomacrus* of Newman (Ent. Mag. iv. 256), and also from *Eucheirus* of Kirby. (Id. 595, tab. xl. fig. 3).

12. *Popillia gemma*, Newman, 'Mag. Nat. Hist.' n. s. iii. 366.

13. *Paracrusis cyanipes*, Newman. Id.

EDWARD NEWMAN.

(To be continued).

ART. XXXVIII.—*List of Lepidoptera captured near Manchester.*

By ROBERT T. EDLESTON, Esq.

13, Derby Street, Cheetham,

Manchester, July 22nd, 1841.

Dear Sir,

It was with great pleasure that I had an opportunity of seeing the 9th No. of 'The Entomologist,' not having been previously aware of the publication of such a periodical: most heartily do I hope to see it prosper. The low price at which 'The Entomologist' is published is a sufficient proof that pecuniary gain is not the object of its projector, and places it within the reach of all who take an interest in the science. Surely every one calling himself an entomologist will consider himself bound, not merely to become a subscriber, but also to avail himself of your pages to record his captures and observations. These records, trifling as they may sometimes appear, are not only highly interesting, but often really useful in showing the effects of locality, soil, climate, or other causes, on the range and comparative rarity or abundance of species.

Below I hand you a list of some of the *Lepidoptera* I have captured in this neighbourhood during the present year: the names are taken from Curtis's 'Guide.' I may remark that insects generally have been more abundant during the present than in the two preceding years.

Wishing every success to 'The Entomologist,'

I am, Dear Sir,

Yours truly,

ROBERT T. EDLESTON.

To the Editor of 'The Entomologist.'

- Jan. 29. *Vanessa Urticæ*
Feb. 21. *Anisopteryx leucophæaria*
Phigalia pilosaria
Hibernia stictaria
Glæa satellitia
28. *Nyssia hispidaria*, very variable; the female is scarce.
March 1. *Anisopteryx rupicaprarica*
æscularia
Glæa Vaccinii
Orthosia cruda
9. *multistrigaria*
14. *Biston prodromaria*
21. *Nyssia zonaria*, Liverpool
26. *Diurnea Fagella*, and a black variety.
28. *Achætea spreta*
Lobophora rupestrata
Lampronia purpurella
April 9. *Orthosia gothica*
sparsa
Boarmia crepuscularia
May 11. *Cidaria derivata*
badia
18. *Adela Swammerdamella*
Spilosoma Menthrasti
Thera variata
Abraxas ulmata
Saturnia pavonia-minor
23. *Anacampsis longicornis*
Fidonia atomaria
Anarta Myrtilli
Mamestra Pisi
Plusia gamma
Spilosoma lubricepeda
30. *Macaria liturata*
June 6. *Lasiocampa Rubi*
Acronycta Menyanthidis
Aplocera cæsiata
Ægeria culiciformis
Zygæna Filipendulæ
June 6. *Ino Statices*
13. *Mamestra furva*
basilinea
Persicariæ
Hadena adusta
plebeia
Bupalus favillacearius
Agrotis segetum
Graphiphora C. nigrum
Hepialus hectus
Velleda
lupulinus
Phycita abietella
Hipparchia Davus
27. *Acosmetia arcuosa*
Lasiocampa Quercus
29. *Polia herbida*
bimaculosa
Alcis roboraria
repandaria
Thera simulata ♀, var.
Triphæna pronuba and *innuba*, both one insect.
July 11. *Miana Æthiops*
fasciuncula
18. *Polyommatus Argus*
Eyrepia Plantaginis
russula
Scotophila porphyrea
Acronycta Rumicis
Phycita palumbella
Orthotænia Bentleyana
Nola Cucullatella
Platypteryx lacertinaria
falcataria
Hyria auroraria
Pterophorus similidactylus
24. *Tortrix galiana*
ablana
4-punctata
31. *Amphiza Gerningianæ*

ART. XXXIX.—*Entomological Notes.* By EDWARD NEWMAN.

(Continued from p. 112).

Class.—COLEOPTERA.

Natural Order.—CETONIITES.

Genus.—CETONIA, *Fabricius*.

Ceto. gemella. Rubro-picea, utriusque elytri maculâ subsuturali, ante medium sitâ, difformi, albidâ seu pallidè subaureâ. (Corp. long. .9—1.3 unc., lat. .55—.6 unc.)

Inhabits the Philippine Islands. There are specimens captured by Mr. Cuming in the cabinet of the British Museum. The colour is a rich velvety red-brown: on each elytron, rather before the middle and very near the suture, is a large whitish spot, which when the insect is held in a certain position, has a slightly golden appearance: these spots are in the velvety clothing of the elytron only, and may consequently be obliterated by friction: many specimens have other smaller and similarly coloured spots, particularly on the elytra, near their external posterior angle: the sternum is covered with a grey pubescence, and the under surface of each abdominal segment has a double row of oblong spots on each side, of the same colour; these, however, are very inconstant: in some specimens the podex is also variegated: the anal angle of each elytron, in the male, is produced into a very acute spine.

Ceto. sybaritica. Ferrugineo-fusca, maculis nonnullis parvis subaureis ornata. (Corp. long. .8 unc., lat. .5 unc.)

Inhabits the Philippine Islands. There are specimens captured by Mr. Cuming in the cabinet of the British Museum. The colour is a rich velvety ferruginous-brown, with darker patches and shades, particularly two conspicuous, somewhat lunulate markings, on the prothorax: the insect is adorned with various bright and almost golden spots of velvety pubescence; these are so inconstant in site, size, and figure, that it is almost impossible to describe them: two of them, small and round, generally occupy a prominent station near the centre of the prothorax: there is one on each elytron near the suture, at about two-thirds of its length, and another on the lateral margin of each elytron at about half its length: the podex has four or six of

these spots: as in the preceding species the spots may be readily obliterated: the lower surface has pubescent markings, but these are also irregular: the tibiæ are clothed on the inner side with red-brown hair, and there is a tuft of the same projecting from beneath each posterior angle of the prothorax: the base of the scutellum is slightly rugose, and covered with short reddish hairs.

Ceto. chloris. Olivaria; prothoracis marginibus lateralibus, elytrorum fasciolisque nonnullis angustis abbreviatis albidis: podex albido varius: abdomen subtus maculis 2 utriusque segmenti oblongis albidis. (Corp. long. .8 unc. lat. .475 unc.)

Inhabits the Philippine Islands. There are specimens captured by Mr. Cuming in the cabinet of the British Museum. The colour is a dull olive-green, the lateral margin of the prothorax having a slender whitish line: there are two small round spots, or rather dots, near its centre: the base of the scutellum is smooth, velvety, and has two whitish marks: the elytra have several narrow abbreviated little fasciæ; of these one is situated on each elytron, near the suture, at about one-third of its length, and a second at about two-thirds of its length; three others near the lateral margin of the elytron, and in position alternate with the sutural ones: the podex is variegated, the olive colour usually occupying three oblong longitudinal spaces: the sternum is nearly covered with a grey pilosity.

Ceto. subviridis. Subviridis; prothoracis marginibus lateralibus, elytrorum maculis incertis præ dispositis obscure albidis: podex albo variatus: abdomen subtus lanugine cinerea plus minusve tectum. (Corp. long. .6 unc. lat. .375 unc.)

Inhabits the Philippine Islands. There are specimens captured by Mr. Cuming in the cabinet of the British Museum. The colour is a velvety but obscure green, the lateral margins of the prothorax and sundry spots on the elytra being of a dingy white colour: the base of the scutellum is roughly punctured.

Ceto. germana. Ferrugineo-fusca, obscura; prothoracis marginibus lateralibus elytrorumque maculis numerosis transversè dispositis obscure albidis: podex albido variatus: abdomen subtus lanugine obscure albidâ plus minusve tectum. (Corp. long. .6 unc. lat. .375 unc.)

Inhabits the Philippine Islands. There are specimens captured by

Mr. Cuming in the cabinet of the British Museum. The base of the scutellum is roughly punctured, as in the preceding species, with which it closely agrees in many other characters; still there is a great and apparently constant difference in the colour, and I find no intermediate shades; the spots on the elytra are more numerous, distinct, and conspicuous.

Ceto. querula. Nigro-ænea, nitida, maculis nonnullis lanuginosis incertis albidis: elytra præ striata: striis 5 abbreviatis prope suturam sitis. (Corp. long. .5 unc. lat. .3 unc.)

Inhabits the Philippine Islands. A specimen captured by Mr. Cuming is in the cabinet of the Entomological Club. This insect is about the size of the well-known European species, *Cetonia stictica*; its colour is very dark, but occasionally relieved, especially on the sides of the prothorax, the legs, &c., with a metallic splendour: the elytra have the elevated longitudinal ridge so general among the *Cetoniæ*, and in the depressed space between this and the suture are five abbreviated striæ, a single one and two pairs; the elytra, moreover, are nearly covered with coarse but shallow punctures.

EDWARD NEWMAN.

ART. XL.—*Varieties by Various Contributors.*

43. *Cæstrus cuniculi*, called in *Savannah* the rabbit-fly. A hare or rabbit of this country being caught, I observed creeping out of the skin a worm; being full fed it went into the ground 2nd August. They feed between the skin and flesh, seldom more than two at one time in a rabbit; it changed into a chrysalis, out of which came the fly on the 13th September, by pushing out a kind of door. The skin of the chrysalis is thick and as hard as wood. The fly, when it came out, had a kind of bladder to its mouth. This species is rare in the fly state. *Abbot's MSS.*

44. *Hipparchia Cassiope*. I took a few specimens of this insect on the 23rd of June, near the edge of Styce-head Tarn, between Borrowdale and Wastdale, in Cumberland. The day being generally cloudy, I only saw them on the wing during a temporary gleam of sunshine.—*R. Bowman Labrey*; 20, Market Place, Manchester, 17th July, 1841.

45. *Carabus glabratus*. This insect occurred plentifully at the same time and place as the preceding; also upon Hard Knott and Wryneck, between Eskdale and Langdale.—*Id.*

46. *Oxystoma Ulicis*. On the 1st of August, 1840, when at the Addington Hills, near Croydon, after watching the ripe pods of the common furze bursting in the hot sun-shine, I gathered a number of the unopened pods, and found several perfect individuals of a small weevil (*Oxystoma Ulicis*) inclosed in nearly every one that I examined.—*Geo. Luxford*; *Ratcliff Highway*, July 18, 1841.

47. *Note on Myriapoda.* I send you an account of "Observations sur les Myriapodes, par M. A. F. Waga, Professeur d'Histoire Naturelle, à Varsovie," published in the 'Revue Zoologique,' thinking it may be interesting; and I have added thereto some remarks that I have made. Prof. Waga says they are easily kept and reared in a jar containing some earth, and a few dead and decayed leaves (which must be occasionally moistened) for food. They dislike light; and if their food be not changed, they grow weak and diseased, and are covered with innumerable Acari, which increase in number daily till the creature dies. Though usually inhabiting damp situations, they choose a dry spot when they change the skin. Of all Chilognatha Craspedosoma has most fondness for damp, and dwells only in spots that are almost marshy, and is therefore not able to find a dry spot whereon to change its skin, but placing itself between two leaves, it spins on one of them a cocoon that resists the outward damp, and then rolls itself in a spiral form and changes its skin. The Juli have, on each side of the body, a series of pores, which Waga calls "*foramina repugnatoria*," for through them is emitted a volatile oil, by which the insect defends itself. The Geophili emit an electrical smell by these pores, and Geophilus electricus has the power of ejecting by them a liquid, shining in the dark. Julius terrestris has 50 abdominal segments and 182 legs, four to each segment, but two of the posterior and one of the anterior segments have no legs, and there are three segments that have each only a single pair of legs. Some of the Myriapoda (e. g. Platylula) take their food by suction, and M. Brandt has separated them from the Chilognatha, and named them Siphonizantia. The food of the Chilognatha is not confined to vegetable matter, but they also devour small Mollusca (Helix, Vitrina and Clausilia), and the pupæ of small Coleoptera, and also the Lumbrici or earth-worms, which in their turn feed on the dead Chilognatha. Craspedosoma is infested by the larva of one of the Stratiomydæ. Waga states that it is certain that the Geophili, like the Lumbrici, subsist entirely on vegetable earth. He observed that the eggs of Julius unciger are oval and of a yellowish white colour, and that when they split into two equal parts the young ones are seen inside, milk-white, very soft, and without any limbs. In four or five days the antennæ and the three simple pairs of legs become visible. I have often observed the young of Polydesmus in this state, that is varying in length from $\frac{1}{4}$ to $\frac{1}{2}$ a line, and having only 6 legs and as many segments, including the head. It is white and semitransparent, like glass with a milky hue. When little more than a line in length it has 10 segments and the same number of legs on either side of the body. Waga remarks that the young Juli afterwards have 7 segments, then 8 besides the head, and they then have 2 double pairs of legs, making 14 in all. When full grown the insect has 30 legs, 3 single and 6 double pairs. Many of the legs are not developed till the animal has shed its skin. I have observed that Julius pulchellus, when about 2 lines in length, has 14 legs or thereabouts on either side of the body, which is composed of nearly the same number of segments. The legs do not then extend along the whole length of the body, there are a few segments at either end on which they are wanting, especially towards the tail, where the segments are furnished with bristles instead of legs. It is white and semitransparent. When a little larger it acquires 4 additional legs on either side. Each segment has a red spot on either side; but when the creature is young it is only one segment that is thus adorned. These spots contain a coloured liquid, which exudes from the body. Julius terrestris in like manner emits a dark purple liquid when thrown into hot water.

—Francis Walker; 49, Bedford Square, July 18, 1841.

48. *Aphis of the Peach.* In all stages of growth during May, beneath the leaves

of the peach-tree. When just born its colour is white, with a pale green tint on the hind part of the body, the eyes only are dark. The body is then linear and flat, but as the insect grows it changes more and more in colour and shape, till it arrives at its full size, when the body is short, oval, convex, shining, dark green, the sides of the abdomen pale; horns of the abdomen very short: the antennæ are slender, setaceous, dark, with a band beyond the middle of each, shorter than the body; the legs are white, the tips of the thighs and of the tibiæ, and the whole of the tarsi are dark green. When winged it is black, having the abdomen dark green, the antennæ and legs black banded with dark green, and the wing-nervures green.—*Id.*

49. *Aphis of the Currant.* Found during May on the underside of currant-leaves in profusion, and in all stages of growth. The colour is pale green, only the eyes dark, the young ones are almost white, but as they increase in size, the green colour becomes more and more vivid. The winged insect is comparatively rare at this time; it has the disk of the head, of the thorax and of the abdomen black, the antennæ black, the legs banded with black, there is a row of black spots on each side of the abdomen, and the nervures of the wings are black.—*Id.*

50. *The Aphis of the Cherry* has a more dilated body than most species of *Aphis*. It swarms on the young shoots of the cherry in May and June, and is infested by an *Allotria*, which mounts on the back of its victim and lays eggs within the skin.—*Id.*

51. *Aphis of the Turnip.* Two distinct species of *Aphis* infest this plant; the one is bright pale red in colour, the other green, covered with white down, is also abundant on the cabbage.—*Id.*

52. *The Aphis of the Sow-thistle* attains its full size at the beginning of June, when its colour is quite white, like that of the roots of the plant. The same species, or one nearly allied, is common on the roots of grass in July. Its antennæ are short and filiform, but another kind of *Aphis* that dwells, in June and July, beneath the leaves of the sow-thistle, has setaceous antennæ. The latter species is infested by a minute *Acarus* of a bright orange colour.—*Id.*

53. *Aphis of the Oak.* This species inhabits the underside of oak leaves in May and June. The colour of the young is whitish green; but afterwards they acquire two bright green stripes along the back, and when they attain their full size, the colour becomes pale red, the upper side of the body having a dark red stripe along it. The legs and antennæ are short, and the latter also filiform; the abdomen has two tubercles near its tip.—*Id.*

54. *The Aphis of the Bean* appears on that plant in the beginning of July.—*Id.*

55. *Aphis of the Sycamore.* There are two species; the one appears early in the spring, the other, which also infests some other trees, is more abundant in the summer. The latter has a black body, the legs and antennæ are green banded with black, the wings limpid, with green nervures. When young, the body is altogether bright green.—*Id.*

56. *Aphis of the Apple-tree.* Common under the leaves of that tree during spring. It has setaceous antennæ, and is very different from *Eriosoma Mali*, which infests the wood.—*Id.*

57. *Lachnus.* Two species of this genus live on the shoots of the spruce fir, and two more on those of the Scotch fir.—*Id.*

58. *Orgyia antiqua.* The beginning of May is the most favorable time to take the larvæ of this moth. I have found them in Coombe Wood, feeding on the bramble, though I believe the hazel is their favourite food. These larvæ, like those of *Lasi-*

campa Rubi, Arctia Caja and villica, and Odonestis potatoria, remain unchanged during the winter, and in a semitorpid state until aroused by the warmth of spring. By procuring a female of the perfect insect an immense number of the males may be collected on a fine day in the beginning of July. I am informed by Mr. Joseph Standish that Mr. King once obtained a second brood of the moth in October.—*Alfred Lambert*; 6, Trinity Street, Borough, July 20, 1841.

59. *Petasia serrata*. The larva feeds on the oak; I have found it on the 10th of July. The pupa changes in the ground, and I have taken the perfect insect on the 11th of May.—*Id.*

60. *Chaonia Roboris*. The larvæ are to be found towards the end of June, feeding on the oak; the pupa changes in the ground, and I have taken the imago on the 15th of May.—*Id.*

61. *Pterostoma palpina*. The larva may be found in September, feeding on sal-low; the pupa changes in the ground, and I have taken the imago at Coombe Wood on the 12th of May.—*Id.*

62. *Acronycta Alni*. I found a specimen of the moth on some palings between Clapham and Wandsworth, on the 14th of May.—*Id.*

63. *Cucullia fissina* I found on palings at Clapham, and also at Coombe Wood, on the 12th of May.—*Id.*

64. *Colocasia Coryli*. I have beaten the larvæ of this moth off hazel on the 4th of September; previously to assuming the pupa state it spins up amongst the leaves, and I have taken the imago on the 12th of May.—*Id.*

65. *Notodonta Dromedarius*. I have taken and bred this insect in the beginning of May, and observe that these early specimens are much smaller and lighter in colour than those bred in July and August. I am inclined to think there are two species, as the larvæ differ very much in colour. On the 28th of June I bred a very dark specimen, and I can perceive but slight difference between this and those which are named *Notod. perfusca*. I found the larvæ of this insect towards the latter end of August, feeding on the hazel, at Birch Wood.—*Id.*

66. *The Foliage of the Lime* affords a pabulum to the caterpillars of many Lepidopterous insects, some of which are confined to it, while others are occasionally found upon other trees: amongst them we may enumerate the *Smerinthus Tiliæ*, *Pygæra bucephala*, *Stauropus Fagi*, *Lophopteryx camelina*, *Petasia cassinea*, *Endromis versicolor*, *Eriogaster lanestris*, *Leucoma Vau-nigra*, *Orthosia stabilis*, *Xylina petrificata*, *Miselia Aprilina*, *Acronycta Psi*, *Cosmia trapetzinga*, *Xanthia citrargo*, *Prosapiaria defoliaria*, *Biston prodromarius* and *hirtarius*, *Geometra Tiliaria* and *angularia*, *Ourapteryx Sambucaria* and *Hipparchus papilionarius*. It is also infested by *Aphis Tiliæ* and various species of *Psocidæ* and *Cercopidæ*.—*Selby's 'British Forest Trees,' p. 9.*

67. *Foliage of the Sycamore*. Few Lepidopterous larvæ feed upon the leaves of the sycamore, but of those which occasionally do so is that of *Pygæra bucephala*. The flowers are sweetly but not powerfully scented; they are the resort of various Hymenopterous insects, particularly some of the genus *Bombus*, viz., *B. hortorum* and *terrestris*.—*Id. p. 20.*

68. *Stylops Kirbyi*. On the 28th of April, 1840, I observed an *Andrena*, I believe of the species *Collinsiana*, flying very heavily, and subsequently settle. I laid my finger on it, and perceiving something whitish I thought I had crushed the bee, but on closer inspection found that it was a *Stylops* running about on the abdomen of the bee: this *Stylops* had not been bred from the bee on which I found it, the abdomen of

which however contained the pupæ of two other specimens.—*J. C. Dale ; Glanville's Wootton, July 28, 1841.*

69. *Elenchus Walkeri*. I took a specimen of this insect on the 27th of June, and another on the 1st of July, 1841, by sweeping flowers in a boggy situation near Glanville's Wootton.—*Id.*

70. *Halictophagus Curtisii*. I took one specimen from a thistle in the Isle of Portland, on the 16th of June, 1840; a second opposite Portland, at Lulworth, on the 15th of July; and a third on the 1st of August.—*Id.*

71. *Penthophora nigricans*. I have at last succeeded in breeding both sexes of this insect from the pupæ from West Hurne, on the 26th of June, 1840. I have frequently found the larvæ on the heaths.—*Id.*

72. *Acheta sylvestris*. I found this insect among dried leaves near Stony Cross, on the 20th of July, 1840; the forest was quite in a charm with their song.—*Id.*

73. *Libellula rubicunda*. In July, 1837, this insect occurred in plenty at Thorne Moor, Yorkshire.—*Id.*

74. *Spilosoma radiata*. I have bred this insect from elder, &c., at Saltfleet, Lincolnshire, in every possible variety from its most striking appearance to that of the common *Spi. lubricipeda*; thus proving it to be a variety of that species.—*Id.*

75. *Beris Morrisii* of *Curtis's Guide*. Palpis parvis nigris, antennis apice attenuatis; alis obscuris stigmatibus fusco; scutello 6-spinoso: nigra, thorace viridi-æneo, ore pedibusque flavis. ♂ ♀ (Corp. long. $3\frac{1}{2}$ lines, alar. lat. 8). This species nearly resembles *Beris geniculata*; it is twice the size of *Beris chalybeata*, from which it also differs in having the antennæ attenuated at the tips, and the wings more strongly veined; the legs are yellow, and the tarsi fuscous at the tip. Taken at the end of Stonebarrow Lane, in a wet ditch on grass, a quarter of a mile from Charmouth, on the Bridport Road, on the 8th and 9th of July, by the Rev. F. O. Morris, Dr. Morris, and myself. Both sexes are in the cabinets of Messrs. Curtis, Haliday, Morris, and myself: it is a very local insect, and unless a stranger knew the exact habitat and date, he would probably hunt over much ground near Charmouth to little purpose.—*Id.*

76. *Hemerobius hirtus* of *Linneus*. I have no doubt that *Hem. fimbriatus* of Curtis is identical with the *Hem. hirtus* of the Linnean cabinet.—*Id.*

77. *Genus Amphyginus* of *Haliday*. Trib. Anchomenini (Erichson). Mentum dente medio bicuspidato: ligula apice rotundata paraglossis æqualibus: palpi articulo ultimo subcylindrico: unguiculi intus serrati: tarsi simplices in utroque sexu: pro typo *Carabus piceus*, Marsh. i. 444; *Calathus piceus*, Steph. M. i. 98.—*A. H. Haliday, July 29, 1841.*

78. *Entomological Society, July 5, 1841*. Numerous donations of books by the Baron Walekenaer, Prof. Burmeister (who was present), the Rev. F. W. Hope, Mr. Newman and others, were announced, and thanks ordered to be given to the several donors. Mr. Hope also announced his intention of presenting his valuable collection of British Crustacea to the Society. Professors Owen and Burmeister were admitted members of the Society. Mr. Stephens exhibited specimens illustrative of the history of *Nematodes Ribesii*, one of the saw-flies which has committed great ravages on currant-trees this season in the neighbourhood of London; he had observed as many as fifty-seven larvæ on a single leaf, the present being the third brood. Mr. S. Stevens exhibited specimens of the nests of *Apoderus Coryli*, formed of portions of oak leaves rolled up into a cylinder, and Mr. Walton various new British species of *Curculionidæ*. Mr.

Bond brought for distribution amongst the members a number of specimens of *Callidium violaceum*. Mr. Westwood exhibited a new species of *Cæstrus* from India, and a singular new genus of *Mantidæ*; and Mr. White various *Cimicidæ* obtained in his recent visit to Paris, as well as several new Scottish *Curculionidæ*. A paper by the Rev. F. W. Hope was read, containing descriptions of new *Lucanidæ* and *Lamellicorn* beetles, including a new genus of *Glaphyridæ* from Australia, of a comparatively gigantic size. A paper was also read by Mr. Westwood upon the genus *Cryptodus* of MacLeay, in order to prove that it belonged to the *Dynastidæ* (instead of being one of the primary types of the *Cetoniidæ*, as regarded by MacLeay), and upon a new genus of *Rutelidæ*, being the first instance of any insect of that family ascertained to be a native of Asia. A note was also read from Mr. Tulk, relative to the habits of a toad found in a hole, the opening to which was too small to allow it to escape, and which fed upon *Carabidæ* that went into the hole for concealment, the hard integument of the insects scarcely undergoing any change in the stomach of the animal. This circumstance induced Professor Owen to suggest that an examination of various coprolites would probably bring to light the existence of many antediluvian insects of which we have now no trace.—*J. O. Westwood.*

79. *Entomological Society, August 2, 1841.* Donations of various publications from the Zoological Society of London, the Royal Agricultural Society, Professor Burmeister, M. Montagne, &c., were announced, as well as a fine collection of Egyptian insects presented by Miss Hope. Mr. S. Stevens exhibited a number of specimens of the new species of *Micronyx* recently discovered, together with numerous other rare minute *Coleoptera*. Mr. Parry exhibited two large boxes of most splendid insects of various orders from the Himalayas. Mr. Westwood mentioned the capture by Mr. Melly, of three specimens of *Carabus Schonherri* on Ben Lomond. He also exhibited a small portion of the collection of dissections made by Latreille, consisting of several hundred illustrations presented to him by Mr. Melly, as well as Latreille's specimens of the anomalous (supposed) *Crustaceous* genus *Prosopistoma*. Mr. White exhibited a drawing of *Echidnocerus cibarius*, a new genus of *Anomalous* crabs from the Colombia river, used by the natives for food; also drawings of a species of *Æga* found on the cod on the shores of Newfoundland, the eggs of which are used by the fishermen as salve as well as for a bait. He also exhibited specimens of some very minute bees, and portions of their cells, which had been imported into this country with log-wood, and which had lived for two years in the neighbourhood of Southampton. The memoirs read consisted of a monograph on the *Elaterideous* genus *Compso sternus*, by the Rev. F. W. Hope: a notice of a hitherto unobserved character distinguishing the sexes in certain *Lucanidæ*: and descriptions of some new genera of *Dynastidæ*, illustrating the natural relations of the genus *Cryptodus*; both by J. O. Westwood.—*J. O. Westwood.*

JOHN VAN VOOEST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XII.

OCTOBER, MDCCCXLI.

PRICE 6D.

ART. XLI.—*Analytical Notice of the ‘Transactions of the Linnean Society of London,’ vol. xviii. pt. 4. August, 1841.*

ART. XLII.—*Descriptions of some nondescript Insects from Assam, chiefly collected by William Griffith, Esq., F.L.S., Assistant Surgeon in the Madras Medical Service, and attached to the late scientific mission to Assam. By The Rev. FREDERICK WILLIAM HOPE, M.A., F.R.S. & L.S.*

(Continued from p. 167).

14. *Lamia Swainsoni*. Brown: the head has an impressed line between the eyes; the four basal joints of the antennæ are ferruginous, the remainder black: the prothorax is armed with a spine on each side; it is clothed beneath with white hairs: the elytra are parallel, their apices truncate and each angle spined, they have black tubercles near the base and whitish markings on various parts of the disk. Length 1 inch 4 lines, breadth 6 lines. In Mr. Hope's cabinet. (Id. 597, tab. xl. fig. 6).

15. *Monochamus beryllinus*. Blue, the antennæ grey, the elytra spotted with black. the prothorax has a black spine on each side. The length is 8 lines, the breadth 3 lines. (Id. 597, tab. xl. fig. 7).

16. *Stibara tetraspilota*. The genus *Stibara*, now first proposed, is allied to *Saperda*, the habit of the present species closely resembling that of *Sap. Carcharias*; it is described as orange-red, the antennæ and eyes being black; the elytra also have a large humeral spot and the apex black. Length 10 lines, breadth $3\frac{1}{2}$ lines. (Id. 598, tab. xl. fig. 8).

17. *Stibara trilineata*. Pale chesnut, the antennæ ringed with white: the prothorax toothed on each side: the elytra ornamented with three black lines; the under surface is covered with a yellow pilosity. Length 9 lines, breadth 3 lines. (Id. 599).

ART. XLII. — *The Difference in the Number of Eyes with which Spiders are provided proposed as the Basis of their Distribution into Tribes; with Descriptions of newly discovered Species, and the Characters of a new Family and three new Genera of Spiders.* By JOHN BLACKWALL, Esq., F.L.S.

THE author, after giving the views of Walekenæer relating to a pri-

mary division of Arachnida by the mode in which their mandibles are articulated and move ; and those of Dufour, founded on the number of branchial sacs ; points out the insufficiency of these characters, and proposes a division founded on the number of eyes, as under.

1. OCTONOCULINA. Eyes eight.

2. SENOCULINA. Eyes six.

3. BINOCULINA. Eyes two.

The first and second groups are sufficiently extensive ; the third is confined to the genus Nops, lately characterised by Mr. William Mac-Leay, in the 'Annals of Natural History.' The species described are as under.

1. *Clubiona brevipes*. Cephalothorax glossy dark brown, the anterior and marginal portions still darker : mandibles powerful, conical, internally armed with a few teeth, nearly black : legs short, dull yellow, fourth pair longest, then the second, first and third : abdomen oviform, hairy, dark reddish brown. This species is $\frac{1}{4}$ inch long : it usually occupies an oval cell of compact white silk, which it spins on the inferior surface of leaves and liverworts growing on trees in the wooded districts of Caernarvonshire. It leaps with agility. (Id. 603).

2. *Clubiona fucata*. Cephalothorax glossy reddish brown anteriorly, posteriorly and on the sides greenish brown, with a fine dark brown marginal line : mandibles powerful and conical : legs yellow-brown, fourth pair the longest, the rest of nearly equal length : abdomen oviform, hairy, yellowish brown, with a dark reddish band above, extending nearly half its length from the anterior part along the middle ; the interval between the posterior extremity of the band and the spinners, is occupied by a series of triangular spots of the same hue, on each side of the medial line is an irregular, interrupted, longitudinal band of a dark reddish brown colour. The length of this species is $\frac{3}{16}$ of an inch ; it conceals itself amongst foliage in the woods of Denbighshire and Caernarvonshire. (Id. 605).

3. *Ciniflo atrox*. This is the *Clubiona atrox* of Latreille, 'Gen. Crust. et Insect.' The author considers it the only known species of the genus *Ciniflo*, of which, together with the family *Ciniflonidæ*, he has given descriptions.

4. *Ergatis benigna*, the *Theridion benignum* of Walckenaer, 'Hist. Nat. des Aran.'

5. *Ergatis latens*, the *Dictynna latens* of Koch, 'Die Arachn.'

6. *Ergatis viridissima*, the *Drassus viridissimus* of Walckenaer, 'Hist. Nat. des Insect. Apt.' The name *Ergates* has previously been assigned to an annulate genus by Audinet Serville, and the name *Dic-*

tynna has recently been given to an annulate genus by Mr. Westwood; in both instances the second employment of the name must be amended.

7. *Lycosa rapax*. Cephalothorax large, hairy, dark brown, with a broad yellowish band extending along the middle, and an obscure one of the same hue above each lateral margin: mandibles powerful, conical, armed with a few internal teeth, dark brown, with a faint tinge of red near the base: legs robust, reddish brown, with blackish brown spots and streaks on the thighs, fourth pair the longest, then the first, second and third: abdomen oviform, thickly covered with hairs: a broad band of yellowish brown, which tapers to the spinners, occupies the middle of the upper part; this band has a black border broken into spots posteriorly, which form, with smaller confluent ones of the same hue, oblique lines extending down the sides, which are yellowish. The length is $\frac{3}{8}$ of an inch: it frequents woods, pastures and commons, also the sea-shore just above high-water mark, and the summits of Snowdon and other mountains: the female spins a globular cocoon of pale yellowish silk, in which she deposits sixty or seventy spherical pale yellow eggs. (Id. 609).

8. *Lycosa obscura*. Cephalothorax rufescent: mandibles powerful, conical, armed with a few teeth on the inner surface: fourth pair of legs longest, the rest equal: abdomen oviform, very hairy, above brown, with three minute tufts of yellowish hairs anteriorly: length $\frac{1}{2}$ of an inch: females frequent short grass and heath in Denbighshire and Caernarvonshire, with the cocoons attached to their spinners; when the young are hatched they mount on the back of the mother. (Id. 611).

9. *Lycosa latitans*. Cephalothorax dark brown, with a few white hairs on the lateral margins: mandibles as in the last: legs yellowish brown with darker bands, fourth pair the longest, the rest nearly equal: abdomen dark brown tinged with olive, and having above a double row of white spots, and numerous white hairs both above and on the sides: its length is $\frac{1}{2}$ of an inch: females are found in May and June in moist situations in woods in Denbighshire, with cocoons attached to their spinners. (Id. 612).

10. *Lycosa Cambrica*. Cephalothorax large, brownish black, clothed with yellowish brown hairs, the posterior part and sides have white hairs disposed in irregular spots: the mandibles have a fringe of long hairs on the inner surface: legs dark yellow-brown, with black bands, fourth pair the longest, then the first, second and third: abdomen above yellowish brown, with a pale dark-bordered band about a third of its length above: its length is $\frac{2}{3}$ of an inch: it was taken in swampy ground at Oakland, in May, 1839. (Id. 614).

11. *Salticus distinctus*. Cephalothorax large, dark brown, with a whitish streak above each lateral margin: legs pale red-brown, with darker bands, fourth pair the longest, then the third, first and second: abdomen brown, mixed with red-brown and yellowish white: length $\frac{1}{6}$ of an inch: common in Denbighshire on stone walls, in the interstices of which it spins a cell of compact white silk, attached to the surface of the stones. (Id. 616).

12. *Calotes saxatilis*, *Clubiona saxatilis*, 'Lond. and Edinb. Phil. Mag.' iii. 436.

13. *Agelena elegans*. Cephalothorax and legs yellowish red, the fourth pair of legs the longest, the rest nearly equal: abdomen nearly black, rather paler beneath: length $\frac{1}{3}$ of an inch: found under stones near Llanrwst in Denbighshire. (Id. 619).

14. *Agelena prompta*. Cephalothorax brown, the anterior part, which is rounded and rather depressed, being darkest: legs brown, fourth pair the longest, then the first, second and third: abdomen above, dark brown, with a series of strongly marked, yellowish-brown, angular lines extending along the middle, the sides and under surface pale yellowish brown, the latter having a band of a darker hue in the medial line: length $\frac{1}{2}$ of an inch: it occurs at Llanrwst under stones. (Id. 621).

15. *Agelena montana*. Cephalothorax brown: legs brown, paler at the joints, fourth pair the longest, then the first, second and third: abdomen nearly black, with yellowish brown spots, which are most conspicuous on the sides: length $\frac{1}{4}$ of an inch: found under stones at Gallt y Rhyg, a mountain near Llanrwst. (Id. 622).

16. *Agelena nava*. Cephalothorax, legs and abdomen dark brown, the latter dull the cephalothorax shining; fourth pair of legs longest, then the first, second and third: length $\frac{1}{5}$ of an inch: females found in considerable numbers on rails and gates in pastures near Llanrwst. (Id. 623).

17. *Agelena celans*. Cephalothorax hairy, very dark brown with yellowish brown lateral margins and a band of the same colour along the middle: legs tinged with red, the thighs being paler, fourth pair the longest, then the first, second and third: abdomen above reddish brown, with an obscure dentated band of reddish brown along the middle, beneath reddish brown, with three obscure darker longitudinal lines: length $\frac{1}{6}$ of an inch: found in woods in the vicinity of Llanrwst, running nimbly on the ground and concealing itself under stones. (Id. 624).

18. *Theridion fuscum*. Cephalothorax glossy reddish brown: legs

and abdomen of the same colour: first pair of legs the longest, then the fourth, second and third: length $\frac{1}{10}$ of an inch: females captured in November and December on rails and under stones, near Llanrwst. (Id. 626).

19. *Theridion albens*. Nearly white, except a small, oblique oval, formed by a fine black line, which occurs near the middle of the upper part of the abdomen, on each side of the median line: first pair of legs the longest, then the fourth, second and third: length $\frac{1}{6}$ of an inch: found in July among strawberry plants at Hendre House, near Llanrwst. (Id. 627).

20. *Theridion callens*. Cephalothorax pale yellowish brown, its lateral margins, a triangular central spot which projects a line to the base of the eyes, and a small triangular spot immediately behind each lateral pair of eyes black: legs long, slender, yellowish brown, with numerous darker bands, first pair longest, then the fourth, second and third: abdomen variegated with black, red and white: length $\frac{1}{8}$ of an inch.

"It constructs a very remarkable cocoon of a balloon shape, measuring about $\frac{1}{8}$ of an inch in diameter; it is composed of soft silk of a slight texture, and a pale brown colour, enclosed in a loose irregular network of strong, dark red-brown silk; several of the lines composing this network are united near the apex of the cocoon, leaving intervals there through which the young spiders pass when they quit it, and, being agglutinated together throughout the remainder of their length, form a slender stem, varying from $\frac{1}{10}$ to $\frac{1}{2}$ of an inch in length, by which the cocoon is attached to the under surface of stones and fragments of rock, appearing by its figure and erect position like a small fungus or some minute production belonging to the vegetable kingdom. The eggs are very large, considering the small size of the spider, five or six in number, spherical, not agglutinated together, and are of a brown colour. I have not been able to procure an adult male of this species, which frequents woods in the west of Denbighshire."—(Id. 627).

EDWARD NEWMAN.

(To be continued).

ART. XLII. — *Description of Lagenoderus gnomoides, a rare species of the Orthoceratous Curculionidæ from Madagascar.* By ADAM WHITE, Esq., Assist. in the Zool. Dep. of the Brit. Mus.

FEW tribes of insects are more extensive than the Curculionidæ, and among these, the Orthoceratous division contains as interesting and curious forms as are to be found among the Coleoptera. All the genera of Brenthidæ, Anthribidæ and Bruchidæ are, in this respect, most singular: while in what the scientific Schoenherr has called the

genuine part of the order, we find such genera as *Antliarhinus*, with its prodigiously elongated beak, *Ulocerus*, with its dead-stick appearance, the round *Cassida*-like or lady-bird-formed *Camarotus*, and all those genera, with their few or many species, so admirably described in the distinguished Swede's 1st and 5th vols. of the '*Genera et Species Curculionidum*.' Not a few other genera might be mentioned, but perhaps the above list will suffice as an apology for introducing to notice another curious form which will come close to *Attelabus*, and which most probably the great monographer of this fearfully extensive group would have classed as a "*grex*" or subgenus of that set of insects.

Those who know only our British *Apoderi* and *Attelabi*, will bear with me when I tell them that in the former genus many species from Madagascar, India and the eastern islands, have singularly long strangulated necks, (*Apod. Camelus*, *Giraffa*, and other species named after long-necked beasts or birds); whilst others have the elytra most curiously spined, (*A. Hystrix*, *spinosus*, *echinatus*, *dumosus*): while in the latter many hardly less curious species occur. The *Attelabus longimanus* from Cayenne, described by Olivier in 1789* (with its fore legs elongated and much developed, the femora of the male being armed with a terminal simple hook, while in the female there is a double one), in some respects approaches our insect, while in others it is very different. Of the genus, briefly and but imperfectly described here, I have seen only four specimens, three apparently males, the other a female. These specimens are in the well-known collections of MM. Chevrolat, Gory and Dupont: the last-mentioned entomologist has the female also in his unrivalled collection.

The following description may serve to distinguish this from other subgenera.

Genus.—*ATTELABUS*, *Linn.* Subgenus.—*LAGENODERUS*.

Antennæ in foveâ insertæ, 11- (12 ?) articulatæ, articuli quinque ultimi crassiores, perfoliati, clavam formantes, (articulus terminalis minutus): rostrum capite brevius, apice subincrassatum: thorax lageniformis, parte anticâ in mare valdè elongatâ, in feminâ curtiorè crassiorèque, suprâ subconvexus, transversèque profundis lineis insculptus: pedes antici elongati, femora carssa, dentibus diversis instructa; tibiæ intus bisinuatæ unco apicali: elytra subquadrata, chlamydiformia, anticè truncata, apice dehiscencia, gibbere parvo subapicali singulatim instructa.

* '*Encycl. Méth.*' iv. 278, No. 1. Ent. v. 81. (*Attelabe*), p. 7, No. 4, pl. 1, fig. 4, a, b. Schoen. '*Syn. Ins. Curc.*' I. i. p. 205, sp. 17. This, with several other species, has been formed into a subgenus by Germar, under the name of *Euscelus*; but both Schoenherr and Dejean regard it merely as a section: see Schoenh. l. c. and Dej. Cat.

Atel. (Lag.) gnomoides. Species unica: obscure ænescente purpurea, pedibus lucidioribus.

Hab. Madagascar ("à L'Antanguin? sur un arbrisseau"). ♂ Mus. Chevrolat, Dupont, Gory. ♀ Dupont.

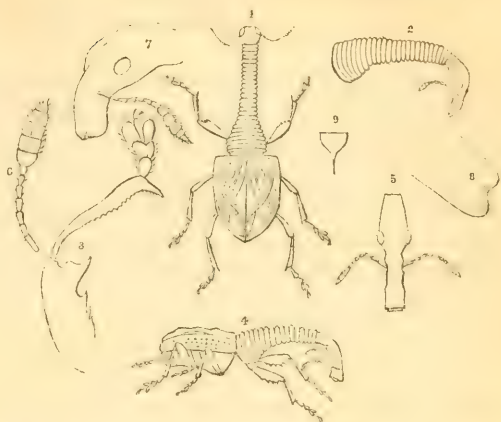
Head rugose, above furrowed, the beak and head are gradually and slightly bent, the eyes are large, rather prominent, and situated about midway between the extremity of the thorax and the end of the beak, which is narrower immediately in front of the eyes. The

thorax is somewhat cruc-shaped, being broadest at the base, and towards the head attenuated, especially in the male; it is transversely much wrinkled, a longitudinal furrow extending down the middle; the base, at the sides especially, is deeply punctured. The scutellum is distinct and pointed at the end. The elytra, taken together, are somewhat square, but are rounded at the end and rather narrower behind than in front, where they are truncated and broader than the base of the thorax; they are rugose, resembling in sculpture and appearance some species of the American genus *Chlamys*; at the base, near the suture, is a line somewhat bent inwards, two oblique lines beneath this run from the middle of the dorsal surface towards the suture. The impressed spots on the epipleura run in longitudinal lines; each elytron at the end is punched in near the suture, and has a rather distinct protuberance there; the apex of the elytra is rufescent with short reddish hairs. Femora of forelegs much thickened; tibiae flattened and curved, hooked at the tip, and slightly dentated on the waved or sinuated inner edge, which bends out in the middle; the terminal joints of the tarsi are more or less heart-shaped and furnished with hairs; in the two specimens I more particularly examined the ungues were destroyed.

I have to thank MM. Chevrolat, Dupont and Gory for the loan of this species to describe; in the cabinets of the two first-named gentlemen it was ticketed with different specific names, which both kindly cancelled, as it would only create confusion to give unpublished names as synonyms.

To M. Blanchard the father, a most distinguished Natural-History draughtsman, I am indebted for the illustrations in figs. 1, 2, 4 and 5; figs. 7 and 8 are by M. Guérin-Meneville; and figs. 3 and 6 by myself.

ADAM WHITE.



1. *At. (Lag.) gnomoides*, ♂. 2. Thorax and head of ♂ viewed sideways. 3. Foreleg of ditto. 4. ♀ viewed sideways. 5. Head of ditto viewed from above. 6. Antenna. 7. Head viewed sideways. 8. Apex of elytron. 9. Scutellum.

ART. XLIII.—*Additions to the 'Entomologia Edinensis.'*

By R. N. GREVILLE, Esq.

THE following species of Coleoptera, chiefly Curculionidæ, have been captured in this neighbourhood during the summers of 1838 and 1839; and as they are undescribed in the '*Entomologia Edinensis*,' a list of them may be acceptable to some of the readers of '*The Entomologist*.' The Curculionidæ were determined by John Walton, Esq., whose kindness in naming them, and in supplying me most liberally with many of my desiderata, I am glad to have the opportunity of acknowledging.

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| Miscodera arctica. Pentland Hills, June. | Rhinonchus 4-tuberculatus. Dalmeny Park &c. |
| Aëpus fulvescens. South Queensferry; abundant. | Acalles ptinoides. Ditto. |
| Bembidium paludosum. Ditto; one specimen. | ——— Roboris. A single specimen taken at Roslin. |
| Notiophilus tibialis and palustris. | Anoplus plantaris. Dalmeny Park, on the birch; August. |
| Cercyon acutum. | Miccotrogus cinerascens. Ditto. |
| ——— Boletophagum. | Orchestes melanocephalus. Ditto. |
| ——— simile. | Balaninus Nucum. Ditto. |
| ——— femorale. | Anthonomus Ulmi. South Queensferry; rather common. |
| ——— impressum. | ——— pubescens? Gyll. unregistered as British. I took a single specimen in Dalmeny Park, in August, 1839. |
| ——— atomarium. | Orthochaetes setiger. Dalmeny Park. |
| ——— stercorator. | Hypera Plantaginis. Ditto. |
| Aphodius prodromus. | Otiorhynchus pabulinus. |
| Telephorus ochropus. South Queensferry. | Omius pellucidus? Dalmeny Park; end of June. |
| Malthinus bi-guttatus. Dalmeny Park. | Sitona pleuritica. Queensferry, on wall-tops. |
| Gymnaëton Linariæ. Ditto. | —— suturalis. Ditto. |
| Ceutorhynchus fuliginosus. Ditto. | —— lineella. Of this very rare species I have taken a single individual, but do not remember the exact locality. |
| ——— viduatus, Gyll. unregistered as British. | Phyllobius calcaratus and maculicornis. |
| Nedys cyanipennis. Dalmeny Park. | —— Pomonæ. |
| ——— floralis. Ditto. | —— parvulus. Arthur's Seat; July. |
| Nedys ———, a new species, allied to N. pollinarius, on Salisbury Craigs. | Rhinodes Pruni. Dalmeny Park. |
| Rhinonchus pericarpus. Dalmeny Park, Slateford, &c. | |
| ——— Castor. Dalmeny Park, Slateford, &c. | |
| ——— canaliculatus. Ditto. A single specimen of this rare species has occurred. | |

- Apion* Cracæ. Dalmeny Park.
 — *Pomonæ*. Ditto.
 — *subulatum*. Ditto.
 — *curtirostre*. Ditto, Slateford, &c., not uncommon.
 — *Onorpordi*. Ditto.
 — *carduorum*. Ditto, rather abundant.
 — *sulcifrons*. Queensferry.
 — *Spencii*. Ditto, and near Slateford.
 — *Astragali*.* Ditto, a single specimen.
 — *Loti*. Dalmeny Park.
 — *assimile*. Ditto.
 — *varipes*. Ditto.
 — *vorax*. In woods about Queensferry; abundant.
Oxystoma fuscirostre. Juniper Green; May.
Rhynchites lævicollis. Dalmeny Park; August.
 — *minutus*. Ditto, June.
Deporaus Betulæ. Ditto, August.
Sphæriestes æneus and *immaculatus*. Dalmeny Park and Queensferry; rare.
Donacia Menyanthidis. Duddingston Loch.
Haltica flava. Arthur's Seat, on thistles; common.
Thyamus pallens. Ditto.
Mantura semiatæna. Very abundant in clover-fields near Colinton.
Chætocnema concinna. Very common.
Chrysomela Hyperici. Slateford and Juniper Green; abundant in June and July.
 — *sanguinolenta*. Queensferry.
Cryptocephalus vittatus. Dalmeny Park; a single specimen.
Autalia impressa. Queensferry.
Calodera nigricollis. South Queensferry.
Polystoma obscurella.
Aleochara Daltoni. South Queensferry.
Tachinus elongatus.
Coprophilus striatulus.
Micralymma Johnstonæ. Sea-shore, South Queensferry. This insect has been met with in great abundance, most of the specimens a little below high-water mark.

Among the rarer insects described in the 'Entomologia Edinensis,' the following have occurred.

- Cillenum laterale*. Queensferry.
Pissodes Pini. A pair, Dalmeny Park.
 One of the specimens I took on the underside of a fir-log, when turning it over in search of *Ips ferruginea*: the latter insect has been found in some plenty.
Hypera elongata.
Sphæriestes ater and *foveolatus*. I have met with about a dozen specimens of each species near South Queensferry, chiefly in September and the beginning of October.

R. NORTHMORE GREVILLE.

Edinburgh, June 21, 1841.

ART. XLIV.—*Note on the Primary Divisions of Carabidæ.*

By A. H. HALIDAY, Esq., M.A.

It appears to me that the division founded on the varying insertion of the second spur of the fore tibia may be replaced to better purpose by that which the structure of

* I may here mention that when at Northampton in June, 1839, I took this rare and beautiful insect in some plenty, though confined to a very limited locality.

the sternum offers. My observations (nearly confined to the British species) point to this as more invariably related to the aggregate of characters, and as affording a more precise line of demarcation. If it be adopted, the family will fall into three primary groups.

1. AMPHIBII. Præsternum dilated and truncated, forming a continuous level with the mesosternum, (viz., the structure of Haliploini). Gen. Omophron.
2. ABDOMINALES. Mesosternum in front with a short longitudinal ridge received into the posterior cavity of præsternum, limiting the motion of the prothorax and giving rigidity to the frame. (Approaching the structure of Dyticidæ in general). Genera.—(1. Cychrini). Cychrus. (2. Carabici). Carabus. Calosoma. (3. Nebriani). Leistus. Nebria. Notiophilus.
3. PEDESTRES. Mesothorax in front contracted, retiring from the præsternum, and permitting a freer motion of the prothorax. (Approaching the structure of Cicindelidæ). Includes Harpalidæ, Scaritidæ and Brachinidæ of MacLeay.

It is here that the exceptional results occur, in the first subordinate group Elaphrini, from which the proposed method removes Notiophilus to the preceding primary group, and Omophron as the type of another coordinate group, leaving only the genera Elaphrus and Blethisa. A comparison of the latter with *Nebria borealis* will enable the examiner to appreciate the comparative precision of the two methods of division; and the resulting limitation of this group may serve for the test of the method here proposed.

A. H. HALIDAY.

ART. XLV.—*Notes on Staphylinidæ*. By A. H. HALIDAY, Esq. M.A.

Family.—STAPHYLINIDÆ. Tribe.—OMALIANI.

Genus.—BOREAPHILUS, *Sahlberg*.

Erichson has provisionally referred this genus (known to him only by *Sahlberg's* description) to the present tribe, expressing some doubts whether the form of the palpi has been rightly described. With the same genus he is disposed to unite *Coryphium angusticolle*, Steph. Mand. v. 344, were it not for the different figure of those organs. Having two species of the genus before me, I add some observations which may clear up these questions. The genus *Boreaphilus* belongs without doubt to this tribe, and resembles *Lesteva* in many respects. The maxillary palpi are as long as the first three joints of the antennæ in the first species, shorter in the other. The last joint is almost obsolete, which consideration may explain the discrepancy in the descriptions of *Sahlberg* and *Stephens*. The labial palpi are not filiform, the third joint being small and subulate, the others nearly equal. The mentum is broad, transverse, and truncated before. The labrum is transverse, truncated in front and entire; very large and dilated in the first species, with the margin finely crenulate. The other parts of the mouth I have not seen so distinctly. The inner edge of the long falcate mandible is described as *entire* by *Sahlberg*, *unidentate* by *Stephens*. The ocelli are distinct, placed near the occipital line in the second species, farther forwards in the other. The coxæ are more exerted than in *Anthophagus*, but nearly as in *Lesteva*, the fore pair being cylindrical. The last joint of the tarsi is shorter than the rest together, in the hind feet

about half as long. Four joints of the fore tarsi are very slightly dilated in the male. The two species agree in all essential characters, though differing a good deal in figure. The first is longer than *Lesteva punctata*, with much larger head, minute eyes, longer and narrow thorax and shorter elytra. The other more resembles the ordinary form of a *Lesteva*, but has a larger head and shorter thorax.

Genus.—BOREAPHILUS.

Palpi subulati: mandibula elongata falcata: tibiæ muticæ: tarsi articulis 4 primis subæqualibus.

Bor. hermingianus. Apteris, thorace oblongo capite angustiore et elytris thorace parum longioribus fortiter punctatis. Long. $1\frac{1}{4}$ lin.

Sahlb. Ins. Fenn. i. 433. Zett. Ins. Lapp. 72. Erichson Staph. 899.

Found by F. Walker near Alten in Finmark.

Bor. brevicollis. Alatus, capite thorace elytris que punctulatis, thorace breviter ob cordato elytris duplò brevioribus et capitis ferè latitudine. Long. 1 lin.

Coryphium angusticollis, Steph. M. v. 344?

Found once only in the North of Ireland, on the sea-coast at Holywood.

Genus.—ARPEDIUM.

Arp. myops. Capite thorace elytris que punctulatis, fronte æquatâ ocellis nullis. Long. $\frac{3}{4}$ lin.

Var. α . Nigrum palporum et antennarum basi pedibusque ferrugineis.

Omalium subpubescens, Steph. M. v. 350?

Var. β . Flavum antennarum et palporum apice abdomineque fuscis.

Omalium sordidum, Steph. v. 349?

Erichson's *A. humile* from the Ural Mountains comes very near this, yet he could scarcely have overlooked the want of ocelli in our insect. This is a character so singular in this tribe, that I took care to satisfy myself, by a careful dissection of the mouth, that it agrees with *Arpedium* in every essential character.

Tribe.—PROTEININI.

Genus.—MICROPEPLUS.

The synonymes of the British species have been somewhat confused, but Erichson has cleared up the matter. Stephens has figured *M. staphylinoides* correctly enough, but his description (excepting the colour of antennæ, which is again from nature), seems to be an abstract from Gyllenhal's, whose insect was not the Marshamian, but the *M. tessera* figured by Curtis. Erichson leaves as a probable species (allied to his *M. fulvus*) the *M. obtusus* of Newman. I am rather inclined to think it a coloured variety (such as I possess) of the unarmed sex of *M. staphylinoides*.

Tribes.—STAPHYLINI AND OXYPORINI.

The character by which Erichson discriminates these tribes is insufficient, and violates the most natural affinities. *Staphylinus nebulosus* and *murinus*, according to this, should be separated from most of their congeners and carried to the latter tribe.

Tribe.—XANTHOLINI.

Genus.—OTHUS.

Oth. 6-punctatus. Rufopiceus capite abdominisque dorso obscurioribus, antennis pedibusque ferrugineis; thoracis punctis dorsi tribus utrinque; elytris punctulatis. Long. $2\frac{1}{2}$ —3 lin.

Two specimens found at Holywood.

Tribe.—*ALEOCHARINI*.Genus.—*GYMNUSA*.

Gymn. brevicollis. I perceive that this is not treated as a true native in recent lists. I possess a specimen found by myself on the edge of a pond, near Holywood, in the same marsh which afforded me *Micropeplus tessera* and *Microvelia pygmaea*.

A. H. HALIDAY.

ART. XLVI. — *Captures in Shirewood Forest.*

By THOMAS DESVIGNES, Esq.

2, Golden Square, London, August, 1841.

SIR,

I take the liberty to annex a list of a few insects that I have captured in Shirewood Forest at different times, which you may publish in your valuable periodical, if you think proper to do so. I have omitted a host of the commoner species, which are taken in nearly every locality; and as you will perceive have confined myself to those which are principally found in wood and Boleti.

May and June. *Scaphidium 4-maculatum*. In Fungi.*Thymalus limbatus*. Not uncommon under bark of birch.August. *Nitidula punctatissima*. In exudations from old oak trees perforated by *Cossus ligniperda*.*Triphyllus punctatus*. Boleti.*Triplax russica*. Common under bark of birch.*Tetratoma fungorum*. Taken by Mr. Trueman.*Ips ferruginea* and *4-guttata*. Ditto.*Teredus nitidus* and *Tiresias serra*. Under bark of oak.*Hister merdarius* and *Simplocaria semistriata*. Boleti, rare.

Buprestis ———? Head rugose or wrinkled, golden yellow; crown bright metallic green; eyes fuscous; antennæ (imperfect) violet: thorax with a depression on the sides, metallic green: elytra (imperfect) metallic green: abdomen above, deep, shining, azure blue, beneath bluish, tinged with green: breast shining green: legs (imperfect) blue. This insect was found dead, and taken out of an old oak. Corp. long. 6 lin. Taken by Mr. Trueman.

Melasis buprestoides. Flying; also out of birch and oak branches.*Sericus brunneus*. Flying.*Limonium serraticornis* and *nigro-æneus*.*Elater sanguineus*, *rufipennis*? *balteatus*, *bipustulatus* and *crocatus*. All in birch stumps.*Ctenicercus pectinicornis*, *cupreus* and *tessellatus*.*Selatosomus æneus*. On birch.

Athous rhombeus (*pubescens*). Birch. I have taken the larva of this insect, which I am endeavouring to rear; it is black above, when extended the spaces between the segments are dull white, which is concolorous with the underside of abdomen. I have also taken the pupa and perfect insect in decayed oak branches.

Athous vittatus. On birch and oak.

Tillus elongatus.

Opilus mollis. Oak.

Thanasimus formicarius. Bark of fir.

Corynetes violaceus.

Xyletinus ater. In oak decayed to dust.

Ptilinus pectinicornis.

Trypodendron domesticum. Flying, and on bark of birch.

Tomicus, three species.

August, 1840.

Prionus coriarius. Flying in the evening; I have also taken the larva and pupa out of birch in June, 1841.

Pogonochebus pilosus, hispidus and nebulosus. Dead twigs, oak and birch.

May 24th.

Saperda scalaris. One specimen on birch, a new locality for this insect.

—— *ferrea*. On beech.

Leptura scutellata and *apicalis*. Birch.

—— *elongata*. I insert this in my list chiefly from the very extraordinary varieties which appear peculiar to this forest, some being nearly all black. The larva feeds on small dead (but not decayed) oak boughs. The typical insect is very rare in this locality.

Endomychus coccineus. Under bark of birch.

Hypophlæus castaneus. Ditto, and in Fungi.

Bolitophagus Agricola. Boleti, rare.

Eryx niger and *Mycetocharus scapularis*. Old oak trees.

Phloiотrya rufipes. Out of oak boughs and under bark of birch.

This insect is very active; I met with it the end of May.

Ischnomera flavicollis. Whitethorn.

Conopalpus testaceus and *Vigorsii*. The latter insect is said to appear on hedges in August, but I met with it in the beginning of June. It is found in oak boughs. I have taken the larva, pupa and perfect insect out of the same piece of wood; and have beaten it off oak the middle of June.

I am not aware whether *C. flavicollis*, *Gyll.* is identical with *C. ruficollis*, *Steph.* but from the specimens I have taken I most certainly believe my insect to be the *flavicollis*, as all have a very pale yellow thorax, especially when recently captured. I have not Gyllenball's work, therefore this is only a supposition.

Hylecætus dermestoides. I first discovered this insect to be indigenous to this country on the 1st of May, 1836; between the 20th and 31st of the same month this year, I was fortunate enough to meet with it again. It is very variable in size; I have males and females only 3 lines in length; one female is $8\frac{1}{2}$ lines, but the males never exceed 6 lines. It is most probable that the larvæ feed in birch, as Mr. Trueman of Edwinstowe assures me he took a specimen just coming out from a hole in birch; in 1836 I took seven specimens on a birch stump, and this year I took it flying among birches. It is only to be taken when the weather is very warm and showery, with occasional gleams of sunshine; at all

events such is the most favourable time for its appearance. When alive the abdomen extends more than two lines beyond the apex of the elytra; the male only varies in colour, being sometimes wholly black, the female is invariably testaceous.

I trust that what little I have said may prove entertaining to some of your readers; and should any wish to visit this delightful spot, I would recommend them to put up at Ollerton, twenty-two miles from Nottingham, as excellent accommodation can be had there. The remains of this ancient and celebrated forest begin about half a mile on the left from Ollerton and extend nearly four miles, its breadth being between one and two; it is composed of venerable oaks and stately birches, its appearance is unique, as every one must admit who should pay a visit to Birkland and Billhaugh, two local names for the old wood.

Yours, &c.

THOMAS DESVIGNES.

To the Editor of 'The Entomologist.'

ART. XLVII.—*Varieties by Various Contributors.*

80. *Destruction of the Vine-grub in France.* The greatest unanimity prevails amongst the proprietors of vineyards in the Beaujolais and Lyons districts on the subject of the destruction of the grub (*la pyrale*). The present is the best time for destroying the eggs of the insect, and all classes, including the public functionaries, are actively engaged in effecting this object. It is calculated that if this is done for two years following, the country would be hereafter freed from the devastations of this scourge of the vine.—*'Le Rhône,'* as quoted in the *'Constitutionnel'* of August 2, 1841.

[Probably the larva of *Pylalis Danticana** is here indicated, which, in some parts of France is very injurious to the vines by eating the leaf-stalks half through, thereby causing the leaves to wither. This caterpillar is said not to attack the grapes, but to eat the grape-stalk, so that even if it does not dry up, the fruit is small and without flavour.—*G. N.*]

81. *Irish species of Mylæchus.* 1. *M. brunneus*, Latr. At Holywood, and near Eyrecourt in Galway, June and July, rare. 2. *M. appendiculatus*, Sahlb. At Holywood, once, in July. 3. *M. fuscus*, Erichson. At Holywood, once, in June. 4. *M. spinipes*. Ovat, fuscus fulvo-pubescent, antennis pedibusque ferrugineis, illis clava fusca; thorace transverso angulis posticis obtusiusculis; femoribus posticis spinâ elongatâ arcuatâ acutâ; tibiis rectis: mas. Long. $1\frac{1}{2}$ lin. *M. appendiculato* sesquiplò major lator, minus convexus: confertissimè punctulatus, thorace magno subtransverso, elytris striâ suturali unicâ. A *M. dentipede* mare differt insuper (secundum Sturmii iconem) femorum margine infero arcu continuo integerrimo, nec sinuato nec serrato. Variat thorace elytris obscurè ferrugineis. At Holywood, twice, in June.—*A. H. Haliday*; July 29, 1841.

82. *Colocasia Coryli.* At page 174 of 'The Entomologist' the 12th of May is given as the date of the capture of this moth; on reference to my catalogue I find I took the female on the 24th of August, 1840, and on the 4th of July, 1831, I took a larva

* Walckenaer 'On the Insects injurious to the Vine,' in the 'Entomological Magazine,' iv. 317.

which produced a male on the 29th of the same month. — *J. C. Dale ; Glanville's Wootton, August 13, 1841.*

83. *Chaonia Roboris*. I took this moth for the first time at Woolland, Dorsetshire, on a young oak trunk, on the 27th of April, 1841.—*Id.*

84. *Acronycta Alni*. I have several times found the caterpillar, but never bred or took the moth. Mr. Simmonds writes me word that the caterpillar is common in Yorkshire, and although he has never succeeded in breeding it himself, a friend of his accomplished this; he finds that it feeds best on ash. I have found it on hazel, lime, and also on some old rails near beech trees.—*Id.*

85. *Geometra taniata*. When at Castle Eden Dene I took a dozen males of this moth from yew, but they were much injured by the rain which had occurred a few days previously. I took a female in Scotland in 1825, and Mr. Curtis took a female in Ireland.—*Id.*

86. *Hipparchia blandina*. At Castle Eden Dene this butterfly was very abundant; I found them settling on the blossoms of the marjoram (*Origanum vulgare*). There is no heath in the neighbourhood, and I think this may perhaps account for the Castle Eden Dene specimens differing from the Scotch ones.—*Id.*

87. *Hipparchia Davus* and *H. Typhon*. I took *Hip. Davus* at Thorne Moor, but wasted; and I had *H. Typhon* given me from Cottingham near Hull. In visiting the locality I find it differs from Thorne, where the original *Davus* occurs; Thorne Moore is mossy or spongy, but the Cottingham locality is reedy, as are also the spots where I found *Typhon* in Scotland: I consider them only local varieties.—*Id.*

88. *Clisiocampa Castrensis*. The larvæ of this insect I have taken from the 15th to the end of July. It is rarely met with except when the sun is shining and the weather warm. I have generally discovered it feeding on the young tops and unexpanded blossoms of the sea wormwood (*Artemisia maritima*). It is a gregarious feeder and very impatient in confinement, exploring every crevice of its prison to escape. Those I captured required much attention; as they avoided the food in the cage I placed them loose on the plant which I took the precaution to bring up with them, planted in a pot, by which means they were induced to feed; but they declined in size, and the specimens procured from them were small. They have a habit when feeding of occasionally jerking the head and fore legs from side to side, as if annoyed by insects, but with a good glass I could not discover such to be the fact. I thought they might be *Ichneumon*, as I have observed several species of larvæ making similar movements while so annoyed; but as I bred the perfect insect from most of the larvæ I took, such could not be the case. The cocoon is like that of *Clis. neustria*, and the general character of the larvæ is the same. They remain in the chrysalis state about five weeks. I found them on the sea-coast of Essex. — *Alfred Lambert ; 6, Trinity St. Borough, August 14, 1841.*

89. *Triphana fimbria*. On June 22nd, 1841, three pupæ were found amongst moss on an old oak stump, and supposed to be those of the common yellow underwing, but were preserved in the hope that they might be the *fimbria*. The first moth came out on the 17th of July, and is the beautiful variety from which the accompanying drawing is taken. On the 20th of July another came out, differing in shade although of the same colour. On the same day the stump was re-examined and another pupa taken. On the 27th the third moth appeared, and was much darker than the others; and on the 29th the fourth came out, and is the lightest and most beautiful of the four. The larva I have not seen.—*J. Walker ; Chesterfield, August 15, 1841.*

90. *Achroia alvearia*. This curious little moth has been this year bred in abundance from a portion of honeycomb presented two or three years ago to Mr. Ingall by Mr. Doubleday of Epping. Ten or twelve specimens came out the same year, and Mr. Ingall, concluding all the chrysalides had turned, laid by the mass of comb, and had completely forgotten it. In the spring of the present year a few moths made their escape and were brought to him, when he immediately recognised his old friends; the mass of comb was quickly sought for and found, and after it had produced him more than a hundred specimens Mr. Ingall gave it to Mr. Marshall, who, after obtaining nearly as many, presented it to me, thinking I should be more interested in breeding them for myself than in receiving specimens; after I had secured about thirty specimens, I made over the comb and the box containing it to my friend Mr. Bently, who obtained as many more. This has always been considered a rare moth; my cabinet previously contained but a single specimen, taken by myself twenty years ago in a house at Walthamstow, and many collections that have been quite that time in forming, did not possess the species. *John Chant; 3, Critchell Place, New North Road, August 16, 1841.*

91. *Entomological Society, September 6th, 1841.* W. W. Saunders, Esq., F.L.S., President, in the chair. The president read an extract from a letter received from S. S. Saunders, Esq., in Albania, relative to the habits of the trap-door spider, *Mygale Itonica*. Mr. Tulk exhibited specimens of *Tachina pacta* reared from the abdomen of *Carabus violaceus*, and of the young larvæ of *Meloë* found on *Volucella bombylans*. Mr. Hope communicated a drawing of a large Indian *Lamia*, accompanied by a letter from Dr. Malcolmson, addressed to Professor Royle, relative to its destructive habits. Mr. Ingpen exhibited two longicorn beetles, one of which had been reared in a sugarcane, in which it had remained more than three years in the larva state. Mr. Waterhouse exhibited and read a description of a larva found in the stems of water-plants, which he regarded as that of *Donacia micans*. Mr. Hope communicated a letter received from Dr. Cantor, who is at present engaged in the Chinese expedition, relative to the non-luminosity of *Fulgora Candelaria*. Mr. Yarrell exhibited the globular nest formed of white silk by one of the English spiders. Mr. S. Stevens exhibited numerous rare *Cureulionidæ* captured during the preceding month at Arundel, including a new species of *Apion*, the male of which had very singular antennæ. Mr. Walton announced the capture of both sexes of *Apion lævigatum* at Birch Wood; and Mr. Newport that of *Scolopendrilla notacantha* at Hastings, a genus new to the British Fauna. The former gentleman brought for distribution amongst the members a number of specimens of *Apion Limonii*. Mr. Westwood exhibited a fossil from Stonesfield, which appeared to be the elytron of a large beetle, but which Mr. Newman considered to be a portion of a fossil *Cycadite*. Mr. Westwood also read a memoir on the Lamellicorn genus *Mechideus*, which he regarded as belonging to the family *Melolonthidæ*, and on several new genera belonging to the same tribe of beetles.—*J. O. Westwood.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XIII.

NOVEMBER, MDCCCXLI.

PRICE 6D.

ART. XLVIII.—*Analytical Notice of the 'Transactions of the Linnean Society of London,' vol. xviii. pt. 4. August, 1841.*

ART. XLII.—*The Difference in the Number of Eyes with which Spiders are provided proposed as the Basis of their Distribution into Tribes ; with Descriptions of newly discovered Species, and the Characters of a new Family and three new Genera of Spiders.* By JOHN BLACKWALL, Esq., F.L.S.

(Continued from p. 181).

21. *Walckenaera punctata*. Cephalothorax dark brown, glossy, the sides strongly punctured : the legs are red, the first and fourth pairs equal and longest, then the second and third : abdomen black, glossy : its length is $\frac{1}{10}$ of an inch : females found in May under stones in a moist pasture near Llanrwst. (Linn. Trans. xviii. 629).

22. *Walckenaera turgida*. Cephalothorax dark brown, glossy : the legs reddish brown, the first and fourth pairs equal and longest, then the second and third : abdomen brown mottled with darker : its length is $\frac{1}{3}$ of an inch : found in September and October under stones and blocks of wood, at Crumpsall Hall, near Manchester. (Id. 630).

23. *Walckenaera atra*. Cephalothorax and abdomen black and glossy : legs brown, first and fourth pairs equal and longest, then the second and third : length $\frac{1}{4}$ of an inch : found in May under stones in moist pastures near Llanrwst. (Id. 631).

24. *Walckenaera hiemalis*. Cephalothorax glossy and nearly black : legs red brown, the first and fourth pairs equal and longest, then the second and third : abdomen glossy and black : its length is $\frac{1}{3}$ of an inch : found in December and January running actively on rails in meadows near Llanrwst. (Id. 632).

25. *Walckenaera bifrons*. Cephalothorax dark brown : legs yellowish red, first and fourth pairs equal and longest, then the second and third : abdomen dark brown, glossy : its length is $\frac{1}{4}$ of an inch : it was found in June, among coarse herbage in Gwydir woods, near Bettws-y-Coed, Caenarvonshire. (Id. 634).

26. *Walckenaera bicolor*. Cephalothorax and legs dark brown : first and fourth pairs of legs equal and longest, then the second and

third: abdomen brownish black: its length is $\frac{1}{16}$ of an inch: it was found in July on rails, near Llanrwst. (Id. 635).

27. *Walckenaera parva*. Cephalothorax brown, with darker margins, glossy: legs also brown, first and fourth pairs equal and longest, then the second and third: abdomen nearly black, glossy: its length is $\frac{1}{16}$ of an inch: it was found in December and January on rails near Llanrwst. (Id. 635).

28. *Walckenaera humilis*. Cephalothorax nearly black, glossy: legs red-brown, first and fourth pairs equal and longest, then the second and third: abdomen brownish black: its length is $\frac{1}{16}$ of an inch: found in October under slates in a garden near Manchester. (Id. 636).

39. *Walckenaera apicata*. Cephalothorax nearly black, glossy: legs red-brown, with the exception of the tibiae of the first and second pairs, which are dark brown, fourth pair rather longest, then the first, second and third: abdomen brownish black, glossy: its length is $\frac{1}{16}$ of an inch: found in November and May on rails near Llanrwst. (Id. 638).

30. *Walckenaera pumila*. Cephalothorax red-brown, glossy: legs of the same colour, the fourth pair rather the longest, then the first, second and third: abdomen black and very glossy: length $\frac{1}{13}$ of an inch: found in May under stones in moist pastures near Llanrwst. (Id. 639).

31. *Walckenaera picina*. Cephalothorax nearly black, glossy: legs red-brown, fourth pair the longest, then the first, second and third: abdomen brownish black, glossy: its length is $\frac{1}{4}$ of an inch: a specimen near Manchester in June, a second near Llanrwst in July. (Id. 640).

32. *Walckenaera nemoralis*. Cephalothorax brown: legs of the same colour, fourth pair longest, then the first, second and third: abdomen blackish brown, glossy: its length is $\frac{1}{16}$ of an inch: found in March under stones, in the woods near Llanrwst. (Id. 641).

33. *Nerienne munda*. Cephalothorax red-brown, glossy: legs pale red, the first and fourth pairs equal and longest, then the second and third: the abdomen is blackish: the length is $\frac{1}{8}$ of an inch: found in May and June among grass and plants growing in the woods about Llanrwst. (Id. 642).

34. *Nerienne errans*. Cephalothorax brown, glossy: legs pale red-brown, first and fourth pairs equal and longest, then the second and third: abdomen of a brownish colour, faintly tinged with green, and has a series of obscure angular lines of a pale yellowish brown, extending along the middle of the upper part: its length is $\frac{1}{9}$ of an inch:

found frequently on rails in the vicinity of Manchester and Llanrwst. (Id. 643).

35. *Nerienne sylvatica*. Cephalothorax and legs brown: eyes seated in black spots: first and fourth pairs of legs equal and longest, then the second and third: abdomen brownish black and glossy: its length is $\frac{1}{5}$ of an inch: it was taken in February under fragments of rock imbedded in earth, in the woods about Llanrwst. (Id. 644):

36. *Nerienne viaria*. Cephalothorax brown, with the margins darker: legs brown, first and fourth pairs equal and longest, then the second and third: abdomen dark brown, nearly black, glossy: the spinners pale yellowish brown: its length is $\frac{1}{10}$ of an inch: found in May at Oakland near Llanrwst. (Id. 645).

37. *Nerienne pulla*. Cephalothorax dark brown, glossy: legs red-brown, first and fourth pairs equal and longest, then the second and third: abdomen yellowish brown, with numerous minute spots and fine streaks of a darker hue: its length is $\frac{1}{11}$ of an inch: found in June on rails near Llanrwst. (Id. 646).

38. *Nerienne gracilis*. Cephalothorax nearly black, glossy: legs pale reddish brown, first and fourth pairs longest, then the second and third: abdomen slender, brownish black: its length is $\frac{1}{12}$ of an inch: found in autumn on rails at Capel Garmon, in Denbighshire, and at Crumpsall Hall, near Manchester. (Id. 646).

39. *Nerienne parva*. Cephalothorax, legs and abdomen brown and glossy, the abdomen being darkest: the first and fourth pairs of legs equal and longest, then the second and third: its length is $\frac{1}{20}$ of an inch: found in January on rails at Oakland, near Llanrwst. (Id. 647).

40. *Nerienne rubella*. Entire colour yellowish red: in the female the first and fourth pairs of legs are equal and longest, then the second and third; in the male the first pair is longest, the second and fourth equal in length: in this sex the tibiæ of the first and second pair of legs are somewhat dilated beneath, near their extremity, the enlargement being thickly clothed with long fine hairs: its length is $\frac{1}{10}$ of an inch: it is found under stones and on plants growing in the woods at Oakland, near Llanrwst. (Id. 648).

41. *Nerienne abnormis*. Cephalothorax and legs red-brown, the eyes being placed in black spots: first and fourth pairs of legs longest and equal, then the second and third: abdomen dull brown, obscurely mottled with darker brown: its length is $\frac{1}{7}$ of an inch: found in October under stones, at Crumpsall Hall, near Manchester. (Id. 649).

42. *Nerienne variegata*. Cephalothorax yellowish brown, with black-

ish margins, a longitudinal row of small black spots on each side, and a black triangular mark immediately behind the eyes, which are seated on black spots: legs slender, of a yellowish brown colour, with black bands; the first and fourth pairs longest and equal, then the second and third; in the male the first pair is longer than the fourth: abdomen dull yellow, with a black band above, extending from the base more than a third of its length; the anterior part of this band is triangular and pointed, the posterior part narrower and somewhat ramified; from the termination of the band extends a longitudinal row of irregular black spots, on each side of the medial line; a few of these spots unite immediately above the spinners, and form short, curved, transverse lines; there are numerous streaks and patches of black on the sides, the largest anteriorly; beneath dull yellowish brown: its length is $\frac{1}{10}$ of an inch: found under stones on Gallt-y-Rhyg, a mountain near Llanrwst. (Id. 650).

43. *Nerienne dubia*. Cephalothorax red-brown, glossy: legs red-brown, robust, first pair longest, then the fourth, second and third: abdomen brown-black: its length is $\frac{1}{12}$ of an inch: found in October on iron rails at Crumpsall Hall, near Manchester. (Id. 652).

44. *Nerienne gibbosa*. Cephalothorax, more particularly in the male, gibbous in the middle, dark brown, glossy: legs yellowish brown, the fourth pair longest, then the first, second and third: abdomen very dark brown, glossy: length $\frac{1}{10}$ of an inch: found in May, under stones in a moist pasture at Oakland, near Llanrwst. (Id. 653).

45. *Nerienne tuberosa*. In characters and habitat apparently identical with the last, in size less, being only $\frac{1}{12}$ of an inch in length. (Id. 564).

46. *Linyphia cauta*. Cephalothorax yellowish brown, with black margins and a black median longitudinal line, which is broader anteriorly: legs long, yellowish brown, with brownish black bands, first pair the longest, then the second, fourth and third: abdomen yellowish brown freckled with small whitish spots, which are fewer in number and more minute on the underside; above anteriorly are large brownish black blotches, posteriorly numerous curved black lines, whose convexities are directed forward, the sides are brownish black, with an irregular longitudinal band of yellowish brown spotted with white, extending along the middle: its length is $\frac{5}{8}$ of an inch: it spins an extensive, delicate, horizontal sheet of web, supported above by fine lines, connected with it and with each other at various angles, in the corners of walls, under hollow banks and in depressions of the trunks

of trees; found in Denbighshire, Caernarvonshire and north Lancashire. (Id. 655).

47. *Linyphia vivax*. Cephalothorax yellowish brown, with an irregular, longitudinal, blackish band on each side, and a finer median one of the same hue, bifid in front: legs long, slender, reddish brown, with blackish brown bands, first pair longest, then the second, fourth and third: abdomen yellowish brown freckled with numerous minute white spots; along the middle extends a series of angular brownish black lines pointing forwards, their extremities greatly enlarged form a row of very conspicuous, irregular spots on each side of the median line, several of the anterior angles are bisected by a fine brownish black line; two longitudinal, irregular, brownish black bands occur on each side of the abdomen, the upper ones being connected with the enlarged extremities of the angular lines by small confluent spots of the same hue; a large brownish black band, the anterior extremity of which is broadest, occupies the middle of the abdomen beneath, and comprises a yellowish brown median line: its length is $\frac{5}{24}$ of an inch: found in September in a greenhouse and melon-pits at Green Hays, near Manchester. (Id. 657).

48. *Linyphia sylvatica*. Cephalothorax dark brown, glossy: legs long, slender, yellowish brown, occasionally tinged with green, first pair longest, then the second, fourth and third: a broad, dentated, dark brown band, bordered with yellowish white, occupies the median line of the abdomen above, its sides are dark brown, with a large, irregular, yellowish white band extending along each, and uniting above the spinners, beneath dark brown: its length is $\frac{1}{5}$ of an inch: found in May and June in Denbighshire, Caernarvonshire, and the north of Lancashire; it constructs its web among grass and plants growing in and near woods. (Id. 659).

49. *Linyphia rubea*. Cephalothorax anteriorly dark brown, posteriorly yellow-brown: legs slender, of a yellowish brown colour tinged with green, first pair the longest, then the second, fourth and third: abdomen glossy, a broad, dentated, brown band, which is darkest at its posterior extremity, extends along the middle above, nearly to the spinners; on each side of the brown band is an irregular white one; these white bands unite immediately above the spinners, and a short brown streak is directed upwards from each side of the anus; the sides are brown, obscurely mottled with yellowish spots, and having two yellowish lines on the lower part, the anterior horizontal, the posterior nearly vertical; beneath brown, a large space in the middle having a tinge of yellow: its length is $\frac{2}{3}$ of an inch: found in May

and June in Denbighshire, Caernarvonshire, north Lancashire, &c., where it spins a web of moderate extent in the bushes of woods. (Id. 661).

50. *Linyphia insignis*. Cephalothorax yellow-brown, with darker margins: legs long, slender, pale yellowish brown, first pair longest, then the second, fourth and third: abdomen dull yellow, with a series of blackish angular lines along the middle above, a longitudinal band of the same colour on each side, and an irregular blackish spot above each spiracle: its length is $\frac{3}{20}$ of an inch: it was taken near Manchester. (Id. 662).

51. *Linyphia furva*. Cephalothorax nearly black, glossy: legs long, slender, yellowish brown, first pair longest, then the second, fourth and third: abdomen brownish black, glossy: its length is $\frac{1}{9}$ of an inch: found in May under stones in a moist pasture at Oakland, near Llanrwst. (Id. 663).

52. *Linyphia Claytoniæ*. Cephalothorax pale yellow-red, glossy, legs long and slender, the colour of the cephalothorax: first pair longest, then the second, fourth and third: abdomen glossy, appears to be livid: its length is $\frac{1}{10}$ of an inch; found near Garstang, Lancashire. (Id. 664).

53. *Linyphia obscura*. Cephalothorax dark brown: legs long, yellow-brown, with a slight tinge of red, first pair longest, then the second, fourth and third: abdomen brownish black, glossy: its length is $\frac{1}{12}$ of an inch: found in June on rails at Oakland, near Llanrwst. (Id. 665).

54. *Linyphia gracilis*. Cephalothorax brownish black: legs long, slender, pale brown tinged with red: abdomen brownish black; some individuals have an obscure series of angular lines of a brownish hue extending along the middle of the abdomen above: its length is $\frac{1}{12}$ of an inch: found in November on rails in the township of Crumpsall. (Id. 666).

55. *Manduculus limatus*. Cephalothorax red-brown, with a black band extending along the middle, and a few obscure spots of the same hue on the sides, just above the margins: legs long, slender, yellowish brown, first pair the longest, then the second, fourth and third: abdomen red-brown, with a series of white angular lines extending along the middle above; on each side is a broad, irregular, yellowish band, which is paler on the upper edge, and is tinged with light red-brown below; an obscure yellowish streak extends along each side of the median line beneath: its length is $\frac{1}{6}$ of an inch: found in September under stones and on bushes in the woods about Oakland. (Id. 667).

56. *Epeira celata*. Cephalothorax pale brown with black margins, a few transverse black lines on the sides, and a band of the same hue extending along the middle and increasing in breadth as it approaches the eyes, where it comprises several pale brown spots: legs long, yellowish brown, with black spots and rings: abdomen mottled with black and brown, having an obscure, yellowish, curved line on each side of the anterior part, and a broad, dentated, yellow band, extending along the middle above, this band, which comprises a fine, longitudinal, branched line, of a darker hue, is narrowest at its anterior extremity, near which a short yellow line crosses it at right angles; on each side of the middle beneath, is a longitudinal yellow line: its length is $\frac{7}{10}$ of an inch: found in damp caverns and hollow banks, to which it attaches a subglobular cocoon in May; this cocoon, which is composed of whitish silk of a loose texture, is depressed on the attached side, and measures about half an inch in diameter; it comprises between two and three hundred spherical eggs, of a yellow colour, agglutinated together in a lenticular mass measuring $\frac{3}{10}$ of an inch in diameter. (Id. 668).

EDWARD NEWMAN.

ART. XLIX.—*A List of Insects found near Harrietsham, in Kent; together with the Description of a new Genus and Species of Yponomeutidæ.* By JAMES FRANCIS STEPHENS, Esq. F.L.S. &c.

Eltham Cottage, Foxley Road,

Kennington, September 9, 1841.

My Dear Sir,

"Local lists of insects are particularly solicited," you observe on your wrapper: in consequence it was my intention to have furnished you, from my register, with an 'Entomologia Harrietshamensis,' but I have since concluded only to make a sort of 'Selectæ à Profanis' from my captures between the 8th of June and 3rd of July, 1840, in the vicinity of the quiet village above alluded to, Harrietsham, near Maidstone, embracing a circle about eight miles in diameter; hoping that it may be useful and acceptable to your readers, by indicating some few "good things," as well as recording some novelties. The district in question is pleasingly situated between the lofty chalk range forming the "back-bone" of Kent, and the rocky hills of Kentish rag on the borders of the weald. The soil in general is sandy loam, poor and unproductive; and as the season was a remarkably bad one for insects, it was only by sheer perseverance and great exertion that I was enabled to gain an insight into its Entomology; added to which, during the whole period of my researches the thermometer never once reached 70°, but was for the most part under 64°, often not higher than 58° at 2 o'clock, and the sun rarely visible; cold northerly winds, accompanied by almost incessant drizzle, lending their cheerless influence against me, one half of the time. I contrived, however, to capture and register upwards of 2000 species, in-

cluding some (to whose names an * is annexed) not yet recorded as indigenous; viz., Coleoptera 538 species, Dermaptera 3, Orthoptera 7, Neuroptera 35, Trichoptera 19, Hymenoptera 482, Lepidoptera 352, Diptera 533, Hemiptera 61, Homoptera 45, = 2075 species: tolerable sport for one month!!! But as my future sojourn in that district was a matter of doubt, I was stimulated to exert myself accordingly, consistently with etiquette as a visitor at a non-entomologist's residence.

Yours truly,

J. F. STEPHENS.

To the Editor of 'The Entomologist.'

Cychnus rostratus	Conopalpus testaceus	Crabro cæspitosus
Carabus consitus	Pyrochroa coccinea	spinipectus
Chlænus vestitus	Seydmænus tarsatus	Rhopalum tibiale
Calathus rufangulus	collaris	rufiventer
Bradytus crassus	Pselaphus Herbstii	Diodontus luperus
consularis	Heisii	Passalæcus insignis
Curtonotus convexusculus	longicollis	Cemonus lethifer
Ophonus obscurus	Bryaxis impressa	Psen atratus
Sabulicola	Arcopagus glabricollis	Mimesa unicolor
nitidulus	Euplectus signatus	Apathus rupestris
azureus	Calodera Æthiops	vestalis
Leiodes aciculata	Evæsthetus scaber	campestris
Agathidium nanum		Bombus subinterruptus
Ephistemus gyrimoides	Coniopteryx tineiformis	Andrena labialis
Clambus coccinelloides		Colletes fodiens
Tetratoma ancora	Sericostoma Spencei	Hedychrum auratum
Syncalypta cretifera	Notiobia pallipes	Decatoma mellei
Hoplia argentea		Megastigmus dorsalis
Telephorus clypeatus	Lophyrus rufus	transversus
Podabrus alpinus	Nematus gallæ	Callimome regalis
fuscicornis	Fenusa pumila	Ormyrus punctiger
Malthinus brevicollis	Allantus affinis	Macroglenes oculatus
Malachius viridis	Viennensis	Pachylarthrus smaragdinus
Ptinus raptor *	pictus	Ceraphron Halidayi
Nedyus cyanipennis *	Tenthredo eborina *	
Phyllobius maculicornis	Emphytus gilvipes	Rusina ferruginea
Apion Cracæ	Cephus pusillus	Ceropacha duplaris
Pomone	Fœnus jaculator	Elloppia fasciata
Gracillia minuta	Ichneumon anator	Cidaria didymata
Molorchus minor	Hecabolus sulcatus	miaria
Umbellatarum	Paxillomma buccata	propugnata
Leptura pallipes	Myrmosa melanocephala	Xerene albicollata
Pachyta collaris	Tiphia minuta	Thera variata
Haltica femoralis	Sapyga punctata	Bapta punctata
Coccinella M-nigrum	Pompilus bifasciatus	Emmelesia sylvata
Seymnus ater	femoralis, n. sp.*	luteata
Mordella abdominalis	crassicornis	Lozotænia Grotiana
ventralis	Crabro elongatulus	Ditula profundana

<i>Antithesia corticana</i>	<i>Metallosetia spissicornis</i>	<i>Hemerodromia albicornis</i>
pullana	<i>Porrectaria Otidipenella</i>	Mantispa
marginana	<i>Batia lunaris</i>	obsecratoria
<i>Spilonota aquana</i>	<i>Ilythia sociella</i>	<i>Drapetis aterrima</i>
stræmiana	<i>Eudorea Cembrææ</i>	<i>Dolichopus pennitarsis</i>
sticticana	<i>Phycita dubitana</i>	plumitarsis
ustulana	<i>Crambus Lythargyrellus</i>	cupreus
<i>Pseudotomia Strobilella</i>	selasellus	æneus
Jungiella	<i>Tinea ustulella</i>	<i>Orthochile nigrocærulea</i>
nigricana	<i>Amaurosetia Albinella</i>	<i>Thereva bipunctata</i>
Ephippiana	<i>Lampronia luzella</i>	<i>Pachygaster Leachii</i>
Gundiana	Seppella	<i>Nemotelus nigrinus</i>
aurana	Calthella	brevirostris
<i>Anchylopera obtusana</i>	<i>Pterophorus leucodactylus</i>	<i>Sargus flavicornis</i>
Lundana	—————	<i>Beris Morrisii</i>
<i>Carpocapsa Weberana</i>	<i>Anopheles bipunctatus</i>	tibialis
<i>Bactra pauperana</i>	<i>Corethra plumicornis</i>	<i>Paragus geniculatus</i>
<i>Cnephasia cretana</i>	<i>Sphæromias varipes</i>	<i>Chrysogaster splendens</i>
<i>Sericoris micana</i>	<i>Eriopteryx nodicornis</i>	cærulescens*
marmorana	<i>Limnobia ocellina</i>	grandicornis
<i>Acleris scabrana</i>	<i>Symplecta punctipennis</i>	splendida
<i>Orthotænia comitana</i>	<i>Macrocera fasciata</i>	geniculata *
<i>Anacampsis aspera</i>	lutea	<i>Pipiza noctiluca</i>
luculella	centralis	<i>Syrphus vulpinus</i>
<i>Parasemia transversella</i> * †	Stigma	<i>Scæva cincta</i>
<i>Adela Fibulella</i> *	phalerata	decora
<i>Yponomeuta rorella</i>	<i>Platyura laticornis</i>	<i>Cheilosia Ocymi</i>
<i>Ederessa ossea</i>	atrata	<i>Sphærophoria Lavandulæ</i> *
Clematella	<i>Gonypes fuscus</i>	limbata *
<i>Argyromyges Rayella</i>	pumilus *	<i>Philhelius ornatus</i>
Cydoniella	<i>Ocydromia scutellata</i>	<i>Bucentes geniculatus</i>
Ulmifoliella	rufipes	<i>Myopa atra</i>
unipunctella	flavipes	<i>Phasia pusilla</i>
<i>Microsetia exiguella</i>	ruficollis	<i>Dexia maura</i>
subbistrigella	glabricula	rustica
guttella	nigripennis	<i>Agria affinis</i> *
quadrella	<i>Microphorus crassipes</i>	<i>Onesia viridicyanea</i> *
sequella	flavipes	<i>Musca cadaverina</i>
pulchella	<i>Ragas unica</i>	regalis *
stipella	<i>Brachystoma vesiculosa</i>	Cæsarina *
unifasciella	<i>Hilara thoracica</i>	cærulea *
posticella	flavipes	lasiophthalma *
aurella	<i>Empis pennipes</i>	<i>Doryphora graminum</i>
<i>Glyphipteryx Zeiglerella</i>	umbraria	—————
metallella	pennaria	<i>Acalypta carinata</i>
<i>Æchmia laminella</i>	albicornis	<i>Lopus umbratilis</i>
<i>Astyages cylindrella</i>	Bistortæ	gothicus

† For a description of *Parasemia* see p. 202.

Astemma pallicornis
Microphysa pselaphiformis

Myrmus micropterus

Odontoseelis Scarabæoides

Family. YPONOMEUTIDÆ, Stephens.

Genus. PARASEMIA,* Stephens.

Palpi 2, densè hirsuti, subelongati, recti, divaricati; articulo ultimo subnudo. Antennæ basi valdè incrassatæ, pubescentes; apice gradatim attenuato, fasciolis albis. Alæ integræ.

Par. transversella. Alis anticis purpurascens-brunneis, fasciâ transversâ stramineâ, posticis fuscis. (Exp. Alar. 7—9 lin).

Anterior wings glossy purplish brown, with a transverse, pale yellow, or straw-coloured band, before the middle, narrowed and sometimes interrupted towards the costa; posterior wings brown-black: crown and thorax griseous, with their edges, as also the palpi and anal appendages ochreous: antennæ brown, irregularly ringed with white, towards and at the tip.

This very conspicuous insect, of which neither figure nor description is to be found in Hübner, Duponchel, or Treitschke, approaches nearest in appearance to *Æcophora sulphurella*, but from this it is generically distinct; the palpi being, as in *Aplota*, straight and divaricating, instead of being recurved: the antennæ, although much thickened at the base, are unlike those of *Æcophora*, and the anal appendages of the ♂ are very large and dissimilar. There is no other insect than the above to which I can compare it; the character here given will therefore readily enable any person to ascertain the species. I obtained two examples only, about two miles apart, but destroyed in my sweeping-net, or missed, a few more, which in their injured state I mistook for *Æ. sulphurella*.

ART. L.—*Notes on Captures at Birch Wood.* By S. STEVENS, ESQ.

38, King Street, Covent Garden,

SIR,

September 9, 1841.

If you think the following list of insects, principally Coleoptera, taken by myself in three days collecting at Birch Wood last July, worthy of being inserted in your interesting work, 'The Entomologist,' I beg you will do so.

Your obedient Servant,

SAMUEL STEVENS.

Balaninus Betulæ, on birch
Nedys rufitarsis
 — troglodytes, variety
 — Resedæ
 — marginatus
 — Echii, on *Echium vulgare*

Ceutorhynchus Quercus & ruber, on oaks
 — rubicundus
 — guttula
 — sulcicollis
Gymnaëtron Veronicæ
Rhinusa Antirrhini, on *Antirrhinum*

* Παράσημος, insignitèr notatus.

Rhinusa intaminata
 ——— rostellum, new to this country
Tychius flavicollis
 ——— venustus
Sibinia primita
Micronyx pygmæus
Anthonomus incurvus
Trachyphlæus tessellatus
 ——— scabriculus
 ——— hispidulus
 ——— maculatus
Metallites marginatus
 ——— oblongus
Tanymecus palliatus
Apion Craccæ
 ——— Pomonæ
 ——— Rumicis
 ——— curtirostre
 ——— simile, on birch
 ——— tenue
 ——— seniculus
 ——— pubescens
 ——— Malvæ
 ——— rubens
 ——— hæmatodes
 ——— stolidum
 ——— lævigatum, not occurred since the
 Rev. Mr. Shepherd took two speci-
 mens of the ♀ near Ipswich many
 years back; on a recent visit I took
 several of both sexes.
 ——— rufirostre
 ——— atomarium
 ——— striatum
 ——— Ervi
 ——— punctigerum
 ——— virens
 ——— Loti

Apion filirostre
 ——— ebeninum
 ——— Vicæ
 ——— Ononis
 ——— punctifrons
Brachysomus hirsutulus
Rhynchites cylindricus, on birch
Bruchus Cisti, on *Helianthemum*
 ——— granarius
Leptura 4-fasciata
Zeugophora subspinoso
Nitidula marginata, on birch; and ano-
 ther species
Bolbocerus mobilicornis, flying in the
 parlour of the Bull Inn, in the even-
 ing
Onthophagus ovatus
Throscus dermestoides
Antherophagus pallens
 ——— glaber
 ——— similis
Lyctus oblongus
 Several species of *Hylesinus*, *Hylastes*,
Tomicus and *Cis*
Calomicrus circumfusus
 Several species of *Haltica* and *Thyamis*
Simplocaria semistriata
 ——— picipes
Olisthopus rotundatus
Calathus piceus
Bradytus ferrugineus
Bembidium flavipes, &c. &c.
 —————
Leiocampa dictæoides
Stauropus Fagi
 The larvæ of both I beat off the birch,
 the former I have since reared, and the
 latter has changed to a pupa.

ART. LI.— *Varieties by Various Contributors.*

92. *Cicada hæmatodes*. Although living on the spot where the *Cicada hæmatodes* occurs, I never heard it sing or make any noise.—*Samuel Wallis; Ramler Cottage, near Brockenhurst, New Forest, August 17, 1841.*

93. *Callidium luridum*. This beetle, which has not hitherto been recorded as British, was taken by me at Laytonstone Forest, on the 16th of May.—*William Hindley; 3, George St., Limehouse Fields, August 20, 1841.*

94. *Vanessa Antiopa*. At Rotherham woods, and also near Barnsley, this fine butterfly has been captured several times: a friend who accompanied me on a late tour obtained a specimen two years ago in Wombwell wood, but in returning to Manchester the coach upset, and his box and *Antiopa* were crushed to pieces. I saw a specimen captured twenty years ago; by exposure in a glass case the colour has faded a little.—*R. S. Edleston; Cheetham, Manchester, August 27, 1841.*

95. *Orygia antiqua*. In the neighbourhood of Manchester the larva of this insect emerges from the egg in June or July, and the moth appears in September. The eggs are often to be found in winter, on the hedges, attached to the cocoon of the female. This totally differs from the account (in the last number of this work) of the same insect in the vicinity of London, which is probably to be accounted for by the slight difference in temperature.—*Joseph Sidebotham; No. 10, Byrom Street, Manchester, September 1, 1841.*

96. *Pontia Daplidice*. I took a single specimen of this butterfly at Lyminge, six miles north west of Hythe, Kent: *Colias Hyale* was not unfrequent in the same locality a few years back.—*William Tylden, B.A. of Balliol College, Oxford; September 2, 1841.*

97. *Deilephila Euphorbia*. I have taken a specimen at Seven Oaks.—*Id.*

98. *Abraxas ulmata*. I have taken this at St. Julien's, near Seven Oaks, the seat of the Right Hon. T. Herries.—*Id.*

99. *Polia nitens*. I took a specimen on the wing at Askam Bogs, on the 21st of June, 1841.—*Thomas H. Allis; York, September 13, 1841.*

100. *Polia occulta*. On the 26th of July I found a splendid specimen of this fine insect, resting on the trunk of a Scotch fir, at Langwith, near York. I believe this neighbourhood is a new locality for both the above.—*Id.*

101. *Captures of Lepidoptera at York*. Seeing that the pages of 'The Entomologist' are open to correspondents, I have forwarded you a list of *Lepidoptera* which I have captured in the neighbourhood of York, during the present year; it may perhaps be of service to some of your subscribers, should you think it worthy of insertion.

March 8.	<i>Cheimatobia rupicapraria</i>	June 26.	<i>Leucania Comma</i>
28.	<i>Lobophora dentistrigata</i>	28.	<i>Notodonta Dromedarius</i>
	<i>Diurnea Fagella</i>	30.	<i>Mamestra Aliena</i>
April 2.	<i>Hibernia capreolaria</i>	July 26.	<i>Bombycia Viminalis</i>
4.	<i>Brepha Parthenias</i>		<i>Hipparchus Papilionarius</i>
19.	<i>Phragmatobia uliginosa</i>		<i>Graphiphora baja</i>
May 22.	<i>Drepana falcataria</i>	August 6.	<i>Lytæa umbrosa</i>
25.	<i>Graphiphora plecta</i>		<i>Celæna Lancea</i>
30.	<i>Clostera curtula</i>	18.	<i>Xanthia fulvago</i>
June 1.	<i>Lasiocampa Rubi</i>		<i>Apamea fibrosa</i>
	<i>Callimorpha Jacobææ</i>		<i>Triphæna interjecta</i>
10.	<i>Graphiphora C-nigrum</i>	19.	<i>Crocallis elinguaris</i>
21.	<i>Plusia Iota</i>	26.	<i>Gortyna micacea</i>
22.	— <i>Festucæ</i>		<i>Triphosa dubitata</i>
	— <i>chrysis</i>		<i>Hydrocampa Potamogata</i>
	— <i>Percontationis</i>	Sept. 3.	<i>Phlogophora meticulosa</i>
	<i>Notodonta Ziczæ</i>		<i>Apamea oclea</i> .
	<i>Hadena Cucubali</i>		

J. Waddington; York, Sept. 14, 1841.

102. *Sitaris humeralis*. I found in the wall, about ten days back, in my own garden at Hammersmith, the remains of a specimen of *Sitaris humeralis*.—*Samuel Stevens*; 38, King St. Covent Garden, Sept. 14, 1841.

103. *Genus Sympetrum*. I thought I would write and mention a rather singular occurrence respecting the species of the genus *Sympetrum*. You are aware that five years since *S. flaveolatum* appeared in profusion, and also *S. basale*; the former seems to have quite disappeared, and the latter has become scarce. On this same ground a single *S. rubicundum* was caught in May, and now *S. Scoticum* has appeared in profusion! There is something strange in these species appearing in succession on a spot hunted for years previously without an individual of either species being seen.—*Henry Doubleday*; Epping, Sept. 16, 1841.

104. *Economy of a Bee*. On Saturday, May 29, I observed an insect (which, from its size and yellow colour, at the distance I was from it I conjectured to be a mother wasp flying about in search of a place to commence a nest in) creeping into a hole in one of the workshop-doors. Not being aware that the hole was stopped on the other side of the door, and also being busily engaged, it slipped from my memory, and I thought no more of the circumstance until the following Tuesday morning, when I again observed the insect entering the hole, and I then saw that it was a bee, about the size of a male hive bee; the thorax and abdomen were covered with orange-coloured hairs, but not so densely clothed as the humble bees. In a few minutes it emerged from its habitation and flew away; it returned in about ten minutes, with a mass of clay or earth of a light colour in its mandibles; the mass was nearly the size of its head, and appeared to be a single hard lump. When the bee returned she rested with her fore claws on the edge of the hole for a few seconds before it entered with its burden. The sun just then shining very bright, and directly opposite the door, enabled me to observe her motions in kneading the clay, or rather I should say masticating it, previously to applying it to form the walls of the cells for her progeny. Perhaps before I proceed any farther I had better give a description of the hole, as the manner in which it was formed gave me very peculiar advantages, of which at first I had no conception. The part of the door where the hole is situated is about two inches thick; the hole is about $\frac{7}{8}$ of an inch in diameter, on the inside it is covered by a part of the lock. On the outside of the door a circular piece of wood, about two inches in diameter and $\frac{1}{4}$ of an inch thick, with a hole in its centre rather more than $\frac{1}{2}$ an inch in diameter, was sunk in the door even with the surface but not fastened; this was covered over with a thin metal plate nailed on the door. I watched the opportunity when the bee had just started on one of her journeys, and wrenched off the plate; I then, by taking out the thin piece of wood after she flew away each time, had a perfect view of what she had been doing, and could replace it in readiness against her return. I could not observe the bee at work before about half-past 9, or 10 o'clock in the morning; I likewise missed her for about an hour or an hour and a half about noon, and she generally left off working about 4; so that her working hours occupied only five hours out of the twenty-four: what she was doing the other nineteen, I of course pretend not to say, I only know that she did not sleep in the nest. I have several times opened the burrows of the solitary wasps about sunset, while in the process of formation, with the curved tubular entrances about an inch long, and have invariably found a wasp *asleep* in them, close to the bottom of the burrow. From the Tuesday until the Friday (when I wholly lost her) the door stood wide open into the shop, and one of the men was working about a yard from it, she however flew direct to her hole without any

hesitation, or exhibiting any signs of fear. A half-grown kitten sprang at her many times, and succeeded thrice in knocking her down, and would soon have put an end to her architecture had I not rescued her from her tormentor. When she brought some of the largest lumps of clay, she was almost exhausted by the labour of conveying it home, and while the plate was over the hole (the hole in the metal plate was only about $\frac{1}{4}$ of an inch in diameter) she several times missed laying hold of the edge with the claws of her fore feet; in those cases she could not recover herself, but was obliged to descend down the door, still striving to lay hold of some unevenness to support herself, but could not, the paint being thoroughly hard did not afford any. When she came down to the floor she rested herself awhile, her abdomen *panting* most violently from the exertions she had undergone: once indeed she fell right on her back on the floor, but with all her troubles she never once lost hold of her burden. After she had missed entering several times she would, when she came with a very heavy load, alight on the door-frame and recover her breath and strength, before she tried to enter her habitation. When she entered she laid the clay on the bottom of the hole, and after tempering it to a due consistence, she either applied it to the edge of the cell in the process of enlargement, or spread it on the surface, using her tongue as a plasterer uses his trowel. Several times I observed that she had apparently made no increase in her work, having been employed merely in smoothing it, which she effected by moistening the part to be operated on with saliva, and then licking it with her tongue until it suited her fancy, as she oftentimes rested for a few seconds, and occupied herself with viewing it over. The space she laboured at with such diligence was generally $\frac{1}{4}$ of an inch high, and about half that in width. She sometimes worked at two such places before she left the hole again upon an excursion. She did not attempt to work up the fragments that lay at the bottom of the hole, but very deliberately occupied herself with picking them up, and just putting her head outside, dropped them down on the floor; in this manner she disposed of as much as would have made two large burdens for her. She formed the cells horizontally in the hole, beginning with one at the bottom; the second was formed on one side over it, and a little longer at the end; the third was formed on the other side, and a little farther out still; the three cells occupied the whole space in diameter of the hole, and their ends formed a kind of spiral by the overhanging of the two upper cells: the second bottom cell was nearly half formed, and so in succession with the others. We thus find as much ingenuity in placing the cells as in those of the hive bee. When the cells were about half formed the bee filled them with pollen; I did not observe when she deposited her egg in the cell. After she had begun to gather the pollen, she did not immediately finish and close the cell, but commenced another, and proceeded by equal degrees to finish that cell and build the new one: she did not fill the whole cavity of the cells with pollen, but left nearly one third empty. On the Friday, as I before mentioned, most unluckily some fatal accident befel the mother bee. She had then under course of operation one cell nearly closed and the rudiments of two new ones: the hole altogether would have held about four more cells, which showed plainly that it was not because she had finished her work she wilfully absented herself, nor from being harassed by the kitten, as that took place on the Tuesday and Wednesday. I was thus disappointed in my expectation of being able to detain her when she was about finishing her labours, in order to become acquainted with her name as well as her habitation; but I suppose I shall be able to send you one of her progeny for that purpose, when they come to maturity next spring. The cell left unclosed by the parent (the hole was about 1 line

wide and 2 lines long) was closed by the larva inclosed in it the latter end of the following week, by spinning a film of silk within it.

P.S. Sept. 17. Since writing the above I was speaking yesterday to one of the workmen about the bee above mentioned, when he told me that he saw a wasp or something like a wasp go in and come out again from the hole the preceding week. I took out the piece of wood, and found the cell last alluded to deserted, and a hole in it large enough for the bee to make its escape from the habitation of its youthful days. I must take measures to prevent the escape of those remaining behind.—*James Bladon; Pontypool, Sept. 17, 1841.*

105. *Aphis of the Turnip.* In July, 1837, I sent a short note to 'The Naturalist' on the turnip-fly, about which there was then a good deal of discussion: I there mentioned three distinct insects which fed on and destroyed the turnips. Two of these, the larvæ of *Athalia spinarum* and *Altica nemorum* are mentioned by others, and destroy chiefly the young plants; but the third I have seen no notice of since then, although it is probably more provokingly destructive (from its attacking the larger plants which are usually considered safe) though more partial than either of the others. It is an *Aphis*, I believe *Brassicæ*; it remains on the underside of the leaf, which turns yellow. It was first mentioned to me by my friend Dr. Storer, of Nottingham, as having occurred at Hawksworth in the same county a few years ago, in September. He says "the rain did not affect them, owing to their being on the under side of the leaf. He observed them one evening late in September in immense swarms in the air, near his residence; in such numbers indeed were they, that they might be taken in handfuls from the windows, where some *few*! of them settled." I had almost forgotten the substance of that notice, when a short time ago I was talking to a very intelligent farmer near Retford, in Nottinghamshire, on the turnip-fly, and I then asked him if he ever remembered anything of the kind; to which he replied that he had good reason to do so, as he had lost many acres of fine turnips by them: and he added that he was by no means singular, as most of the farmers in that district had suffered in a similar manner. He said it was a small green fly with long wings, like the blight on rose-bushes, and remained on the under side of the leaf; evidently from this description an *Aphis*. Watering the plants did no good; and he suggested dusting the under parts with soot or lime; the latter would, I should think, be most likely to prove efficacious. In his district they appeared about 1835 or 6, about the time mentioned by Dr. Storer. I should not have troubled you with this communication, but no notice having been taken of it by any correspondent of 'The Naturalist,' and having received an unexpected confirmation of the fact I had mentioned, I have thought it better to lay the subject before your readers, as I am anxious for any information which may lead to a better knowledge of its habits, or of the means best calculated to rid the farmers of such a pest, for pest it is, although occurring only occasionally.—*Beverley R. Morris, A.B., M.D.; York, September 17, 1841.*

106. *Aphis of Alisma.* Found in groups on young shoots of that plant in July and August. The colour of the body is dark green, that of the legs slightly paler.—*F. Walker; Grove Cottage, Southgate, September 17, 1841.*

107. *Aphis of the Lettuce.* On the roots of the lettuce, in July.—*Id.*

108. *Aphis of the Potato.* On the flowers of the potato in July. The hairy leaves are not infested by this insect.—*Id.*

109. *Musquito Cave,* (extracted from Paget's 'Travels in Hungary'). Soon after passing Babakay, the boatman pointed out to us a cavern, half way up the mountain

on the Hungarian shore, as the identical cavern of the dragon slain by St. George, and where, they say, the foul carcase still decays, and, like Virgil's ox, gives birth to a host of winged things. What is certain is, that from this direction, and it is strictly maintained from this very cave, proceeds the *Golumbatzer Mücken*, a peculiar kind of musquito, which often invades the Bunat in swarms, to the great injury of the flocks and herds. They attack chiefly the eyes, nose and ears, and produce such pain as to drive the animals nearly mad, and death usually follows.—*Id.*

110. *Hadena Lappo*. I captured this insect May 23rd, on White Moss. It has been very rare for the last three years, and will shortly be extinct in that locality, the greater part of the Moss being already under cultivation. — *R. S. Edleston*; 13, *Derby St., Cheetham, Manchester, September 17, 1841.*

111. *Sphinx Convolvuli*. On the 21st of August a female of this insect was captured flying in St. Ann's Square, in the centre of the town. I received a male from Chat Moss, two years ago.—*Id.*

112. *Orgyia gonostigma*. At the commencement of my notes inserted in the September No. of 'The Entomologist,' I forwarded you the name of *Orgyia antiqua* instead of *O. gonostigma*; will you oblige me by correcting this, as I sent the *young* entomologist rather too far a-field after a regular street insect. — *Alfred Lambert*; 6, *Trinity St., Southwark, September 29, 1841.*

113. *Diptera Orion*. On the 20th of August, at Thorrington Wood, Essex, I beat into my net the larva of *Diptera Orion*; it was very small, but I subsequently fed it up. It was a very beautiful larva, similar in colour and some of its markings to that of *Leucoma Salicis*, in shape it resembled the larva of *Porthesia auriflua*, only flatter, having rings of minute red dots at every segment, with three cream-coloured oblong blotches across the back, on which were several small protuberances of the same colour; it was hairy, like those of the tussocks; the head, when full grown, was of a pale reddish brown: it fed on birch, and on the 21st of September spun up on one side of the cage, in a cocoon composed of particles of the earth mingled with its web. I compared it with Mr. Curtis's figure from Godart, which gives a very indifferent idea of the insect, particularly as to shape.—*Id.*

114. *Friendly Hint to Subscribers*. It was with regret that I observed the notice to subscribers on the last No. of 'The Entomologist.' An easy method of remedying the evil, which I shall practise myself, would be for each subscriber, either to induce a friend to subscribe, or to purchase two copies himself. It would be a very acceptable present to a young friend, and might serve for a neat memento of friendship at the approaching festivities of Christmas.—*James Bladon.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XIV.

DECEMBER, MDCCCXLI.

PRICE 6D.

ART. LII. — *Description of a New North American Polyommatus.*

By EDWARD DOUBLEDAY, Esq.

Dicite Iō Pæan : et Iō bis dicite Pæan :

Decidit in casses præda petita meos.

OVID. ART. AMAT. 2.

THREE species of the genus *Polyommatus* have long been known to inhabit the United States, viz. *P. Comyntas*, (Godt.), *pseudargiolus*, (Boisd.), and *Filenus*, (Poey.). These all belong to distinct sections of the genus; *P. Comyntas*, like the European *Bæticus*, being tailed, and in habits as well as in this peculiarity approaching the *Theclæ*; *P. pseudargiolus* belonging to the same group as our *Argiolus*, and differing from the more typical species in structure as well as their habits of frequenting trees and bushes, whence the appropriateness of the name of wood-blue applied to *Argiolus* by English collectors; and *P. Filenus* belonging to a group nearly confined to low latitudes, and widely dispersed in Africa, Asia and America, which may generally be known by the dull upper surface of most of the species, and the large ocellus on the under surface of the posterior wings not far from the anal angle.

I have long been aware of the existence of another and far finer species of *Polyommatus*, in the United States, and have anxiously sought for it in old cabinets, in the hope that some specimens of it sent to England by Abbot might somewhere be in existence, but it was only a few days since that I had the good fortune to obtain the specimens which now enable me to describe this hitherto inedited species, and my delight at procuring them was fully proportioned to the anxiety which I had felt to obtain them. I propose to call this species—

Pol. Lygdamus. Alis suprà nitidè cæruleis, ciliis fuscis, aut fuscis disco plus minusve cæruleo, subtùs cinereis strigà communi juxta marginem punctorum magnorum ocellatorum. (Exp. alar. 1 unc. 3—5 lin.)

Inhabits the pine forests of North America, especially Georgia. The specimens are in my own collection.

Male with the upper surface pale, pure, metallic blue; the cilia fuscous, which colour extends very slightly along some of the nervures and the anterior margin of all the wings. Beneath rather dark ash colour; anterior wings with a small subocellated black spot near the base, a somewhat reniform black discoidal spot edged with white, and near the outer margin six large black spots likewise surrounded with white, of which the one nearest the anal angle is duplex, and placed immediately below the fifth. This and the four preceding ones form a curved line, the third being nearest the outer margin. Posterior wings with two small black dots near the base, and an elongate one in the disk, all surrounded by a slender white margin. Beyond these, near the outer margin, are eight similarly margined rather large black spots, placed so as to form a tortuous line, slightly broken after the second and sixth dot. The two first are nearly continuous with, though a little more internal than, the series on the anterior wings; the third, fourth, fifth and sixth, form a line curving outwards, the fourth being nearest to, the sixth, most distant from the outer margin; the seventh, a little removed from the sixth, approximates closely to the eighth, which is much smaller. Just above the anal angle is another black dot margined internally with white. Cilia nearly of the same hue as the ground colour of the wings.

Female with the upper surface above fuscous, more or less shaded with blue at the base, the blue sometimes extending far over the disk. Below as in the male.

In the position of the ocelli this species closely resembles *P. Acis* and *Damætas*, to which it is in fact nearly allied. It may be easily distinguished however from these by the pure blue of the upper surface, which has a decidedly metallic lustre, and by the fuscous cilia. The ground colour of the under surface is much darker than either of the above-named species; the ocelli are three or four times as large as in either species, and there is no trace of the blue shading at the base of the wings, so very distinct in those species, especially in *P. Damætas*. With this Abbot confounded it, as is evident from the following note appended to the drawings in the British Museum, from which I first learned the existence of this species:—"No. 44. Pap. ———. Taken 4th March. It is a female of 179 and 180, see next page, and is much more rare than the male." "No. 179 and 180. Pap. Erebus.* Taken 21st March in pine woods, very rare. It flies very swiftly. The female has a broader border of black. This is the

* *P. Erebus*, *Fab.* = *P. Damætas*, *Hub.*

male of 44. See last page." These drawings represent both surfaces of both sexes very accurately, though the blue is made to occupy rather more of the disk of the wings in the female than it does in my specimen, a variation common in this genus.

Now that I am on the subject of the American *Polyommata*, I may just express my opinion that two species are confounded under the name of *pseudargiolus*, one a northern species, with the markings of the under surface very distinct and coarse, the other a southern one, in which all the markings below are beautifully delicate; but having taken few specimens in the north, and those all females, I dare not speak positively on this head. The northern species or variety I took at Trenton Falls; the southern one on the summit of one of the Alleghanies, between the Warm Springs N. Carolina, and Cave Hill Tennessee. *P. Comyntas* was in tolerable plenty at the latter station, and I also took it on the banks of the Ohio. *P. Filenus* I only found in East Florida, amongst the long tufts of grass on the sandy shores of the St. John's. It was by no means common.

EDWARD DOUBLEDAY.

Epping, October 10th, 1841.

ART. LIII.—*Notes on Virey's System of Animal Structure.*

By FRANCIS WALKER, Esq.

THE continual increase of observations made on the structure and habits of creatures renders the study of Natural History — more and more embarrassing by reason of the accumulating heaps of recorded facts, — a useless mass until arranged under general laws, on which may be raised a magnificent temple of knowledge, crowned and upheld by one universally applicable. The time is not yet come for a discovery which, foretold by Newton, would be as comprehensive as that of gravitation, but the approach to it may be facilitated by applying some of the numerous discoveries to the illustration of the laws already established. Among these one of the most general and comprehensive is, the law according to which the whole creation of animals and vegetables forms an organic pile, having two poles, animals tending toward the positive pole, and vegetables toward the negative pole, when the two kingdoms are compared the one with the other.

The lowest species of animals and plants differ from the more perfect creatures by mutually approximating, and having more in common with each other and with inert matter, and with them the positive pole

ceases; but the higher tribes of animals and plants have two distinct poles, those of the former, however, being the reverse of those of the latter,—that is, the inferior or negative pole of the animal represents the superior pole of the plant, and the inferior pole of the plant represents the superior or positive pole of the animal. This law is the same with the animal kingdom alone (of which the higher classes approach the positive pole, and the lower classes the negative pole), and with its successive divisions and subdivisions, and extends even to the species and to the individual, and thus a single animal is an epitome of all creation. It extends to the species, of which the female and the young incline to the inferior pole, but the full grown and the male belong rather to the superior pole; and to the individual, of whose body the positive pole governs the fore part, and the negative pole governs the hind part.

The geography of insects is connected with this subject, for hot countries compared with temperate or cold regions contain a greater proportion of the lower animals, or those that tend to the negative pole, than of the higher tribes that tend rather to the positive pole; however, the individual species of tropical countries, especially when the climate is dry as well as hot, have the greatest development of organization adjoining the superior pole.

It refers to the periods or epochs of creation, as manifested by the discovery of remains of animals in beds or strata of earth successively formed and overlaid, and in each of which peculiar tribes of animals are imbedded, the deepest layers containing the lower classes of animals, while the higher classes are found exclusively in the most recent formations; thus creation rises from the negative to the positive pole. It applies also to the systematic divisions of animals called warm-blooded or cold-blooded, red-blooded or white-blooded, vertebrate or invertebrate, intellectual or instinctive, sensible or apathetic, the former having most development of the organs toward the superior pole, the latter of those toward the inferior pole. It has been represented under the figure of a ladder, of which creation forms the successive steps, beginning with inert substance, and having fire and more subtle matter at its summit. Animals and plants have also been arranged in two series approximating at their base, for they approach most to each other in their lowest forms where the poles are not manifest. The greater development toward the superior pole often corresponds with what are called typical or central forms, or normal tribes, while the greater development toward the inferior pole is then named an oscillating or transition form, or an aberrant tribe. We

find also that generally the more perfect structure of the fore part of the body prevails in carnivorous animals, but that in herbivorous animals the hind part is usually the larger.

When in two groups of different tribes of animals there is a corresponding development of the body toward the positive pole, or toward the negative pole, or of the same organs or members or functions at either end, the conformation has been often expressed by the term analogy.

We next proceed to show how intimately allied to this law is the study of the growth and metamorphose of the species, and that of comparative anatomy, for when one pole — that is, the body adjoining to it — is much developed, the other end is small in proportion. With this may be mentioned the law of the balance of organs, or of the predominance of one organ at the expense of another, for when the former is distinct or very large the latter fails or almost ceases. The cause of this is the matter elaborated from food being carried toward one pole in a greater degree than toward the other, or to one organ rather than to another. It has been observed also that each segment or member in the range of species has an origin, dominion and cessation, both as to size and function, according as the matter above mentioned reaches it in small or in large quantities, or finally disappears from it; and thus the infinite variety of animal forms is effected. And the mode of development or metamorphose of animals is occasioned by the elaborated matter ceasing from one part of the body, and being carried to another part which before had scarcely received it, and by this process one part of the body is diminished in size, and its appendages cease, while other segments and their members are considerably increased, and acquire new functions. Thus it has been observed that when a caterpillar is changing into a butterfly, the matter accumulated from food and distributed along the body is carried toward the poles to develop the organs which before were scarcely perceptible.

The more an animal inclines toward the negative pole, the more remarkable it is for reproduction, and for tenacity, and diffusion, and inertness of life; but the nearer a creature approaches to the positive pole, the more it has individuality, and concentration, and perfection of life, which however becomes more precarious and less reproductive, and there life parts from matter, by which at the other end it is absorbed; and thus these poles, like life and death, are the bounds and limits of creation.

In glancing over the animal kingdom, the following examples are a

few among those that show the different tendencies of creatures towards the development of one or of the other pole. Beginning with the development of the positive pole and ending with that of the negative, we find that animals come in the following order:—Vertebrata, Mollusca, Articulata, Radiata. In Vertebrata, Mammalia and Aves are represented by the positive pole, Reptilia and Pisces by the negative pole; in Mammalia, Quadrumana and Carnivora are represented by the positive, Ruminantia, Cetacea and Marsupialia by the negative; in Aves, Rapacia and Zygodactyli by the positive, Palmipedes and Pinnatipedes by the negative; in Reptilia, Chelonia and Sauria by the positive, Ophidia and Batrachia by the negative; in Pisces, Cyclostomi and Plectognathi by the positive, Acanthopterygii and Plagiostomi by the negative. Mollusca have the following order from the positive to the negative pole:—Cephalopoda, Pteropoda, Gasteropoda, Acephala; and in Articulata the same order will be thus,—Crustacea, Arachnida, Insecta, Myriapoda; and in Crustacea the Decapoda tend more to the positive pole, and the Isopoda, Siphonostoma and Xiphosura to the negative pole; in Arachnida the Pulmonata approach the positive, the Tracheata the negative pole; in Myriapoda the Chilopoda are positive, and the Chilognatha negative. The transition of insects from one pole to the other is very remarkable; their early life, or the larva state, tending to the development of the negative pole, then the abdomen occupies the greater part of the body, but when the insect attains its perfect state the size of the abdomen is diminished, its appendages often cease, the head and other segments adjoining the positive pole acquire the greatest development. Among Insecta the Coleoptera have generally the greatest tendency to the superior pole, and especially the Cicindelites, Carabites, Dytiscites, Staphylinites and Telephorites, but compared to these the Scarabæites, Cerambycites, Curculionites and Chrysomelites, belong rather to the inferior pole. In the Orthoptera, the Achetites and Mantites present examples of the first class, and the Locustites and Phasmites of the second. Of the Neuroptera, the Phryganiites, Ephemerites and Panorpites are claimed by the lower pole, but the Libellulites, Termites and Raphidiites by the upper pole, which in the Hymenoptera begins with the Formicites, is continued through the Fossoria and the other Aculeata; next come the Pupivora; and lastly the tribes from Sirex to Cimbex, which manifest most of the contrary tendency. The lesser groups of this class also diverge the one from the other in opposite directions, such as the Ichneumones genuini from the Ichneumones adsciti, Anacharis from Cynips, Dryinus from

Teleas, the Chalcidites Pentameri from the Chalcidites Tetrameri, the positive pole being represented by the first group of each pair, and the negative pole by the second. In the Hemiptera the Reduviites and Notonectites are superior to the Pentatomites and Aphites; and in the Diptera the higher pole appears next the Asilites, the lower pole next the Muscites. The Lepidoptera have comparatively but little variation.

The number of primary segments along the longitudinal axis of the class Insecta is invariably thirteen, and in this character they differ essentially from the Myriapoda, the number of whose segments are progressively increased from six to fifty and upwards, and during the whole of their life segment after segment is added in continual development toward the lower pole. The larvæ of insects are also increased in the same direction, but in the last state of life they are exalted by an opposite tendency, and therefore the number of segments is limited, and when they begin to assume the perfect form, the matter elaborated from food is carried toward the head and the adjoining segments, and their appendages. The economy of Hymenoptera, and especially of the Aculeata and Pupivora, requires the abdomen to perform essential functions, and accordingly its development, with that of the head and thorax, causes the intermediate part to be much diminished and to form a petiole. The Amomorpha of Newman, comprising the Lepidoptera and Diptera, exhibit most of this passage between the poles; next come the Necromorpha, or the Hymenoptera and the Coleoptera; and lastly the Isomorpha, or the Orthoptera and the Hemiptera, in whose metamorphose, and in that of some of the Anisomorpha or Neuroptera, the region of the higher pole has the least tendency to development at the expense of that of the lower. The thirteen segments occur in the following order from the higher pole to the lower:—1, Caput; 2, Prothorax; 3, Mesothorax; 4, Metathorax; 5, Propodeon; 6, Podeon; 7, Metapodeon; 8, Octoon; 9, Ennaton; 10, Decaton; 11, Protelum; 12, Paratelum; 13, Telum; and the perfect composition of one segment is invariably attended with the imperfect structure of another. When a segment (such as the mesothorax of most insects, and the octoon of many Hymenoptera) is much developed, it ceases to have freedom of motion, but governs the movements and offices of its appendages or of other segments.

FRANCIS WALKER.

ART. LIV.—*Notice of New Amara.* By PETER RYLANDS, Esq.

A few months since my obliging friend, J. C. Dale, Esq., F.L.S., of Glanville's Wootton, was kind enough to send to me for examination a specimen of *Amara*, which he believed to be new. In this opinion I coincide, and have therefore to request the insertion of the following description of it in 'The Entomologist.'

Amara Dalii. Above coppery: head with two small impressions anteriorly: thorax slightly convex with the usual dorsal channel, and two foveæ on each side at the base; the inner one linear, deep, slightly punctate, and much smaller than the outer one which is smooth: the striæ on the elytra impunctate: body beneath, tibiæ, and the basal joints of the palpi testaceous: femora dusky: antennæ fuscous, with the three basal joints and base of the fourth joint testaceous. (Corp. long. 3 lin.)

Two specimens of *A. Dalii* were captured in the Isle of Man by Mr. Serrell, by whom they were presented to Mr. Dale.

With the Editor's permission I will extract from the 2nd vol. of 'The Naturalist' descriptions of three species of *Amara*, which I was fortunate enough to discover in 1837.

Amara puncticollis. Above bright coppery or greenish brass: head with an impression on each side between the eyes: thorax with two large and deeply punctated foveæ on each side at the base, the intervening space also punctulate: elytra punctato-striated: body beneath black: legs dark ferruginous: antennæ dusky, with three basal joints rufous. (Corp. long. $3\frac{1}{2}$ lin.)

Very evidently distinct from the other species of this genus. Rare near Warrington. The late Mr. Henry Buist captured a single specimen near St. Andrews.

Am. agilis. Above bright coppery: head with an impression on each side between the eyes: thorax anteriorly convex; with a dorsal channel and abbreviated obsolete transverse impression, and two foveæ on each side at the base; the inner one oblong, obsoletely punctated; the outer one broad, shallow, and very distinctly punctate: elytra with punctate striæ, and an interrupted series of impressions on the margin: body beneath, and femora black: tibiæ and tarsi ferruginous: antennæ, with the three basal joints and bases of the fourth and fifth, rufous; the remainder dusky: palpi pitchy. (Corp. long. $3\frac{3}{4}$ lin.)

Very rare near Warrington.

Am. elegans. Slightly convex: shining brassy green: thorax with two punctate foveæ on each side at the base of the dorsal channel, the outer one rather obsolete: elytra striated, the striæ punctulate: femora and tibiæ rufous: antennæ with the three basal joints and base of the fourth rufescent, the rest fuscous: basal joint of the palpi ferruginous. (Corp. long. 3 lin.)

Near Warrington. Possibly only a variety of *A. lævis*.

Bewsey House,
Warrington, October 7, 1841.

PETER RYLANDS.

ART. LV.—*Descriptions of Chalcidites.* By F. WALKER, Esq.

(Continued from p. 135).

Genus.—MARRES, *Walker.*

Corpus punctatum, convexum, parùm nitens, parcè pubescens : caput breve, transversum, posticè incurvum, thoracis latitudine ; frons anticè bicornuta, ad scapi receptionem profundè impressa : oculi mediocres, laterales : ocelli vertice triangulum fingentes ; medius perparùm antepositus : antennæ subfiliformes, thorace breviores ; articulus 1mus longus, sublinearis ; 2dus subrotundus ; 3us minimus ; 4tus et sequentes usque ad 13um curtantes : thorax ovatus : prothorax magnus, transversus, anticè angustior ; latera anticè rotundata : mesothoracis scutum breve, longitudine multò latius ; parapsides scuto in unum confusæ ; paraptera et epimera maxima ; scutellum parvum, obcordatum : metathorax brevis, transversus : abdomen sessile : pedum structurâ et alis nervorum dispositione *Leucospidem* simulans : metafemora subtùs dentibus 14 armata.

Mar. Dicomas. Rufus nigro varius, antennæ nigræ, pedes rufi nigro varii, alæ nigro-cyanæ. (Corp. long. lin. 7·3 ; alar. lin. 12).

Rufus : oculi et ocelli picei : antennæ nigræ : pectus nigrum : metathorax niger : abdomen nigro-purpureum : propodes rufi : mesopedes picei : metapedum coxæ nigro-cyanæ, femora nigro-purpurea, tibiæ nigræ, tarsi picei : alæ nigro-cyanæ ; squamulæ rufæ ; nervi picei.

Inhabits Gambia. In the British Museum.

Genus.—LEUCOSPIS, *Fabricius.*

Leu. atra. Nigra, flavo fasciata, antennæ nigræ, pedes nigri flavo varii, alæ fumatæ. (Corp. long. lin. 4½ ; alar. lin. 8½).

Leucospis atra. 'Fabr. Suppl.' 259.3 ; 'Syst. Piez.' 169.4 ; Westwood, Germar's 'Zeitschrift für die Entomologie,' i. 252.

Mas.—Nigra, punctata, obscura, pube cana vestita : oculi et ocelli picei : antennæ nigræ, pube ferruginea brevissima hirtæ : thorax ovatus : prothoraci fasciæ 2 angustæ flavæ ; metathoraci fasciæ lata flavæ : abdomen fusiforme ; dorso fasciæ 2 angustæ flavæ ; segmentum 1num compressum, utrinque flavo maculatum : pedes nigri : genua ferruginea ; tarsi ferruginei ; metafemora supra et subtus flavo vittata : alæ fumatæ, iridescentes ; squamulæ piceæ ; nervi picei.

Fem.—Abdomen nigro-piceum, flavo unifasciatum : oviductus recurvus, abdominis dimidiâ longitudine.

Inhabits Africa. In the British Museum.

Genus.—SMIERA, *Spinola.*

Smi. maculata. Flava, nigro varia, alæ subflavescentes. (Corp. long. lin. 3 ; alar. lin. 7).

Smiera maculata. 'Fabr. Mant. Ins.' i. 273; 'Linn. Syst. Nat.' Ed. Gmelin. i. v. 2743.7.

Corpus convexum, rude punctatum, pubescens, obscurum: caput breve, transversum, vix thoracis latitudine: antennæ subfiliformes, apice tenuiores; articulus 1mus longus, sublinearis; 2dus mediocris; 3us minimus; 4tus et sequentes ad 13um longitudine curtantes: thorax brevi-ovatus: prothorax brevis, transversus: mesothoracis scutum mediocre, transversum; parapsidum suturæ sat bene determinatæ; scutellum brevi-conicum, sat magnum, basi sulcatum, apice bicornutum: metathorax brevis, transversus, declivis: petiolus gracilis, abdominis dimidii vix longitudine: abdomen ovatum, compressum, nitens, læve, fere glabrum; segmenta Imo ad ultimum curtantia: metafemora dentibus 6 subtus armata; alæ ample; nervus humeralis ulnari fere duplo longior, radialis ulnari paullo longior, cubitali triplo longior, cubitalis sat longus; radiali angulum peracutum fingens stigmate non terminatum at nervulos 2 breves spurios emittens: metalis nervus unicus subcostam emissus, eam attingens et spatio brevi abruptus. Flava, nigro varia: caput flavum, postice nigrum; vertex niger: prothorax flavus, antice et utrinque niger: mesothoracis scutum nigrum, flavo 4-vittatum; scutellum flavum, nigro breviter vittatum: paraptera et epimera nigra, flavo vittata: metathorax niger, utrinque flavo varius: petiolus flavus: abdomen flavum, nigro 5-fasciatum: propedes et mesopedes flavi: metapedum coxæ nigre, flavo maculate; trochanteres flavi; femora flava, extus nigro maculata, utroque intus fascia lata diffusa nigra; tibiæ flavæ, tarsi concolores: alæ subflavescentes; squamulæ flavæ; nervi usci.

Inhabits the States of New York, N. America. In the British Museum.

Smi. Accila. Atra, abdomen fulvum fusco fasciatum, antennæ piceæ, pedes nigro-picei, metafemora flava, alæ sublimpidæ. (Corp. long. lin. 3; alar. lin. 7).

Atra, pubescens, rude punctata, parum nitens: caput breve, transversum, thoracis latitudine, ad os albidum; vertex convexus; frons abrupte declivis, ad scapi receptionem sulcata: oculi et ocelli fulvi: antennæ piceæ, subtus fulvæ, thorace vix longiores: thorax ovatus, convexus: prothorax brevis, transversus, postice incurvus: mesothoracis scutum magnum, longitudine latius; parapsidum suturæ bene determinatæ; scutellum sat magnum, subrotundum, apice bicornutum: metathorax brevis, transversus, declivis: petiolus niger, gracilis, cylindricus, abdominis dimidii longitudine: abdomen ovatum, subcompressum, fulvum fusco fasciatum, nitens, læve, fere glabrum, thorace brevius; segmentum 1mum magnum, 2dum et sequentia breviora: pedes nigri: metapedum coxæ magnæ; femora maxima, flava, apice et supra nigra, subtus dentibus armata; genua picea; tarsi picei: alæ sublimpidæ, minime flavescentes; squamulæ piceæ; nervi picei; proalis nervus humeralis ulnari fere duplo longior, radialis ulnari non brevior, cubitalis brevissimus stigma fingens minimum apice sub-bifurcatum.

Inhabits Brazil. In the collection of Mr. Shuckard.

Genus.—*CHALCIS*, *Fabricius*.

Chal. Teuta. Nigra, antennæ nigræ, pedes rufi nigro varii, alæ limpidæ. (Corp. long. lin. $1\frac{1}{2}$; alar. lin. $2\frac{1}{2}$).

Nigra, convexa, punctata, parum nitens, parce pubescens: antennæ nigræ: oculi et ocelli rufi: petiolus brevissimus: abdomen nitens, læve, basi fere glabrum, thorace brevius: pedes rufi; coxæ nigræ; femora nigra; tibiæ nigre, basi et subtus rufæ: metapedum femora rufa, subtus dentibus plurimis minutis armata; tibiæ rufæ: alæ limpidæ; squamulæ piceæ; nervi picei; proalis nervus ulnaris humerali multo brevior, radialis et cubitalis brevissimi.

Inhabits Van Dieman's Land. In the collection of Mr. Shuckard.

Chal. Polycetor. Nigra, abdomen rufum, antennæ nigræ, pedes rufi nigro et albo varii, alæ limpidæ. (Corp. long. lin. 2; alar. lin. 3).

Nigra, convexa, obscura, rude punctata, pilis albis pubescens: caput thoracis latitudine: oculi et ocelli rufi: antennæ nigrae, compactae, thoracis longitudine: thorax ovatus: prothorax brevis, transversus: mesothoracis scutum medioere: parapsidum suturae sat bene determinatae: scutellum obconicum, apice bicornutum: metathorax brevis, declivis: petiolus brevissimus: abdomen rufum, nitens, laeve, supra piceum, basi fere glabrum: pedes rufi; coxæ nigrae; femora nigra, apice alba: metafemora maxima, rufa, apice albo maculata, subtus dentibus plurimis minutis armata: alæ limpidæ; squamulae albæ; nervi picei; nervus humeralis ulnari multo longior, radialis ulnari multo brevior, cubitalis brevissimus.

Inhabits the Cape of Good Hope. In the collection of Mr. Shuckard.

Chal. Lasus. Atra, pedes flavi nigro varii, alæ limpidæ. (Corp. long. lin. 2; alar. lin. $3\frac{3}{4}$).

Brevis, crassa, convexa, punctata, atra, obscura, pubescens: caput thoracis latitudine: antennæ nigrae: oculi et ocelli picei: prothorax transversus, medioeris: mesothoracis parapsidum suturae sat bene determinatae; scutellum subrotundum, apice aciem fingens: metathorax brevis: petiolus brevissimus: abdomen thorace paullo brevius, subtus nitens, laeve, fere glabrum; segmenta imo ad 6um longitudine decrescientia: pedes flavi; coxæ nigrae; trochanteres picei; femora basi nigra; tarsi apice obscuriores; metafemora nigra, apice flavo maculata: alæ limpidæ; squamulae flavæ; nervi picei.

Inhabits the neighbourhood of Calcutta. In the collection of Mr. Shuckard.

Chal. Mnestor. Mas. Atra, pedes nigri flavo varii, alæ sublimpidæ. (Corp. long. lin. 3; alar. lin. 5).

Atra, convexa, punctata, obscura, pubescens: caput thoracis latitudine: oculi et ocelli fulvi: antennæ nigrae, subfiliformes, thorace non longiores: prothorax transversus, sat magnus: mesothoracis parapsides bene determinatae; scutellum subrotundum, apice aciem fingens: metathorax brevis, transversus, rugosus: petiolus brevissimus: abdomen nitens, scite punctatum, thoracis longitudine; latera apice pilis canis dense vestita; segmenta imo ad ultimum longitudine decrescientia: pedes nigri; femora apice flava; tibiae flavæ; tarsi flavi, apice obscuriores; metatibiae nigro binctæ: alæ sublimpidæ; proalæ minime flavescens; squamulae flavæ; nervi picei.

Inhabits Brazil. In the collection of Mr. Shuckard.

Genus.—PHASGONOPHORA, *Westwood*.

Phas sulcata. Fem. Nigra, abdomen rufum apice nigrum, pedes nigri rufo varii, alæ subfuscæ basi limpidæ. (Corp. long. lin. $4\frac{1}{2}$; alar. lin. 5).

Phasgonophora sulcata, Westwood. Griffith's Translation of Cuvier's 'Animal Kingdom,' xv. 432, pl. 77, fig. 2.

Antennæ filiformes, gracillimæ, thorace paullo longiores: mesoseuti parapsides non bene determinatae: abdomen thorace longius; segmentum 1um magnum, basi sulcatum; 2dum et 5 sequentia brevia: terebra abdominis longitudine, basi utrinque spiraculum gerens: metafemora subtus dentibus 6 et denticulis plurimis armata: alæ angustæ; proalis nervus humeralis ulnari plus duplo longior.

Other characters of this species are noticed in the description of *Phas. Condalus*. It has a slight resemblance to *Proctotrupes*, and the base of the abdomen is furrowed like that of some species of *Ceraphron* and *Teleas*.

Nigra: oculi et ocelli picci: abdomen rufum, apice nigrum; terebra nigra: pedes nigri; trochanteres fusci; genua fusca; tarsi rufi; metapedes rufi, tibiæ nigrae: alæ subfuscae, basi limpidae; squamulae piceae, nervi obscuriores.

Inhabits Georgia, N. America. In the British Museum.

FRANCIS WALKER.

ART. LVI.—*Entomological Notes.* By EDWARD NEWMAN.

(Continued from p. 171.)

Class.—DIPTERA.

Natural Order.—ANTHRACITES, *Newman*.

Genus.—RHYNCOCEPHALUS, *Fischer*.

Rhynco. Gigas. Labrum magnum, corneum, testaceum, vix capite brevius, mandibulæ maxillæque paritèr elongatæ; labium vix labro longius; antennæ desunt: corpus breve, obesum, lanuginosum, suprâ testaceo-fuscum, subtus lutosum: alæ fusco tinctæ, regione costali saturatori: pedes testacei. (Corp. long. .85 unc. alar. lat. 2.125 unc.)

Inhabits New Holland. A single specimen, taken by Mr. Imeson near Sydney, is in the cabinet of the Entomological Club.

Rhynco. costalis.

Nemestrina Trichophthalma costalis, Westwood, 'Phil. Mag.' 3rd ser. vi. 448.

Inhabits New Holland. Specimens taken by Mr. Davis, at Adelaide, are in the cabinet of the Entomological Club.

Rhynco. ales. Instrumenta cibaria desunt: corpus breve posticè acuminatum, lanuginosum, suprâ fuscum, subtus canum: alæ longiores et (plerumquæ basin versus) angustiores, fusco tinctæ, regione costali saturatori: pedes testacei. (Corp. long. .6 unc. alar. lat. 2 unc.)

Inhabits New Holland. A single specimen is in Mr. Shuckard's cabinet.

Genus.—NEURIA, *Newman*.

I propose this new genus, because I find that the greater part of the Anthracidæ of New Holland will not range with either of our genera, Anthrax or Stygia: besides the genus Rhyncocephalus, which I think strictly belongs to the same family, and to which the above-named species seem properly to belong, we find three distinct forms; the first, which might be termed Ligyra, represented by Anthrax bombylifformis of MacLeay*: the second Neuria, distinguished by the remarkably curved nervures of the wings, and containing two established and a great number of nondescript species; and the third Stygia, also numerous in species, few of which have been noticed by describers.

Neuria lateralis. Fusca: abdomen apice rotundatum, fuscum, lateribus ferrugineis: alæ fuscae fasciâ ante apicem albâ, nervuris ferrugineo-fuscis, nervurâ costali serratâ, cellulâ subcostali 2dâ medio divisâ: pedes testacei. (Corp. long. .8 unc. alar. lat. 2.1 unc.)

* Appendix to King's Voyage, ii. 468.

Inhabits New Holland. A single specimen, taken by Mr. Imeson near Sydney, is in the cabinet of the Entomological Club.

Neuria murina. Fusca: abdomen latum, apice acuminatum, fuscum, segmentis posticè tenuitèr albidis: alæ fuscæ, fasciâ ante apicem albidâ, cellulâ subcostali 2dâ medio divisâ: pedes fuscæ. (Corp. long. .5 unc. alar. lat. 1.4 unc.)

Inhabits New Holland. A single specimen in the cabinet of the Entomological Club, was taken by Mr. Davis at Adelaide.

Neuria nigrescens. Nigricans: abdomen lateribus parallelum, apice rotundatum: alæ nigricantes, fasciâ ante apicem niveâ, cellulâ subcostali 2dâ nullo modo divisâ: pedes nigricantes. (Corp. long. .5 unc. alar. lat. 1.3 unc.)

Inhabits New Holland. A single specimen in the cabinet of the Entomological Club, was taken by Mr. Imeson near Sydney.

Neuria præargentata.

Anthrax præargentata, MacLeay, Appendix to King, ii. 468.

Inhabits New Holland. There is a specimen in the cabinet of the Entomological Club, but its precise habitat has not been recorded.

Neuria ocellata. Nigra: abdomen lateribus parallelum, apice rotundatum, nigrum basi flavidum, segmentorum marginibus tenuitèr albidis: alæ fusæ, fasciâ ante apicem, ocellisque 2 discoidalibus niveis, cellulâ subcostali 2dâ nullo modo divisâ: pedes fusi. (Corp. long. .5 unc. alar. lat. 1.2 unc.)

Inhabits Van Dieman's Land. A single specimen is in Mr. Shuckard's cabinet.

Neuria extensa.

Anthrax extensa, Walker, 'Ent. Mag.' ii. 473.

Inhabits New Holland. There is a single specimen in the cabinet of the Entomological Club.

Neuria partita. Fusca: pilis variatim coloratis passim obsita: abdominis segmentorum marginibus tenuitèr pallidis: alæ longitudinalitèr divisæ dimidio costali nigricanti, anali hyalino decolorato; cellulâ subcostali 2dâ nullo modo divisâ: pedes fusi, lanugine aurantiâ læti. (Corp. long. .45 unc. alar. lat. 1.1 unc.)

Inhabits New Holland. A single specimen was taken by M. Preiss at Swan River.

Neuria maculosa. Fusca: alæ hyalinæ, costâ maculisque utriusque 7 ad nervuras transversas sitis fuscis; plaga fusca costalis ante apicem desinit, limitibus vix distinctis; cellulâ subcostali 2dâ medio divisâ: pedes fusi. (Corp. long. .6 unc. alar. lat. 1.4 unc.)

Inhabits New Holland. A single specimen was taken at Swan River by M. Preiss.

Neuria Corculum. Fusca; abdomen lateribus canum: alæ hyalinæ, plagâ costali

maculisque nonnullis minutis fuscis ornatæ, plaga costalis ad apicem extendit, limitibus manifestis infrà in lobos productis, cellulâ subcostali 2dâ medio divisâ : pedes fuscесcentes. (Corp. long. .25 unc. alar. lat. .625 unc.)

Inhabits New Holland. A single specimen was taken at Swan River by M. Preiss.

Neuria Atherix. Fusca; lanugine cinerасcenti obsita : alæ hyalinæ, plagâ costali ad apicem extensâ maculisque 4 ad nervuras transversas sitis fuscis; cellulâ subcostali 2dâ nullo modo divisâ. (Corp. long. .25 unc. alar. lat. .625 unc.)

Inhabits New Holland. The specimens in the cabinet of the Entomological Club were taken by Mr. Davis near Adelaide.

Natural Order.—CONOPITES.

Genus.—CONOPS, *Linneus*.

Conops aurosa. Antennæ nigræ, articulo 3tio basi pallido; caput luteum, epicranii spatio mediano rugato nigro: mesothorax niger, angulis anticis maculæque magnâ posticâ aureis; abdomen nigrum, fasciâ basali, alterâ ante apicem apiceque ipso aureis; alæ hyalinæ, vittâ latissimâ costali fuscâ: pedes testacei, femoribus ante basin fuscis. (Corp. long. .525 unc. alar. lat. .725 unc.)

Inhabits New Holland. There are two specimens, taken by Mr. Imeson near Sydney, in the cabinet of the Entomological Club: one of these differs in having the epicranium entirely black, and in wanting the posterior golden spot of the mesothorax. There is a third specimen, which from the shrivelled state of the eyes is evidently immature; the colours are very much less bright, and the antennæ are testaceous instead of black, I cannot however consider it distinct.

Class.—COLEOPTERA.

Natural Order.—MELOLONTHITES, *Newman*.

Genus.—POPILLIA, *Leach*.

Popillia scalpta. Caput asperè punctum: prothoracis pars antica plerumquè lateribus lineis sinuosis obliquis tenuissimis impressa sicut scalpta, pars postica parè ac levitèr puncta, glaberrima, margo postica utrinque lineis nonnullis sculptis impressa: scutellum glabrum parè punctum, marginibus ferè membranaceis, subhyalinis; elytra striata, striis profundè ac asperè punctis; striæ 5tæ puncta quam cæterum distantiora, 7mæ pravis, sparsis, striam vix formantibus: color niger, pedibus scutellique marginibus rufo-piceis: abdominis segmentibus infrà segmentoque penultimo suprâ pilis canis fimbriatis; podex maculis 4 subrotundis canis lanuginosis signatus: utriusque elytri discus testaceus. (Corp. long. .45 unc. lat. .27 unc.)

Inhabits the Philippine Islands. A single specimen, brought to this country by Mr. Cuming, is in the cabinet of the British Museum.

Popillia æmula. Caput et prothorax ferè precedentis, nihilominùs prothorax differt angulis posticis canis lanuginosis: utriusque elytri discus maculâ parvâ subrotundâ umbrinâ signatus: podex quoque maculis 4 parvis canis lanuginosis. Vix præcedentis varietas. (Corp. long. .4 unc. lat. .25 unc.)

Inhabits the Philippine Islands. Accompanies the preceding.

Popillia cetrata. Caput asperè punctum, prothoracis pars antica plerumquè lateribus lineis sinuosis obliquis tenuissimis impressa, discus punctis nonnullis sparsis sed manifestis impressus, marginibus posticis levitèr pilosis: scutellum punctum apice pilis nonnullis canis obsitum: elytra præcedentium: caput, prothorax et scutellum nigro-virentia metallina: elytra nigra, utriusque discus maculâ subrotundâ umbrinâ limitibus vix distinctis signatus: podex maculis 2 subtrigonis canis lanuginosis apicem versus acutè productis signatus. (Corp. long. .375 unc. lat. .225 unc.)

Inhabits the Philippine Islands. Accompanies the two preceding.

Natural Order.—CERAMBYCITES, *Newman*.

Genus.—CALLIDIUM, *Fabricius*.

Sectio.—Callidiis normalibus longè differt.

Call. intortum. Caput parvum, in prothorace ferè receptum, luteum, oculis fuscis: antennæ corpore valdè longiores, graciles, articulus 5tus 4to manifestò longior, luteæ, articulis apice fuscis: prothorax capite longior, paullò latior, lateribus inermibus ferè rectis, luteus margine anticâ posticâque fuscis, dorso tubericulis 3 minutis ornatus: scutellum parvum, fuscum, apice rotundatum: elytra parallela apice rotundata, inermia, puncta, punctis apicem versus minoribus, lutea, fasciis diversis fuscis: femora repentè tumescentia, basi lutea apice fusca; tibiæ tarsique lutea. (Corp. long. .6 unc. lat. .17 unc.)

Inhabits New Holland. A single specimen, taken by Mr. Best, is in Mr. Parry's cabinet. I am indebted to Mr. White, of the British Museum, for obtaining for me the loan of this and the following species.

Sectio altera.—Callidiis normalibus longè differt.

Call. vile. Caput vix in prothorace receptum: antennæ graciles, vix corpore longiores, 11-articulatæ, articulus 5tus 4to paullò longior: prothorax capite paullo latior paullò longior, lateribus inermis, dorso punctus inæqualis maculis nonnullis lanuginosis cinereis obscuris notatus: elytra parallela, apice inermia, puncta: femora tumescentia: totus color pallidè fuscus, lanugine cinereâ plus minùsve irrorata. (Corp. long. .7 unc. lat. .2 unc.)

Inhabits New Holland. A single specimen, captured by Mr. Best, is in Mr. Parry's cabinet.

EDWARD NEWMAN.

ART. LVII.—*List of Coleoptera captured in Sussex.*

By SAMUEL STEVENS, Esq.

38, King St., Covent Garden,

November 4, 1841.

SIR,

Observing that you have inserted in the last No. of your valuable periodical the list of captures made by me at Birch Wood in July last, I now furnish you with another of Coleoptera taken at Arundel, Little Hampton and Brighton, in

Sussex, between the 3rd and 13th of August last, and a few remarks as to the plants &c. on which some of them were found, which I hope may be interesting to your readers. I have omitted the commoner species that are taken everywhere.

I remain, Sir,

Yours, &c.

SAMUEL STEVENS.

To the Editor of 'The Entomologist.'

Brighton.

- | | |
|--|---|
| Ophonus sabulicola, Amara eurynota and | Apion seniculus |
| Zabrus gibbus. Under stones. | —— pubescens |
| Nedyus leucomelanus (<i>Kirby</i>), ovalis and | —— Carduorum & Onopordi. On thistles |
| horridus. Not uncommon on thistles | —— atomarium |
| near the coast. | —— stolidum. This species is in my |
| —— rufitarsis, (<i>Kirby MSS.</i>) Rare | opinion distinct from confluent, which |
| —— Quercicola. I was so fortunate | it has been confounded with: it is more |
| as to meet with fifteen specimens of this | pubescent, and a longer and narrower |
| pretty and rare insect on Fumaria offi- | insect. |
| cinalis, in company with N. nigrinus, | —— picicorne, (<i>Waterh. MSS.</i>) |
| which was abundant. | —— difforme. Not uncommon. |
| —— rugulosus | —— filirostre. Rare. |
| —— troglodytes. A beautiful variety. | Haltica Salicariae |
| —— marginatus | —— Verbasci |
| —— Asperifoliarum | Macronema Dulcamarae. Not uncom- |
| Amalus scortillum | mon on thistles. |
| Tychius lineatulus. A beautiful species. | Sphæroderma orbiculata. |
| Trachyphlaeus spinimanus | Chrysomela sanguinolenta |
| Apion tenue | |

Little Hampton.

- | | |
|---|--|
| Brosicus cephalotes, Bradytus ferrugineus, | Apion difforme. Not uncommon. |
| Ophonus pubescens, and many species | —— dissimile, (<i>Germer</i>). This insect |
| of Harpalus & Amara. Under stones | approximates to difforme; the ♂ has |
| &c. | very singular antennæ and fore feet. |
| Amalus scortillum | Mr. Walton has a specimen of the ♀, |
| Sibinia primita | which he received in a collection from |
| Otiorynchus rugifrons | Bristol; with that exception I believe |
| Mecinus circulator. A beautiful and rare | it has not been noticed to have occur- |
| species. | red in this country before. I took both |
| Cleonus sulcirostris. Common on thistles. | sexes, and have since found it at Birch |
| Apion Curtisii. This insect was, I believe, | Wood. |
| unique in Mr. Curtis's cabinet, till I | I found the above nine species of Curcu- |
| met with five specimens last year. I | lionidæ by sweeping in a field facing |
| found it common, but very local, this | the sea, together with many other more |
| year. It is allied to Ap. pubescens, | common insects. |
| but evidently distinct. It frequents | Opatrum tibiale. On the sand-hills. |
| sterile situations. | Notoxus Monoceros. Common. |
| —— laticolle. Common. | Chrysomela lamina |

Arundel and the Vicinity.

- Several species of *Leiodes*, *Tomicus* & *Cis* Bagoüs binodulus. I found ten specimens of this rare species, of the capture of which I have not heard for several years, by frequently searching one spot. It appears to be very local.
- Campta lutea* ——— luteolentus
- Bitoma crenata*. Under bark of elm. *Poöphagus Sisymbrii*, and a singular var.
- Curtonotus piceus* *Nedyus melanarius*
- Mecinus circulator* ——— melanostictus, (*Mar.*) on wild mint
- Nedyus Ericæ*. On heath. *Hypera Plantaginis*
- ovalis, leucomelanus and horridus. *Erirehinus Nereis*, var. Common.
- On thistles. ——— Scirpi, (*Fab.*)
- Echii. On *Echium vulgare*. *Donacia dentata*. Common.
- Asperifoliarum ——— angustata
- troglodytes, var. ——— dentipes
- marginatus ——— impressa
- punctiger. Not described in Stephens; rare. ——— Hydrochæridis
- Tychius lineatulus* All the above I found by brushing the sides of the ditches near the banks of the river Arun.
- Micronyx pygmaeus*, (*Curtis*). One specimen of this interesting genus.
- Apion tenue* ———
- pubescens *Miaris Graminis*. In the flowers of *Campanula Trachelium*; not uncommon in one spot.
- atomarium *Lamprias nigritarsis*. Rare.
- pallipes *Leptura aurulenta*. Ditto.
- picicorne *Serica brunnea*. Common in the evening.
- punctigerum *Mordella fasciata*. Common but local.
- stolidum *Chrysomela Hyperici*
- Sorbi. This species I believe has not been previously taken in the south of England. *Elleseus bipunctatus*
- pavidum *Haltica Verbasci*. On *Verbascum*.
- difforme *Calomicrus circumfusus*
- filirostre *Orchestes tomentosus*
- Meliloti. On *Trifolium officinale*. A *Nedyus* allied to *floralis*, but probably new.
- lævicolle *Apion Curtisii*. Common but local.
- Haltica ærata* ——— filirostre
- Rubi ——— Schonherrii. I met with eight specimens of this rare species, which is not described in Stephens.
- herbigradus (*Curt.*) & other species
- Macronema Dulcamaræ* ——— lævicolle. Common.
- Cryptocephalus similis* ——— difforme. Ditto.
- Moræi ——— atomarium
- bilineatus. Common. ——— pavidum
- gracilis *Trachypylæus spinimanus*
- The above insects I met with in Arundel Park, and on the slope of Bury Hill, two very beautiful spots. *Ceutorhynchus fuliginosus*
- Gymnaëtron Veronica* ——— subrufus, (*Gyll.*)
- Pachyrhinus Comari* *Prionus coriarius*. Not uncommon.
- leucogaster
- villatus

- July 7. Euplocamus mediellus
Steganoptycha Rubiana
————— cuspidana
————— rhombifasciana
18. Macrochila parenthesesella
————— palpella
- May 23. Pancalia Leuwenhoekella
Lampronia amœnella
- June 13. Harpagus albistrigellus
————— cinctellus
Spilonota rusticana
17. Cochylis margaritana
- May 30. Lasiocampa Rubi
Nemeophila Plantaginis
Zerene hastata
Ptychopoda ornata
Eupithecia simpliciata
Ennychia octomaculata
————— anguinis
- June 1. Incurvaria tripunctella
Lampronia melanella
————— marginepunctella
Argyrosetia semifasciella
Adela Sulzella
Lozotænia Modeeriana
Pseudotomia aurana
- June 27. Ellopiæ fasciaria
Macaria liturata
Argyrolepia resinella
Larvæ of Piniperda abundant
- July 4. Homœosoma gemina
Lozotænia Grotiana
Orthotænia marmorana
Argyrolepia Turionana
18. Pœcillochroma Sparmanniana
————— Solandriana
Hipparchus papilionarius
- July 26. Astyages grandipennis
Yponomeuta ocellæa
Anticlea fimbriana
- August 20. Leucania Phragmitis, Bromley marshes.
- July 26. Porrectaria leucapennella
25. Acteris aspersana (Curtis)
Erispilapteryx auroguttella
Anacampsis tricolorella
Pancalia Merianella
- Pterophorus megadactylus
Pseudotomia sequana
————— Petiverella
————— strigana
————— simpliciæna
- Antithesia oblongana
Semasia Rheediella
Cochylis griseana
Argyrolepia comitana
Microsetia quadrella
Lampronia Seppella
Gracillaria Thunbergella
- August 1. Crambus auriferellus
Cochylis roseana
Ypsolophus sequellus
Argyrotoza Conwayana
Cidaria olivaria
Zerene rubiginata
- Aug. 8. Anarta Myrtilli, fine, and the larva
- August 8. Platypteryx Lacertula
Argyrolepia gemmana
Eupœcilia angustana
Ditula porphyriana
Semasia splendana
- Aug. 15. Graphiphora crassa
Anacampsis interruptella
————— quadripunctana
————— nivella
- Depressaria costosa
Anacampsis maculella
Yponomeuta Clematella
- Argyromyges Schreberella
- Wm. Courtney; 5, Charles St., Hull St., City Road, October 14, 1841.

120. *Chrysomela Hanoveriana*. I have to announce the capture, near York, of *Chrysomela Hanoveriana*. The locality is very circumscribed; it is some meadows called Fulford Ings. On the 14th of May this year I took one pair on the flowers of *Caltha palustris* (marsh marygold) by sweeping; and though I watched narrowly for them I could obtain no more until June 22nd, when they began to appear, but not in any great numbers. I continued to capture them till the end of the first week in July: they are *very* local. They are easily found in the proper locality by observing the leaves of *Caltha palustris*, which are eaten into numerous small round holes, about the size of a shot. In fine weather they are found on the upper, but in wet they remain on the inferior surface of the leaf. They seem to prefer very wet situations.—*Beverley R. Morris, A.B., M.D.; York, October 18, 1841.*

121. *Captures of Fossorial Hymenoptera near Bristol*. The perusal of Mr. Shuckard's admirable 'Essay on the Fossorial Hymenoptera' having made me very anxious to obtain a collection of these insects, I have, during the last three summers, devoted a good deal of time to searching for them in the neighbourhood of Bristol, with what success will be shown by the accompanying list, which may possibly be interesting to some of the readers of 'The Entomologist.' I refrain from giving descriptions of the new species, hoping that my friend Mr. Shuckard will, before very long, favour us with a supplement to the above-mentioned work. In a few instances, where the species has not, to my knowledge, been captured within five miles from Bristol, I have added the name of the place where the capture was made.

<i>Myrmosa melanocephala</i>	<i>Nysson 3-maculatus.</i>	<i>Crabro tibialis</i>
<i>Tiphia femorata</i> , Portshead	(Mr. Home).	<i>rufiventris</i>
<i>minuta</i>	<i>dimidiatus</i>	n. s. al. to <i>podagricus</i>
<i>Sapyga punctata</i>	<i>Oxybelus uniglutinis</i>	n. s. al. to <i>elongatulus</i>
<i>Pompilus pulcher</i> , Weston-	<i>Trypoxylon figulus</i>	<i>Stigmus pendulus</i>
<i>super-mare.</i>	<i>clavicerum</i>	<i>Spilomena Troglodytes</i>
<i>niger</i>	<i>new species</i>	<i>Diodontus minutus</i>
<i>bifasciatus</i>	<i>Crabro cribrarius</i>	<i>luperus</i>
<i>variegatus</i>	<i>patellatus</i>	<i>tristis</i>
<i>cinctellus</i>	<i>cetratus</i>	<i>Ceratophorus Morio</i>
<i>viaticus</i>	<i>tarsatus</i>	<i>Papalæcus gracilis?</i> and
<i>gibbus</i>	<i>xylurgus</i>	two other species.
<i>crassicornis</i>	<i>Lindenius</i>	<i>Pemphredon lugubris</i>
<i>fuscus</i>	<i>vagus</i>	<i>Cemonus unicolor</i>
<i>exaltatus</i>	<i>subpunctatus</i>	<i>Mellinus arvensis</i>
<i>agilis</i>	<i>dimidiatus</i>	<i>sabulosus</i> , Portshead
<i>fasciellus</i>	<i>elongatulus</i>	<i>Alyson lunicornis</i>
n. sp. al. to <i>petiolatus</i>	<i>obliquus</i>	<i>Gorytes mystaceus</i>
n. sp. al. to <i>agilis</i>	<i>podagricus</i>	<i>Fargeii</i>
n. sp. al. to <i>viaticus</i>	<i>capitosus</i>	<i>4-fasciatus</i>
<i>Ammophila sabulosa</i>	<i>spinipectus</i>	<i>Arpactus tumidus</i>
<i>hirsuta</i>	<i>Wesmaeli</i> , Weston-su-	<i>Psen atratus</i>
<i>Tachytes Pompiliformis</i>	<i>per-mare</i>	<i>Mimesa unicolor</i>
<i>Nysson spinosus</i>	<i>albilabris</i>	<i>bicolor</i> , Clevedon
<i>interruptus</i>	<i>brevis</i>	<i>Cerceris ornata</i>

—*G. H. K. Thwaites; Kingsdown Parade, Bristol, November 6, 1841.*

122. *German specimens of British Lepidoptera.* Dr. Becker of Wiesbaden has lately visited London with an immense collection of German Lepidoptera for sale or exchange; the specimens are in the finest possible condition, and do infinite credit to his skill and perseverance. This accomplished Lepidopterist has long supplied the London dealers with those beautiful specimens of reputed British insects, which have become so abundant in all our cabinets. In making this statement it is but fair to add that Dr. Becker never suspected that these rarities would be retailed as British; and in conversation with him he seemed utterly unable to understand the absurd idea of value attached to them.—*Edward Newman*; 65, *Ratcliff Highway*, November 9, 1841.

123. *Eriogaster lanestris.* Dr. Becker informs me that from a single brood of *Eriogaster lanestris* he has found individuals remain in the chrysalis state one, two, three, five, six and seven years: some still remain unchanged, and during the fourth year not one made its appearance.—*Id.*

124. *Continental Specific Names.* Dr. Becker also informs me that *Hipparchia Blandina* of our collections is identical with *H. Medea* of continental cabinets; *Lycæna dispar* with *L. Hippothoë*; *Polyommatus Arion* with *P. Euphemus*; and *P. Argus* with *P. Ægeon*. He also asserts that *Hipparchia Davus* and *Polydama* are but local varieties of the same species.—*Id.*

125. *Diurnea Novembris*, Haw., Curtis's 'British Entomology,' xvi. pl. 743, where are the following remarks. "It is strange that after so many years the male of this moth should still be unknown. Mr. Haworth considered it might prove to be the female of *Tinea gelatella*, and at the same time stated that *phryganella* was supposed by others to be the male, both these suppositions are found to be *incorrect*, since the females of those species have been ascertained." In an excursion to the Brushes near Staley-bridge, the locality for *Lith. Solidaginis*, *Hüb.*, the end of October, 1840, I met with *phryganella* ♂ and *Novembris* ♀, in some abundance but very local, the males flying about mid-day in quest of the unimpregnated females, that were on the blades of grass at the foot of some oaks, and in this situation I captured them to my great satisfaction *in coitu*, thus settling at rest the question whether *phryganella* ♂ and *Novembris* ♀ are the sexes, which I have no hesitation in saying is the case, after what I have seen. I visited the locality again this year, but the weather having been very stormy, I could obtain but few specimens. From the 20th to the end of October is the right time of their appearance; and the females, after impregnation, ascend the trees to deposit their eggs.—*Robt. S. Edleston*; 13, *Derby St.*, *Cheetham*, *Manchester*, November 10, 1841.

126. *Aleis Roboraria.* During an entomological excursion in the New Forest, the beginning of September, I beat from oaks several larvæ of *Aleis Roboraria*. They were small, and continued feeding until November; they then attached themselves to the twigs by their anal feet, and remained nearly in an erect position until the March following, when they forsook their winter quarters and appeared in quest of food, but as there were no oaks in leaf at that season of the year, I supplied them with the twigs, and to my surprise I found some of them stripped of their bark. I continued the supply until the buds began to swell, when I found these were evidently preferred, and by the beginning of May the larvæ were full fed. They remained in chrysalis about three weeks, and appeared in the winged state the beginning of June. I bred three males and one female out of five larvæ that survived the winter; some of the larvæ actually died upon the twigs in the position they took up in November.—*John Chant*; 3, *Critchell Place*, *New North Road*, November 12, 1841.

127. *Parasemia transversella*. In your last number (Entomol. 202) where Mr. Stephens is describing his new *Parasemia*, he refers to *Æcophora sulphurella*, it should have been *Olivella*. The same mistake occurs also in Wood's 'Index Entomologicus.' Mr. Bentley has a specimen [of the new *Parasemia*] in his collection.—*Id.*

128. *Asilus* ———? Taken 12th June in oak and pine woods. The insects of this genus are called in Savannah "wolf-flies" in general, and by many people "witches." They are as great devourers of other insects as the *Libellula*. It is curious to observe them when they have caught one of the Hymenopterous class, to see them hold it out at arm's length (as it were), while they continue sucking its blood, until they render the insect too weak to be stung by them; they likewise prey upon every kind of their own genus (wolf-fly) that they are able to conquer.—*Abbot's MSS.*

129. *Æstrus nasalis*, called in Savannah "throat-nit layer." It differs in laying its eggs about the breast of horses, they also fold the extremity of the abdomen when they are not laying their eggs. For a remedy for killing these worms in horses, they first drench the horse with sweetened milk fasting, and about an hour after, when the worms have let loose their hold, they drench the horse again with shumach-root boiled strong.—*Id.*

130. *Ichneumon atratus*. I have taken them when laying their eggs, with their tails thrust into the wood so far that they were sometimes not able to disengage themselves.—*Id.* [The tails are between four and five inches in length].

131. *Sphex* ———? Taken 6th August; it builds in holes they make in the dirt in the sides of walls; they feed their young entirely with the large sorts of green locusts or grasshoppers, but what is remarkable, with none but green ones, and are seldom to be met with but where they build.—*Id.*

132. *Sphex* ———? This species builds in the ground, and feeds its young entirely with caterpillars; it is very curious to observe them, after having carried into their hole a caterpillar so large that they are hardly able to fly with it, come out carefully, and close up the hole by scratching the soil over it so nicely that it cannot be perceived.—*Id.*

133. *Scarabæus Tityus*. After they are dead they change black, and in a year or two (when dry) they recover their colour again: this sooner happens when exposed to the sun.—*Id.*

134. *Galerida americana*. Taken in April; found under old logs and behind the bark of old pines. When touched it emits a liquor like powder or smoke. Named "gunpowder-beetle."—*Id.*

135. *Hyboma gibbosa*, Fabr. It makes a large ball of hair, in which it deposits its egg, burying it in the earth. It is rare, and commonly called in Georgia "hair-ball beetle."—*Id.*

136. *Phileurus didymus*. The larva is very large and found in oaks. It is of a cream-coloured white with a dark brown head. * * Commonly called in Georgia "bull beetle."—*Id.*

137. *Captures near Mickleham*. The following were captured in the neighbourhood of Mickleham, Surrey, between the 9th and 18th of October.

Agrotis suffusa, *Glæa rubiginea* and *Xylina semibrunnea*. One specimen of each. *Glæa Vaccinii* and *spadicea*. Abundant.

Glæa polita and *subnigra*, scarce; and *Glæa satellitia*, common.

Orthosia pistacina and *lota*, rather scarce; and *Or. flavilinea* and *macilenta*, common. *Xylina Lambda*, rather common.

Miselia Oxyacanthæ, common.

Polia seladonia, not common.

Xanthia flavago and *fulvago*, common; *X. aurigo*, rather common; and two specimens of *X. citrago*.

Euthalia miata, rather scarce; and *Eu. psitticata*, rather common.

Thera juniperata, two specimens; and *Th. simulata*, uncommon.

The above were taken by night from the berries of the yew and flowers of ivy, with the exception of *Thera juniperata*, which I took flying among the juniper-bushes on Mickleham Downs, on the night of the 18th October.

Several species of *Noctuæ*, that in former years were common in certain localities, are this season either altogether wanting or very scarce, while others appear in the usual numbers. Such are *Orthosia pistacina*, *lunosa* and *lota*, *Miselia Aprilina*, *Polia seladonia*, &c. I do not know if this has been general, or is merely a local circumstance.

Glæa Vaccinii, *spadicea* and *polita* are, as far as I can see, but one species; *subnigra* may possibly be distinct.

The males of *Euthalia psitticata* were much worn, while the females were in fine condition. Is this because the males appear first, or do the females fly less?

I also beat the following out of blackthorn on the borders of Norbury Park, and on Leatherhead Common, from the 9th to the 18th of October and on the 7th November.

Peronea trigonana

Peronea cristallana

Peronia Desfontiana

striana

umbrana

cristana

profanana

spadiceana

These "buttons" seem to be rare and local; a whole day's beating did not produce more than ten individuals. Of no one species did I obtain more than four specimens, and of some only one.

Cochleophasia pubicornis. One beat out of oak.

Oncomera femorata. Common on the flowers of ivy, particularly on wet evenings.

Acanthosoma picta. Common on the junipers.—*J. W. Douglas; Cobury Road, Kent Road, November 12, 1841.*

138. *Vanessa C-album*. Some of the old collectors tell me that this species used to be common about London, some years since. Having never met with it, can any of the subscribers to the 'Entomologist' inform me if they have taken it lately within the London district.—*Id.*

139. *Sphinx Pinastris*. Although not so fortunate as to possess a specimen of this insect, I saw one alive and at liberty in the summer of 1827 or 1828, in Cumberland. It was hanging in the position common to the family when recently escaped from the pupa state, to a portion of the root of a fir-tree which protruded through the projecting edge of a piece of ground, overhanging a perpendicular bank of about ten or a dozen feet in height, at the side of a fir plantation on Lattrigg, a low mountain near the foot of Skiddaw. Not being provided with a net, I had not the means of capturing it from below; and in an unsuccessful attempt to climb nearer to it, a portion of the adjacent earth was dragged away, and in the confusion thereby created it disappeared. I had however obtained too distinct a view of it, to allow any probability of my being mistaken.—*Thomas Marshall; London, November 15th, 1841.*

140. *Entomological Society, October 4th, 1841.* W. W. Saunders, Esq., F.L.S., President, in the chair. Numerous donations of Entomological works were announced, presented by the Royal Academy of Brussels, Professors Brandt, Pictet, Quetelet, Von Siebold, and others. Some singular galls of large size were presented

by A. B. Lambert, Esq., and a pair of *Hylecætus dermestoides* by Mr. Trueman. Mr. Westwood exhibited two boxes of beautiful insects, belonging to Mr. Raddon, from the Gold Coast, Africa, and Port Philip, Australia, including a new species of Goliath beetle, *Eudicella ignita*, &c. Likewise a singular New Australian genus of large size, allied to *Cicada*, from the collection of Mr. Curtis, by whom it was proposed to be named *Cystosoma Saundersii*. Also a large domestic spider, to the extremity of the cephalothorax of which was still attached the exuvium of the dorsum of the former cephalothorax, which the insect had not the power to throw off, although it had remained alive in Mr. Westwood's possession some time. He also exhibited drawings of a new subgenus of *Cicindelidæ*, from the Mauritius, remarkable for the singular character of the clothing of the cushions of the fore feet; and read some additional notes and descriptions of new species of the genera *Cryptodus*, *Mæchidius* and *Parastasia*. Mr. Thrupp communicated some notes on the habits of the larvæ of certain *Noctuæ* which feed upon their own species when kept in confinement, and Mr. Walton mentioned that the new species of *Apion*, with singular antennæ and fore feet, recently captured by Mr. S. Stevens, was the *Apion* dissimile of Germar.—*J. O. W.*

141. *Entomological Society*, November 1, 1841. W. W. Saunders, Esq., F.L.S., President, in the chair. Amongst the donations was a large collection of Indian insects, chiefly *Coleoptera*, presented by W. McClelland, Esq. The Rev. F. W. Hope exhibited a fossil which he had received from Dr. Stevenson, found near Wellington, Shropshire, in a nodule of ironstone, having the appearance of the larva of a *Saturnia*, a row of tubercles being placed on each side of the dorsal canal, the sides of the body were also furnished with a row of slender, elongated, cylindrical, furcated appendages. Mr. Evans presented a drawing of the larva of *Zeuzera Æsculi*, which had proved very destructive to young fruit-trees in his garden. Mr. Westwood exhibited a collection of *Hymenoptera*, *Orthoptera*, *Diptera* and *Hemiptera* from Mexico, forming a portion of a very extensive collection made by E. P. Cossin, Esq., during his residence there. Amongst the *Hymenoptera* were several new and singular genera, especially amongst the *Ichneumonidæ* and *Apidæ*. Mr. E. Doubleday exhibited portions of his collection of North American *Lepidoptera*, including a singular specimen of *Saturnia Promethea*, having the antennæ and body of a male and the wings and colours of a female: he also brought for distribution among the members a large number of North American *Coleoptera*. Dr. Becker of Wiesbaden exhibited portions of his collection of European *Lepidoptera*, showing the German method of preserving the insects of that order. A memoir by the Rev. F. W. Hope was read, on the Entomo-geography of Port Essington, on the northern coast of New Holland, with descriptions of numerous new species of *Coleoptera* from that colony. Mr. W. W. Saunders read the descriptions of two new Indian species of *Cremastocheilus*; and Mr. Westwood descriptions of the Australian species belonging to the family of sacred beetles.—*J. O. W.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XV.

JANUARY, MDCCCXLII.

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ART. LIX. — *Analytical Notice of the 3rd Number of 'Arcana Entomologica,' or Illustrations of New, Rare, and Interesting Exotic Insects.* By J. O. WESTWOOD, Esq., F.L.S., Sec. of the Entomological Society, Etc. Etc. *Published September, 1841.* London: William Smith, 113, Fleet Street.

PLATE IX. represents an Orthopterous insect closely allied to Mantis, more particularly that section called by Serville Chæradodis, and figured by Guérin, 'Mag. de Zool.' Ins. pl. 34; and 'Voyage de l'As-trolabe,' p. 69. Mr. Westwood gives it the new name of *Deroplatys*, considering two small foliolets at the extremities of the metafemora of the species he has figured, sufficient to justify the establishment of a new genus. The species enumerated are—

1. *Deroplatys desiccata*. Brown: the prothorax furnished with a slender dilated membranous margin, which is deeply notched on each side posteriorly: fore wings short and broad, with a large white black-pupilled ocellus beneath, near the apex: length 3 inches, expansion of wings $3\frac{1}{2}$ inches. Inhabits Malacca: in Mr. Hope's cabinet. Figured in Jardine's 'Naturalist's Library,' "Insects," Int. pl. 9. ('Arc. Ent.' i. 33).

2. *Deroplatys lobata*. Chæradodis lobata, Guérin, l. c.

3. *Deroplatys angustata*. Elongate, brown, fore wings darker, with a minute, pale, subcostal spot: prothorax rhombiform, with rounded angles and subsinuate margins; legs variously marked with black: length 2 inches. Inhabits Java: in the cabinet of the East India Company. (Id. i. 34, tab. ix. fig. 2).

4. *Deroplatys arida*. Fusco-ferruginous, the prothorax narrower posteriorly: the fore wings have six large black spots in a longitudinal series; the hind wings have one very large, basal, black, shining blotch: legs variegated with black and brown: length $2\frac{1}{2}$ inches, expansion of the wings 5 inches. Inhabits Sumatra: in the cabinets of the Entomological Club and Mr. Fortunum. (Id. i. 34, tab. ix. fig. 1).

Plate X. represents that remarkable insect *Hypocephalus armatus*,

and various observations are introduced both by Dr. Burmeister and the author, to show that it belongs to the family of longicorns.*

Plate XI represents two species of *Papilio*.

1. *Papilio Gyas*. Fore wings slightly hooked, hind wings tailed: above brown with a darker margin, which has a series of obscure yellowish spots, those in the hind wings being lunulate; the fore wings have in addition three nearly round discoidal spots of the same colour, and the hind wings a round, blue, anal spot. Expansion of the wings $4\frac{3}{4}$ inches. Inhabits Assam: the specimen is in Mr. Solly's cabinet. (Id. i. 41, tab. xi. fig. 1).

2. *Papilio Cloanthus*. Fore wings acute, hind wings tailed: blackish, with a large central space common to both wings, silvery green; this is divided into spots towards the apex of the fore wings, and the hind wings have a row of sub-marginal spots of the same colour. Expansion of the wings $3\frac{1}{2}$ inches. Inhabits the northern countries of India, and is in the cabinet of the British Museum. (Id. i. 42, tab. xi. fig. 2).

Plate XII. represents new heteromerous beetles, but I find no reference from the text to the plate.

1. *Cyphaleus formosus*. The genus *Cyphaleus* has the clypeus projecting on each side in front of the eyes, yet scarcely covering the base of the antennæ, which are as long as the head and half the prothorax; the joints towards the apex being shorter and stouter than the rest: mandibles subtrigonal, bifid, and have an interior membranous process on the inner edge: maxillæ with the lacinia hooked and acute, the galea large, obtuse and hairy, the palpi with the terminal joint securiform: the labipalpi are short, their terminal joint subsecuriform: prothorax rather wider posteriorly, with sharp angles: elytra wider than prothorax, completely covering the abdomen. The species is black and punctured, the basal half of the elytra green, surrounded with purple, the apical portion violet-black. Length $11\frac{1}{2}$ lines. Inhabits New Holland: in Mr. Hope's cabinet. (Id. i. 43).

* This insect belongs to that natural order which I have called Cucujites, in which great variation takes place in the form of the allux or third, and in the development of the arthrium or fourth tarsal joint: the typical longicorn beetles or *Cerambycites* have the allux deeply cleft and bilobed, and the arthrium rudimentary only. The *Prionus pilosicollis* of Hope, alluded to by Mr. Westwood, forms, together with a second described species — *glabricollis* of Newman, the genus *Sceleocantha*, Newman, 'Ann. Nat. Hist.' v. 14; and *Cantharocnemis*, of which the author speaks as an undescribed genus, was carefully described in a paper read before the Entomological Society of France in 1832, and published in the 1st number of the Transactions of that Society, i. 132

2. *Cyphaleus iopterus*. Differs in having the elytra violet-coloured. Length 10 lines. Inhabits New Holland, and is in Mr. Hope's cabinet. (Id. i. 43).

3. *Cyphaleus rugosus*. Black and rugose. Length 11 lines. Inhabits New Holland, and is in Mr. Hope's cabinet. *Helops? rugosus*, G. R. Gray in Griffiths' An. King. Ins. pl. 80, fig. 5. *Helops aterrimus*, G. R. Gray in ditto, pl. 74, fig. 5 (details), and part 31, p. 22. (Id. i. 43).

4. *Chartopteryx Childreni*. In the genus *Chartopteryx* the antennæ are longer than the head and prothorax together, the four apical joints short and rather stouter than the rest: the mandibles are stout, curved, sharp-pointed and bifid within the apex, and have a membranous process on the inner edge: parts of the maxillæ and the labi-palpi nearly as in *Cyphaleus*: prothorax flattened, rather wider behind, the sides nearly straight: elytra rather wider than prothorax at their base and increasing in width posteriorly, the apex is acute: legs long and slender. The species is nigro-æneous and shining; the elytra brighter than the rest, and divided posteriorly into areas of various forms. Length 8 lines. Inhabits New Holland, and is in the cabinet of Mr. Hope. (Id. i. 44).

5. *Hemicyclus grandis*. Body hemispherical and smooth: antennæ scarcely longer than the head and prothorax, incrassated at the apex: parts of the mouth as in the last: elytra very large, rounded, gibbous and smooth. The species is nigro-æneous: the elytra metallic purple on the back, the sides inclining to greenish: legs and antennæ black. Length $7\frac{1}{2}$ lines. Inhabits New Holland, and is in the cabinet of Mr. Hope. (Id. i. 44).

6. *Hemicyclus metallicus*. Black, very shining: elytra purple on the back: pro- and mesotarsi rather dilated: perhaps the male of the preceding. Length $5\frac{1}{2}$ lines. Inhabits New Holland, and is in the cabinet of Mr. Hope. (Id. i. 44).

7. *Lepispilus sulcicollis*. Body oblong-ovate: antennæ longer than the prothorax, externally incrassated: mandibles terminating in an obtuse tooth, and furnished on the inner edge with a ciliated membrane: the lacinia of the maxillæ is without a hook, and the terminal joint of the maxipalpi scarcely securiform: the prothorax is longitudinally furrowed, rounded at the sides, and its posterior angles acute: elytra elongate-ovate: tibiæ somewhat curved, claws long. The species is black, the elytra inclining to purple-brown, and each having a whitish villous spot about the middle of the lateral margin. Length 7

lines. Inhabits New Holland, and is in the cabinet of Mr. Hope. (Id. i. 44).

The varieties are 'Zoological works published under Government patronage;' 'The Entomologist: conducted by Edward Newman, F.L.S.;' and 'Investigation of Myriapoda.' In the last we are informed that an elaborate memoir on this group by Mr. Newport may shortly be expected.

EDWARD NEWMAN.

ART. LX. — *Analytical Notice of the 49th Number of the 'Annals and Magazine of Natural History,' dated October, 1841.* London: Richard and John E. Taylor, Red Lion Court.

ART. XV. — *Description of a hitherto undescribed character distinctive of the Sexes in certain Lucanidæ.* By J. O. WESTWOOD, F.L.S.

THE character to which Mr. Westwood alludes is a corneous hook at the extremity of the mando or internal lobe of the maxillæ, pointed out to him by Dr. Burmeister, and existing in the genera *Pholidotus* and *Lamprima* in the females only; in *Nigidius* and *Ceratognathus* both sexes possess this hook; but in *Ceruchus*, *Platycerus*, *Ceratognathus*,* *Syndesus* and *Rhyssonotus*, it has not been detected in either sex; and the females of *Chiasognathus* and *Sphenognathus* have also been found to be destitute of the hook.

Mr. Westwood has commenced in the same number a paper entitled '*Insectorum Novorum Centuria.*' The first portion, or '*Decadis primæ Coleopterorum Synopsis,*' records ten new Coleoptera, the author giving, after the plan of my Entomological Notes, a *character* in Latin, the *size*, the *habitat* and the *collection* in which the specimen exists. As the author states that figures and detailed descriptions of these insects are prepared and will be published hereafter, I shall defer giving an abstract of the characters until the appearance of the promised republication.

EDWARD NEWMAN.

* There must be some mistake in this; I therefore quote the passages verbatim.—"In *Nigidius* and *Ceratognathus*, W., the males of which are at once recognisable by the increased size of the mandibles, I found the maxillæ in this sex furnished with the hook as well as in the females."—p. 122. * * "The genera in which I have found neither sex furnished with the hook are *Ceruchus*, *Platycerus*, *Ceratognathus*, W., *Syndesus* and *Rhyssonotus*."—p. 123.

ART. LXI.—*Notes on Myriapoda.* By FRANCIS WALKER, Esq.

Genus.—LITHOBIUS.

When their antennæ require brushing or cleaning, they bend those organs, which have great flexibility and rapidity of movement, under the mandibles, which are at the same time extended, and thus holding them down, they let them gradually reassume their former position, brushing every successive joint with the palpi, which are then in active motion. When touched or irritated they erect their four hindmost legs in an attitude of defence, as the Staphylinites raise their tails. Whilst very young, and little more than a line in length, the body is altogether white and transparent, and has seven legs on either side, and about ten segments besides the head, and the antennæ have but very few joints, compared with those organs in the mature creature.

Lith. larilabrum. Its body is sometimes quite soft, dull, pale, and tinged with green, this is probably caused by its having recently changed its skin. The labium is like the mandibles of many insects, it forms two distinct parts, which are stout, square, united behind, and in front armed with six minute teeth of equal size, it is sometimes called the exterior labium; on either side of it is a large, long, hooked and pointed jaw, used by the insect to seize its prey, and composed of five joints, the basal joint is large and long, the second, third and fourth are short and transverse, the fifth joint is long, slender, black, hooked, smooth, shining, and ending in a point.—These jaws extend along and beyond the sides of the head towards the base of the antennæ, thus the head seems broader than it really is. Desvoidy says that this part corresponds with the third locomotive vertebra of Crustacea, and with the fore legs of insects. In front of the head beneath is a small part, in shape like a short broad cone, and set with bristles in front; this is the labrum or the labial vertebra of Desvoidy. Behind this are the mandibles (or the maxillary vertebra of Desvoidy), which are small, near together, and armed with little teeth. Next comes the inferior labium, which is not very distinct; it bears two palpi, and according to Desvoidy represents the first locomotive vertebra of Crustacea and the maxillæ of insects. Then follows another segment, bearing well-developed three-jointed palpi; and immediately behind it is the exterior labium before described. On looking at the upper surface or *notum* of the head, we see that it is composed of two segments, one comprising the greater part of the surface, and having the eyes seated on either side of its front, is called by Desvoidy the optic vertebra. In front of this, and just over against the mouth, is a narrower segment, from which arise the antennæ; it is the olfactory vertebra of Desvoidy. The antennæ of this species have 30, 36, 37 or 40 joints, each successive joint being generally shorter than the preceding one; the horny external substance is transparent, and allows the internal nerves to be distinctly visible. Beneath the basal joint of each of the eight or ten hindmost legs is a long oval concavity, armed with straight, parallel, transverse ridges. The sexual parts are situate beneath the body, at the tail. The dorsal plates are easily removed, and allow the internal canal to be seen. When held it expresses great impatience, often opens its jaws, and applies their tips to each other or to the tips of its palpi. Sometimes the antennæ have only 30 joints, and are more obtuse at the tips. One of the penultimate legs being separated from the body vibrated rapidly for a while, as if in the act of running; however, the basal joint continued motionless, and on being pressed, the contraction of the muscle caused the rest of the leg to move as if the creature was walking, and the quickness of the motion corresponded with the weight and suddenness of the pressure, and vibration sometimes en-

sued for a few moments. The antennæ are setaceous and moniliform, but here and there a joint occurs longer than its predecessor; the last joint is cylindrical, and more than double the length of the preceding. The colour of the body is a deep reddish brown. There are sixteen sternal segments which have a livid hue, and have the same proportions and markings as those of *Lithobius variegatus*. The legs have an unvaried pale red colour, and are shorter and stouter than those of *L. variegatus*, but differ from the latter in no other respects. The labium is almost smooth and without punctures. The palpi are approximate at the base; the first joint is short, the second and third are pale yellow, the fourth joint is pale red, acuminate, and longer and more slender than the third. The labium and jaws do not belong to the head, though they cover a great part of its under surface and hide the origin of the palpi; they are easily raised, and found to be attached to the segment at their base, which forms a narrow band above, behind the head, from which therefore these jaws and labium are quite distinct, and rather belong to the prothorax. The palpi also are attached to this segment, as is more apparent in the genus *Scolopendra*. In front of them are the maxillæ, which are short, and have broad and obtuse tips fringed with short hairs; next come the mandibles, which are short and obtuse, and lastly the labium already described. The dorsal segments are arranged like those of *L. variegatus*, except that the 10th and 12th are broader and more developed. This species and *L. variegatus* are at once seen to be distinct; the body of the latter is slightly narrower than that of the former, its legs are longer and more slender, and their bands, and the stripes on the upper surface of the body, easily distinguish it. The labium of *L. forficatus* is thickly punctured, that of *L. lævilabrum* is smooth; the head also of the former is punctured, and broader than that of the latter, which is smooth. In some of the early stages of growth the antennæ have only 22, 23, or 26 joints, and the legs are but 30 or 32 in number.

Lith. variegatus. The antennæ have 34 or 35 joints, they are semitransparent, pale yellow at the base, but brighter and deeper in colour towards the tips. There are 16 locomotive or leg-bearing segments, and the sternum of each is pale yellow, and, beginning at the head, is longer and broader than that which precedes it, but the two or three last segments are narrower and smaller than those which they follow. Each sternum is transverse, and bears three irregular longitudinal furrows, very indistinct near the head, but increasing in depth and clearness even to the tail. The legs of the first segment are altogether pale yellow and somewhat short, but in passing onward to the last pair they become imperceptibly longer and banded with more and more distinct broad brown bands. A pair of legs is attached to the sides of the sternum of each segment; they are composed of nine joints, and are sparingly clothed with short stout hairs, the first joint is somewhat longer than broad, then follow two short transverse joints, the fourth joint is longer than the first, the fifth is more slender but not longer than the fourth, the sixth is longer and more slender than the fifth, the seventh is still more slender but not quite so long as the sixth, the eighth is pale red, and is still more slender and much shorter, the ninth or the claw is small and short. These joints, except the first and the ninth, are armed with short stout spines, which increase in number and size from the first successively to the fifteenth pair of legs, which are at least double the length of the first pair, and are banded with five distinct dark brown stripes. The motion of the legs when the insect is alarmed or irritated is very rapid; they are organs of prehension as well as of locomotion. I have seen this species fix

itself transversely on the back of a large Oniscus, and allow the latter so to walk and bear it about. The labium is much punctured, broad at the base and narrower in front, where it is armed with twelve minute black teeth of equal size. The jaws are attached to each side of the labium, and their tips cross each other when at rest, their joints from the second to the fourth bear each two stigmata that look like pores or spiracles. The palpi have four joints, and are nearly setaceous and slightly hairy, the third joint is longer than the second but shorter than the fourth. The outer side of the jaws is even, but the inner side is angular. The eyes are granular and composed of about sixteen tubercles. The legs are all formed for seizing and retaining. There are sixteen dorsal segments, eight of them are large shield-like plates, becoming somewhat longer and narrower from the head to the tail, their fore border is straight, their sides convex, and their hind border concave; they are shining and nearly smooth, excepting a few very indistinct and irregular risings and depressions. Each of these has following it, partly covered and sometimes quite hidden by its hind border, a very short segment. In the male? the part beyond the leg-bearing segments seems on the under-side to consist of three portions; the first large, nearly square, and broader than the preceding segment; the second very short, and covered, except at the sides, by the first; the third consists of two lateral parts, each of which terminates in a small black horn, armed with two spines. This species differs from *Lith. lævilabrum* in having less pilose antennæ, and less distinct transverse furrows on the four hind legs. The antennæ of the female are less pilose than of the male; only one segment is visible beyond that which bears the hindmost pair of legs, and the sexual organs are hidden.

Genus.—POLYDESMUS.

Pol. complanatus. When very young and having only six legs it much resembles *Smynturus* and *Armadillo*, which, in the same stage of growth, associate with it in abundance. When it is somewhat less than 3 lines in length, its legs form four waves while walking. In its earlier life it has but 14, 15 or 16 segments, but when full grown it comprises 20 dorsal segments besides the head, and has 62 legs, 28 double pairs and 3 single pairs. It is at first pure frosted white, afterwards dirty white, and the alimentary canal is distinctly visible through the dorsal segments. When full grown, the lengthening of the hind corners of each segment is first apparent on the fifth from the head, and goes on increasing to the last. The sexual organs of the male are under the seventh segment; they are furnished with two long slender hooks, each terminating in a claw, and set with teeth on the inner side of the basal part; they are transparent, bright, pale yellow, and are thus easily observed, the belly and legs being white. In one stage of growth it has 3 single and 10 double pairs of legs.

Genus.—ARMADILLO.

Arm. vulgaris. Swarms in great profusion amongst decaying vegetable matter. It carries its young, 30 or more in number, attached to its body, which when rolled up protects them from injury. They repose between and under the legs, and are most abundant towards the head; their colour is pale yellow or nearly white, the antennæ and legs and the margin of the border are quite white and nearly transparent, the eyes are black. They are a line or less in length; their bodies are soft, but the segments, antennæ, and nearly all the legs of the full-grown insect are already formed. When they are left to provide for themselves, the dorsal segments become hard and shining but are still white and semitransparent, and thus allow the internal functions to be

partly visible. The mandibles are formed for gnawing soft vegetable matter, being broad and armed with three teeth, which are not curved nor very sharp.

Genus.—*JULUS*.

Each segment has but one pair of legs; the segments are alternately scaly and membranaceous, the latter being covered by the former. The clypeus has the situation of the labrum, its border is excavated and tridentate. The mandibles have three or four short obtuse teeth. There are two pair of maxillæ, one pair narrow, soldered together, and forming the labium of insects; the other pair, or the maxillæ of insects, are joined to the first pair, and with them form the labium of this genus. There are no palpi. The first pair of legs has the coxæ approximate and soldered together, the thighs have but one joint, the tibiæ have two joints, the tarsi are pointed and have no distinct claw. In the second pair of legs the coxæ are elevated parallel to each other, and are also soldered together, but the thighs have two joints, and a distinct claw terminates the tarsus. In the third pair of legs the coxæ are distinct, and though approximate at their base they diverge from each other toward their tips. These three pair increase progressively in size, and at the same time are so modified that the third in no wise differs from the following legs.

Julus pulchellus. This is by far the most abundant species near London, where it may be found during most part of the year in gardens, at the roots of vegetables, to which it does much mischief. It feeds on the roots of potatoes, carrots, turnips, radishes, onions, cabbages, cauliflowers, parsley, Jerusalem artichokes, beans &c.; it also attacks hyacinth-bulbs, and feeds on apples and other fruit when much decayed, and I have seen it in clusters, devouring a large dead worm. It is an elegant creature in form and motion as well as in colour; it is white and almost transparent, like glass, and has a row of crimson spots on either side, along the whole length of the body, the head and tail excepted. When very young it is quite white, next a crimson spot appears on either side, and it successively acquires more and more, till most of the segments are thus adorned. The following is a list of the variations that I have observed in the number of these spots on one flank of the body:—1, 6, 7, 11, 14, 15, 16, 20, 21, 22, 25, 27, 28, 34, 35, 37, 39, 41, 42, 43.

The young of *Polydesmus* and of *Craspedosoma*, *Julus pusillus* and a small species of *Lombricus*, a little silver-hued *Smynthurus*, and the white, yellow and orange offspring of *Porcellio* and *Armadillo*, are companions to this species in the injuries it inflicts on vegetables, so also are some minute species of *Staphylinites*, such as *Oxytelus*, and their larvæ. When its head or antennæ are touched it is very sensitive, and turning on its side, curls its body into the form of an Ionic volute, or of a *Planorbis* or *Ammonite* shell, that is, into a succession of circles, one outside another, and of which its head forms the common centre. It shows that it dislikes being breathed on, by curling round its head and twisting its body like a worm. Having lost the hinder part of its body it crawled as quickly as before, but its movements were irregular and unsteady, and it frequently turned round its head as if to look behind it. The crimson spots are situated under and around a series of pores on each side of the body, which are called “*foramina repugnatoria*,” for through them is emitted a volatile oil, by which the insect defends itself. The crimson colouring matter is comprised in this oil, which soon flies off, leaving the colour behind, which assumes, either immediately or in a few days, a violet-black hue, and that this change is occasioned by the

drying of the matter and the volatility of the oil, will be shown by the following observations. *Julus pulchellus* dwells in very moist spots, often where the decayed vegetable matter is becoming quite fluid, and it seems not to suffer from being kept for twenty-four hours at the bottom of a tumbler of water. The other species live in more dry habitations, and they have the colour and scent which *Julus pulchellus* acquires only after death, for it is quite inodorous during life. When *Julus pulchellus* is plunged into hot water, its colour changes immediately to intense violet black, but when it is killed by spirits of wine or brimstone, the blackness comes on gradually and continues to increase till some few days are past. The oil exudes from the body when the insect is touched and when it is dead, and spreads over the surface whereon it is placed. When a number are killed, dried and ground in a little water, the latter becomes black, and in a few days changes first to brown, then to yellow, and acquires a strong fetid odour. When it crawls, its legs form about seven waves at once. Its body is full of soft pulpy matter, but the greater part of the larger species is dry and empty immediately after death, the muscles adhering to the inside of the segments. The four segments adjoining the head and the five anal segments are unspotted, and are the last to acquire the black colour. The spots are pear-shaped, and the crimson fluid often escapes from them when the creature is injured, and being suffused over the body give it the appearance of a bright red worm. It is most smooth when young, but afterwards the striæ are more deeply marked. In its very early state the thorax comprises half the length of the body, and the abdomen has but two segments, but more are successively added, and the capacity for food is increased till there are fifty, nearly all forming part of the abdomen.

It is a law of anatomy that each organ has at first an almost imperceptible appearance, then attains its maximum of development, and finally dwindles away and disappears from the scene of action; and accordingly the minuteness of the tracheæ of Chilognatha prefigures their cessation and the introduction of a new system of respiration, as we find takes place in the neighbouring classes of Crustacea and Annelida. *Julus* has much affinity to the latter, and we will notice the earth-worm (*Lombricus*), and mention some of the external characters in which it and *Julus* differ. All the segments of *Lombricus* serve for locomotion, which is effected by their extending and contracting alternately. *Julus*, by the process which is variously called shortening the axis and elaborating the organs or developing the superior pole, acquires a head, comprising eyes, antennæ, labium and mandibles, which are by some supposed to be the higher structure of so many segments or vertebræ. Thus some few of the segments that serve the *Lombricus* to glide along under ground, are in the *Julus* converted into organs of gnawing, seeing, feeling, and probably of other senses. The segments of *Lombricus* are altogether membranaceous and are sometimes striated longitudinally, those of *Julus* are also usually striated but are mostly coriaceous, having however a soft membranous part between each; they do not in themselves serve for moving from place to place, this is effected by the legs, pair after pair of which, with the vertebræ that bear them, successively appear between the antepenultimate and penultimate segments. Thus, though the metamorphose of *Julus* begins at the superior pole, yet it is mostly carried on by the inferior pole, and accordingly consists in the development of functions exercised by that part of the body. Each segment after the third bears two pairs of legs, or, as some say, the segments are anchylosed two and two together, and thus one segment has, in fact, but one pair of legs. *Julus* and the other Chilognatha form a group connecting the Annelida with the Crustacea, the skin of the for-

mer is generally membranaceous, that of the latter coriaceous, and the transition from the one to the other is manifested by the Chilognatha and the imperfect state of Crustacea. *Julus pulchellus* loves darkness as well as moisture, and conceals itself from the light as speedily as it can. When it has but one pair of crimson spots, they are situated just behind the 8 or 10 legs that are all it has, and occupy scarcely half the length of the body; the segments being about ten in number. When it has 7 pair of spots, its length is about $1\frac{1}{2}$ line, and comprises 16 segments. When full grown the segments are 50 and the legs 94 in number; the segments are finely striated.

Julus terrestris. The black or grey colour of *Julus* is not in the outer segments, but is caused by their food and by the oil and coloured matter which they secrete; thus when the segments of *Julus terrestris* are empty, they are transparent, white, or pale yellow, like as the whole of the live insect when very young. It seems to have but one regular unvarying pace in walking; its hindermost legs first step forward, their example is followed by the next pairs, till the motion is communicated to those next the head, and the movements of all together resemble waves rolling onward, or the ciliæ of *Vorticella*; four or five undulations are visible at one time. When crawling it moves its head slightly from side to side, and feels its way with its antennæ, which have some resemblance to those of the larvæ of *Silpha*, which latter differ not very widely from *Julus* in their habits of life. A noise being made it stops, raises its antennæ, bends them at an angle downwards, and seems to listen for a while, but although the noise is continued, it soon resumes its walk. When first touched it rolls into a spiral form, of which its head is the centre, and thus forms either one, two or three layers of concentric circles, the highest of which is the least, and above it the head is sometimes raised perpendicularly. It sometimes repeats this process when again touched or disturbed, but at last it ceases not to walk however much interrupted or handled. It shows most activity when taken out of the earth, and jerks, twists and wriggles its body with the muscles of its numerous segments, as an eel or a serpent does with its dorsal vertebræ. Its length is about $\frac{3}{4}$ of an inch; ash-colour, the sides mottled with white; the belly, legs, front of the head and the antennæ are white; there is a black stripe down the back, and each segment, except the four next the head and the five next the tail, has a dark reddish brown spot on either side, surrounding the pore and corresponding to the crimson spots of *Julus pulchellus*. The segments are about 52 in number, and each is finely striated longitudinally, but its base, which when the insect is in action passes under the hind margin of the preceding segment, is smooth, as also is the head and the greater part of each segment adjoining it. When the insect begins to move, its antennæ are first vibrated, then the motion extends to the adjoining legs, and is continued to the hinder, the process being reversed when it walks. The anus is large, and forms two valves which open laterally. The eyes are seated behind the antennæ, have an irregular triangular shape, and are tuberculate, the tubercles being about sixteen in number. The antennæ are 6-jointed, semitransparent, pubescent, slightly clavate; the first joint is half the length of the second; the third a little shorter than the second, and the fourth bears the same proportion to the third; the fifth is slightly longer than the fourth; the sixth is oval, thicker than the fifth but not more than half its length. A suture extends across the vertex from eye to eye, so that the head appears to consist of two segments that are ankylosed together. The body from the head to the tail increases in thickness, though very slowly and gradually. The segment behind the head is larger than the others, is very con-

vex in front, and extends like a hood over the head as far as the posterior margin of the eyes. Beneath each segment and between each double pair of legs is a plate, in shape either triangular, quadrangular or pentagonal. This species has 180 legs. It emits a powerful scent, something like that of decayed walnuts. A specimen that appeared to be of this species had a shining purple colour.

Julus pusillus.—Found in the autumn on decayed cabbage-roots with *J. pulchellus*, and with a species of *Sunius* and *Rhyzophagus ferrugineus*. When young it is white, like *J. pulchellus*, but less clear and often inclining to pale buff, particularly towards the head; it differs also in having a shorter and thicker body, and the fluid round the pores is duller than that of *J. pulchellus*.

Genus.—GEOPHILUS.

Both *Geophilus subterraneus* and *G. longicornis* are altogether pale tawny, except the head, which is somewhat darker; on each side of it is a very minute dark speck but just visible,—this is the eye. The antennæ are setaceous and slightly hairy, and have 14 joints, and by them these two species are easily distinguished, the antennæ of *G. longicornis* being twice the length of those of *G. subterraneus*, and much thicker. Each dorsal segment of the body is divided into three portions by two longitudinal parallel sutures; the middle part is narrower than that on either side. The spiracles are distinctly seen between the dorsal and sternal segments. *G. subterraneus* has about 70 leg-bearing segments, and between each is a narrower one; *G. longicornis* has about 56 segments; so that the one has 140 legs and 140 segments, the other 112 legs and as many segments. These segments are shortest next the head, and thence increase in length to the end of the body, and their number gives the insect that great freedom of motion in which it far surpasses all other genera of Chilopoda. They twist, contort and wriggle their bodies into a variety of forms, and when touched they often keep the hind part of the body motionless, and withdraw the head by bending the fore part of the body on either side many times. The head is flat and long, and truncate in front, and the suture by which it is divided into two segments is distinct. The jaws cross each other when at rest, and are hooked, shining, smooth and black, their base only being yellow. The labium has a longitudinal suture. These two species are pale, and the tips of their jaws are fulvous when young. *G. carpophagus* has only 104 legs, increasing in length from the head to the tail.

FRANCIS WALKER.

(To be continued).

ART. LXII.—*Cerambycitum Insularum Manillarum Dom. Cuming*
captorum enumeratio digesta. Auctore EDWARD NEWMAN.

PROCEMIUM.

METAMORPHOSEOS diversi ratione in quatuor classes dividuntur
INSECTA TETRAPTERA; scilicet ANISOMORPHA, AMORPHA, NECROMOR-
PHA et ISOMORPHA: Necromorpharum divisio bina, nempe HYMENOP-
TERA et COLEOPTERA.

Larvarum structuræ ratione in stirpes quatuor dividuntur COLEOPTERA: harum prima integra, simplex, facilè determinata: cæteræ binæ, aberrantes, diversæ. Divisio prima SCHISMATOCERA generi Linneo *Scarabæus* æquivalens, centralis, normalis, typicalis. Divisio secunda bina, HORMOCERA et PRIONOCERA: Hormocera Coleopteris Heteromeris auctorum æquivalet: Prionocera Elateres, Buprestides, Lampyrides, Telephoros, Cleros, Ptinos, et fortè Bostrichos complectitur. Divisio tertia bina, MACROCERA et BRACHYCERA: Macroceræ Cerambyces, Curculiones, Criocerides et Cucujos complectitur; Brachycera Chrysomelas, Cassidas, Hispas, Coccinellas, Erotylos, Eumorphos. Divisio quarta bina, CORDYLOCERA et NEMATOCERA: Cordylocera Silphas, Dermestides, Nitidulas, Sphæridia, Hydrophilos, Helophoros complectitur; Nematocera Cicindelas, Carabos, Dytiscos, Staphylinos. Divisiones secunda, tertia, quartaque divisionem primam circumambient.

Imaginum structuræ ratione in ordines quatuor dividuntur COLEOPTERA MACROCERA: horum primus integer, simplex, facilè determinatus: cæteri bini, aberrantes, diversi. Divisio prima, CERAMBYCITES, generi Linneo *Cerambyx* ferè æquivalet. Divisio secunda, CURCULIONITES, generi Linneo *Curculio* ferè æquivalet. Divisio tertia, CRIOCERITES, Donacias, Sagras, Criocerides complectitur. Divisio quarta, CUCUJITES, Trogositas, Passandras, Cucujos, Palæstes, Brontes, Parandras, Hypocephalos, Rhysodes, Cupes. Harum divisionum secunda Prionoceras aberrantes versus, scilicèt Ptinos, Bostrichos, sine dubio tendit; tertia Brachyceras aberrantes versus, scilicèt Hispas, Alurnos, planè tendit; quarta, maximè in generi *Passandra*, Schismatoceras aberrantes, scilicèt Trictenotomata, Lucanos, Passalos æmulat. Divisiones secunda, tertia et quarta divisionem primam circumambient.

Imaginum structuræ ratione in familias quatuor dividuntur CERAMBYCITES: harum prima integra, simplex, facilè determinata: cæteræ binæ, aberrantes, diversæ. Divisio prima, CERAMBYCIDÆ, Lissonotos, Trachyderes, Callichromata, Callidia, Clytos, Phoracanthas, Necydalides complectitur. Divisio secunda, PRIONIDÆ, bina, Prionos et Spondylos includens, Prioni Parandras, Spondyli Cucujos æmulantes. Divisio tertia bina, LAMIDÆ, Lamias et Saperdas complectitur, Curculionites versus tendens. Divisio quarta LEPTURIDÆ, bina, Lepturas, Rhagiomorphas includens, et Criocerites, plerumque Donacias, manifestè æmulans.

Nihilominus divisionum omnium pars quarta cæteris semper aberrantior, scilicèt stirpi *Schismatocera* Lucanus, ordine *Cerambycites* Leptura, familiâ *Cerambycidæ* Necydalis: itaque divisio omnis

normalis circulo sesquialtero demonstranda potest, circulis binis divisio omnis aberrans : dispositio similis per totam naturam sine dubio prævalet.

ŒCONOMIA. Cerambycitum larva apoda, segnis, arborum lignum perforans, devastans, comedans : pupa in larvæ aditum mutans : imago arborum corticem, folios, flores, frequentans.

DISTRIBUTIO GEOGRAPHICA. Totum orbem incolunt Prionidæ, Cerambycidæ, Lamiadæ : omnibus terris inveniuntur generum plurima, specierum nonnullæ, navium ligno fortè evecta. Europæ, Asiæ, Americæ regiones arcticos et subarcticos incolunt frequentissimè Lepturides typicales : Africam, Braziliam, insulam Madagascar rarissimè : Chinam, Indiam, Hollandiam Novam, Marisque Pacifici insulas ferè nunquàm : nihilominùs Hollandiam Novam incolunt Lepturidæ aberrantes plurimæ, scilicèt, Stenoderi, Rhagiomorphæ, Macrones, Tropides.

ENUMERATIO.

FAMILIA PRIMA.—CERAMBYCIDÆ.

1. *Hammaticherus indutus*. Fuscus, lanugine fuscâ, sericatâ, ditissimâ, undiquè obsitus : caput inter antennis sulcatum, inter oculos foveâ latâ impressum : antennæ corpore valdè longiores, articuli ultra 5tum longi graciles, 11us longissimus apice paullò curvatus : prothorax profundè rugatus, spatio postico glabro : elytra apice truncata. *Cerambyci holosericeo* Fabricii affinis at exemplario Banksiano manifestò differt. (Corp. long. 1·7 unc. lat. ·5 unc.)
2. *Hammaticherus spinicornis*. Fuscus, lanugine fuscâ obscure sericatâ, undiquè obsitus : caput inter antennis profundè sulcatum ; antennæ corpore vix longiores, articulis 3—10 apice 1-spinosis, spinâ 4ti brevissimâ. (Corp. long. 1·7 unc. lat. ·425 unc.)
3. *Hammaticherus ruficornis*. Niger, antennis pedibusque rufo-piceis : femorum apicibus nigris : oculi in epicranio ferè connivent ; antennæ maris manifestò longiores, apicem versus valdè compressæ, articulis apice acutis, ferè dentatis, femina corpore breviores, compressæ, subserratæ : prothorax asperè rugatus lateribus 1-dentatus : elytra basin versus crebrè puncta, punctis confluentibus, apice obliquè truncata angulis acutis. (Corp. long. 1·3 unc. lat. ·4 unc.)
4. *Hammaticherus auripennis*. Niger, elytris aureo-lanuginosis : antennæ corpore manifestò breviores : prothorax dorso inæqualis, tuberibus instructus, lateribus gibber, haud dentatus : elytra rotundata : pedes breves femoribus tumescentibus. (Corp. long. 1·1 unc. lat. ·275 unc.)
5. *Eurycephalus maxillosus*. Laporte, 'Animaux Articulés,' Coleop. ii. 438.
Cerambyx maxillosus, Oliv. Ent. No. 69, pl. 20, fig. 147 ??
Cerambyx Lundii, Fabricius, Syst. Eleu. ii. 273, feminae varietas, prothorace toto rufo : vix species!
6. *Callichroma addictum*. Antennæ corpore ferè duplo longiores, chalybei, basi nigri ; caput æneo-virens : prothorax æneo-virens, spatio dorsali obscuro, nigro-purpureo : scutellum obscurum nigro-purpureum : elytra basi æneo-virentia, cæteris obscura, nigro-purpurea, utriusque vittâ basin haud attingenti ob-

seurè viridi-auratâ : pro- et mesofemora rufa, metafemora basi rufa ; pedum cætera nigra. (Corp. long. 1·2 unc. lat. ·2 unc.)

7. *Callichroma accensum*. Antennæ corpore ferè duplo longiores, graciles, articulis canaliculatis nigro-chalybeis : caput roseo-æneum : prothorax rugatus roseo-æneus, maculâ dorsali elongatâ geminatâ nigricanti : elytra obscura roseo-ænea, lateribus suturâque nigricantibus, prope suturam nitentia : scutellum asperum nigro-roseum : femora rufa, tibiis tarsisque rufo-piceis. (Corp. long. 1·2 unc. lat. ·225 unc.)
8. *Callichroma rugatum*. Antennæ corpore valdè longiores, nigro-chalybei ; caput nigro-viride : prothorax pulcherrimè rugatus, rugis trifariam dispositis, nigro-virens : elytra obscura, nigro-virentia ; suturâ cum scutello nigricantibus : pedes chalybei. (Corp. long. 1·1 unc. lat. ·225 unc.)
9. *Callichroma semignitum*. Chevrolat.
Annon *Cerambyx albitarsus*? Fabricius Syst. Eleu. ii. 267 valdè affinis !
10. *Polyzonus bifasciatus*. Caput, prothorax et scutellum nigro-ænea ; antennæ nigrae, 11-articulatæ, corpore vix longiores, apice crassiores : prothorax ferè cylindraceus, punctus : elytra obsoletè bicarinata, obscura, nigro-chalybea, fasciis 2 communibus luteis, primâ ante, 2dâ pone medium : pedes nigri, fulgore metallico nitidi. (Corp. long. ·7 unc. lat. ·1 unc.)
11. *Xystrocera globosa*. *Cerambyx globosus*, Oliv. tom. iv. Cap. p. 27, tab. xii., fig. 81.
12. *Arhopalus longicornis*. Cano-fuscum, lanuginosum, punctum ; antennæ graciles, maris corpore valdè longiores, feminae breviores, articuli basi pallidi, apice nigri, subtùs hirsuti : prothorax dorso tuberculis 5 obsoletis instructus, punctis nonnullis magnis impressus : elytra punctis haud profundis, pustulisque nonnullis vix lineatim dispositis signata : pedes fusci femoribus basi pallidis. (Corp. long. 1 unc. lat. ·275 unc.)
13. *Arhopalus ambiguus*. Pallidè fuscum, undiquè punctum, pilis cinereis undiquè obsitum : antennæ corpore haud longiores : scutellum tomentosum : pedes breves, femoribus tumescentibus. (Corp. long. ·6 unc. lat. ·15 unc.)
14. *Clytus annularis*. Fabricius Syst. Eleu. ii. 352.
15. *Clytus Protogenes*. Antennæ fusco-testaceæ : prothorax flavescens, maculâ pone capitem subtrigonâ fasciâque transversâ medianâ latâ recurvâ nigris : elytra flavescientia, maculâ utriusque basin versus lunatâ recurvâ, fasciâ medianâ communi scutellum versus apicatâ, maculâque utriusque antè apicem difformi nigris ; apice truncata, angulo externo acutè 1-dentato : pedes fusco-testacei, metafemoribus elytris valdè longioribus apice nigricantibus. (Corp. long. ·6 unc. lat. ·1125 unc.)
16. *Clytus Phidias*. Caput, antennæ, prothorax et pedes nigricantia, pilis albidis obsita : elytra picea, vittâ utriusque medianâ latâ nigrâ, lineis utriusque 3 lanuginosis albidis, 1mâ literam C. assimili marginem costalem spectanti, 2dâ pone medium obliquâ, 3tiâ abbreviatâ subapicali. (Corp. long. ·55 unc. lat. ·1125 unc.)
17. *Clytus incanus*. Niger, elytris cinereo signatis, utriusque lineâ basali, ferè circulari, maculâ inclusâ nigrâ, fasciâ latâ medianâ communi alterâ apicali cinereis. (Corp. long. ·4 unc. lat. ·1 unc.)
18. *Clytus pudicus*. Niger, lineâ utriusque elytri basin versus obliquâ, fasciâque rectâ communi medianâ niveis, apice lanuginosâ canâ rotundatâ. (Corp. long. ·4 unc. lat. ·1 unc.)

19. *Clytus lunatus*. Niger, antennæ corpore manifestò breviores, apice crassiores: prothorax posticè constrictus, crebrè punctus: scutellum lanuginosum, cinereum: elytra crebrè profundè ac asperè punctà, lineà utriusque medianà, elevatà, tenui, lunatà, glaberrimà, luteà. (Corp. long. .4 unc. lat. .1 unc.)
20. *Clytus quadricolor*. Laporte. Hist. Nat. et Icon. des Ins. Coléoptères: *Clytus*, tab. 19, fig. 123.
21. *Sclethrus amœnus*. Genus novum: caput prothorace paullò latius; oculi maximi prominentes, rotundi, vix ad antennæ emarginati, in faciem spatio elevato trigono glabro, apice retrospecti; antennæ graciles, prothorace vix longiores, 11-articulatæ, articulus 1mus incrassatus, paullò curvatus, 3tius cæteris paullò longior: prothorax capite duplo longior paullò angustior, ferè cylindraceus, lateribus parallelus: elytra parallela convexa, apice truncatà, angulis inernibus: pedes graciles, longi, femoribus vix incrassatis, figurà omninò *Tricondylo* simillimus. *Scle. amœnus*. Caput nigrum, antennis piceis: prothorax rugosus, niger, lineis 2 longitudinalibus capitem versus abbreviatis lanuginosis, viridi-argenteis: elytra chalybea dimidio basali nitido, apicali opaco, utroque bifasciato, fasciis angustis, lanuginosis, viridi-argenteis, obliquis, 1mà fere medianà integrà, 2dà subapicali imperfectà, ambabus e margine laterali suturæ basin versus tendentibus. *Ibidioni amœno*, Gory, Magasin de Zoologie, No. 58, tom. 1833, simillimus et fortè idem; nihilominus generi *Ibidioni* maximè descrepat. (Corp. long. .7 unc. lat. .125 unc.)
22. *Obrium immite*. Caput prothorace vix angustius; oculi magni; antennæ graciles, corpore valdè longiores: prothorax ferè cylindraceus, capite ferè duplo longior, subtilitè punctus, tuberibus nonnullis glabris instructus: elytra puncta apice rotundata: pedes mediocres femoribus tumescentibus: color testaceus. (Corp. long. .5 unc. lat. .1 unc.)
23. *Obrium Ethiops*. Nigrum, nitidum: antennæ corpore vix breviores, articulis 5 apicalibus cinereis, lanuginosis: caput, prothorax et elytra punctis magnis profundis impressa, fascià pone elytrorum medium vix distinctà lanuginosà ornatà, apice rotundata: præcedentis figura. (Corp. long. .55 unc. lat. .1125 unc.)
24. *Æmona Philippensis*. Fusco-testaceum, pilis cinereis undiquè obsitum, antennæ corpore longiores; oculi magni, nigri; mandibulæ subexertæ nigræ: prothorax ferè cylindraceus, paullò deplanatus, lineà utrinque obscurà, interruptà, lanuginosà, cinereà: scutellum lanuginosum albidum: elytra puncta, apice rotundata. (Corp. long. .45 unc. lat. .08 unc.) *Nota*.—*Æmona* et *Petalodes* genera valdè similia, nisi in *Petalodes* antennis mirificis: an possibile *Petalodes mas*, *Æmona femina* generis ejusdem?

FAMILIA SECUNDA.—PRIONIDÆ.

25. *Mallodon Manillæ*. Nigrum, opacum: caput pronum, longitudinalitè sulcatum, sulco in faciem diviso; labrum distinctum rotundatum: prothorax dorso longitudinalitè impressus, lateribus denticulatus, dentibus posticis recurvis: femora scabra; tibiæ profundè sulcatæ, dentibus minutis armatæ; *maris* protarsi dilatati pilis longis fimbriati. (Corp. long. 1.7 unc. lat. .7 unc.)
26. *Macrotoma Luzorum*. *Prionus Luzorum*, Fabricius, Syst. Eleu. ii. 261.
27. *Macrotoma ægrotum*. *Fem.* Fuscum, antennæ corpore manifestò breviores: prothoracis discus punctus, punctis magnis confluentibus, lateribus denticu-

latus, dentibus minutis, acutis: elytra obscura, aspera, vix puncta: femora tibiæque compressa, manifestò denticulata, dentibus minutis, acutis. (Corp. long. 1·7 unc. lat. ·45 unc.)

28. *Macrotoma absurdum*. Fem. Nigro-fuscum, aut potius piceum; antennæ corpore longiores: prothoracis discus punctus, punctis numerosis minutis, spatiis 4 incertis elevatis glabris, punctis perpaucis magnis variatus, lateribus denticulatus: elytra obsolete 4-striata, puncta, punctis crebris manifestis confluentibus: femora et tibiæ vix manifestò denticulata. (Corp. long. 1·2 unc. lat. ·4 unc.)

EDWARD NEWMAN.

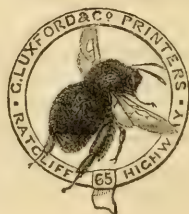
(Numero sequente continuatio.)

ART. LXIII. — *Varieties.*

142. *Erratum*. I have put *Pyrophila tetra* for *Amphipyra pyramidea*, (Entomol. 158), and as I find the error has misled several persons, please to insert this correction. — J. W. Douglas; Coburg Road, Kent Road, December 6, 1841.

143. *Entomological Society*, December 6, 1841. W. W. Saunders, Esq., F.L.S., President, in the chair. Mr. S. Stevens exhibited living specimens of *Notaris Serpi*, a Curculionideous insect, new to the native list, and which he had found in the interior of bull-rushes at Hampstead: in the same situation he had also found great numbers of a minute Muscidæ, and various species of Chrysomelidæ: he also exhibited a new species of Omias, from Ascham Bryant, Yorkshire. Captain Parry exhibited a case of Coleopterous insects from New Zealand, some of great interest, upon which the Rev. F. W. Hope made various observations: also a case of splendid Lepidoptera from the Himalayas. Mr. Westwood exhibited the Coleopterous portion of an extensive collection of insects, found in Mexico, by E. P. Coffen, Esq., amongst which were some very interesting and novel species of Longicorn beetles: he also exhibited two boxes of insects from tropical Africa, from the collection of Mr. Raddon. Mr. Gould exhibited a singular British wasp-nest, which had been formed by *Vespa holistica* in a glass case placed on the top of a steam boiler, a tube having been introduced into the mouth of the original nest in a bank through which the wasps were forced to pass. A note from Mr. Elliott, by whom this nest had been obtained, was also read. Mr. H. Cuming presented a singular cocoon from the Manillas, having quite the appearance of being formed of molten gold wire. A memoir was read by G. R. Waterhouse, Esq., containing descriptions of two new genera of Curculionidæ, from the collection of Mr. C. Darwin: and Mr. Westwood read a notice of a hitherto unnoticed character distinguishing the sexes in certain Cetoniidæ; likewise the description of a new species of *Parastasia* of large size, from Sylhet, in the East Indies. — J. O. W.

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XVI.

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ART. LXIV.—*Analytical Notice of the Seventh Volume on Entomology, in the Naturalist's Library, being entitled 'The Natural History of Exotic Moths,' by JAMES DUNCAN, M.W.S. Edinburgh: Lizars. London: Highley, Fleet St. Dublin: Curry jun. & Co. 1841.*

THIS volume recommends itself by its cheapness. Besides 229 pages of letter-press, it contains an excellent portrait of Latreille, an engraving of his tomb in the cemetery of Père la Chaise, and thirty coloured plates, all the figures being carefully drawn, and brilliantly—if we could venture on a criticism, too brilliantly—coloured. The authors of most of our pictorial works on Entomology issue them at prices which are almost prohibitory; whether this is wise I am unable to say, but I cannot imagine these expensive delicacies ever reach a sufficient circulation to attain the object of their projectors. It is as a substitute for such works as these that the present volume and its congeners are so peculiarly acceptable; and if we peruse the letter-press of each, we shall find that Mr. Duncan's volumes will not suffer by the comparison. The memoir of Latreille, and the introductory matter on moths generally, contain little that would be new to the readers of the Entomologist. Below is a list of the insects described and figured.

Agarista picta, Leach.*	New Holland.	p. 83.	Pl. ii. fig. 1.
Eusemia lectrix, Linnæus.	China.	p. 86.	Pl. ii. fig. 2.
„ maculatrix, Duncan.	Assam.	p. 88.	Pl. ii. fig. 3.

Anterior wings intense black, with some small blue spots at the base, and eleven white ones of various sizes on the disk: hind wings orange, with a black central blotch and an irregular black border, in which are two white spots.

Eterusia tricolor, Hope.	Assam.	p. 89.	Pl. iii. fig. 1.
Erasmia pulchella, Hope.	Ditto.	p. 91.	Pl. iii. fig. 2.
Amesia sanguiflua, Drury.	Ditto.	p. 93.	Pl. iii. fig. 3.
Heleona fenestrata, Guérin.	New Holland.	p. 95.	Pl. iv. fig. 1.
Anthomyza Tiresia, Cramer.	Brazil.	p. 97.	Pl. iv. fig. 2.
Metopsilus Tersa, Linnæus.	America:	p. 99.	Pl. v. fig. 1.
Sphinx Chionanthi, Abbott.	N. America.	p. 101.	Pl. v. fig. 2.

* The authority is for the species only.

Philampelus Vitis, Linnæus.	Ditto.	p. 104.	Pl. vii.
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The reference appears incorrectly given to Plate v.

Hepialus lignivorus, Lewin.	Sierra Leone.	p. 107.	Pl. viii. fig. 1, 2, 3.
Zeuzera minea, Cramer.	Bengal.	p. 109.	Pl. viii. fig. 4.
Oiketicus Kirby, Guilding.	West Indies.	p. 110.	Pl. ix.
Cryptothelea MacLeayi, Guilding.	Ditto.	p. 115.	Pl. ix. fig. 6.
Cryptophasa irrorata, Lewin.	New Holland.	p. 117.	Pl. x.
Hyalophora Cecropia, Linnæus.	N. America.	p. 132.	Pl. xi.
„ Promethea, Drury.	Ditto.	p. 134.	Pl. xii.
Saturnia Isis, Westw. maja, Klug.	?	p. 138.	Pl. xiii.
„ Cynthia, Drury.	Bengal.	p. 141.	Pl. xiv. fig. 1.

The following observations of Mr. Creighton on this moth are highly interesting.

“The Palma Christi silk-worm goes by the same name as the plant does among the natives, which is *Arrindy*. They accordingly call it *Arrindy-worm*, *Arrindy-thread*, *Arrindy-cloth*, &c. They rear it in their houses much in the same way the silk-worm is reared. Their manner of spinning it is as follows:—Four or five of the cocoons are fastened to a stick stuck in the ground, or sometimes they hold it in their hand. These are united into one thread, and made fast to a piece of wood, with something heavy to make it spin round while suspended by the thread: when they let out sufficient of the cocoons from their hand, it is twisted by this piece of wood spinning round, and when well twisted, it is wound round the wood, and another length let out from the hand. The cocoons are spun wet, but only with cold water. The cloth is woven in small pieces in a loom, and is as coarse as light vitree, but more open; and on being washed and beaten well, is made very soft and pliable. It is entirely confined to the districts of Dinagapore and Rungpore; no other place in Bengal having got it. Its uses are for clothing, for both men and women. It will wear constantly ten, fifteen, or twenty years; the merchants also use it for packing fine cloths, silks, or shawls. It must, however, be always washed in cold water; if put into boiling water, it makes it tear like old rotten cloth. There is a cocoon produced wild upon the mango-tree, which they gather, and mix with *Arrindy* cocoons in spinning. I have only seen one caterpillar of it, and did not succeed in rearing it. I shall inquire for some, and get a drawing made, if possible, as they cannot be sent or carried to any distance.”—p. 144.

Saturnia Mylitta, Drury.	Bengal.	p. 146.	Pl. xiv. fig. 2.
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The following observations are extracted by Mr. Duncan from a letter by Mr. Atkinson to a Mr. Pope of Mahometpore. In reply to questions that had been addressed to him the writer states:—

“1st, That the cocoons of the insect, which feeds on the Byer leaf, are called by the natives *Bughy*, producing a *Tusseh* silk. They are annual, and are said to remain in the cocoon nine months, and to be three months in the egg and worm state.

“2nd, That the species cannot be domesticated; the natives apparently not being able to retain any of it for seed. The hill people say that they go into jungles, and under the Byer and Asseen trees they find the excrement of the insect; on which they examine the tree, and, on discovering the small worms, they cut off branches of the tree sufficient for their purpose, with the young brood on the branches; these they carry to convenient situations near their houses, and distribute the branches on the Asseen

tree in proportion to the size thereof, but they put none upon the Byer tree. The Parieahs, or hill people, guard the insects night and day while in the worm state, to preserve them from crows and other birds by day, and from bats by night.

"I have myself seen them thus watching the brood. This species cannot be confined, for so soon as the moth pierces the cocoon it gets away; and the people add, that it is impossible to keep it, by any precaution whatever.

"To wind off these cocoons, they put them into a ley made of plantain ashes and water, for about two hours, after which they take them out of the ley, and put them in their wet state into an earthen pot; those which are properly softened are first applied to the reel, and so on, as the cocoons become soft, for four or five days, till the whole are wound off.

"The implement used for taking off the thread is a small common reel of four bars. The cocoons are laid in a smooth earthen dish, without water; the reel is turned by the right hand, whilst the thread of four or five cocoons passes over the left thigh of the spinner, and he gives the thread a twist with his left hand upon his thigh. The operation is this instant in my sight, with a thread of five cocoons, the produce of another species called Jarroo and described below, but the reeling is exactly the same as that of the Bughy, and therefore one description answers for both. I must add, that the thread is exceedingly apt to come off double and treble for several yards together, which is not regarded by the natives, as breaking off double threads would diminish the produce, and, moreover, would occasion loss of time; a very even thread, however, may with care be reeled from either the Bughy or Jarroo cocoon.

"The Jarroo cocoons, just alluded to, are so called from being produced in the coldest month of the year, say January; the Bughy being about a month before them. The Jarroo are likewise annual, and the history of them is nearly the same as that of the Bughy; they are, however, different, as I am assured. The Jarroo will eat the Byer leaf if he cannot get the Asseen, but he will always prefer the latter, and produce a better cocoon when fed on it. His silk is more of a dull colour than that of the Bughy, which latter worm the hill people put on the Asseen alone, not because it prefers it to the Byer, but because they have greater plenty of Asseen than Byer, and, moreover, trim and dress out plots of Asseen on purpose for the worms. The principal difference between the above two species is, that the natives retain a part of the Jarroo cocoons for seed; these they hang out on the Asseen trees when the proper season of the moth arrives; when the moths come out, the male insects invariably all fly away, but the females remain on the trees. These are not impregnated by the males bred along with them, but, in ten or twelve hours, or perhaps one, two, or three days, a flight of males arrive, settle on the branches, and impregnate the females; by the bye, the hill people calculate good or ill fortune in proportion to the speedy or tardy arrival of the stranger males. These insects die as soon as the purposes of Nature are effected, and the females live only to produce the eggs on the branches of the trees, and then expire. In regard to the Bughy species, they all take flight, females as well as males, and hence the natives firmly believe that they are all males, though I cannot see any physical reason for supposing them so. I have frequently endeavoured to detain the males of the Jarroo species, and have kept them locked up in a box for that purpose; but whether they did not like to make free with their female relations, or from what other cause I know not, but I never could obtain a breed in the domestic state, and the efforts of the male to escape were wonderful, and at last always effectual. The accounts given by the natives of the distance to which the male insects fly

are very astonishing. I have put, at different times and occasions, innumerable questions to them on this subject, and they assure me that it is no uncommon practice amongst them to catch some of the male moths and put a mark on their wings previous to letting them fly, the marks of different districts being known. I am told that it has been thus ascertained that male moths have come from a distance equal to a hundred miles and upwards: I of course cannot vouch for the truth of this, but have no hesitation in declaring that I believe it. The Jarroo worm is guarded on the trees in like manner as the Bughy; this I have had opportunities of seeing on the hills westward of me: the cocoons are darker coloured than the Bughy species, and are wound off as described above. The accompanying skein I had reeled off at my elbow this morning; it consists of five Jarroo cocoons at first, of four when one cocoon was finished, and of three when two cocoons were ended; I then stopped the reel; the three that remained of course gave a filament the entire length of the skein."

To the above extract the editor adds the following remark. — "The Tussey silk is extremely well adapted for general wear in warm climates, as it makes a dress at once cheap, light, cool, and durable."—p. 149.

<i>Saturnia Maia</i> , Drury.	N. America.	p. 154.	Pl. xvi. fig. 1.
<i>Agla Ia</i> , Fabricius.	Ditto.	p. 156.	Pl. xvi. fig. 3.
<i>Ceratocampa imperialis</i> , Fabr.	Ditto.	p. 156.	Pl. xvii. fig. 1.
<i>Dorycampa regalis</i> , Fabricius.	Ditto.	p. 161.	Pl. xviii.
<i>Harpyia</i> ? <i>Banksiæ</i> , Lewin.	New Holland.	p. 164.	Pl. xvii. fig. 2.
<i>Arctia Hebe</i> , Linnæus.	Europe.	p. 167.	Pl. xix. fig. 1.
„ <i>oculatissima</i> , Fabricius.	N. America.	p. 169.	Pl. xx. fig. 4.
<i>Spilosoma Arge</i> , Drury.	Ditto.	p. 174.	Pl. xix. fig. 2.
„ <i>Virgo</i> , Linnæus.	Ditto.	p. 175.	Pl. xix. fig. 3.
<i>Limacodes cippus</i> , Cramer.	Ditto.	p. 177.	Pl. xxi. fig. 2.
„ <i>micilia</i> , Cramer.	Surinam.	p. 179.	Pl. xxii. fig. 2.
<i>Doratifera vulnerans</i> , Lewin.	New Holland.	p. 181.	Pl. xxii. fig. 5.
<i>Ecnomidea pithecium</i> , Abbot.	N. America.	p. 183.	Pl. xxi. fig. 4.
<i>Hypercompa</i> ? <i>Sybaris</i> , Cramer.	St. Domingo.	p. 186.	Pl. xxiii. fig. 1.
<i>Callimorpha Helcita</i> , Linnæus.	Sierra Leone.	p. 189.	Pl. xxiii. fig. 2.
„ <i>Phileta</i> , Drury.	Ditto.	p. 190.	Pl. xxiii. fig. 3.
<i>Deiopeia bella</i> , Linnæus.	N. America.	p. 191.	Pl. xxiv. fig. 1.
<i>Cydosia nobilitella</i> , Cramer.	St. Domingo.	p. 193.	Pl. xxiv. fig. 2.
<i>Erebus crepuscularis</i> , Linnæus.	East Indies.	p. 196.	Pl. xxv. fig. 1.
<i>Chloridea Rhexiæ</i> , Abbot.	N. America.	p. 198.	Pl. xxiv. fig. 3.
<i>Alaria Gauræ</i> , Abbot.	Ditto.	p. 200.	Pl. xxiv. fig. 4.
<i>Triphæna materna</i> , Linnæus.	East Indies.	p. 201.	Pl. xxv. fig. 2.
<i>Catocala Neogama</i> , Abbot.	N. America.	p. 202.	Pl. xxvi. fig. 1.
„ <i>Amasia</i> , Abbot.	Ditto.	p. 205.	Pl. xxvi. fig. 3.
<i>Asthenia Podaliriaria</i> , Westwood.	S. America.	p. 209.	Pl. xxix. fig. 1.

Very pale cream colour, the wings having three transverse narrow brown bars, meeting in the anal angle of the hind pair, which are tailed; the tails have a black spot on the inner side at the base, and a black and orange spot on the outer side.

<i>Macrotres netrix</i> , Cramer.	?	p. 212.	Pl. xxix. fig. 2.
<i>Venilia sospeta</i> , Drury.	Jamaica.	p. 214.	Pl. xxix. fig. 3.

<i>Eumelea Rosalia</i> , Cramer.	?	p. 215.	Pl. xxix. fig. 4.
<i>Angerona prunaria</i> , Linnæus.	England.	p. 216.	Pl. xxvii. fig. 1.
<i>Alcis scolopacea</i> , Drury.	Jamaica.	p. 218.	Pl. xxvii. fig. 2.
<i>Epidesmia tricolor</i> , Westwood.	New S. Wales.	p. 220.	Pl. xxviii. fig. 1.

"The fore wings of this insect are brown, with a cream-coloured bar running nearly across the centre, but directed towards the anal angle; the inner edge of this bar is nearly straight, but the outer edge is strongly angulated behind the middle. The hind wings are also brown, with a large orange discoidal patch, nearly round in form. The cilia at the outer angle, both of the fore and hind wings, is white; the body is brown, with the abdomen cream-coloured."—p. 221.

<i>Scopelodes unicolor</i> , Westwood.	Java.	p. 222.	Pl. xxviii. fig. 2.
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"The colour of the entire moth is buff, the wings having a silky gloss, and the palpi have a pale ring near the apex; the back of the abdomen is rather more fulvous, and marked with short black bands."—p. 223.

<i>Dichroma equestralis</i> , Duncan.	C. of G. Hope.	p. 224.	Pl. xxx. fig. 1.
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"The head, thorax, and fore wings of *D. equestralis* are of a beautiful pea-green, the latter being ornamented with numerous spots and lines of silvery white, more or less confluent; three of these are close to the base of the wing, succeeded by a deeply angulated bar. The middle portion of the wing is marked with eight or ten white spots, the middle ones being elongated and corresponding with the situation of the branches of the median vein; then follows an oblique bar, strongly angulated in the middle, extending from the apex to the inner margin of the wing, and emitting on the outside eight straight branches, which extend to the outer margin of the wing. The head, wings, and body are of a silvery white, slightly shaded with brown. The expansion of the wings is fourteen lines and a half."—p. 225.

<i>Dichroma histrionalis</i> , Duncan.	C. of G. Hope.	p. 227.	Pl. xxx. fig. 2.
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"The head is white, with a patch of fulvous on the crown; the thorax white, ornamented with fulvous. The fore wings are of a splendid golden fulvous hue, ornamented with many silvery white marks, strongly relieved by being edged with black scales; the fore margin of the wings is also white. At the base of the fore wings are two divergent white bars, the anterior of which is strongly forked; the upper bar of the fork abbreviated and succeeded by an oval patch; across the middle of the wing, in an oblique direction, are four oval white patches, the anterior being, as it were, duplicated; then follows an oblique white bar, broken in the middle, from the outside of which several straight white bars extend to the outer margin of the wing. The hind wings and abdomen are of a silvery white, slightly shaded with brown."

<i>Dichroma arcualis</i> , Duncan.	C. of G. Hope.	p. 228.	Pl. xxx. fig. 3.
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"The fore wings in this species are of a dirty and rather pale brown colour, ornamented with white markings; near the base of the wing is a strongly furcate mark, the anterior branch of which is dilated; parallel to the inner margin of the wing is a white slender bar, which is connected near the middle of the wing with a series of white crescents placed obliquely, and extending upwards to the middle of the wing, above which is a clavate spot; beyond this, and extending in an oblique direction to the tip of the wing, is a strongly denticulated white line; and there is a row of white arches along the outer margin of the wing, diminishing in size as they extend towards the apical angle. The hind wings and abdomen are white, slightly tinged with brownish. The expansion of the fore wings is one inch."—p. 228.

<i>Tortrix Crameriana</i> , Cramer.	Surinam.	p. 229.	Pl. xxviii. fig. 3.
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ART. LXV. — *Observations on Species and Varieties.*

By WILLIAM BENTLEY, Esq.

THE difficulty of distinguishing species among British Lepidoptera is generally acknowledged, in consequence of having to take specific characters partly from the colouring of the wings, and in many cases wholly so; this in some measure accounts for our having in our cabinets so many varieties named as species. There are indeed close affinities among many that resemble each other in general appearance, but are really distinct well-defined species. It is to the former that I wish to direct the attention of your readers, and shall take for example the genus *Agrotis*; for the latter, I shall only give two examples, 1st. *Graphiphora brunnea* and *tristigma*; these species resemble each other much, and I have seen them named in cabinets as one species, but when examined they will be found to differ in their antennæ, tarsi, and other essential characters. These I consider distinct, well-defined species. 2nd. *Crambus chrysonuchellus* and *rorellus* are also similar in appearance, but possess distinct characters, the palpi of *rorellus* being at least one third longer, and of different form to those of *chrysonuchellus*. These are also well-defined species, but I have seen the yellow-tinged varieties of *chrysonuchellus* named *rorellus* in cabinets.

Agrotis nigricans, fumosa, ruris, dubia, obeliscata.

These varieties are found in most of our counties; and I have selected this genus, because I know many of your practical correspondents have taken them, and can therefore examine and judge for themselves. I have taken them in woods, marshes and gardens; and we have taken several varieties in our little garden in Critchell Place, from the flowers of the sun-flower, (*Helianthus annuus*).

Var. 1. Anterior wings dark fuscous or blackish, with an obscure black line from the base and united to the teliform stigma, and a transverse waved line before the anterior stigma; posterior wings ashy with dusky margins.

Var. 2. *nigricans*. Anterior wings dusky, with three transverse, dark, waved strigæ and three stigmata, all margined with black; posterior wings ashy with dusky margins.

Var. 3. All the wings dark fuscous, with three stigmata margined with deep black.

Var. 4. *fumosa*. All the wings blackish, with the posterior stigma tinged with yellow, the teliform stigma entirely wanting.

Var. 5. Anterior wings fuscous, with a conspicuous waved line before the anterior stigma, and a quadrate black spot between the stigmata; posterior wings white, margins dusky.

Var. 6. Anterior wings fuscous, with two transverse, yellow, waved strigæ; posterior stigma yellow.

Var. 7. *dubia*. The beautiful specimen before me is a female, with four transverse yellow strigæ, the first near the base and interrupted, the second before the anterior stigma, the third behind the posterior, and the fourth parallel with the posterior margin, which is spotted with black; posterior wings dusky. I obtained this variety from the cabinet of Mr. Stone.

Var. 8. Light brown, the markings very obsolete, except a few yellow dots upon the costa.

Var. 9. *ruris*. Anterior wings light brown or reddish, with various yellow spots and streaks, the ordinary stigmata tinged with yellow.

Var. 10. Red brown, with two transverse strigæ and a row of dots near the posterior margin, yellow; posterior wings white, with a well-defined fimbria, margin fuscous.

Var. 11. All the wings red brown, with the stigmata a little paler.

Var. 12. *obeliscata*. Anterior wings red brown, with a long black spot, interrupted by the anterior stigma, and based upon the posterior. I obtained this variety from the cabinet of the late Mr. Haworth, as his type of *obeliscata*.

The above connecting links are described from specimens in my collection:

The vast number of specimens I have examined, sent to me from different parts of the country for that purpose, varying from a dingy black to a light red, with all the intermediate grades of character and tints of colour, have convinced me that they all constitute but one inconstant species.

Agrotis Radiola, radia.

These varieties are taken near London; Stepney Church-yard, Colney Hatch and Epping Forest.

Var. 1. *Radiola*, male. Anterior wings ashy, with a large, quadrate, brown patch at the base and one upon the costa, united to the posterior stigma, behind which is a row of black dots, and near the posterior margin a row of whitish spots; anterior stigmata obsolete; posterior wings white, with dusky nervures.

Var. 2. *radia*, male. Anterior wings ashy grey, with two large dusky spots upon the costa, the first at the base, the other beyond the

middle; immediately under the basal spot is an undulated black striga extending to the inner margin; anterior stigma obsolete, the teliform small, acute, and margined with black, the posterior large and reniform, margined with black and united to the costal spot, behind are three black lines, bifid towards the posterior margin, and a few undulations towards the inner margin; posterior wings ashy white.

This variety was bred by my friend Mr. Chant, from a larva found at Colney Hatch; it changed to a pupa April 15, and to the imago on the 28th of May following.

Var. 3. *Radiola*, female. Anterior wings fuscous, with an ashy patch in the middle towards the costa, in which is placed the anterior stigma, shuttle-shaped and margined with white; posterior wings fuscous, base cinereous.

Var. 4. female. Anterior wings fuscous, with an ashy patch in the middle, stigmata indistinct; posterior wings silvery white. I obtained this variety from the cabinet of Mr. Stone.

Var. 5. *radia*, female. Anterior wings dark fuscous or blackish, anterior stigmata small and shuttle-shaped, posterior large and reniform, behind which is a light brown waved striga; posterior wings very dark fuscous.

The characters of the two supposed species are completely linked in the five varieties described above, which certainly are but one variable species.

Observation.—It is singular that this species should vary so much in the posterior wings in the same sex, as shown in varieties 3, 4, 5. I have not observed this in any other species of the family.

Agrotis Tritici, vitta, pupillata, ocellina.

These varieties were formerly rare, but have of late been taken in plenty in Devonshire, Kent and Essex.

Var. 1. Anterior wings pale brown, with a broad streak at the base spreading over the costa, rather paler than the wings, the ordinary stigmata pale, with a black spot between them, teliform stigma large and dark; posterior wings white, extreme margin dusky.

Var. 2. *Tritici*. Anterior wings brown tinged with reddish, with a streak at the base upon the costa paler than the rest of the wing, and a faint transverse striga before the anterior stigma, and a second behind the posterior, behind which is a row of wedge-shaped spots, stigmata pale, except the teliform, which is dusky margined black; posterior wings white, with the margin dusky. I obtained this vari-

ety, as well as the preceding and following one, from the cabinet of the late Mr. Haworth, as the type of his *albilinea*, now called *Tritici*.

Var. 3. Anterior wings similar to the last, with the streak upon the costa and the central nervure cream colour; posterior wings entirely white.

Var. 4. Anterior wings ashy, with a milk white streak upon the costa, anterior stigma small and round, posterior very large, both milk white margined with black, the teliform stigma black, on the hinder margin are four wedge-shaped dusky spots, behind which is a white waved striga, the extreme margin spotted with black; posterior wings ashy, with dusky margins.

Var. 5. Anterior wings ashy tinged with reddish, with a mere vestige of the white streak upon the costa, which is maculated with white spots and dusky streaks, at the base is a black spot united to a white transverse striga, which is margined with black, stigmata pale, towards the posterior margin are two whitish patches, the extreme margin deep fuscous; posterior wings ashy white, deeply margined with fuscous. This beautiful link and the preceding variety were taken in Devonshire by the late Captain Blomer.

Var. 6. *vitta*. Anterior wings reddish brown, with a white streak upon the costa extending from the base beyond the middle, the central nervure of the wings is white, between the stigmata is a quadrate black spot, teliform stigma small and black, near it is a pale transverse striga, on the posterior margin is a row of wedge-shaped spots, and a white waved striga; posterior wings cinereous with dusky margins.

Var. 7. Anterior wings paler than the last, with a white streak upon the costa and a black one in the centre from the base to the anterior stigma, posterior margin clouded with cinereous and a white waved striga; posterior wings dusky. Taken in Devonshire by Mr. Raddon.

Var. 8. Anterior wings reddish brown, with three pale transverse strigæ, the two anterior margined with black, the first before the anterior stigma, the second behind the posterior, behind which is a row of wedge-shaped spots and the third pale waved striga, stigmata pale, anterior ocellated. This variety has the characters of *pupillata* and also of *vitta*; it is as much like the one as the other.

Var. 9. *pupillata*. Anterior wings brownish with four transverse strigæ, the first at the base, the second before the anterior stigma, the third behind the posterior and the fourth near the hinder margin, the costa is spotted with dusky and white, the space between the second and third strigæ rather pale, stigmata pale, anterior ocellated.

Var. 10. Anterior wings ashy or greyish, with a few white spots

upon the costa and a black streak at the base in the centre of the wing, and a white waved striga near the posterior margin.

Var. 11. *ocellina*. Anterior wings dusky or blackish, with a short ashy streak upon the costa, with two black transverse strigæ, the first before the anterior stigma, the second behind the posterior, near the hinder margin is a pale waved striga, anterior stigma ocellated.

Var. 12. Anterior wings blackish, with a black streak at the base in the centre of the wing, extending beyond the anterior stigma; posterior wings ashy, slightly margined with fuscous. I took this variety near Brockenhurst, Hants, in September. This variety expands only one inch; from its small size and black appearance I had considered it distinct, and had named it some time since *pusilla*, but having lately examined many specimens taken at Darenth Wood last summer, most of which were allied to *ocellina*, two or three were small, having the characters of *ocellina*, with the black streak at the base, connecting my *pusilla* with that supposed species.

It will be useless for me to describe more of these varieties, for it is difficult to find two specimens perfectly similar; in some the teliform stigma is wanting, in others it is large; some have no transverse strigæ, others have from one to four; some are destitute of the white streak upon the costa, and some have their wings greyish, others dark fuscous; some are dark at the base, others upon the posterior margin.

These varieties are very perplexing, and I believe there are not two collections in London in which they are named alike, at least I have not seen two, except that of Mr. Chant. The conspicuous varieties are considered by some as distinct, thus multiplying species, when in fact they all constitute but one variable species.

There are two or three other species in this genus that require investigation; the want of conclusive proofs compels me to leave them for the present. I trust that some of your practical correspondents will be induced to take up this subject.

W. BENTLEY.

3, Critchell Place, New North Road,

January 15, 1842.

ART. LXVI. — *List of Lepidoptera captured near York.*

By ROBERT COOK, Esq.

30, Collier Gate, York,

November 25, 1841.

Dear Sir,

Having read with pleasure the various local lists of captures which have appeared in 'The Entomologist,' I take the liberty of sending you a list of such

Lepidoptera as I have, at different times, taken on the wing, or reared from larvæ collected in various localities within five or six miles round the city of York, excepting *Polyommatus Alsus* and *Agestis*, their locality being about ten miles distant. Trusting this list may prove interesting to some of the readers of your valuable periodical,

I am, Dear Sir,

Your's truly,

ROBT. COOK.

To the Editor of 'The Entomologist.'

<i>Gonepteryx Rhamni</i>	<i>Anthrocera Filipendulæ</i>	<i>Arctia Caja</i>
<i>Colias Edusa</i>	<i>Smerinthus ocellatus</i>	<i>Nemeophila Plantaginis</i>
<i>Pontia Brassicæ</i>	Populi	<i>Phragmatobia fuliginosa</i>
Rapæ	<i>Deilephila Porcellus</i>	<i>Spilosoma Menthastri</i>
Napi	<i>Macroglossa Stellatarum</i>	lubricipeda
<i>Mancipium Cardamines</i>	<i>Sesia Bombyliformis</i>	<i>Diaphora mendica</i>
<i>Melitæa Artemis</i>	<i>Ægeria Tipuliformis</i>	<i>Nudaria mundana</i>
Selene	Culiciformis	
Euphrosyne		
<i>Argynnis Adippe</i>	<i>Hepialus Hectus</i>	<i>Callimorpha Jacobææ</i>
Aglaiæ	lupulinus	rosea
Paphia	Humuli	<i>Lithosia aureola</i>
<i>Vanessa C. album</i>	sylvinus	complana
Urticæ	<i>Pygæra bucephala</i>	<i>Gnophria rubricollis</i>
Io	<i>Clostera reclusa</i>	<i>Setina eborina</i>
Atalanta	curtula	<i>Triphæna orbona</i>
<i>Cynthia Cardui</i>	<i>Episema cæruleocephala</i>	Pronuba
<i>Hipparchia Ægeria</i>	<i>Cerura bicuspis</i>	innuba
Megæra	Vinula	interjecta
<i>Galathea</i>	<i>Notodonta dromedarius</i>	Janthina
Tithonus	ziczac	<i>Cerigo texta</i>
Janira	<i>Leiocampa dictæa</i>	<i>Lytæa umbrosa</i>
<i>Hyperanthus</i>	<i>Lophopteryx camelina</i>	leucographa
<i>Pamphilus</i>	<i>Pterostoma palpina</i>	<i>Charæas Graminis</i>
<i>Thecla Quercus</i>	<i>Petasia Cassinea</i>	<i>Agrotis Segetum</i>
Rubi	<i>Saturnia Pavonia-minor</i>	exclamationis
<i>Lycæna Phlæas</i>	<i>Lasiocampa Rubi</i>	<i>Graphiphora augur</i>
<i>Polyommatus Alsus</i>	Roboris	brunnea
Alexis	<i>Trichiura Cratægi</i>	baja
Argus	<i>Pæcilocampa Populi</i>	festiva
<i>Agestis</i>	<i>Eriogaster lanestris</i>	<i>C. nigrum</i>
<i>Thymele Alveolus</i>	<i>Clisiocampa Neustria</i>	plecta
<i>Thymele Malvæ, var.</i>	<i>Odonestis potatoria</i>	punicea
Tages	<i>Dasychira fascelina</i>	<i>Semiophora gothica</i>
<i>Pamphila Linea</i>	pudibunda	<i>Orthosia instabilis</i>
Sylvanus	<i>Orgyia antiqua</i>	pallida
	<i>Leucoma Salicis</i>	stabilis
<i>Ino Statices</i>	<i>Porthesia chrysorrhœa</i>	cruda
<i>Anthrocera Loti</i>	<i>Euthemonia Russula</i>	<i>Pistacina</i>
		macilenta

Orthosia Upsilon	Hama testacea	Xanthia centrago
Mythimna grisea	Apamea fibrosa	Gortyna micacea
conigera	didyma	Nonagria Typha
Segetia xanthographa	secalina	Leucania comma
Grammesia trilinea	oculea	impura
Caradrina ambigua	rava	pallens
redacta	Miana strigilis	fulva
cubicularis	Æthiops	pygmina
glareosa	fasciuncula	pallida
Glea Satellitia	Celæna Haworthii	pudorina
Vaccinii	Scotophila porphyrea	Phlogophora meticulosa
Pyrophila Tragopogonis	Achatia piniperda	Cucullia Umbratica
Nænia typica	Miselia Oxyacanthæ	Eremobia ochroleuca
Xylina putris	Polia bimaculosa	Abrostola triplasia
Xylophasia lithoxylea	flavocincta	Urticæ
polyodon	seladonia	Plusia Iota
rurea	Acronycta macrocephala	percontationis
combusta	Psi	Gamma
Hadena Thälassina	Rumicis	Chrysitis
Genistæ	Bryophila perla	Festucæ
contigua	Thyatira derasa	Heliethis dipsacea
plebeia	Calyptra Libatrix	Anarta Myrtilli
Cucubali	Ceropacha duplaris	Heliaca
Capsincola	diluta	Phytometra ænea
Heliophobus Popularis	flavicornis	Acosmetia arcuosa
Mamestra Pisi	Tethea retusa	Ophiura lusoria
oleracea	Bombycia Viminalis	Mormo maura
Brassicæ	Cosmia affinis	Brepha Parthenias
Aliena	trapetzina	notha
Euplexia lucipara	Xanthia flavago	Euclidia glyphica
Hama basilinea	fulvago	Mi

ROBERT COOK.

(To be continued.)

ART. LXVII.—*Notes on the Species of Lepidoptera taken at Epping, from the 10th of July to the middle of November, 1841.* By HENRY DOUBLEDAY, Esq.

Triphæna Janthina	Graphiphora tristigma, St.	Segetia xanthographa
orbana	C. nigrum	Caradrina Alsines
interjecta	pecta	redacta
Cerigo texta	punicea, Steph.	Morpheus
Lytæa umbrosa	Orthosia litura	cubicularis
Cerapteryx Graminis	Pistacina	Gleæ Vaccinii
Agrotis æqua	Lota [Haw.]	subnigra
suffusa	macilenta (flavilinea)	Scopelosoma Satellitia
radiola	Upsilon	Amphipyra Pyramidea
nigricans	Mythimna grisea	Pyrophila tetra

<i>Nænia typica</i>	<i>Nonagria Typhæ</i>	<i>Lozotænia Sorbiana</i>
<i>Xylina Lambda</i>	<i>Leucania fulva</i>	<i>Ribeana</i>
<i>putris</i>	<i>Phlogophora meticulosa</i>	<i>Cerasana</i>
<i>Calocampa exoleta</i>	<i>Cucullia Lactucæ</i>	<i>Rosana</i>
<i>vetusta</i>	<i>Hybernia defoliaria</i>	<i>Oxyacanthana</i>
<i>Xylophasia lithoxylea</i>	<i>prosapiaria</i>	<i>costana</i>
<i>polyodon</i>	<i>Metra pennaria</i>	<i>cruciana</i>
<i>Heliophobus Popularis</i>	<i>Geometra erosaria</i>	<i>Holniana</i>
<i>Apamea nictitans</i>	<i>angularia</i>	<i>Ditula rotundana</i>
<i>Miana humeralis</i>	<i>illustraria</i>	<i>porphyriana</i>
<i>Miselia Oxyacanthæ</i>	<i>Boarmia consonaria</i>	<i>Antithesia corticana</i>
<i>Aprilina</i>	<i>strigularia</i>	<i>Betulatana</i>
<i>Polia flavocincta</i>	<i>Larentia cervinaria</i>	<i>tripunctana</i>
<i>protea</i>	<i>Drepana unguicula</i>	<i>pullana</i>
<i>Calyptra Libatrix</i>	<i>Cledeobia angustalis</i>	<i>Semasia Pomonella</i>
<i>Cosmia affinis</i>	<i>Lozotænia Forsterana</i>	<i>splendana</i>
<i>Gortyna micacea</i>		

Triphæna Janthina and *orbana*. These were particularly abundant in August; of the latter I captured one or two remarkable varieties. *T. interjecta* was far more rare.

Cerigo texta. Not common. A few years since this species abounded here, but of late years only a few individuals have occurred annually.

Lytæa umbrosa. This insect abounded early in August; the males were far more numerous than the other sex. It is an insect that lasts but a short period, and is very soon worn and ragged; but few fine specimens were to be obtained a week after their first appearance.

Cerapteryx Graminis. This insect is not at all uncommon on a heathy spot near High Beech; it appears about the 20th of August. The males fly rapidly over the heath from about 8 till 11 o'clock in the morning.

Agrotis æqua. I captured a single male the beginning of November.

Agrotis suffusa. I saw only a single female of the June brood; in October I captured them in abundance, but owing to the extreme wetness of the season and the habits of the Agrotæ in secreting themselves in the grass during the day, comparatively few were to be had in fine condition. The females were more numerous than the males.

Agrotis radia, (Haworth). I captured two fine specimens of this insect in September. *Ag. radia* and *radiola* of Haworth appear to be the sexes of the same insect.

Agrotis nigricans. This usually common insect was very scarce last summer.

Graphiphora tristigma, (Stephens). This fine and very distinct species was taken for the first time here in August. I obtained about twenty specimens, but only six in fine condition; the weather being so very wet and windy at the time, they were spoiled almost immediately after their appearance. As a species it is very distinct, and it is rather surprising that it should have been confounded with *Graph. brunnea*, from which it is abundantly different, and is at least six weeks later in the time of its appearance. It closely resembles the *G. rhomboidea* of Ochsenheimer, if the two be not identical; the only difference I can perceive between the British specimens and the German ones of *G. rhomboidea*, given me by Mr. Becker, is that the latter are rather smaller and inclining slightly to a chesnut hue, whereas ours are of a rich bluish black. I believe it to be a rare species in this country.

Graphiphora C. nigrum and *plecta*. Both species were tolerably common in September.

Graphiphora punicea ? The insect called by this name in Britain, is stated by Mr. Becker to be the *Graph. bella* of Ochseneimer. It was tolerably common in September.

Orthosia litura. Not common.

Orthosia Pistacina. Very abundant during the latter part of September and throughout October.

Orthosia Lota. Pretty common in October.

Orthosia macilenta, (*flavilinea*, Haw.) Very scarce.

Orthosia Upsilon. Only a few individuals seen.

Mythimna grisea. Very abundant.

Glæa Vaccinii, *spadicea* and *polita*. These three reputed species are certainly mere varieties of one very variable insect. Out of many hundreds or even thousands which I saw in October and November, I selected some very beautiful varieties.

Glæa subnigra. I am inclined to believe that this is a good species. I have bred several from the caterpillar. It appears later than *G. Vaccinii*, and is much more local; it does not vary much in colour, although some individuals have a distinct pale fascia on the wings while others are quite without it. It differs from *G. Vaccinii* in its smaller size and much narrower and more acutely pointed upper wings. The caterpillar feeds on the honeysuckle. This insect, *Glæa Vaccinii* and *Scopelosoma Satellitia* hibernate, and reappear in the first warm nights of spring.

Pyrophila tetra. Common. I think there is but one species of this genus, at any rate I can perceive nothing in the specimens called *tetra* and *Tragopogonis*, to induce me to consider them distinct species.

Xylina Lambda. Not common. This insect hibernates.

Calocampa exoleta. I captured eight specimens of this beautiful insect, in fine condition, between the 15th of October and 14th of November.

Calocampa vetusta. Of this very rare species I obtained four splendid specimens; the first on the 19th of September and the last on the 10th of October. I have no doubt this species hibernates as well as the preceding.

Miselia Oxyacanthæ. In the greatest profusion in October. I obtained some very fine varieties nearly black, and without a tinge of green.

Calyptra Libatrix. Common. This insect appears early in August, and seems almost immediately to go to its winter quarters. On the 30th of August I saw some which were evidently intending to remain motionless till spring. I did not see one on the wing after the 7th of September. *Vanessa Polychloros* retires in the same way, however fine the weather may be; while *Van. Urticæ*, the *Glææ*, and many other species which survive the winter, appear whenever the weather is fine, even in the middle of winter.

Nonagria Typhæ. Very common wherever *Typha latifolia* grows; in some seasons the larvæ destroy nearly every plant.

Geometra illustraria. This beautiful insect is very rare here: I have bred three or four from caterpillars found on the aspen.

Geometra angularia and *erosaria*. Not numerous. I can make out only three British species of the yellow autumnal "Thorns" as they are called, viz., the two mentioned above and *Geom. Tiliaria*; these three are very distinct. There may be more, but all that I have seen appear to be varieties of these species.

Boarmia consonaria and *strigularia*. These I believe to be the second broods of *B. abietaria* and *crepuscularia*. I have never raised them from the egg, but frequently from the caterpillars, and can say that all taken in September produce *B. abietaria* and *crepuscularia* in April and May, and those captured early in June produce *B. consonaria* and *strigularia* in July.

Drepana unguicula. This species is double-brooded; they first appear in April and again in August. The caterpillars feed on beech.

Dictyopteryx contaminana, *ciliana* and *rhombana*. All varieties of one species.

HENRY DOUBLEDAY.

Epping, January 15, 1842.

ART. LXVIII.—*Varieties.*

144. *Destruction of the Caterpillars of Smerinthus ocellatus by Ichneumon Atropos.* Four years ago I collected a great number of the caterpillars of *Smerinthus ocellatus* off the willows on Chat Moss, where they abounded to such a degree that most of the young trees were stripped of their foliage. The following year many moths came out of the chrysalis, but nothing like the number I expected. After waiting a short time I examined the soil in my breeding box, and found many chrysalides apparently alive, but on breaking them they were, to my astonishment, quite full of a greenish oil, with *Ichneumon Atropos* floating in the middle of it, to all appearance quite ready to make its escape, which many of them did. I never found more than one *Ichneumon* in a chrysalis, although I examined a great many of them. I may also mention that I have seen *Smerinthus ocellatus* in coitu with *Smer. Populi* in my breeding box, although at the time several of both sexes of the two insects were out. — *Robert S. Edleston*; 13, *Derby St., Cheetham, Manchester, January 10, 1842.*

145. *Hama connexa*. The locality for this insect is Lunn Wood, near Barnsley, Yorkshire; and the right time of their appearance is about the 12th of August. *Xylina scolopacina* is captured at the same time also in this wood.—*Id.*

146. *Miana Pulmonariæ*, (Hubner). In arranging my moths I of course went through all the specimens I possessed, and among them was a small buff-coloured *Noctua* which I could not make out. This I sent to Mr. Stephens, and it turns out to be a species unrecorded as British, — the *Miana Pulmonariæ* of Hubner; it seems to me more like an *Acosmetia*, and I had placed it in the store-box next to *arcuosa*. I caught it myself among the rushes by the side of the forest, and I believe I saw several others in a worn state. I think it was in 1836 that I took it, but am not quite sure of the year, though I well remember the spot where I caught it.—*Henry Doubleday*; *Epping, January 22nd, 1842.*

147. *The Egyptian Sacred Beetle.* In travelling over the desert, another animal that particularly called my attention and excited my admiration, was the *Scarabæus* or sacred beetle; these were running about in all directions in the warm sunshine, engaged in rolling their balls over the desert with such industry, and in so curious a manner, that I cannot refrain, although in the path to the pyramids, from stopping to notice the little animal so famed in Egyptian story, and that formed so conspicuous a part in the symbolic language and the mythology of this ancient people. These little creatures, which are possessed of amazing strength and perseverance, form balls of

clay and camels' dung, which they mix up into a kind of mortar, very like that used by swallows to construct their nests; in these they deposit their eggs, and thus it forms a crust or shell to the larva within; they then roll these balls when sufficiently dried, over the sand, in a truly remarkable manner. The male is provided with two projections in the form of horns on the head, and uses them as a lever to raise and push the ball forward from behind; while the female, mounting before, keeps it revolving on-wards by drawing down with her fore feet. Sometimes three or four will get about one ball, either for the sake of work, or to get it over any impediment. Others again propel them with their hind legs, and will sometimes assume the most grotesque attitudes, literally standing on their heads, and pushing at them with their hind feet. So far as I am able to judge, they keep rolling their balls about over the sand for the whole day, and do not merely place them in holes like other Coleopterous insects. I have watched them at evening, and as soon as the sun had set they invariably deserted their charge and returned to their holes, and what is more remarkable, if the day became suddenly cloudy off they waddled and left the ball, till a gleam of returning sunshine again called them to work with renewed vigour. It appears to me, from the manner they rolled these balls, they intended that the sun should act equally on all sides of them, and thus secure the heat in the process of incubation. It may, however, be but for the purpose of drying the surface.—*Wild's 'Travels in Egypt.'*

144. *Entomological Society of London; January 3rd, 1842.* W. W. Saunders, Esq., F.L.S., President, in the Chair. Amongst the donations was a portion of the wood of an oak tree from Windsor Forest, perforated in a singular manner by the larvæ of *Gnorimus variabilis*; also four cases of insects collected in the island of Chusan and the adjacent parts, by Dr. Cantor, Corresponding Member of this Society. The President gave notice of the alterations in the Council intended to be proposed to be made at the anniversary meeting on the 24th of January. The following memoirs were read:—1. On *Aporocera*, a new genus of Chrysomelidæ from New Holland; by W. W. Saunders, F.L.S. 2. Some account of the habits of a Fossorial Hymenopterous Insect from Port Lincoln, Australia; by J. O. Westwood, F.L.S. Mr. Newport also read a series of extracts from some letters he had received from a friend near Sandwich, who had succeeded, after an experiment of eleven months' duration, in producing living specimens of *Acarus Crossii* from a mineral solution acted on by voltaic currents, in the same manner as Mr. Crosse had similar specimens. The details of the experiments were given. Mr. J. E. Gray, who was present as a visitor, stated that Mr. Children had made experiments precisely similar to those of Mr. Crosse, and which he had continued for several months, without having obtained a single specimen.—*J. O. W.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XVII.

MARCH, MDCCCXLII.

PRICE 6D.

ART. LXIX. — *Analytical Notice of British Butterflies and their Transformations, arranged and illustrated in a series of Plates*, by H. N. HUMPHREYS, Esq., *with Characters and Descriptions* by J. O. WESTWOOD, Esq., F.L.S., Sec. of the Entomological Society, Etc. Etc. London : W. Smith, Fleet St., 4to.

ENTWINED with my earliest recollections are the images of some of our British Butterflies. On Hampstead Heath I have watched the beautiful *Atalanta* circling round and settling on the blossoms of the scabious; and the brilliant colours of *Urticæ* were also familiar to me at that early age when little boys *can* walk, but soon grow tired and like best to be carried. This love of Butterflies never forsook me through my boyish days; and, aided by Berkenhout, I managed to acquire a knowledge, not very profound certainly, of our British species. An introduction to John Howard, at that period a near neighbour of my father's, opened up new treasures for me, and I gazed with perfect wonder on the *coppers* he had received from Whittlesea, and the *emperors* taken in his own garden. I grew dissatisfied with Berkenhout, and, for my own accommodation and instruction, wrote 'A History of British Butterflies:' this is still in existence, and is dated 1822. Two years afterwards I thought seriously of publishing this History, when (in 1824) I accidentally saw in a shop window Miss Jermyn's 'Butterfly Collector's Vade Mecum,' and this convinced me that I was rather behind-hand in my information on the subject: then came a second edition of the Vade Mecum (1827), and then 'British Butterflies, their Distinctions, generic and specific, &c.' (1828); and since that time Mr. Duncan's volume in 'The Naturalist's Library;' and lastly, Messrs. Humphreys and Westwood.

The subject is still so agreeable to me that I regard with feelings of approval every fresh work on British butterflies, however much it may interfere with my imaginary copyright; and I have concluded, in patience of spirit, to "bide my time," fondly thinking, as I turn over the pages of each new History,—"I will do better." It seems to me a fault in all these works, that they aim at giving the greatest possible

number of species as indigenous to the British Islands, whereas I would confine myself to those few species which are thoroughly established as natives. To illustrate my meaning, I will turn over the pages of the beautiful quarto, the title of which stands at the head of this article, and give my readers a running commentary on each (so-called) species.

Plate 1. fig. 1. *Papilio Machaon*; unquestionably British. Its caterpillar is incorrectly figured feeding on *Prunus spinosa*.

Fig. 4. *Papilio Podalirius*. Although we find no less than six authorities for considering this insect indigenous, it is evident that the writer doubts them all; the species should therefore have been omitted. The caterpillar is incorrectly figured feeding on *Daucus Carota*.

Fig. 7, 8. *Goniapteryx Rhamni*; unquestionably British. Why is the name altered from *Gonepteryx*?

Pl. II. fig. 1, 2 & 8. *Colias Edusa*; unquestionably British. This is the *Papilio Electra* of Linneus.

Fig. 5, 6. *Colias Hyale*; unquestionably British.

Pl. III. fig. 1—3. *Colias Chrysotheme* is a small Col. *Electra*.

Fig. 4. *Colias Europæe*? This is obviously Col. *Philodice* of the United States.

Pl. IV. fig. 1—5. *Pieris Brassicæ*; unquestionably British.

Fig. 6—9. *Pieris Chariclea*, simply the early brood of *P. Brassicæ*.

Pl. V. fig. 1—4. *Pieris Rapæ*; unquestionably British.

Fig. 5, 6. *Pieris Metra* is simply the early brood of *P. Rapæ*.

Fig. 7—10. *Pieris Napi*; unquestionably British.

Fig. 11—12. *Pieris Sabellice*, a variety of *P. Napi*.

Pl. VI. fig. 1—5. *Euchloë Cardamines*; unquestionably British.

Fig. 6—10. *Pieris Daphidice*; unquestionably British.

Fig. 11—13. *Leptoria candida*; unquestionably British. This is the *Papilio Sinapis* of Linneus, *Leptoria Sinapis* of Hubner, *Papilio candidus* of Retzius. The Linnean specific name and Hubner's generic name should stand—*Leptoria Sinapis*.

Pl. VII. fig. 1—3. *Parnassius Apollo*. Of this insect there is no pretended British specimen in existence.

Fig. 5—8. *Aporia Cratægi*; unquestionably British.

Pl. VIII. fig. 1—4. *Melitæa Cinxia*; unquestionably British.

Fig. 5—8. *Melitæa Artemis*; unquestionably British.

Fig. 9—12. *Melitæa Athalia*; unquestionably British.

Fig. 13—14. *Melitæa Pyronia*, a variety of *Mel. Athalia*.

Pl. IX. fig. 1—4. *Melitæa Selene*; unquestionably British.

Fig. 5—7. *Melitæa Dia*. This is one of those insects on which it

is difficult to give a decided opinion. The author states—"Found by Mr. Weaver several times near Birmingham, and also near Alderly in Cheshire by Mr. Stanley." Without suspecting the least disposition on the part of these gentlemen to mislead, there seems to me a possibility of a mistake through the unintentional mixing of British and foreign specimens. It is an enquiry of great interest, and the species should neither be received nor rejected without abundant evidence.

Fig. 8—12. *Melitæa Euphrosyne*; unquestionably British. In both *Mel. Selene* and *Mel. Euphrosyne* the author falls into the old error of stating them to be double-brooded.

Fig. 13. *Melitæa tessellata*, supposed to be *Mel. Athalia*: the figure is copied from Petiver.

Pl. XI. fig. 1—3. *Argynnis Adippe*; unquestionably British.

Fig. 4—7. *Argynnis Lathonia*; unquestionably British.

Pl. X. fig. 1—5. *Argynnis Paphia*; unquestionably British.

Fig. 6—10. *Argynnis Aglaia*; unquestionably British.

Pl. XII. fig. 1, 2. *Argynnis Charlotta* is a variety of *Arg. Aglaia*.

Fig. 3. A variety of *Arg. Paphia*.

Fig. 4, 5. *Argynnis Aphrodite*. A species confined to N. America.

Pl. XIII. fig. 1—4. *Vanessa C-album*; unquestionably British. It may be remarked that this genus has been most judiciously divided by Hubner into three sections, or, as he terms them, genera, as under; *Polygonia C-album*; *Eugonia Polychloros*, *Urticæ*, *Io* and *Antiopa*; and *Pyrameis Atalanta*: these names ought to have been adopted. The interesting fact of this insect, once so common round London, having entirely deserted the neighbourhood, should not have been omitted: it is most abundant in Herefordshire and Worcestershire.

Fig. 5—8. *Vanessa Polychloros*; unquestionably British.

Fig. 9—13. *Vanessa Urticæ*; unquestionably British. A very remarkable variety is figured.

Pl. XIV. fig. 1—4. *Vanessa Io*; unquestionably British.

Fig. 5, 6. *Vanessa Antiopa*; unquestionably British. It may however be observed that the majority of specimens in our cabinets are German or North American, the introduction of which is always to be regretted, more particularly in the case of the North American specimens, as doubts exist as to the identity of N. American with European species.

Fig. 7. *Cynthia Hampsteadiensis*; this is a nonentity.

Pl. XV. fig. 1—4. *Vanessa Atalanta*; unquestionably British.

Fig. 5, 6. *Vanessa Huntera*; exclusively North American.

Fig. 7—10. *Cynthia Cardui*; unquestionably British. I may here

remark that the representations of the under sides of *Io*, *Atalanta*, *Huntera* and *Cardui*, are perfect : there is a sober truthfulness about them which, except by Sepp, has never before been attained. The total absence of all trick and meretricious ornament is the prevailing character of all Mr. Humphreys' figures; but those which I have here particularized are preeminently natural.

Pl. XVI. fig. 1—5. *Apatura Iris*; unquestionably British.

Fig. 6—9. *Limenitis Camilla*; unquestionably British. This is another insect which has entirely disappeared from the metropolitan district, though formerly abundant.

Pl. XVII. fig. 1—6. *Arge Galatea*: unquestionably British.

Fig. 7—10. *Lasiommata Aegeria*; unquestionably British. This genus has previously been characterized by Hubner under the name *Pyrarge*; Mr. Westwood's new name of *Lasiommata* will therefore become a synonyme.

Pl. XVIII. fig. 1—5. *Lasiommata Megæra*; unquestionably British. This species is the *Dira Megæra* of Hubner, but its characters are so nearly those of the preceding species, that there appears no sufficient ground for separating them as genera.

Fig. 6—10. *Hipparchia Semele*; unquestionably British.

Pl. XIX. fig. 1, 2. *Hipparchia Briseis*. I extract the authority on which this fine European species is given as British.

"We have introduced this common continental species for the first time as an English insect, a specimen having been reared by A. Lane, Esq. from the larva, which was found feeding on grass, near Newington. The perfect insect was exhibited at the meeting of the Entomological Society on the 7th of October, 1839, the larva having been captured on the 11th of August preceding."—p. 69.

Fig. 3—7. *Hipparchia Tithonus*; unquestionably British.

Pl. XX. fig. 1—5. *Hipparchia Janira*; unquestionably British.

Fig. 6—9. *Hipparchia Hyperanthus*; unquestionably British.

Pl. XXI. fig. 1—9. *Cœnomorpha Davus*, *Typhon* and *Polydama*; unquestionably British. These insects are now almost universally held to be of no higher value than varieties, although some of our most profound Lepidopterists still consider them to be species. I took them flying together in the mountains of Donegal in 1839, and observed varieties which appeared still more striking than any of those figured by Mr. Humphreys. Unfortunately the specimens never reached their destination.

Pl. XXII. fig. 1, 2. *Cœnomorpha Pamphilus*; unquestionably British.

Fig. 3, 4. *Cænomorpha Hero*. There is no authority whatever for considering this insect British.

Fig. 5—8. *Cænomorpha Arcanius*. There is no authority for considering this insect British.

Fig. 9, 10. *Oreina Cassiope*; unquestionably British. *Oreina* is another new genus of Mr. Westwood's, which must yield to Hubner's prior name of *Melampias*.

Plate XXIII. fig. 1—4. *Oreina Ligea*. Although this species has been represented as British on the authority of men who would not intentionally deceive, I am strongly inclined to believe the locality of these butterflies was not ticketed at the time of capture, and therefore in the mass of exotics which these gentlemen possessed, an error might very easily have crept in. This species is the *Epigea Ligea* of Hubner, whose name must supersede Mr. Westwood's.

Fig. 5—10. *Oreina Blandina*; unquestionably British. The figs. 7 and 8, with the bright blue markings on the under wings, must be, I think, introduced by mistake. I have never met with this variety.

Pl. XXIV. fig. 1—4. *Hamearis Lucina*; unquestionably British. Mr. Westwood passes a well merited encomium on Mr. Stephens's admirable observations on the affinities of this species. The figure of this species (fig. 1) is very unlike.

Fig. 5—10. *Thecla Quercus*; unquestionably British.

Plate XXV. fig. 1—5. *Thecla Betulæ*; unquestionably British.

Fig. 6—10. *Thecla Pruni*; unquestionably British.

Pl. XXVI. fig. 1—5. *Thecla W-album*; unquestionably British.

Fig. 6—10. *Thecla Rubi*; unquestionably British.

Pl. XXVII. fig. 1—5. *Thecla Spini*. There is no authority for considering this species British.

Fig. 6—9. *Thecla Ilıcis*. There is no authority for considering this insect British.

Pl. XXVIII. fig. 1—3. *Chrysophanus Chryseis*. There is no authority for considering this species British.

Fig. 4—7. *Chrysophanus Phlæas*; unquestionably British.

Pl. XXIX. fig. 1—5. *Chrysophanus dispar*; unquestionably British. This is *Lycæna Hippothoë* of the continent.

Pl. XXX. fig. 1—5. *Chrysophanus Virgaureæ*. There is no authority for considering this a British species.

Fig. 6—8. *Chrysophanus Hippothoë*; unquestionably British, and identical with *Ch. dispar*.

Pl. XXXI. fig. 1—3. *Polyommatus Argiolus*; unquestionably British.

Fig. 4—8. *Polyommatus Alsus*; unquestionably British.

Fig. 9—11. *Polyommatus Acis*; unquestionably British.

Pl. XXXII. Fig. 1—3. *Polyommatus Arion*; unquestionably British.

Fig. 4—6. *Polyommatus Alcon*. There is no authority for considering this a British species.

Pl. XXXIII. fig. 1—3. *Polyommatus Adonis*; unquestionably British.

Fig. 4—8. *Polyommatus Corydon*; unquestionably British.

Pl. XXXIV. fig. 1—6. *Polyommatus Argus*; unquestionably British.

Fig. 7—13. *Polyommatus Alexis*; unquestionably British.

Pl. XXXV. fig. 1, 2. *Polyommatus Eros*. There is no authority for considering this a British species.

Fig. 3—5. *Polyommatus Dorylas*. There is no authority for considering this a British species.

Pl. XXXVI. fig. 1—4. *Polyommatus Icarus*. There is no authority for considering the Pol. Icarus of Esper British; the insect figured is Pol. Alexis.

Fig. 5—7. *Polyommatus Aegestis*; unquestionably British.

Pl. XXXVII. fig. 1—3. *Polyommatus Salmacis*; unquestionably British.

Fig. 4—6. *Polyommatus Artaxerxes*; unquestionably British. Pol. Aegestis, Salmacis and Artaxerxes, are but local varieties of a single species; I believe the Fabrician name of Artaxerxes has the claim of priority.

Pl. XXXVIII. fig. 1—7. *Pyrgus Malva*; unquestionably British.

Fig. 9—13. *Nisoniades Tages*; unquestionably British.

Fig. 14, 15. *Pyrgus Oileus*. This species is exclusively N. American.

Pl. XXXIX. fig. 1—5. *Pyrgus Malvarum*. There is no authority for considering this a British species.

Fig. 6—9. *Cyclopides Paniscus*; unquestionably British.

Fig. 10—12. *Cyclopides Sylvius*. There is no authority for considering this a British species.

Pl. XL. fig. 1—3. *Pamphila Vitellius*. North American only.

Fig. 4—6. *Pamphila Sylvanus*; unquestionably British.

Pl. XLI. fig. 1—4. *Pamphila Comma*; unquestionably British.

Fig. 5—7. *Pamphila Actæon*; unquestionably British.

Fig. 8—12. *Pamphila Linea*; unquestionably British.

Pl. XLII. fig. 1—3. *Colias Myrmidone*, on the authority of a specimen in Mr. Stephens's cabinet.

Fig. 4, 5. *Hipparchia Mnestra*. No authority.

Fig. 6. A variety of *Hipparchia Janira*.

Fig. 7. A variety of *Argynnis Lathonia*.

In the remarks appended to each species Mr. Westwood very fairly states his doubts of the claims of many to be considered British; still these hold a situation as prominent as those which are unquestionably native, and thus the tendency of the work is to perpetuate a mass of error. It is now high time that our list should be remodelled: there is a scientific object in a correct and truthful geographical list of the objects of Natural History, but our list of butterflies is totally useless, being entirely devoid of truth; it gives *no* idea of the diurnal Lepidoptera of Britain. Mr. Westwood has shown his usual industry in collecting together a mass of information bearing on the subject, but much still remains to be done, and I confidently anticipate the time when 'A History of British Butterflies,' with illustrations on wood, will form a valuable and beautiful addition to Mr. Van Voorst's matchless series of works on Natural History.

The artist's share in the work before me is extremely praiseworthy, and, notwithstanding a few rather glaring exceptions, the figures are on the whole natural, graceful and beautiful, always in good taste, and when the characters in the insects themselves are prominent, we always find them faithfully portrayed: but Mr. Humphreys does not appear very profound as an entomologist, and when we come to the smaller species, the distinguishing differences have not been made quite sufficiently observable. Still, this is but a partial defect, and I can most conscientiously recommend the work as a handsome volume for the table of a drawing-room.

The authors advertise and have already commenced a work on the British Moths; but in this I fear they have committed an error of judgment. The Sphingidæ and some of the larger Bombycidæ are easy enough, but when these are finished, and the authors have once plunged into the sea of Nocturæ, I fear they will find themselves out of their depth. A complete and illustrated work on the British nocturnal Lepidoptera, would be a most arduous task, and could only be accomplished by a union of entomological talent. I would first have a *species-committee*, consisting of Messrs. Dale, H. Doubleday and W. Bentley, and these should decide in every instance whether an individual were to be described as a species or variety; their decision should be handed to Messrs. Stephens and E. Doubleday, on whom the task of joint authorship should devolve, but they should have no power to interfere with the decisions of the "species-committee." The illustrations should be under the sole superintendence of Mr. Curtis, and every drawing should be from his own pencil, or should have his entire approval. The engraving (I would have no litho-

graphs or zincographs) should be by Messrs. Sowerby and Ingall, and the colouring by Mr. Joseph Standish. In this way a work would be produced that no other nation on earth could equal.

EDWARD NEWMAN.

ART. LXX. — *Analytical Notice of the 'Transactions of the Entomological Society of London,' Vol. III. part 1; with 6 plates.* London: Longman. 1841.

1. *Dytiscidæ Darwinianæ; or Descriptions of the Species of Dytiscidæ collected by Charles Darwin, Esq. M.A. Sec. G.S., in South America and Australia, during his Voyage in H.M.S. Beagle.* By CHARLES C. BABINGTON, M.A. F.L.S. G.S. &c.

1. *Cybister biungulatus*. Olive-black, the anterior part of the head, the sides of the prothorax and elytra being rufous: elytra dilated posteriorly, and having three rows of distant punctures on each: fore and middle legs rufous, very short; hind legs brown; all the tarsi with two claws. Length 12—14 lines, breadth 7—8½ lines. Brought by Mr. Darwin from Maldonado. (Trans. Ent. Soc. iii. 3.)

2. *Colymbetes reticulatus*. Oblong-ovate, yellow above: vertex black: prothorax black before and behind: elytra yellow reticulated with black lines: body beneath black: legs yellow, except the hind tarsi, which are black. Length 5 lines, breadth 2½ lines. Valparaiso. (Id. 4.)

3. *Colymbetes nigro-rematus*. Differs from the last in having the prothorax marked with two minute black spots on the hinder margin, instead of distinct black margins, and also in having the abdomen yellow. Length 4½ lines, breadth 2¼. One specimen is from Port Famine, a second from Port Desire. (Id. 5.)

4. *Colymbetes Chiliensis*. Laporte, 'Etudes Ent.' 100? Valparaiso.

5. *Colymbetes suturalis*. Oblong-ovate: vertex black, including two transverse yellow spots; antennæ yellow: prothorax yellow, with a black posterior margin: elytra yellow, thickly covered with minute black spots, excepting on the lateral and sutural margins: body beneath black: legs dull yellow, the hinder pair darker. Length 5 lines, breadth 2½ lines. Valparaiso. (Id. 6.)

6. *Colymbetes angusticollis*. Curtis, 'Linn. Trans.' xviii. 195, tab. xv. fig. E. Port St. Julians.

7. *Colymbetes rotundicollis*. Above brown, beneath black: sides of the prothorax rounded. Length 4 lines, breadth 2 lines. Alpine situations in Tierra del Fuego. (Id. 7.)

8. *Colymbetes signatus*. Obovate: fuscous yellow, crown of the head black, enclosing two yellowish spots: prothorax with a large, transverse, dark spot, attenuated at both ends: elytra, with the exception of the lateral and sutural margins, thickly irrorated with black: body beneath black: legs fuscous yellow, the hind pair darker.—Length $4\frac{3}{4}$ lines, breadth $2\frac{1}{2}$ lines. Monte Video and Tierra del Fuego. (Id. 7.)

9. *Colymbetes Darwinii*. Ovate: crown of the head black, with a transverse flavescent spot, which is connected by its middle with the anterior concolorous part of the head, so as to form a T-shaped mark; antennæ yellow, prothorax margined before and behind with black, and having a transverse black spot in the centre: elytra flavescent, thickly irrorated with black. Extremely variable in colour, some specimens being nearly black, others quite pale. Length 5—6 lines, breadth $2\frac{1}{2}$ —3 lines. Tierra del Fuego. (Id. 8.)

10. *Colymbetes calidus*. Fabricius, 'Ent. Syst.' i. 193, 27; 'Syst. Eleu.' i. 265. Rio de Janeiro.

11. *Colymbetes Saulcyi*. Ovate, black, shining: head with two transverse red spots on the crown: anterior angles of prothorax broadly castaneous: a little beyond the middle of each elytron, near the outer margin, is a triangular castaneous spot, and within the apex another small round one, connected with the former by a castaneous line, which is continued beyond the apical spot but interrupted by the suture: beneath black, with a small red spot on each side of the segments of the abdomen. Resembles *Col. vitreus*. Length $3\frac{1}{2}$ lines, breadth 2 lines. Callao. (Id. 9.)

12. *Colymbetes punctum*. Black; two transverse lunules on the crown, mouth, antennæ, anterior angles of prothorax, fore and middle legs, rufescent: each elytron has a minute fenestrated spot a little beyond the middle and near the outer margin: hind legs fuscous.—Length 4 lines, breadth $2\frac{1}{2}$ lines. Valparaiso. (Id. 10.)

13. *Colymbetes magellanicus*. Black; the elytra having a small, lateral, oblong, fenestrated spot: beneath black: antennæ and legs fuscous. Length 3 lines, breadth $1\frac{1}{2}$ line. Tierra del Fuego. (Id. 10.)

14. *Colymbetes elegans*. Fuscous red, impunctate: each elytron has ten strong longitudinal striæ, which do not extend to the apex, the second about half as long, and the other alternate ones not exceeding three fourths the length of the elytra. Length 3 lines, breadth $1\frac{1}{2}$ line. Rio de Janeiro. (Id. 11.)

15. *Hydaticus Havaniensis*. Laporte, 'Etudes Ent.' 96. Rio de Janeiro. (Id. 11.)

16. *Hyphidrus maculatus*. Short, ovate, gibbous, coarsely punctate: head and antennæ testaceous: prothorax fuscous: elytra fuscous, with the humeral angle, the anterior half of the lateral margin, a longitudinal abbreviated line near the centre of the suture, one on the middle of the disk connected with a triangular transverse spot on the margin, and two small triangular spots within the apex, testaceous: body beneath and legs fuscous. Length 2 lines, breadth $1\frac{1}{4}$ line, St. Jago. (Id. 12.)

17. *Hydroporus Darwinii*. Thickly punctured: head pale testaceous, narrowly black behind: prothorax pale testaceous, narrowly margined with fuscous and having two small fuscous spots towards its middle: elytra black, the anterior margin, two angular marginal spots, a line interrupted in the middle next the suture, and about four very slender and much interrupted lines on each, testaceous. Length 2 lines, breadth 1 line. King George's Sound, Australia. (Id. 13.)

18. *Hydroporus 11-lineatus*. Thickly punctured: head and prothorax nearly as in the last: elytra yellow, with the suture and five regular lines on each, black: body beneath and legs yellow. Length 2 lines, breadth 1 line. Tierra del Fuego. (Id. 13.)

19. *Hydroporus obscurus*. Opaque, fuscous, with the antennæ, prothorax and legs yellow. Length $\frac{3}{4}$ line, breadth $\frac{3}{8}$ line. Rio de Janeiro. (Id. 14.)

20. *Hydroporus nitidus*. Shining, coarsely punctured; fuscous, with the head, prothorax (except in the middle), antennæ and legs, yellow. Length $\frac{3}{4}$ line, breadth $\frac{3}{8}$ line. Rio de Janeiro. (Id. 14.)

21. *Hydroporomorpha parallela*. This new genus differs from *Hydroporus* in the structure of the internal maxillary and labipalpi, and the presence of a scutellum: the species is obtuse anteriorly, acute posteriorly, rufous, with the anterior and posterior margins of the prothorax and the elytra (with the exception of the apex and margins) fuscous. Length 2 lines, breadth $\frac{3}{4}$ line. Rio de Janeiro. (Id. 15, tab. 1, fig. 3).

22. *Anodocheilus maculatus*. This new genus differs from *Hydroporus* in the structure of its palpi and in the want of a tooth in the centre of its mentum: the species is coarsely punctured: yellow; elytra fuscous, with the external margin, two transverse patches and the apex yellow; beneath fuscous. Length $\frac{3}{4}$ line, breadth $\frac{3}{8}$ line. Rio de Janeiro. (Id. 16, tab. 1, fig. 4).

23. *Desmopachria nitida*. This new genus is closely allied to *Hygrotus* of Stephens, but is distinguished by its antennæ and palpi; the former are somewhat moniliform and incrassated externally: the

species is dusky yellow; the elytra darker: the antennæ and legs yellow. Length $\frac{3}{4}$ line, breadth $\frac{1}{2}$ line. Rio de Janeiro. Mr. E. Doubleday took this identical species in stagnant water, at St. John's Bluff, in East Florida, in February, 1838. (Id. 17, tab. 1, fig. 5).

EDWARD NEWMAN.

(To be continued).

ART. LXXI.—*Cerambyciturum Insularum Manillarum Dom. Cuming captorum enumeratio digesta.* Auctore EDWARD NEWMAN.

(Continuatio. Vide pag. 248).

FAMILIA TERTIA. LAMIIDÆ.

29. *Batocera** *Numitor*. Antennæ corpore vix longiores, dentibus minutis acutis sparsis armatæ: prothorax disco inæqualis, elytrorum basin versus lineis 3 transversis impressus, capitem versus lineis 2 elevatis pravis auctus, lateribus dente magno acuto vix recurvo armatus: elytra calcari humerali distincto acuto, basin versus pustulosa: fusca, concolor lanugine pallidiori undiquè obsita. (Corp. long. 2·75 unc. lat. ·9 unc.)
30. *Batocera octomaculata*. *Lamia* 8-maculata, Fabr. 'Syst. Eleu.' ii. 283: *Batocera ortomaculata*, Lap. 'Anim. Art. Coleop.' ii. 471.
31. *Batocera*? *Aphetor*. Antennæ corpore hæud longiores, inermes, apice acutissimæ: caput lineâ longitudinali impressum: prothorax disco prævè rugatus, lateribus dente acuto armatus, elytrorum basin versus lineis 2 distinctis transversis impressus: elytra parallela, basi pustulosa, scabra, inter suturam et humerum foveâ profundâ impressa, humero ipso acuto; apice truncata, angulis productis acutis: fusca, concolor lanugine pallidiorè undiquè obsita. (Corp. long. 1·8 unc. lat. ·6 unc.)
32. *Batocera*? *rixator*. Antennæ corpore valdè longiores, inermes: prothorax lateribus dente longo acuto armatus, pustulis minutis nonnullis notatus: elytra dente humerali obtuso armata, pustulis perpaucis glabris basin versus notata, apice truncata angulis acutis: fusca, lanugine cinerascenti obsita, vittâ latâ laterali lanuginosâ albâ. (Corp. long. 1·4 unc. lat. ·4 unc.)
33. *Anoplophora Lucipor*. Antennæ corpore breviores, inermes, pro corporis magnitudine graciles: caput lineâ longitudinali impressum: prothorax dente magno acuto utrinquè armatus: elytra apice rotundata, obscurè virescentia, nitida, maculis 22 conspicuis albis, lanuginosis, plerumque rotundis ornata: caput et

* It is perhaps well to observe that I have used the generic names rather as guides by which the entomologist may gain an idea of the general figure of the species than for any other purpose: in a mere catalogue like the present the establishment of new generic names seems very undesirable. Audinet Serville, in his remarks on the species of the genus *Lamia*, has rather selected a few conspicuous forms as the types of his new genera, than given a digest of the genus as it originally stood: thus many forms, quite as remarkable as those he has selected, may be said to be billeted nowhere.

prothorax maculis nonnullis indeterminatis albis lanuginosis ornatus. Insectum magnificum. (Corp. long. 2 unc. lat. .8 unc.)

34. *Monohammus* ? *prætorius*. *Lamia prætoria*, Erichson, 'Nova Acta,' xvi. App. p. 268, tab. xxxix. fig. 7. Insectum pulchrum, nigro testaceoque varium, colorum limitibus valdè inconstantibus.

35. *Monohammus* ? *Quæstor*. Antennæ corpore manifestò longiores, nigrae: prothorax dorso transversè elevatus, lateribus dente magno mediano armatus, niger, fasciâ transversâ testaceâ: elytra apice truncata, angulis acutis, nigra, fasciâ communi ante medium alterâque pone medium testaceis, maculâque utriusque ferè apicali subrotundâ quoque testaceâ. (Corp. long. .6 unc. lat. .25 unc.)

36. *Monohammus* ? *Luctor*. Antennæ corpore vix longiores, rufo-piceæ; caput nigrum: prothorax dorso transversè elevatus, elytrorum basin versus manifestò ac subitò constrictus, lateribus dente magno armatus, niger, maculâ laterali difformi albâ: elytra humeris gibbera, et (præsertim humeris) puncta, apice truncata, angulis dentatis, vix acutis; nigra, maculis utriusque senis conspicuis albis ornata, harum 1mâ transversâ laterali ante medium sitâ, 2ndâ transversâ laterali, pone medium sitâ, 3tiâ rotundâ discoidali, ante apicem sitâ. (Corp. long. .9 unc. lat. .35 unc.)

Obs.—*Monohammi prætorius*, *Quæstor* et *Luctor* rigidissimè congenerici; *Monohammis* normalibus valdè discrepant.

37. *Monohammus ambigenus*. Chevrolat, 'Revue Zoologique,' 1841, p. 228.

38. *Monohammus* ? *Rhobetor*. Antennæ corpore valdè longiores, articuli asperi; caput asperum, nigrum, lineis nonnullis lanuginosis cinereis, quarum 4 literam W reversam in epicranio formant: prothorax utrinquè spinâ acutâ medianâ armatus, dorso inæqualis, quasi transversè corrugatus, lineâ transversâ anticâ sinuatâ, alterâque posticâ rectâ impressus, niger, lineis 3 longitudinalibus lanuginosis cinereis: elytra puncta, punctis minutis, basi pustulosa, ferè scabra, apice truncata, truncaturâ concavâ, angulis acutis, nigra, plagis maculisque lanuginosis cinereis ornata, exemplariis nonnullis fasciâ elytrorum medianâ alterâque posticâ gaudentia. (Corp. long. 1 unc. lat. .35 unc.)

Obs.—*Monohammi ambigenus* et *Rhobetor* rigidissimè congenerici; generi *Tæniotes Servillei* valdè affines.

39. *Monohammus* ? *Agenor*. Antennæ corpore valdè longiores, satis robustæ, facies convexa, glaberrima: prothorax lateribus dente parvo mediano armatus: elytra puncta, apice truncata, angulis vix acutis: nigerrimus, glaberrimus, lanugine albidâ maculatim pulcherrimè variatus. (Corp. long. .8 unc. lat. .275 unc.)

40. *Monohammus* ? *Rhetenor*. Antennæ corpore valdè longiores; facies convexa: prothorax lateribus dente mediano armatus: elytra puncta, apice truncata, angulis vix acutis: niger, lanugine pallidâ obsitus, maculis 9 niveis inconstantissimis ornatus; nempe prothoracis 2 lateralibus, scutelli 1 totum scutellum obtegente, utriusque elytri 3, 1mâ undatâ transversâ ante medium sitâ, 2dâ curvatâ, transversâ, pone medium sitâ, 3tiâ suturali et ferè apicali. (Corp. long. .5 unc. lat. .175 unc.)

Obs.—*Monohammi Agenor* et *Rhetenor* rigidissimè congenerici; *Monohammis* normalibus manifestò discrepant.

41. *Monohammus plorator*. Antennæ corpore duplò longiores, articulis paullò curvatis: prothorax lateribus dente mediano armatus, niger, lineis 3 longitudinalibus lanuginosis pallidis, quæ in capitem current et inter antennis coalescent:

elytra basin versus pustulosa, omninò lanuginosa pallidè fusca, maculis nigris varia, utriusque maculâ nigerrimâ conspicuâ discoidali subrotundâ ferè medianâ, alterâque minori quoque discoidali ante apicem. (Corp. long. 1 unc. lat. .275 unc.)

42. *Monohammus Alcanor*. Antennæ corpore manifestò longiores, graciles, articulis paullò curvatis, articulo basali rugato: prothorax ferè cylindraceus, lateribus dente mediano minuto armatus: elytra basin versus scabra, apice vix truncata, angulo externo obtusè dentato: fuscus, lanuginosus, maculis numerosis minutis pallidis, maculâque utriusque rotundâ nitidissimâ aterrimâ, discoidali ferè medianâ. *Lamiae bipunctatæ* Schönnherri affinis at distinctus. (Corp. long. 1 unc. lat. .3 unc.)
43. *Monohammus Marciopor*. Antennæ corpore ferè triplò longiores, graciles, articulis rectis: prothorax lateribus dente mediano armatus: elytra puncta, punctis basi majoribus crebrioribus, basi quadrata, dente humerali obtuso armata, apice rotundata: fuscus, nebulosus, elytrorum maculâ magnâ laterali difformi ante medium albâ, alterâque paritèr laterali difformi pone medium nigrâ; hæ maculæ colore diversæ coalescent. (Corp. long. 1.1 unc. lat. .3 unc.)
44. *Monohammus Antenor*. Antennæ corpore plus duplò longiores: prothorax utrinquè dente mediano magno armatus: elytra paullò complanata, humeris ferè quadratis, sed angulis ipsis rotundatis, undiquè puncta, apice truncata, angulo externo valdè conspicuo acuto: fuscus, lanugine sericatâ obsitus. (Corp. long. .9 unc. lat. .25 unc.)
45. *Monohammus Bianor*. Antennæ corpore manifestò longiores, graciles, articulis basi obscurè cinereis apice fuscis: prothorax utrinquè dente mediano magno armatus, dorso ferè planus, manifestò punctus, lineâ anticâ transversâ medio retrocurvatâ, alterâque posticâ rectâ, impressus: elytra ferè parallela, paullò complanata, humeris ferè quadratis, angulis ipsis rotundatis, undiquè puncta, apice ferè rotundata, angulis nullis: fuscus, lanugine sericatâ fuscâ undiquè obsitus. (Corp. long. .1 unc. lat. .35 unc.) Præcedenti similis at major, antennis brevioribus, elytris apice ferè rotundatis. (*Mas et femina*.)

EDWARD NEWMAN.

(Numero sequenti continuatio.)

ART. LXXII. *List of Lepidoptera captured on the borders of Suffolk and Essex.* By W. GAZE, Esq.

Lavenham, January 9, 1842.

SIR,

As many of your subscribers agree with me in the value of local lists, I send you one of Lepidoptera taken by myself and a friend during the years 1833, 4, and 5, at Kedington and the vicinity of Haverhill, on the borders of Suffolk and Essex; which, if you think it worthy of a place in 'The Entomologist,' is quite at your service.

I am, Sir,

Your obedient Servant,

W. GAZE.

To the Editor of 'The Entomologist.'

Gonepteryx Rhamni	Hepialus Hectus	Orthosia Lota
Colias Edusa	sylvinus	Upsilon
Pontia Brassicæ	Cossus ligniperda	Mythimna grisea
Chariclea	Zeuzera Æsculi	Grammesia trilinea
Rapæ	Pygæra bucephala	Segetia xanthographa
Metra	Episema cæruleocephala	Caradrina Sepii
Napi	Cerura Vinula	cubicularis
Sabellicæ	Notodonta ziczac	Glæa Satellitia
Mancipium Cardamines	Lophopteryx camelina	Pyrophila Tragopogonis
Leucophasia Sinapis	Ptilodontis palpina	tetra
Melitæa Artemis	Petasia Cassinea	Nænia typica
Euphrosyne	Saturnia Pavonia-minor	Xylina Lambda
Vanessa Polychloros	Lasiocampa Roboris	putris
Urticæ	Trichiura Cratægi	Xylophasia lithoxylea
Io	Eriogaster lanestris	polyodon
Atalanta	Clisiocampa Neustria	hepatica
Cynthia Cardui	Odonestis Potatoria	epomidion
Apatura Iris	Gastropacha Quercifolia	Hadena remissa
Hipparchia Ægeria	Dasychira pudibunda	contigua
Megæra	Orgyia antiqua	plebeia
Tithonus	Porthesia auriflua	ochracea
Janira	Arctia caja	Lithorhiza
Hyperanthus	Phragmatobia fuliginosa	Cucubali
Pamphilus	Spilosoma Menthrasti	Heliophobus Popularis
Thecla Betulæ	lubricepeda	Mamestra Pisi
W-album	Diaphora mendica	oleracea
Quercus	Nudaria munda	Brassicæ
Lycæna Phlæas	Callimorpha Jacobææ	Chenopodii
Polyommatus Argiolus	Lithosia complana	Persicariæ
Alexis	quadra	Euplexia lucipara
Agestis	Gnophria rubricollis	Hama basilinea
Thymele Alveolus	Triphæna orbona	Apamea didyma
Tages	Pronuba	oculea
Pamphila Linea	interjecta	I-niger
Sylvanus	Janthina	Miana Æthiops
Ino Statices	Agrotis Segetum	Miselia Oxyacanthæ
Anthrocera Filipendulæ	exclamationis	Aprilina
Smerinthus ocellata	Graphiphora triangulum	compta
Populi	Baja	Polia advena
Tiliæ	C-nigrum	bimaculosa
Acherontia Atropos	plecta	flavocincta
Sphinx Ligustri	Semiophora gothica	occulta
Deilephila Elpenor	Orthosia instabilis	dysodea
Porcellus	gracilis	seladonia
Macroglossa Stellatarum	sparsa	Apatela Aceris
Hepialus Humuli	stabilis	Acronycta megacephala
Velleda	cruda	Ligustri
Lupulinus	Pistacina	Psi

<i>Acronycta tridens</i>	<i>Rumia Cratægata</i>	<i>Euthalia elutata</i>
<i>Rumicis</i>	<i>Ourapteryx Sambucaria</i>	<i>Phibalapteryx Vitalbata</i>
<i>Bryophila perla</i>	<i>Phalæna margaritaria</i>	<i>Scotosia Rhamnata</i>
<i>Thyatira derasa</i>	<i>Hipparchus Papilionarius</i>	<i>vetulata</i>
<i>Calyptra Libatrix</i>	<i>Hemithea vernaria</i>	<i>Triphosa dubitata</i>
<i>Ceropacha duplaris</i>	<i>Cleora bajularia</i>	<i>Camptogramma bilineata</i>
<i>diluta</i>	<i>Lichenaria</i>	<i>Thera variata</i>
<i>Cosmia diffinis</i>	<i>cinctaria</i>	<i>Oporabia dilutata</i>
<i>trapetzina</i>	<i>Alcis repandaria</i>	<i>Cheimatobia brumata</i>
<i>fulvago</i>	<i>destrigaria</i>	<i>rupicaprararia</i>
<i>Xanthia fulvago</i>	<i>rhomboidaria</i>	<i>Lobophora hexapterata</i>
<i>Nonagria Typhæ</i>	<i>Hemerophila abruptaria</i>	<i>sexalisata</i>
<i>Leucania impura</i>	<i>Grammatophora Vauaria</i>	<i>Eupithesia rectangulata</i>
<i>pallens</i>	<i>Numeria pulveraria</i>	<i>V-ata</i>
<i>Cucullia Verbasci</i>	<i>Cabera pusaria</i>	<i>vulgata</i>
<i>Phlogophora meticulosa</i>	<i>rotundaria</i>	<i>Centaureata</i>
<i>Eremobia ochroleuca</i>	<i>exanthemata</i>	<i>venosata</i>
<i>Abrostola triplasia</i>	<i>Cyclophora omicronaria</i>	<i>Bápta punctata</i>
<i>Urticæ</i>	<i>punctaria</i>	<i>Emmelesia decolorata</i>
<i>Plusia Iota</i>	<i>Bradyepetes amataria</i>	<i>candidata</i>
<i>percontationis</i>	<i>Epione apiciaria</i>	<i>luteata</i>
<i>Gamma</i>	<i>Larentia cervinata</i>	<i>Hercyna clathrata</i>
<i>chrysisis</i>	<i>Chenopodiata</i>	<i>Ptychopoda dilutaria</i>
<i>Anarta Heliaca</i>	<i>Cidaria quadrifasciaria</i>	<i>lividata</i>
<i>Acosmetia arcuosa</i>	<i>ferrugata</i>	<i>bisetata</i>
<i>Mormo maura</i>	<i>miaria</i>	<i>Acidalia inornata</i>
<i>Catocala Nupta</i>	<i>implicaria</i>	<i>aversata</i>
<i>Euclidia glyphica</i>	<i>fluctuata</i>	<i>remutata</i>
<i>Mi</i>	<i>Harpalyce fulvata</i>	<i>floslactata</i>
<i>Fidonia fuliginaria</i>	<i>ocellata</i>	<i>Pæcilophasia marginata</i>
<i>Anisopteryx leucophearia</i>	<i>subtristata</i>	<i>Chlorissa Thymiararia</i>
<i>Æscularia</i>	<i>Corylata</i>	<i>putataria</i>
<i>Lampetia capreolaria</i>	<i>comma-notata</i>	<i>Macaria imitaria</i>
<i>connectaria</i>	<i>centum-notata</i>	<i>Ania emarginata</i>
<i>defoliaria</i>	<i>suffumata</i>	<i>Ennomos flexula</i>
<i>Phigalia pilosaria</i>	<i>Steganolophia Prunata</i>	<i>Cilix compressa</i>
<i>Biston prodromarius</i>	<i>Phibalapteryx badiata</i>	<i>Hypena proboscidalis</i>
<i>Betularius</i>	<i>Anticlea berberata</i>	<i>Polypogon barbalis</i>
<i>hirtarius</i>	<i>rubidata</i>	<i>Aglossa pinguinalis</i>
<i>Metra pennaria</i>	<i>derivata</i>	<i>Pyrallis farinalis</i>
<i>Crocallis elinguararia</i>	<i>Electra achatinata</i>	<i>Simaëthis Fabriciana</i>
<i>Odontopera bidentata</i>	<i>Pyraliata</i>	<i>Pyrausta purpuralis</i>
<i>Geometra Quercaria</i>	<i>Aplocera plagiata</i>	<i>Hydrocampa Potamogata</i>
<i>illunaria</i>	<i>Abraxas Grossulariata and</i>	<i>Nymphæata</i>
<i>Juliaria</i>	<i>a beautiful light var.</i>	<i>Lemnata</i>
<i>Pericallia Syringaria</i>	<i>Xerene albicillata</i>	<i>Sambucalis</i>
<i>Angerona Prunaria, and a</i>	<i>procellata</i>	<i>Botys Urticata</i>
<i>dark variety</i>	<i>adustata</i>	<i>Diaphania forficilis</i>

Margaritia verticalis
cinctalis
fuscalis

Margaritia sericealis
Scopula nivealis

Scopula Prunalis
olivalis

W. GAZE.

ART. LXXIII.—*Notice of two New Species of Papilio from Penang, presented to the British Museum by Sir Wm. Norris.* By ADAM WHITE, Esq., Assistant in the Zoological Department of the British Museum.

Papilio Varuna.

Wings of a deep black, tinged in some lights with a deep green hue; the upper wings have the nerves of a very deep black, the sides of the nerves are streaked with greyish, the streaks being lighter in colour as they approach the posterior margin, where they coalesce and form an oblong white mark, traversed by the posterior nerve, and separated from the edge by a narrow black margin; the under side agrees with the upper, except in having the streaks of a lighter hue. In the discoidal cell there are four longitudinal black streaks. The under wings are without spots or streaks on the upper or under sides; the margin has five rounded teeth. Head of a vermilion red, except the eyes, antennæ and haustellum, which are black. Thorax black, with two red spots in front, being the continuation of a red line on the sides. Abdomen black above, sides and underparts vermilion red, except a row of six large transverse squarish black spots in the middle, and six small reddish black spots on the sides.

This species comes in Boisduval's 18th group, along with *Papilio Nox* of Swainson, to which at first sight it is similar; there are two specimens, both of which are females.

Papilio Iswara.

Differs from *Papilio Helenus* (with which it agrees in form) in being much larger, and in wanting the marginal row of lunulated red spots on the underside of the lower wings; the large white spot on the same side is traversed by three of the nerves, and is connected with the anterior anal ocellus by means of two indistinct whitish lunules, behind and parallel to which are three lunules formed of bluish scales.

ADAM WHITE.

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XVIII.

APRIL, MDCCCXLII.

PRICE 6D.

ART. LXXIV. — *Description of a new species of Lamellicorn Beetle, brought from Valdivia by C. Darwin, Esq.* By G. R. WATERHOUSE, Esq., Curator Zool. Soc.

ORYCTOMORPHUS (?) *pictus*. Nigra, nitida; capite punctatissimo, punctis confluentibus: thorace punctato, punctis sparsis impressis: elytris irregularitèr lineato-punctatis, ad basin maculis binis aurantiis, fasciâ obliquâ concolori ad medium positâ, binisque aliis irregularibus subapicalibus. (Corp. long. $9\frac{1}{2}$ lin. lat. 5 lin.)

Habitat Valdivia.

Head very thickly and finely punctured, the punctures confluent, with a distinct tubercle between the eyes, behind which is a transverse depression, which is impunctate. Clypeus rather broader than long, with the lateral margins of the hinder half straight and parallel, but in front converging, and thus forming an obtuse angle on each side, the apex very narrow, recurved and slightly emarginated, the upper surface concave. Labrum minute, and nearly of a semicircular form. Mandibles short, stout and pointed, and with the apex recurved; at the base on the inner side is a large rounded tooth, presenting a flat masticating surface, having three or four elevated transverse ridges. Maxillæ very small, the blade scarcely projecting above the base of the palpus, its apex is rounded and clothed with longish hairs. Maxillary palpi of moderate length and thickness, three-jointed; the middle joint short, being about equal in width and length; the basal joint nearly obconical and longer than the second; the terminal joint the longest, and of an elongated conical form, but with the apex truncated; labial palpi small, with the two basal joints short and equal; the terminal joint about equal in length to the other two, nearly cylindrical, but becoming gradually narrower towards the apex, which is rounded. Mentum in the form of an isosceles triangle, but with the sides slightly dilated in the middle. Antennæ with the basal joint much incrassated at the apex, the following four are nearly cylindrical, the two first are somewhat elongated and the other two are short, the sixth and seventh joints are dilated and cup-shaped, the remaining three form the club, which is very large, very broad, and longer

than the seven basal joints taken together; it is much compressed and slightly curved. Thorax nearly twice as broad as long, the fore part slightly emarginated, the sides distinctly rounded and the posterior margin nearly straight, but slightly produced in the middle; the upper surface convex, excepting in the middle of the anterior half, where there is a large and rather deep excavation; the whole surface is distinctly punctured, but the punctures are scattered. A fringe of yellowish hairs is observable on the sides of the thorax. Elytra convex, oblong, not broader than the thorax at the base and but little dilated in the middle; the length exceeds the width by about one sixth; the surface is covered with smallish punctures, and these are for the most part arranged in longitudinal lines. Scutellum of moderate size, and smooth. Pygidium slightly convex, twice as broad as long, rounded at the extremity, very delicately punctured, and with one or two shallow foveæ on each side and near the point. Thorax and base of the abdomen beneath well clothed with long yellowish hairs. Legs moderately long, and clothed with hair; the anterior tibiæ compressed, and with three denticulations on the outer side; tarsi longer than the tibiæ, and rather slender, the basal joint of each tarsus longer than the three following joints and the terminal joint the longest; the claws rather small, simple and equal, with the exception of those of the anterior tarsus, one of which (the inner one) has a straight pointed process on the under side, at the base, which is equal in size to the claw from which it springs; between the claws is a small appendage, furnished at the extremity with two bristly hairs. The insect is black and glossy; on each elytron is a large deep yellow spot near the scutellum, a broadish oblique stripe, commencing a little below the humeral angle and terminating near the suture rather behind the middle of the elytra, where it is dilated, and throws downwards a short branch, which nearly joins a very irregular subapical spot or spots, for the spot in question is interrupted in parts. The antennæ are pitchy red; the basal joint is pitchy, and the club brownish.

The insect above described was brought from Valdivia by C. Darwin, Esq.

It is with great hesitation that I place the present insect in M. Guérin's genus *Oryctomorphus*,* since it differs in having the claws of all the tarsi equal,† and in having the mandibles somewhat exposed.

* Voyage de la Coquille, p. 79, pl. iii. (Insectes) fig. 3.

† None of the claws appear to be ever folded back, as represented in the plate of *Oryctomorphus*.

The fourth and fifth joints of the antennæ are short, and not elongated as M. Guérin states is the case with the same joints in the antennæ of *Oryctomorphus*; there appears moreover to be a difference in the form of the clypeus. Should it happen that the above differences are not sexual, it appears to me that *O. pictus* would require a subgeneric title, and that the name *Gonocheile* would be applicable.

G. R. WATERHOUSE.

ART. LXXV.—*List of Lepidoptera captured near York.*

By ROBERT COOK, Esq.

(Continued from page 260).

30, Collier Gate, York,

February 5th, 1842.

Dear Sir,

Annexed is the continuation of my captures in Lepidoptera in the neighbourhood of York.

I am, Dear Sir,

Your's &c.

ROBT. COOK.

To the Editor of 'The Entomologist.'

Fidonia atomaria	Ourapteryx Sambucaria	Aspilates respersaria
ericetaria	Campæa margaritata	Phasiane plumbaria
Bupalus Piniarius	Ellopiæ fasciaria	Larentia cervinata
Mæsia favillaceria	Hipparchus Papilionarius	chenopodiata
Anisopteryx leucophearia	Chlorissa thymia	Cidaria didymata
Æscularia	putataria	unidentaria
Hibernia capreolaria	Hemithia Cythisaria	miaria
prosapiaria	Cleora bajularia	fluctuata
defoliaria	Lichenaria	montanata
Phigalia pilosaria	Alcis repandaria	propugnata
Biston Betularius	rhomboidaria	Harpalyce fulvata
hirtarius	Hemerophila abruptaria	ocellata
Himera pennaria	Boarmia crepuscularia	subtristata
Crocallis elinguaris	punctularia	Corylata
Odontopera bidentata	Halia Vau-aria	Polyphasia immanata
Geometra Canaria	Numeria pulvaria	marmorata
Quercinaria	Cabera pusaria	comma-notata
illunaria	Ephyra pendularia	centum-notata
jularia	punctaria	perfuscata
lunaria	Bradypetes amataria	Steganolophia Prunata
Pericallia Syringaria	Epione apiciaria	Lampropteryx suffumata
Angerona Prunaria	vespertina	Anticlea derivata
Rumia Cratægata	Eurymene dolabraria	Electra Populata

<i>Electra Spinachiata</i>	<i>Hypena proboscidalis</i>	<i>Pseudotomia compositella</i>
<i>Achatinata</i>	<i>Polypogon tarsierinalis</i>	<i>aurana</i>
<i>Pyraliata</i>	<i>memoralis</i>	<i>Steganoptycha cuspidana</i>
<i>Abraxas Ulmata</i>	<i>Aglossa pinguinalis</i>	<i>retusana</i>
<i>Grossulariata</i>	<i>Pyralis farinalis</i>	<i>subuncana</i>
<i>Melanippe hastata</i>	<i>Simaëthis myllerana</i>	<i>Anchylopera Lundana</i>
<i>Xerene albicillata</i>	<i>Pyrausta purpuralis</i>	<i>cuspidana</i>
<i>rubiginata</i>	<i>ostrinalis</i>	<i>fimbriana</i>
<i>Euthalia miata</i>	<i>Hydrocampta Potamogata</i>	<i>harpana</i>
<i>impluviata</i>	<i>Nymphæata</i>	<i>Carpocapsa Pomonella</i>
<i>elutata</i>	<i>Lemnata</i>	<i>Wæberana</i>
<i>Phibalapteryx lignata</i>	<i>Stratiotata</i>	<i>Cnephasia interjectana</i>
<i>Lozogramma petrarica</i>	<i>Sambucalis</i>	<i>Logiana</i>
<i>Scotosia rhamnata</i>	<i>Botys forficalis</i>	<i>Urticana</i>
<i>Triphosa dubitata</i>	<i>Diaphania Urticata</i>	<i>Pœcilochroma trapezana</i>
<i>Camptogramma bilineata</i>	<i>Margaritia verticalis</i>	<i>Ptycholoma Lecheana</i>
<i>Eucosmia undulata</i>	<i>fimbrialis</i>	<i>Lophoderus ministranus</i>
<i>Thera simulata</i>	<i>institialis</i>	<i>Sarrothripus degeneranus</i>
<i>variata</i>	<i>sericealis</i>	<i>dilutanus</i>
<i>fulvata</i>	<i>Prunalis</i>	<i>Ilicanus</i>
<i>Oporabia dilutata</i>	<i>olivalis</i>	<i>Peronia combustana</i>
<i>Cheimatobia vulgaris</i>	<i>sticticalis</i>	<i>rufana</i>
<i>rupicaprarica</i>	<i>Nola strigulalis</i>	<i>asperana</i>
<i>Eupithecia rectangulata</i>	<i>cucullatella</i>	<i>variegana</i>
<i>nebulata</i>	<i>Hylophila prasinana</i>	<i>latifasciana</i>
<i>albipunctata</i>	<i>Tortrix viridana</i>	<i>Acleris scabrana</i>
<i>vulgata</i>	<i>Lozotania Sorbiana</i>	<i>gnomana</i>
<i>Absinthiata</i>	<i>Forsterana</i>	<i>Leptogramma irrorana</i>
<i>subfuscata</i>	<i>Heperana</i>	<i>Teras emargana</i>
<i>Minoa Chærophyllata</i>	<i>Ribeana</i>	<i>effractana</i>
<i>Emmelesia decolorata</i>	<i>Corylana</i>	<i>Diptyopteryx contaminana</i>
<i>rivulata</i>	<i>oporana</i>	<i>ciliana</i>
<i>albulata</i>	<i>Roborana</i>	<i>Lœflingiana</i>
<i>candidata</i>	<i>trifasciana</i>	<i>Forskaleana</i>
<i>luteata</i>	<i>Grotiana</i>	<i>Argyrotoza Bergmanniana</i>
<i>heparata</i>	<i>Holmiana</i>	<i>Conwayana</i>
<i>Hercyna clathrata</i>	<i>Philedone Gerningiana</i>	<i>Orthotania Turionana</i>
<i>Ptychopoda dilutaria</i>	<i>Ditula angustiorana</i>	<i>communana</i>
<i>immutata</i>	<i>Wellensiana</i>	<i>Eupœcilia angustana</i>
<i>Acidalia aversata</i>	<i>Antithesia corticana</i>	<i>subocellana</i>
<i>remutata</i>	<i>Betuletana</i>	<i>Lozopera straminea</i>
<i>Pœcilophasia marginata</i>	<i>Pruniana</i>	<i>Xanthosetia Zægana</i>
<i>Timandra imitatoria</i>	<i>pullana</i>	<i>hamana</i>
<i>Macaria liturata</i>	<i>Spilonota cynosbatella</i>	<i>Phibalocera Quercana</i>
<i>Ania emarginata</i>	<i>Pflugiana</i>	<i>Depressaria applana</i>
<i>Ennomos flexula</i>	<i>Stræmiana</i>	<i>ocellana</i>
<i>Drepana falcataria</i>	<i>sticticana</i>	<i>gilvella</i>
<i>Cilix compressa</i>	<i>Heusimene fimbriana</i>	<i>Yatesana</i>

Anacampsis Betulea	Argyrosetia Gædartaella	Chaetocheilus costellus
lanceolella	Brockella	variellus
sarcitella	Microsetia unifasciella	radiellus
Chelaria rhomboidella	Glyphipteryx Linneella	Cerastoma xylostella
Macrochila marginella	Achroia alvearia	Tinea tapetzella
bicostella	Eudorea mercurella	Incurvaria pectinella
Æcophora Oliiviella	Phycita Abietella	Lampronia rupella
Adela viridella	cristella	subpurpurella
Swammerdammella	Crambus argentellus	Gracillaria Thunbergella
Panzerella	pascuellus	hemidactylella
Oporinia nubilea	dumetellus	Pterophorus pentadactylus
Cheimophila Phryganella ♂	culmellus	bipunctidactylus
Diurnea Fagella	petrificellus	pterodactylus
Yponomeuta irrorella	culmarum	Alucita hexadactyla
rorella	Chilo punctigerellus	—
Telea leucatella	Harpiteryx dentella	

Orthosia Lota was omitted from the preceding portion of this list, (Entomol. 259).

ROBT. COOK.

ART. LXXVII.—*Observations on the Analysis of ‘British Butterflies,’*
(Entomol. 265). By J. O. WESTWOOD, Esq., F.L.S.

Hammersmith, March 1, 1842.

Dear Sir,

I crave a few lines’ space in the next number of ‘The Entomologist,’ to correct a few errors into which you have fallen in your notice of ‘British Butterflies and their Transformations.’

1. *Colias Edusa* is not the *Papilio Electra* of Linnæus: see ‘Brit. But.’ p. 130.

2. The Linnæan name of *Papilio Sinapis* should not stand. The insect has nothing on earth to do with Sinapis, or even with the tribe of plants to which it belongs.

3. Hubner divides our *Vanessæ* into four (not three) groups, which according to my views ought not to be adopted, being founded on characters far more trivial than those which characterize the groups of our old genus *Hipparchia*.

4. My new genus *Lasiommata* cannot become a synonyme of Hubner’s *Pararge* (not *Pyrarge*), as it also comprises his genus *Dira*. It is not usual to call a compound of two things by the name of one of them. Blue and yellow colours united form a distinct colour—green.

5. *Davus*, *Typhon*, *Polydama*, &c. form the genus which I have

employed under Hubner's name *Cænonympha*. I have nowhere met with the name *Cænomorpha*, which is, I presume, a *lapsus calami*.

6. My genus *Oreina* must not yield to Hubner's prior name—*Melampias*, because it likewise includes his genus *Epigea*. The same remark applies to it as to *Lasiommata*.

7. I have given my reason for altering the name *Gonepteryx* to *Goniapteryx* at p. 13.

I trust you will excuse my troubling you with these details, but as I have devoted considerable attention to the generic distribution and nomenclature of these insects, I am naturally anxious that such of your subscribers as may not have an opportunity of examining the work itself, may not be led to form incorrect ideas of my views on the subject.

And now, having despatched these weighty but tedious technicalities, perhaps you will allow me to gossip a little concerning *my* early entomological days. Your pleasant reminiscences have recalled long past enjoyments, and I doubt not you will be not a little surprized to learn that I too undertook, in the year 1822, a Natural History of British Butterflies. The manuscript of this projected work, long forgotten, and at last found after a lengthy search, now lies before me, and I see, as every page is dated, that throughout the month of March in that year I daily "tooled my pen" at the voluntary task, and that my labours ceased on the very day which your next sheet will bear date, namely, the 1st of April. These coincidences, interesting at least to myself, lead me to think that an account of the origin of this performance may not be read without interest by those who have seen 'British Butterflies and their Transformations.'

I will not dwell on the delight with which, during one of the winters of my school-boy days, I discovered that the son of one of my father's workmen had formed a collection of insects. It was the very thing I wanted to afford objects for a pocket microscope which had been then recently given me. Insects on the wing there were none; so I contented myself with buying one of his peacock butterflies and examining its various parts under my glass. Neither will I linger on the many searches made amongst the strawberry-plants for the beautiful garden tiger moth, which I wanted to draw for my set of multiplication-cards. One of the drawings of this insect I still preserve, and it represents the creature with the antennæ of a butterfly. I suppose this originated in the feathered antennæ of the moth being laid along the sides of its breast, and so hidden from view, and my ignorance of their real form. Other occurrences of a similar nature to these are now recalled to my mind, all showing how strong at that time was my

entomological bias. It was in the autumn of the year 1821 that I came up to London to be articled in a profession. For the next six months, however, instead of studying Coke upon Lyttleton, I greedily devoured all the information to be obtained from Samouelle's Compendium, Haworth's 'Lepidoptera Britannica,' Shaw's Zoology, and other similar works; and it then struck me that a small volume, containing a few concise chapters on Entomology in general, the external anatomy and transformations of insects, with the characters of the order Lepidoptera and its genera, followed by the description of each butterfly translated from Haworth's work, would form a useful handbook for beginners like myself. A great portion of it was written, but something else interfered, and the manuscript was locked up in the drawer of an old writing-desk, where it has ever since slumbered.

Thus, Sir, you perceive that the study of our British Lepidoptera is no new freak of fancy, nor taken up for the purpose of writing the works on which I am now engaged. I am however as fully aware of the difficulties with which the study of the Noctuidæ is encompassed as yourself, but I rely not on my own skill. Much has been done both at home and abroad, of which I shall avail myself; and kind friends, who know more of the subject than I do, have promised me their assistance: my motto therefore is — "*Nil desperandum.*"

I remain, Dear Sir,

Yours very truly,

JNO. O. WESTWOOD.

To the Editor of 'The Entomologist.'

[Of course no author would be quite satisfied with a review unless written by himself, which the plan of 'The Entomologist' precludes, as I invariably attach my signature to each notice: however, as Mr. Westwood thinks proper to defend the supposed defects pointed out, I will add a word more. 1. *Colias Edusa*: I have said "This is *Papilio Electra* of Linneus"; surely, in disproving this, courtesy required something more than Mr. Westwood's assertion — "*Colias Edusa* is not the *Papilio Electra* of Linneus." 2. *Leptoria candida*: Mr. Westwood tells us he has sunk the Linnean name *Sinapis*, because "the insect has nothing on earth to do with *Sinapis*, or the tribe of plants to which it belongs." So might we sink the names *Antiopa*, *Lathonia*, *Podalirius* and *Chryseis*, because the insects have nothing on earth to do with the fabulous beings whose names they bear; and we might rechristen these species, *Askewii*, *Jamrachii*, *Argentii* and *Tuckerii*, in compliment to those distinguished entomologists who supply us with these delicacies on such liberal terms: these names, moreover, would harmonize better with modern nomenclature. 3. Each of these four species might also have a new generic name, if we formed the genus so as to squeeze into it a species not contemplated by Hubner. 4. In refutation of my hint as to Mr. Westwood's being incompetent to describe the Noctuæ, that gentleman replies that he relies not on his own skill; kind friends, who know more of the subject than himself,

having promised him their assistance. This is exactly as it should be : I hope Mr. Humphreys has been equally successful in meeting with "kind friends" to complete *his* share in the undertaking. In addition to Mr. Westwood's observations, something may be gathered from his silence on the main point of my 'Analysis,'—namely, the striking out a third of the British "Butterflies." The subject ends here.—EDWARD NEWMAN].

ART. LXXVIII. — *Cerambyciturum Insularum Manillarum Dom.*
Cuning captorum enumeratio digesta. Auctore EDWARD
 NEWMAN.

(Continuatio. Vide p. 277).

46. *Lamia pulchellator*, Westwood, 'Proceedings of Zoological Society,' Nov. 14, 1837, p. 128.
47. (*Agelasta*) *transversa*. Genus novum? Antennæ distantes, corpore paullò longiores; articulus 1mus crassus, vix prothorace brevior, 2dus brevissimus, 3tius gracilis, 1mo longior, cæteri pedetentim breviores, ciliis ornati, ultimus curvatus; oculi ad antennarum basin divisi; caput infra oculos haud dilatatum, medio longitudinalitèr sulcatum; mandibulæ validæ: prothorax capite paullò latior, dorso paullò complanatus, lateribus subrotundus, inermis: scutellum breve, latum, rotundatum: elytra prothorace valdè latiora, humeris paullò gibbera, apice rotundata. *Age. transversa*. Lanuginosa, fusca, flavescenti cinereoque varia, antennarum articulis basi pallidis apice nigris: prothorax longitudinalitèr vittatus: elytra transversè fasciata, fasciis undatis pallidis, 1mâ latâ, ante medium sitâ, 2dâ paullò angustiori, pone medium sitâ, 3tiâ angustâ, indistinctâ, subapicali: femora pallida medio fuscrescentes; tibiæ basi pallidæ apice nigræ; tarsi pallidi articulo apicali nigro: insectum obesum. (Corp. long. .7 unc. lat. .4 unc.)
48. (*Agelasta*) *tetrica*. Antennæ distantes, corpore paullò longiores, graciles, articulus 3tius 1mo vix longior, cæteri pedetentim breviores, apicem versus ciliis curvatis ornati, ultimus curvatus: oculi ad antennarum basin divisi, partibus duabus lineâ manifestâ connexis: caput longitudinalitèr impressum, haud infra oculos dilatatum: prothorax disco asper, lateribus ferè parallelus, dente minuto antico armatus: elytra prothorace manifestò latiora, humeris elevata, basi pustulis nonnullis notata, punctis nonnullis quoque impressa, pustulo singulo, puncto plerumquè

connexo: lanuginosa, fusco flavescenti cinereoque varia. (Corp. long. .775 unc. lat. .375 unc.) *Exemplarii alterius descriptio.* Antennæ corpore paullò breviores, articulus 3tius Imo haud longior: prothorax dorso spatiis nonnullis elevatis asper: elytra basi subpustulosa, apice rotundata: lanuginosa, fusca, fulvo cinereoque pulcherrimè variata; antennarum articuli basi pallidi, apice fusci: femora pallida, cingulo ante apicem fusco; tibiae pallidæ maculâ externâ medianâ alterâque apicali nigris. (Corp. long. .75 unc. lat. .3 unc.)

49. (*Agelasta*) *trifasciata*. Antennæ distantes, corpore manifestò breviores, articulus 1mus crassus, 3tio manifestò longior; oculi ad antennarum basin divisi; caput longitudinalitèr impressum et obsoletè carinatum: prothorax dorso ferè lævis, paullò convexus, lateribus tubere minuto antico vix distincto instructus: lanuginosa; antennæ nigrae, articulis 2do *toto*, 3tio, 4to, 5to 6toque *basi* albidis: prothorax niger, maculâ magnâ utrinquè albidâ: elytra nigra, fasciis tribus completis apiceque albidis, 1mâ basim ferè attingenti, 2ndâ ferè medianâ latâ, 3tiâ subapicali: pedes nigri, tibiis albidis. (Corp. long. .65 unc. lat. .3 unc.)
50. (*Abryna*) *cænosa*. Genus novum? Antennæ valdè distantes, corpore vix breviores, articulus 3tius Imo longior, cæteri pedetentim breviores, graciliores, ultimus rectus; facies latissima, infra oculos dilatata, longitudinalitèr carinata; oculi ad antennarum basin ferè divisi: prothorax ferè cylindraceus, dorso pustulis punctisque nonnullis notatus, lateribus dentibus binis anticis armatus, dens superior obtusus, inferior subacutus: elytra prothorace paullò latiora, parallela, undiquè puncta, apice truncata, truncaturâ concavâ: pedes breves, validi; meso- et metatibiis apice externo densè hirsutis; tarsis dilatatis. *Abry. cænosa*. Fusca, obscurè cinereo varia, præcipuè fasciis elytrorum binis latis undatis. (Corp. long. .7—1 unc. lat. .275—4 unc.)
51. (*Abryna*) *fausta*. Antennæ valdè distantes, graciles, dimidio corporis longiores, articulus 1mus nigro-chalybeus, cæteri ferruginei, apicem versus obscuriores; caput nigrum chalybeo tinctum, facies asperè puncta; oculi ad antennarum basin divisi: prothorax nigro-chalybeus, punctus, dorso lævis, lateribus dentibus 2 minutis anticis armatus: elytra prothorace latiora, lateribus parallela, puncta, nitida, chalybeo pulcherrimè gaudentia, apice rotundata: pedes breves, nigri, fulgore metallico passim gaudentes; meso- et metatibiæ apice extus densè hirsutæ ferruginæ. (Corp. long. .75 unc. lat. .25 unc.)

52. (*Abryna*) *notha*. Antennæ læsæ, distantes: facies lata, punctis magnis aspera; oculi ad antennarum basin divisi: prothorax punctus, punctis magnis conspicuis, lateribus tubere antico armatus: elytra lateribus convexa, apice rotundata, puncta, punctis basin versus magnis, apicem versus minutis: meso- et metatibiæ extus apice densè hirsutæ, auræ: nigra, fulgore chalybeo obsoletè tincta, meso- et metapleura albida, segmentum abdominis primum semialbidum. (Corp. long. .65 unc. lat. .225 unc.)
53. (*Euclea*) *albata*. Genus novum? Antennæ valdè distantes, graciles, dimidio corporis vix longiores, articulus 3tius 1mo longior, cæteri longitudine repentè decrecentes; facies lata, complanata, lineâ longitudinali elevatâ; mandibulæ validæ; oculi ad antennarum basin divisi: prothorax ferè cylindraceus, dorso sublævis, lateribus dentibus duobus anticis armatus, margine postico bisinuato, dentibus duobus distantibus armato: scutellum brevissimum, rotundatum: elytra elongata, utrinque inter scutellum et humerum emarginata pro dentium prothoracis receptione, prothorace paullò latiora, lateribus parallela, apice subtruncata: pedes breves. *Euc. albata*. Lanuginosa, fusca, elytrorum plagâ maximâ communi albâ: antennæ nigricantes, articulo 4to basi albedo. (Corp. long. .1 unc. lat. .375 unc.) *Exemplarii alterius* elytra fusca, utriusque plagâ laterali medianâ albâ. (Corp. long. .85 unc. lat. .275 unc.) Vix species!
54. (*Euclea*) *irrorata*. Antennæ valdè distantes, graciles, dimidio corporis longiores; facies lata, longitudinalitè subcarinata; mandibulæ validæ; oculi ad antennarum basin divisi: prothorax ferè cylindraceus, punctus, dorso lævis, lateribus dente 1 antico armatus, margine postico bisinuatus, dentibus duobus obtusis armatus: elytra prothorace paullò latiora, lateribus parallela, apice truncata, passim puncta: pedes breves: nigra, lanugine cinereâ varia: antennarum articulus quartus basin albus. (Corp. long. .675 unc. lat. .2 unc.) Obs.—Variat lanuginis colore et distributione, quoque antennarum articulis 4, 5 et 6 nunquam basi albidis.
55. (*Cacia*) *spinigera*. Genus novum? Antennæ basi haud approximatae, corpore paullò longiores, articulus 3tius 1mo paullò longior, paullò curvatus, 4tus basi excepto hirsutus, cæteri graciles, pedetentim breviores; oculi integri: prothorax dorso sublævis, lateribus rectus, parallelus, inermis: elytra complanata, subquadrata, apice rotundata. *Cacia spinigera*. Fusca; antennarum articulus 3tius apice 1-spinosus, articuli 3, 4 et 5 basi pallidi,

4tus basi excepto hirsutus nigerrimus : elytra inter humerum et scutellum gibbera : caput, prothorax et elytra nigro, fusco, et cinereo pulcherrimè variata : femora pallida, maculâ medianâ difformi fuscâ ; tibiæ nigricantes annulo mediano albido. (Corp. long. .4 unc. lat. .18 unc.)

56. (*Cacia*) *aspera*. Antennæ basi haud approximatae, corpore vix breviores, articulus 3tius 1mo longior, 4tus basi excepto hirsutus, cæteri graciles pedetentim breviores : prothorax dorso lævis, lateribus rectus inermis : elytra prothorace latiora, subconvexa, lævia, apice rotundata ; antennarum articulus 3tius cinereus, apice nigro excepto, 4tus basi albidus, hirsutie apicali nigrâ, 5tus albidus, cæteri nigri ; caput, prothorax et elytra lanuginosa fusco-fulva, maculis minutis albidis irrorata : pedes varii. (Corp. long. .5 unc. lat. .21 unc.)
57. *Doliops Curculionoides*, Waterhouse. Westwood, 'Arcana Entomologica,' 57, tab. iv. fig. 1: icon vix agnoscenda.
58. *Doliops geometricus*, Waterhouse, ined.*
59. (*Agnia*) *casta*. Genus novum ? Antennæ corpore ferè duplò longiores, basi approximatae, in tuberibus excavatis sitæ, graciles, articulus 3tius reliquis longior, deinde ultimus ; oculi haud divisi ; caput inter antennis profundè sulcatum ; facies inclinata : prothorax capite paullò latior, lateribus ferè rectus, inermis, capitem versus angustior, elytrorum basin versus latior : elytra basi prothorace manifestò latiora, apice rotundata : pedes medioeres. *Agn. casta*. Nigricans, fulgore viridiscenti obscure tincta : caput lineâ longitudinali epicranii albidâ maculisque genarum 2 albidis ornatum : prothorax lineâ dorsali longitudinali, alterâ utrinquè laterali, alterâ transversâ basali albidis : elytra basi asperè puncta, disco levitèr puncta, nitida, maculis lanuginosis, incertis, albidis ornata. (Corp. long. .6 unc. lat. .275 unc.)
60. (*Agnia*) *clara*. Antennæ corpore haud valdè longiores : nigra, nitida, maculis lincisque lanuginosis albis ornata ; lineâ inter oculum prothoracisque marginem, alterâ inter antennam et genam subtus oculum : prothoracis lineæ albæ 5 longitudinales, 1 mediana, 2 utriusque laterales : scutellum album : elytra basi asperè, disco levitèr puncta, maculis numerosis impressis lanuginosis niveis pulcherrimè variata, apice subtruncata. (Corp. long. .75 unc. lat. .3 unc.)

* Descriptions of both these species of *Doliops* have been read at the meetings of the Entomological Society of London.

61. (*Plocia*) *mixta*. Genus novum? Antennæ basi valdè approximatae, corpore ferè æquantès, graciles; oculi longi, angusti, ad antennarum basin emarginati: caput parvum, in prothorace ferè reconditum: prothorax truncato-obconicus, lateribus inermis: elytra apice obliquè truncata: pedes mediocres; femoribus incrassatis. *Plocia mixta*. Elytra striis integris 9 alterâque suturali abbreviatâ impressa, striis profundè punctis, truncaturæ angulo externo vix acuto: fusco-cinerea, fusco, cinereo, fulvoque varia. (Corp. long. .6 unc. lat. .2125 unc.)
62. (*Plocia*) *notata*. Præcedenti simillima: elytrorum truncaturæ angulo externo acuto: antennarum articulus 7mus niveus, cæteri fusci: vittâ prothoracis utrinquè flavescenti: utriusque elytri maculæ 2 marginales, majores, flavescentes, 5 nivæ, quarum 1 basali, 1 subsuturali, 3 subapicalibus. (Corp. long. .575 unc. lat. .2 unc.)
63. (*Achthophora*) *tristis*. Genus novum? Antennæ corpore haud longiores, basi valdè approximati, in tuberculis excavatis sitæ, tuberculi intus 1-dentati; caput inter antennis profundè emarginatum; antennarum articulus 3tius ferè Imo duplò longior, apicem versus paullò hirsutus, 4tus, basi excepto, valdè hirsutus, ultimus paullò curvatus, apice acutus: prothorax capite vix latior, lateribus dente minuto mediano armatus: elytra prothorace manifestò latiora, utriusque fastigium elevatum, basale, juxta humerum, prothoracis basin versus paullò inclinatum, ferè in dentem productum, posticè abbreviatum; apice rotundata: pedes breves, femoribus incrassatis, tibiis extus apicem versus emarginatis, subhirsutis. *Ach. tristis*. Fusca; antennarum apices pallidiores, utrâque genâ linea obliqua albida: elytra profundè ac asperè puncta, maculis minutis flavescentibus undiquè stictica. (Corp. long. .65 unc. lat. .25 unc.)
64. (*Achthophora*) *alma*. Nigra; antennæ rufo-piceæ hirsutie nigrâ, apicibus pallidioribus, utraque gena lineâ obliquâ albidâ signata: pro- meso- et metathoracis latera quoque albida: elytra asperè ac profundè puncta, fasciâ ante medium communi, maculâ utriusque difformi subapicali maculisque nonnullis minutis sparsis albidis: pedes rufo-picci: cæteri *præcedentis*, cujus fortè mera varietas. (Corp. long. .7 unc. lat. .26 unc.)
65. (*Thysanodes*) *jucunda*. Genus novum? Antennæ vix basi distantes, dimidio corporis longiores, articulus 3tius Imo paullò longior, manifestò gracilior, cæteri magnitudine pedetentim decrescentes, pilis brevibus ciliatæ; caput inter antennis depressum, et longitudinalitèr obscurè sulcatum; oculi ad antennarum

basin ferè divisi: prothorax dorso punctus, lineâ longitudinali elevatâ vix conspicuâ, lateribus parallelus, inermis: elytra elongata, parallela, prothorace paullo latiora, apicibus rotundatis: pedes breves. *Thys. jucunda*. Nigra, lanuginosa; antennarum articuli 1mus 2usque anticâ parte aurantii: prothorax dorso niger, lateribus aurantiis: elytra aurantia, fasciâ basali alterâque subapicali maculisque nonnullis minutis nigerrimis: femora apice, tibiæ basi, aurantia. (Corp. long. .75 unc. lat. .275 unc.)*

EDWARD NEWMAN.

ART. LXXVII.—*Notes on Myriapoda*. By FRANCIS WALKER, Esq.

(Continued from p. 243).

Genus.—CRYPTOPS.

Cryptops hortensis. The antennæ are 17-jointed, pubescent, setaceous, submoniliform, full as long as the head and the two following segments; the basal joints are broader than long, the apical joints longer than broad. The labium is smooth beneath, slightly hairy, the suture is indistinct; the jaws are like those of *Lithobius*. The color of the body is usually ferruginous, the legs are paler, and the last pair somewhat brighter than the body. There are 21 segments; they increase in length from the head to the tail, and two sections pass through the disk of each. The head is flat and conical, and has a very short suture in front, and apparently forms but one segment. The legs have 6 joints, the first is shorter than the second, but from the second the

* The divisions here proposed and named appear to me scarcely entitled to rank as genera, yet I could not include the species under any of the equally restricted groups proposed by Serville: *Agelasta* very nearly approaches several of the Brazilian genera; *Abryna* and *Euclea* approach *Cryptocranium*; *Cacia* is somewhat similar to *Anisocerus scopiferus*, a very common South-American insect; *Agnia* is equally like *Ptychodes politus*, *lineatus*, &c. *Plocia*, in general form, appears intermediate between *Colobotheca* and *Leptocera*, yet in some characters it likewise resembles *Hypsiomus cristatus*; to the last-named genus *Achthophora* is also allied; and *Thysanodes* is almost too near the New Holland species *Rhytiphora porphyrea*, but unfortunately that genus is so restricted, that several other species all but identical with *porphyrea* are excluded. The new names are proposed with much hesitation, and being placed in parentheses, entomologists will use their own judgment either in adopting them, or referring the species to the previously described genera indicated in this note. Being firmly convinced that every genus must of necessity be an artificial assemblage of species, I am far from ambitious of imposing generic nomenclature.

joints gradually decrease in length and thickness to the sixth or claw, which is short, slender and hooked. There are 42 legs; they are slightly hairy, gradually increasing in length to the penultimate pair, which are much longer than the preceding, but are far exceeded in length by the last pair, which is not used for locomotion; these are tuberculate and bristly beneath, and the fourth and fifth joints of each are armed along their length with a row of hooked spines pointing forwards.

Genus.—SCOLOPENDRA.

This genus, like *Julus*, has 4 maxillæ joined together to form the labium, the inner pair being very narrow. The mandibles have several small teeth, and are furnished with palpi. The first pair of legs is transformed into the first auxiliary labium, which rests against the maxillæ. The coxæ, thigh and tibia have each but one joint, but the tarsus has a claw at its tip. The second pair of legs forms the second auxiliary labium, which is very large, covers all the other parts of the mouth, and extends beyond the sides of the head. The coxa and thigh are each 1-jointed, and each has an interior denticulated lobe. The tibia is composed of two very short joints. The tarsus is long and curved. The third pair of legs, or the first organs of locomotion, are like all the following pairs, and has 1 joint to the coxa, 2 to the thigh, 2 to the tibia and 2 to the tarsus, besides the claw.—*Savigny*.

Scolopendra cingulata. Each segment of the body has four parts, which are wholly or partly divided by sutures, though in *Lithobius* they are so closely joined as to form one. The middle suture is not apparent on the three segments behind the head, but is indistinctly seen on the hind margin of each following segment to the 20th, on which it is slightly marked from the fore to the hind margin. The two lateral sutures are manifest on every segment to the twentieth, when they quite disappear. There is no middle suture beneath, but those on each side are distinctly visible to the twentieth.

Genus.—GLOMERIS.

When it is rolled together only 11 segments are visible; it does not form a perfect circle, for the thoracic and caudal segments, the former of which passes under the latter, present a level or somewhat concave surface. When coiled up it lies on its side, and seems to rest on an inclined plane, the middle of the back being more convex than the

extremities. The hindmost sides of the thoracic segment cover the edges of the two following segments, and its fore sides are covered by the edges of the five segments that precede the last. The segments are black, shining, without hairs, and thickly and very minutely punctured, having on the hind border a white band, broadest at the sides. It unfolds itself very slowly and imperceptibly. When laid on its back it bends itself into the form of the letter S in attempting to regain its feet. It is very slow in its movements, and when walking taps the ground with its antennæ alternately. The antennæ are seated in front of the head near the mouth, and are 7-jointed, black, shining, punctured, subclavate, not longer than the head, slightly pubescent towards the tips; the first and second joints are short, the third much longer; the fourth much shorter than the third and a little shorter than the fifth; the sixth somewhat longer than the third; the seventh very short, obtuse, and but just appearing beyond the tip of the sixth. The antennæ are thrice bent, and lodged, when in repose, in a winding furrow between their base and the eyes, which extend along the hind border of the sides of the head and are granulated.

Glomeris plumbeus. The first pair of legs have 2-jointed thighs and distinct claws, and therefore have not a tendency, like those of *Julus*, to be transformed into palpi. The clypeus is unidentate.—*Savigny.* The head has nearly the shape of a semicircle, of which the hind border forms the chord, or rather a rim behind which the head becoming narrower is introduced under the margin of the following segment. It seems to form one uninterrupted segment, though the presence of a suture on its margin, between the eyes and the base of the antennæ, indicates that there are two. Behind the head is a small segment in the form of a semicircle, of which the chord is next the head, it has three sutures along the fore border, and it bears one pair of legs, which are short, black, shining, smooth, clothed with a few hairs, and 6-jointed; the first joint is short; the second long, and broader towards the tip and concave on the inner side; the third and fourth are short; the fifth is nearly as long as the second, and narrower toward the tip; the sixth is short, white, slightly curved, and like a bristle or claw. The second or thoracic segment is large, and double the breadth of the first, and passes over the border of the following, which follows the like plan, as do all the rest which are 12 in number; they are convex in front, rounded on the sides, and have the hind border straight. Two or three, and on either side four sutures extend along the fore border, and mark the space that is attached by

muscles to the body, the hind border being free and passing over the next segment. From the second to the eleventh each successive segment is narrower than its predecessor, the tenth and eleventh being very narrow; the twelfth is much broader. The ventral segments are white, transparent and soft, being protected from injury by the arched body. It has 34 legs, one pair under the small segment behind the head then follow 7 pair with a space between each, then 9 pair attached to the hind part of the body, much closer together than the former, and reaching even to the tail. The head and the following segment are bent inwards when the insect is rolled up or in repose, but when it walks they are held up parallel to the plane of position.

The genera of Chilopoda appear to have the following order of succession.—*Geophilus*, *Cryptops*, *Scolopendra*, *Lithobius*, *Cermatia*.

FRANCIS WALKER.

ART. LXXVIII.—*Varieties.*

145. *Fidonia fuliginaria*. I took a specimen of this insect on this house the first week in last July.—*Walter Shepherd*; 176, *Fleet St.*, February 18, 1842.

[This insect appears identical with the *Geometra carbonaria* of Fabricius, by which name it is known on the continent.—*E. N.*]

146. *British Museum*. It is with much pleasure that I announce the appointment of Mr. Edward Doubleday as an assistant in the zoological department of the British Museum: the rapid advances making in this department under the zealous superintendence of Mr. Gray, must be very obvious to every visitor.—*E. N.*

147. *Entomological Society: Anniversary Meeting, January 24th, 1842.* W. W. Saunders, Esq., F.L.S., in the chair; by whom an address was delivered, which was ordered to be printed. An abstract of the Treasurer's accounts for the past year was read. The Rev. F. W. Hope, W. Bennett and J. S. Bowerbank, Esqs. and W. Sells Esq. deceased, were removed from the Council; and J. F. Stephens, W. E. Shuckard, W. F. Evans and A. Tulk, Esqs. were elected in their stead. W. W. Saunders, Esq. was reelected President; W. Yarrell, Esq. Treasurer, and J. O. Westwood, Secretary.—*J. O. W.*

JOHN VAN VOORST,



PATERNOSTER ROW.

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ART. LXXIX. — *Description of a new Lepidopterous Insect from Sylhet.* By EDWARD DOUBLEDAY, Esq.

Family. — NOCTUIDÆ.

Genus. — IONTHA, *Doubleday.*

MAXILLÆ rather long. Palpi triarticulate, basal joint very short, second long, robust, ascending, densely clothed with long scales, third long, slender, clothed with minute apprest scales. Antennæ serrate, (probably very long). Eyes large. Anterior wings elongate, trigonate, costal nervure reaching to about one-third of the length of the costa, subcostal nervure emitting a branch to the costa not far from the base, forming a small elongate areolet, from which four nervules are thrown off, two at its termination, one from its upper and one from its under side, shortly before its termination: of these four nervules the two upper attain the costal, the two lower the outer margin: median nervure emitting a branch not far from the base, which attains the outer angle, itself attaining the outer margin a little above that angle: about the middle of its course it throws off an ascending branch, which is bent soon after at its origin, and at the median fold meets a descending branch of the subcostal, with which it forms an obtuse angle, and thus closes the discoidal cell: radial nervure none. Posterior wings long, broad, nearly triangular, slightly produced near the anal angle. Legs; first pair moderate, femora and tibiæ densely clothed, tarsi long, claws minute; second pair elongate, tibiæ about equal in length to the femora, unarmed, tarsi much longer than the tibiæ, basal joint longer than the others combined; posterior femora short and slender, tibiæ slender, (part of tibiæ and tarsi wanting). Abdomen very elon-



gate, slender, the last segment furnished with a dense brush of elongate, capitate scales.

In the neurulation of the wings this insect much resembles some of the *Pyralidæ*, but it also in this agrees with some of the latter groups of the *Noctuidæ*, near to *Ophiusa* and *Ophideres*.* In the form of the palpi it agrees precisely with the latter genus, and I have little hesitation in assigning it a position not very remote from the two genera above mentioned, though at first inclined to place it amongst the *Pyralidæ*.

Iontha umbrina. All the wings, above and below, umber-coloured, darker beyond the middle: anterior, above with two indistinct darker striæ and a small dot near the base; outer margin shaded with bluish grey, which colour extends also, but less distinctly, along the margin of the posterior wings; on the margin itself of the anterior wings is a crenulated darker line: below, posterior wings with a row of small white dots beyond the middle. Head, thorax and abdomen umber-coloured, the latter below ochraceous white; anal tuft dark brown, in certain lights strongly iridescent. Thorax below with a transverse white band at the base of the anterior legs. Anterior legs brown above, whitish below; second pair brown above pale below. Expansion of the wings two inches.

Inhabits Sylhet. In the cabinet of H. Doubleday.

EDWARD DOUBLEDAY.

ART. LXXX.—*Cerambyciturum Insularum Manillarum Dom. Cuming captorum enumeratio digesta*. Auctore EDWARD NEWMAN.

(Continuatio. Vide p. 293).

66. vel 51^a (*Abryna*) *eximia*. Viridi-ænea, splendida, fulgore metallico mutanti omnino læta, maculisque impressis lanuginosis albis pulcherrimè ornata: antennæ basi distantes, dimidio corporis longiores; articulus 1mus nigro-chalybeus, cæteri nigricantes, fulgore metallico paullò gaudentes, 3tio 4toque exceptis, basi cano-lanuginosis: oculi ad antennarum basin divisi; mandibulæ validæ, arcuatæ, nigrae; caput punctum, epicranii facieiue carina longitudinalis vix elevata nigra, faciei quoque macula ob-

* *Phalæna materna*, Drury (*Triphæna materna*, Westwood's edit.), may be viewed as the type of this genus, created some years since by Boisduval.

longa alba mediana carinâ longitudinalitèr divisa, genarum altera transversa linearis, alteraque pone orem subquadrata : prothorax ferè cylindraceus, dorso æqualis, lateribus ante medium paullò gibbus, margine postico rectus, glaber, utrinquè maculis 4 albis signatus : scutellum læve, nigricans : elytra prothorace paullò latiora, basi puncta, maculis 18 ornata, harum utriusque elytri 4 basin versus sitæ, 1ma ferè suturalis, subscutellaris, oblonga, 2da rotunda, discoidalis, 3tia linearis, obliqua, lateralis, ferè humeralis, 4ta parva, subrotunda, inter 1mam ac 3tiam sita ; apicem versus utriusque elytri 5, 1ma et 2da arcuatæ, lineares, circulum ferè formantes, alteras 3 parvas includentes : pedes mediocres paullò obscuriores, tarsis extùs apice hirsutis nigris. (Corp. long. .8 unc. lat. .3 unc.)

67. *Gnoma luzonicum*, Erichson, 'Nov. Act. Acad.' xvi. Supp. 268, tab. xxxix. fig. 8.

68. *Gnoma jugalis*. Nigra, lanugine fuscâ undiquè irrorata, fasciâ elytrorum transversâ, rectâ, tenui, communi, albâ. (Corp. long. .725 unc. lat. .25 unc.)

69. *Apomecyna proba*. Antennæ prothorace paullò longiores ; caput et prothorax profundè puncta : elytra profundè ac lineatim puncta : umbrina, prothoracis maculâ laterali utrinquè, elytrorum 24 niveis. (Corp. long. .43 unc. lat. .13 unc.)

70. (*Astathes*) *perplexa*. Genus novum ? Antennæ corpore vix breviores, basi distantes, articulo apicali glabro acutissimo ; oculi ad antennarum basin omninò divisi : prothorax latus, lateribus 1-dentatus : elytra lata, apice rotundata : corpus obesum. *Asta. perplexa*. Prothorax latitudine brevior, capite latior, dorso gibbus, lateribus manifestò 1-dentatus : dorsi gibber longitudinalis anticè in tuberibus 2 vix conspicuis productus et terminatus : testacea, antennis apicem versus fuscis. (Corp. long. .7 unc. lat. .325 unc.)

β. Elytrorum apex lætè violaceus.

γ. Elytri utriusque macula parva pone medium chalybea.

71. (*Astathes*) *levis*. Prothorax latitudine paullò brevior, capite latior, dorso gibbus, lateribus obscurè 1-dentatus ; dorsi gibber transversus, sublinearis : testacea, antennis apice fuscescentibus : elytris basi lætè chalybeis. (Corp. long. .65 unc. lat. .3125 unc.)

β. Elytrorum fascia ante basin lætè violacea.

γ. Antennarum articulus basalis fuscus : utriusque elytri macula ante medium lætè violacea.

Obs.—Hujus generis species valdè perplexæ valdè incertæ: characteres nullo modo præbent colores; sculptura nisi prothoracis specierum omnium valdè similis. Nomine generico *Tetraophthalmus* (Lucanitum genus) species pernotæ.

72. (*Phæa*) *dapsilis*. Testacea, mandibulis apice nigris, antennis apice fuscis, elytris apice latè chalybeis: facies inter antennis depressa: prothorax capite vix angustior, dorso paullò inæqualis, lateribus inermis: elytra prothorace latiora, lævia, apice rotundata. (Corp. long. .7 unc. lat. .21 unc.)
73. (*Phæa*) *dilecta*. Flavescens, oculis, mandibulis, antennis elytrorumque apice nigris: prothorax capite angustior, posticè constrictus, dorso ferè æqualis, lateribus inermis: elytra linearia, prothorace paullò latiora, lævia, apice rotundata. (Corp. long. .45 unc. lat. .15 unc.)
74. (*Eustathes*) *flava*. Genus novum? Antennæ dimidio corporis paullò longiores, pilosæ, basi distantes, articulo apicali acuto: oculi ad antennarum basin divisi: prothorax capite paullò latior, dorso asper, gibbus, lateribus tubere mediano armatus: elytra prothorace latiora, longa, parallela, bicarinata, apice rotundata: pedes breves. *Eustathes flava*. Aureo-testacea, lanuginosa, antennis, oculis, pedibus abdomineque nigerrimis: prothorax gibbus, aureo-testaceus, lincis 2 longitudinalibus, abbreviatis, elevatis, glabris, nigris. (Corp. long. .75 unc. lat. .23 unc.)
75. *Tetraglenes insignis*. Genus novum. Antennæ basi approximate, corpore paullò breviores, 11-articulatæ, articulus 1mus crassus, cylindræus, capite longior, 2dus brevis, 3tius 4to brevior, cæteri breviores, subtùs ciliis ornati; caput ad antennarum basin valdè productum; epicranium longitudinalitèr sulcatum, sulco inter antennis manifesto; facies longa, valdè inclinata; os valdè recedens, ferè reconditus; oculi planè 4, parvi at distinctissimi, antennis distantes, (nec oculos plùs minùsve ad antennarum basin divisos, generum Cerambycitum more multorum simulantes, nempè *Tetraopes*, *Tessaromma*), integri, utrinquè bini, 1 lateralis, subrotundus, alter oblongus, ferè in epicranio situs: prothorax ferè cylindræus, capite paullò longior, lateribus rectus, inermis: elytra ampla, corpus omninò superantia, linearia, prothorace paullò latiora, carinâ subelevatâ humero ad apicem currenti; utriusque apex integer, subacuminatus: pedes brevissimi, femoribus paullò tumidis, protibiis paullò curvatis, mesotibiis extùs quasi emarginatis. *Tetra. insignis*. Tota densè lanuginosa, fusco-cinerea; prothoracis lincis 3 lon-

gitudinalibus fusciscentibus; elytrorum plagis nonnullis incertis albidis: antennæ nigricantes. (Corp. long. .5 unc. lat. .07 unc.)

76. (*Epaphra*) *valga*. Genus novum? Generi *Hippopsis* affinis. Antennæ basi approximatae, in tuberibus cyathiformibus sitae, corpore valdè longiores, graciles, 11-articulatae; articulus 1mus crassus, scaber, 3tio paullò brevior, paullò curvatus, apice tubere auctus, 2dus brevis, apice tubere auctus, 3tius ad ultimum pilosi, longi, 5tus, 6tus, 7usque apice spinâ brevi armati; caput inclinatum; oculi mediocres, subtus dilatati, verticem versus angusti, lineares: prothorax capite vix latior, paullò longior, dorso æqualis, lateribus ferè rectus, inermis: elytra basi prothorace valdè latiora, apicem versus pedetentim attenuantes, apice ipso obliquè truncato, angulo externo spinâ validâ armato: pedes mediocres, femoribus extus tumidis, tibiis, paullò curvatis, mesotibiis extus emarginatis. *Epaphra valga*. Picea, antennarum articulis basi argenteo-cinereis, apice fusciscentibus, genarum prothoracisque lineâ communi, laterali, lanuginosâ, albidâ, genarum alterâ subtus oculum; caput et prothorax puncta, punctis approximatis: elytra puncta, punctis distantibus, utriusque maculis guttiformibus, lanuginosis, impressis, albidis: pleura maculis similibus notata. (Corp. long. .6 unc. lat. .175 unc.)
77. *Colobotha picta*, Laporte, 'Anim. Art.' Coleop. ii. 491. *Stenocorus pictus*, Fab. 'Syst. Eleu.' ii. 306. *Saperda elegans*, Oliv. iv. Sap. 68, p. 15, tab. iv. fig. 140.
78. *Glenea lepida*. Chalybea, maculâ magnâ inter antennas albidotomentosâ: facies gibba, puncta: prothorax punctus, lanugine albidâ signatus, *exemplario uno* longitudinalitèr rugatus: scutellum albidotomentosum: elytra, apice excepto, profundè ac asperè puncta, utriusque maculis subrotundis discoidalibus 4, alterâque lunulatâ apicali albidotomentosâ: antennis pedibusque testaceis. (Corp. long. .65 unc. lat. .18 unc.) Obs.—*Sphenura** 8-maculata, Laporte, 'Anim. Art.' Coleop. ii. 489, valdè affinis, at exemplariis rigidè collatis satis differt.
79. *Glenea concinna*. Caput nigrum, maculâ magnâ inter antennas flavescenti-tomentosâ; antennæ testaceae, apicem versus fuscae: prothorax niger, lineâ longitudinali dorsali albidâ: scutellum albidum: elytra tomentosa, nigra, opaca, utriusque maculis 3 testaceis lanugine albidâ tectis: pedes testacei: abdomen nigro, testaceo albidoque varium. *Exemplarii alterius*

* *Sphenura* genus avium.

utriusque elytri maculæ albidæ tantum 2. (Corp. long. .55 unc. lat. .175 unc.)

80. *Glenea versuta*. Nigra, opaca, lanuginosa, nonnunquam picea: exemplariis majoribus (feminis?) antennarum articulus 3tius apice albus: epicranii lineis 2 longitudinalibus approximatis albis, in faciem continuatis, deindè distantioribus; pone oculos macula difformis albidæ: prothorax lineis 5 albidis longitudinalibus signatus, 1 dorsali medianâ, 2 utrinquè lateralibus: scutellum medio albidum, lateribus nigrum: elytra marginibus suturali et apicali, lineâ ab humero ad angulum apicalem externum currenti, alterâ obliquâ abbreviatâ basali inter scutellum et humerum sitâ albidis ornata; basin versus asperè ac profundè puncta: subtùs picea albido varia. (Corp. long. .4— .7 unc. lat. .15—.25 unc.) Obs.—*Saperda vittifera*, Boisduval, 'Faune de l'Océanie,' p. 516, similis at altera.
81. *Glenea regularis*. Lanuginosa, flavescenti nigroque varia: antennæ nigrae; oculi nigri, flavescenti circumdati; epicranii lineis 2 approximatis longitudinalibus; prothoracis lineis 5 longitudinalibus sternoque; scutello; utriusque elytri lineis 3; abdomineque ferè toto fulvescentibus. (Corp. long. .5 unc. lat. .175 unc.)
82. *Glenea exculta*. Nigra, lanuginosa, opaca, argenteo-viridi ornata: oculi nigri, argenteo-viridi circumdati; epicranii lineis 2 approximatis longitudinalibus; prothoracis lineis 3 longitudinalibus sternoque; scutello; elytrorum abdominisque maculis incertis, argenteo-viridibus: pedes testacei. (Corp. long. .4 unc. lat. .125 unc.) *Saperda viridi-cincta*, Boisduval, 'Faune de l'Océanie,' p. 513; *Saperda venusta*, Guérin, 'Voyage de Coquille,' tab. vii. fig. 5, affinis at altera.
83. *Glenea suavis*. Nigra, lanuginosa, opaca, profundè ac crebrè puncta: oculi nigri, viridi circumdati: prothoracis maculâ anticâ dorsali, lateribus margine postico; scutello; elytrorum fasciis 3, 3tiâ medio interruptâ; suturæ spatio subapicali, utriusque apicis maculâ subquadratâ; abdomine subtùs ferè toto; lætè viridibus metallicis squameis: tarsorum articulis basalibus cinereo-argenteis. (Corp. long. .4 unc. lat. .15 unc.)
84. *Glenea glauca*. Glauca, obscura, puncta: antennæ nigrae: prothoracis lineis 2 longitudinalibus; utriusque elytri lineis 2 longitudinalibus suturâque; corpore subtùs toto, albido-lanuginosis: antennæ nigrae: pedes pallidi. (Corp. long. .6 unc. lat. .2 unc.)

(Numero sequenti continuatio.)

Note. — *Tetraglenes insignis*, No. 75 of the foregoing list, is the only insect I have seen possessing four distinct and widely separated eyes. It is true that in *Tessaromma*, *Tetraopes*, *Astathes*, *Phæa*, *Eustathes*, and several other genera of *Cerambycites*; and again in *Chiasognathus* (*Tetraophthalma*, *Lesson*), and other genera of *Lucanites* and *Gyrinites*, each eye is apparently and perhaps really divided into two: but in all these instances a cause for this division is to be traced, and the normal integrity of the eye may always be imagined, and in many instances is demonstrable, by the existence of a sutural line connecting the separated portions. The normal form of eye in *Cerambycites* is reniform, the insertion of the antenna occupying the centre of its concave side; and in proportion as the antennæ are distant from each other at the base, so will each be forced farther across the superficies of the eye, until the connecting portion becomes a mere line, and at length ceases to exist. In the *Lucanites*, &c., a portion of the skull itself crosses the eye without much interfering with its real figure, for the two portions when thus divided appear to form parts of a single sphere. In *Tetraglenes* the case is different from both these examples, each eye being apparently independent of the other three, and there being no character or evidence by which we can refer the two on either side to a common origin: indeed, were the number of eyes in insects normally *four* instead of *two*, and were *two* the exception instead of the rule, it would be most difficult to show, by the intermediate structure in *Tetraopes* &c., the mode by which each pair of eyes in *Tetraglenes* become merged in the single reniform eye common to the *Lamiidæ*. The eyes of *Tetraglenes* must be described as four, two being circular, lateral, and very distant from the base of the antennæ, and two oblong and epicranial: all of them are small. Very similar to *Tetraglenes* is an undescribed American genus, for which I propose the name of *Spalacopsis*: it may be readily distinguished from all other *Lamiidæ*, by possessing the small circular lateral or check-eyes of *Tetraglenes*, and wanting the epicranial eyes peculiar to that genus: the antennæ are approximate and about as long as the body, and are porrected in parallel lines when the insect is at rest: the first joint is longer than the head of the insect, and is very obviously stouter than the rest; the remaining joints (after the second, which, as usual, is very short) gradually decrease in length, and are somewhat pilose: the shape of the head is nearly conical, the antennæ occupying the apex of the cone and the mouth its inferior basal angle: the insect is long and narrow, the head, protho-

rax and elytra being of nearly equal breadth; the apices of the elytra are slightly divaricating, each ending in an obtuse point: the legs are remarkably short, and the femora slightly incrassated. The only described Cerambycites which seem to approach the genera Tetraglenes and Spalacopsis are *Pachypeza* (*Serv.*) *pennicornis* (*Germar*), *Megace-ra macrocera* (*Serv.*), and *Hippopsis* (*Enc.*) *lemniscatus* (*Fab.*); but the eye in each of these three genera possesses the normal form. In the cabinet of the Entomological Club are three species of *Spalacopsis*, to the largest of these, which is from the interior of Brazil, I propose giving the name of *Spalacopsis Stellio*. Its antennæ are longer than the body, brown and very pilose; the first joint is quite as long as the head and prothorax together, and its basal rather more slender than its apical portion: the head and prothorax are punctured, mouse-coloured, with three indistinct longitudinal paler lines common to both; in the middle pale line of the head is a central furrow: the elytra are mottled, the colours being the same as those of the head and prothorax; each has four broad but indistinct and shallow furrows, these as well as the interstices between them are impressed with crowded punctures arranged in rows: the sides of the elytra are perfectly parallel, and they are throughout rather wider than the head and prothorax. The length is $\cdot 4$ inch, the breadth $\cdot 05$ inch. The second species—*Spalacopsis stolata*—is a native of East Florida, and was taken at St. John's Bluff in that State by Messrs. Doubleday and Foster. Its antennæ are shorter than the body, and furnished with a few scattered hairs; the basal joint is stout, cylindrical, of uniform substance and rather longer than the head: the entire insect is of a dull grey or ash colour, with a broad, brown, irregular, sutural vitta on the elytra; these at the base are of uniform breadth with the prothorax, but are gradually dilated beyond the middle; they are very ample, exceeding the abdomen in length and breadth; they are punctated, the punctures ranging in seven not very exact but crowded series. The length is $\cdot 35$ inch, the breadth $\cdot 049$ inch. The third species—*Spalacopsis suffusa*—has the antennæ and body of nearly equal length; the basal joint stout, cylindrical, of nearly uniform size throughout, and manifestly longer than the head: the colour is a pale grey, with scarcely any variety of shade: the elytra are strio-punctate, their base being of uniform width with the prothorax. The length is $\cdot 2$ inch, the breadth $\cdot 025$ inch. It inhabits Florida, and was taken in company with the last, of which it may possibly be a variety, the principal discrepancies being those of size and colour.

Genus.—SPALACOPSIS, *Newman*.

Antennæ corpore ferè longiores, basi approximatae, (*viventis* rectè porrectæ), 11-articulatae, articulo 1mo elongato, incrassato, cæteri breviores, pilosi: oculi laterales, parvi, rotundi, antennis distantes: caput, prothorax et elytra latitudine ferè æqualia, linearia: prothorax omninò inermis: pedes brevissimi; femoribus paullò tumidis.

1. *Spalacopsis Stellio*. Antennæ corpore paullò longiores, manifestò pilosæ, articulo 1mo capite cum prothorace ferè longiori, apice incrassato: elytra prothorace paullò latiora, strio-puncta: murina, colore saturatiori varia. (Corp. long. .4 unc. lat. .05 unc.) Inhabits Brazil.
2. *Spalacopsis stolata*. Antennæ corpore paullò breviores, vix pilosæ, articulo 1mo capite longiori, toto incrassato: elytra ampla; basi prothorace haud latiora: murina, vittâ elytrorum fuscâ valdè irregulari: elytra strio-puncta. (Corp. long. .35 unc. lat. .045 unc.) Inhabits E. Florida.
3. *Spalacopsis suffusa*. Antennæ corpore haud longiores, vix hirsutæ: cana, ferè concolor, cætera *S. stolatæ*. (Corp. long. .2 unc. lat. .025 unc.) Inhabits E. Florida.

EDWARD NEWMAN.

ART. LXXXI. — *Varieties*.

148. *Note on Adelotopus*. Antennæ almost quite glabrous: tarsi compressed, &c.: ergo Hydradephagous, and retaining the characters peculiarly adapted to a watery habitat, while deserting that medium. *E converso*, the most amphibious Carabideous genus Omophron, apparently more aquatic than Adelotopus, retains the terrestrial characters of pubescent antennæ and subcylindric tarsi (as well as the advanced mouth in a considerable degree).* *First and second ventral segments connate; second and third articulating?* This character should come first, but unluckily it is one not always to be satisfactorily ascertained without relaxing and dissecting the specimen. If my representation is correct, it differs both from Gyrinidæ and Dyticidæ: and in connexion with other points I estimate the difference as conclusive against the former family. With respect to the latter, the variable

* Quære, whether the proper habitat of the insect be ascertained? We meet with Dyticidæ and other aquatic insects under temporary shelter sufficiently remote from water. May not Adelotopus frequent the mud on banks of pools?

obliteration of the second incisure permits greater latitude, and in the present instance the apparent articulation may prove imperfect. The form of the head is Hydradephagous. The perfectly supine aspect of the eyes, the insertion of the antennæ in a completely inferior excavation, and the impressed mentum, give a resemblance to Gyrinidæ; but, judging from figures and not from actual inspection, the maxillæ are more those of Dyticidæ verging to the Carabideous form. The movement of the hind thighs in a lateral cavity of the postpectus and the truncate elytra also resemble Gyrinidæ; but the structure of mesosternum and position of middle legs are quite unlike that family, and agree better with Dyticidæ than Carabidæ, although the postpectus has less than typical development. The structure of præsternum and its relation to mesosternum are peculiar, departing from the ordinary Dyticideous types even as the insect departs from the aquatic habitat. The species seems to come very near that figured by Mr. Hope, but the greater enlargement of the femora and singularity of the hind trochanters give it a peculiar character. On the whole, my present impression is that it comes much nearer to Dyticidæ than to any other family, though differing from the other sections of that family more than they do among themselves; and secondly, that the aberrant tendency is towards Gyrinidæ and not Carabidæ.

Ventral segments 6: maxillæ with horny lobes, inner one ciliate

internally, &c. ∴ Adeptagous.

The basal ones connate, ∴ not Gyrinidæ.

Antennæ glabrous and tarsi (posterior) compressed, ∴ Hydradephagous.

It remains only provisionally to place it in ... ∴ Dyticidæ.

—*A. H. Haliday; Clifton, near Holywood, Aug. 20, 1841.*

[The above notes by Mr. Haliday occur in a letter from that gentleman in reply to an enquiry of mine as to his opinion of the affinities of the singular genus *Adelotopus*. Mr. Davis, of Adelaide, sent me several species of this and cognate genera, ticketed as having been found under the bark of Eucalypti. My own doubts as to the correctness of the situation assigned to *Adelotopus* induced me to make this enquiry, believing Mr. Haliday, of all living entomologists, to be the most capable of forming a just decision on the subject. The species appears to me identical with that described and figured by Mr. Hope in the 1st vol. of 'Transactions of the Entomological Society of London.' *E. N.*]

149. *Lasiocampa Rubi*. The larvæ of this moth have been very plentiful near Lavenham, but all attempts to rear the perfect insect from them have failed.—*W. Gaze; Lavenham, January 9, 1842.*

[Mr. H. Doubleday has been successful in rearing a large number of this moth from the caterpillar state: will he be kind enough to explain to the readers of 'The Entomologist' the method he has adopted?—*E. N.*]

150. *Papilio Machaon*. Three specimens of *Papilio Machaon* were taken during the past summer (1841) by different collectors.—*Id.*

151. *Capture of species of Peronea*. I have this year taken at Kensington Gardens, on the 9th of October, *Peronea bistriana* and a variety: at Coombe Wood, on the 10th, *P. albicostana*, *P. similana* and a variety: near Mickleham, between the 16th and 20th, *P. striana*, *P. vittana*, *P. umbrana*, *P. subcrisana*, *P. subvittana*, *P. cristana*, *P. fulvo-cristana*; and at the same locality on the 6th November, *P. divisana*, *P. autumnana*, *P. Byringerana*, *P. reticulana* and *P. latifasciana*.—*Alfred Lambert*; 6, *Trinity St., Southwark*, December 31, 1841.

152. *Larva of Orgyia gonostigma*. On the 6th of November I met with this larva alive, but in a semitorpid state.—*Id.* January 11, 1842.

153. *Captures in Dunham Park, near Manchester*. The following insects have been captured this month in the above locality.—*Phigalia pilosaria*, *Nyssia hispidaria*, *Cheimatobia vulgaris*, *Anisopteryx leucophearia*, and one beautiful specimen of the rare variety—*nigricans*; the wings and abdomen are of a glossy brownish black, head and thorax of the usual colour.—*R. S. Edleston*; 13, *Derby St., Cheetham, Manchester*, February 14, 1842.

154. *Note on Porcellio*. One species of *Porcellio* is very fond of nectarines, apricots and peaches. It runs very quickly, and vibrates its antennæ rapidly; its dorsal segments are pustulated, and are covered with a bluish-grey bloom; the tips of the caudal segments are orange, its antennæ are grey banded with white, it is pale beneath, its legs are white, and the hinder pairs are slightly tinged with grey.—*Francis Walker*; *Grove Cottage, Southgate*.

155. *Metamorphosis of Insects*. Among the metamorphoses of insects, that of the *Isomorpha*, which comprise the *Orthoptera*, *Hemiptera* and part of the *Neuroptera*, has most resemblance to the like change in *Myriapoda*. The *Isomorpha* having a more imperfect metamorphose than other insects, are inferior to them in the scale of creation, for the perfection of a creature consists in the number and importance of the changes it undergoes. The first change that takes place is the metamorphose or development of the head; next another radiating centre determines the structure of the thorax and of its appendages; and lastly, a new form is given to the abdomen and its organs: and in like order is the relative importance of each portion and of its functions, and of its manifestation of the character of the creature.—*Id.*

156. *Note on Acarus horridus*. In the report of the Entomological Society contained in your last No. (Entomol. 264) it is stated that

a person has succeeded in obtaining the *Acarus horridus*, *Turpin*, by means of the voltaic power, in the manner it is supposed Mr. Crosse obtained them; and another, it is also stated, has not succeeded in his experiment. I have not troubled you with any remarks upon the absurdity of expecting vitality from chemical action, even when assisted by the electro-galvanic fluid, but I have sent you the following observations (if you think them worthy of a place in 'The Entomologist'), stated by a lecturer, Dr. Warwick, about four years ago, when delivering a course of lectures upon Chemistry &c. in this town, as they tend very much to elucidate the confusion as to the source whence the Acari take their migration (not creation). Dr. W. stated that he received from Mr. Crosse, two perfect Acari and two germs, so called, but it appeared from the statement that they were larvæ undergoing their last ecdysis. On his return to Exeter, after receiving the above, his son mentioned the circumstance to a zealous entomologist of that city, whose name was mentioned but I have forgotten it. He desired to see them, and immediately they were shown to him he said, in a tone of the utmost surprize, — "Is this the mite that Mr. Crosse fancies he is creating by the power of galvanism! I know the *Acarus* very well, and I believe I have some of them at home at the present time. The fact most assuredly is, that Mr. Crosse has a nest of them in his house unknown to himself; and some of them having strayed to his apparatus, and remaining there subject to his inspection, have seduced him into the belief that he had created them." Dr. Warwick also stated that after that time up to the time of delivering the above lecture, he found them in the druggists' shops in every town he had visited on his lecturing tour. He also further stated that in his correspondence with Mr. Crosse he forwarded from Hereford to the latter gentleman a supply of the Acari that he had collected from some of the druggists's shops in that city, as a convincing proof of the fallacy of his supposed discovery. By the foregoing account the appearance or non-appearance of the Acari, as attendants of the galvanic experiments when they are repeated by any person, is easily as well as reasonably accounted for without proceeding to the wild far-fetched speculations of spontaneous generation.—*James Bladon; Pontypool, February 16, 1842.*

157. *Madame Merian and the Fire-flies.* Whilst upon the subject of controverted statements, how truly pleasing it is to observe the defence of poor Sybilla Merian in Taylor's 'Annals and Magazine of Natural History' this month, by Mr. Shuckard; and grateful ought every entomologist to be to him for the task he has undertaken, to res-

cue some of her statements from the undeserved obloquy they have so long lain under. The authorities he adduces in her defence will put the question finally at rest, even without the parallel case, or nearly so, observed by one of her chief opponents. Whether her observations on the luminosity of the Fulgora will be verified is yet uncertain; there is only the same sort of negative evidence against that statement that there is against the bird-destroying propensities of the Mygale. Dr. Cantor, who is now in China, and has the opportunity of examining them in their native habitats, does not venture to decide against them, but suggests that the luminosity may be only apparent at particular periods or seasons; but should the non-luminosity of the Chinese species even be proved, it will not settle the question of Fulgora laternaria's beaming splendour in the wide open plains of the western hemisphere.—*Id.*

158. *Captures of Lepidoptera on Sallows.* The following is a list of my captures of Lepidoptera from the 25th to the 31st of March. With the exception of *Ceropacha flavicornis*, all were taken from the flowers of willow at West Wickham Wood and Dulwich Wood. I had hoped to have sent you a longer list, but the cold wind since the 1st inst. has prevented any but *Orthosia cruda* and *stabilis* from making their appearance. These two species are most hardy: I found them feeding during showers of sleet, when no other moth was to be seen. On favourable evenings the Noctuæ that visit the willows begin to fly about half an hour after sunset; they wheel rapidly about the trees, as if selecting a blossom, and then settle. If at this time a light be directed towards them, they immediately fly off, but in a quarter of an hour they remain, and are taken with the forceps most easily until half-past 8 or 9, after which few are to be found. My attention, and I doubt not that of others, has been directed to the examination of the willows this spring, by Mr. H. Doubleday's communication of his discovery of their being frequented by moths. I think the thanks of entomologists are due to him for his liberality in publishing it, and I here tender him mine.

<i>Ceropacha flavicornis</i> , one	<i>Orthosia stabilis</i> , abundant	<i>Semiophora gothica</i> , abndt.
<i>Calocampa exoleta</i> , one	<i>sparsa</i> , one	<i>Achatia piniperda</i> , one, W.
<i>Glæa Vaccinii</i> , abundant	<i>munda</i> , seven	Wickham
<i>rubricosa</i> , two	<i>miniosa</i> , ten	<i>Xanthia croceago</i> , ten
<i>Orthosia cruda</i> , abundant	<i>instabilis</i> , two	

I also found two larvæ of Noctuæ, apparently different, feeding on the flowers of the willow, which I hope to rear.—*J. W. Douglas*; 4, *Waterloo Place, Coburg Road, Kent Road, April 9, 1842.*

159. *Notes on captures of Lepidoptera.* Mr. Douglas, no doubt, will inform you of our various captures off the sallow-blossom. I have only to trouble you with an idea which probably did not suggest itself to him. Out of the hundreds of *Glæa Vaccinii* we have seen, not one of sub-nigra has been discovered; this, I think, will corroborate Mr. H. Doubleday's view of its being a distinct species. I captured at Penge the latter end of March, a fine pair of *Epigraphia avellanella*; in Wood's Catalogue this is marked as an autumn insect, mine, however, were but just out. I always considered the female of this insect to be apterous or partly so, such is not the case. I have this morning bred a fine female of *Geometra illustraria*: the larva was taken small at Birch Wood the middle of August last. — *Alfred Lambert*; 6, *Trinity St.*, April 7, 1842.

160. *Note on Ceratognathus, &c.* I am obliged to you for pointing out (Entomol. 236) the error into which I had unintentionally fallen respecting the maxillæ of some of the Lucanidæ: the word *Ceratognathus* first used should be *Xiphodontus*, which agrees with *Nigidius* in both sexes having the hooked mando: *Ceratognathus* agrees with *Ceruchus*, &c.—*J. O. Westwood*; *Hammersmith*, March 1, 1842.

161. *Library of the late M. Audouin.* Be so good as to mention in the next *Entomologist* that the sale of the late M. Audouin's fine library will take place at the *Jardin des Plantes* next month [May], commencing on the 10th and terminating on the 25th; and that Catalogues may be seen at the *Linnean*, *Zoological* and *Entomological Societies*.—*Id.* April 18, 1842.

162. *The tradition of the Pigmies is owing to the Ants.* In *Corrientes* and *Paraguay* whole plains are said to be covered with their buildings of dome-like and conical forms, rising five and six feet or more in height, and formed of a cement hard as a rock, and impervious to the wet. At *Santa Fé* the people catch them and eat them: they fry them into a sort of paste or omelette, or, mixed up with sugar, make sweetmeats of them. When stores are surrounded by water they will throw straws and sticks into the water, and so make themselves bridges to cross by. *Guevara*, in his account of *Paraguay*, speaks of a species found about *Villa Rica*, which deposits upon certain plants small globules of white wax, which the inhabitants collect to make candles of. In those regions where these insects most abound, an all-wise Providence has also placed a most remarkable animal, — formed, as it would appear, expressly for the purpose of destroying them, and preventing their overrunning the land, — the *tamandua*, or ant-bear.—*Sir Woodbine Parish on the Provinces of La Plata.*

163. *Locusts* are only occasional visitors, but when they do come they lay the land utterly desolate. A swarm was succeeded in a few days by a flight of small black beetles, which came down like hail : they were about the size of an earwig, and were said to have the same habits.—*Id.*

164. *The Seda sylvestre*, a sort of wild silk left in the woods by a certain caterpillar, is found abundantly on the banks of the Puranna, and would constitute a valuable export. Very good cochineal may be gathered in Tucuman, besides a great quantity of bees' wax. A few years ago notice was taken of a new mode of dying a green colour from a production called by the Spaniards *clavillo*, from its resemblance to a little nail. Some persons consider it to be produced by an insect smaller than the cochineal ; others believe it to be the insect itself. Hitherto it has only been gathered in Cargrueja, and the point is found introduced into the bark of a shrub.

165. *Entomological Society, February 7, 1842.* Various donations from the Royal Agricultural Society, the Royal Academy of Brussels, Professor Pictet, Dr. Schaum and others, were announced. The President stated that in consequence of the resignation of one of the members of the Council, the Council had proposed to replace the Rev. F. W. Hope in his stead. The President nominated Messrs. Hope, Newport, and J. F. Stephens to be the Vice-Presidents for the ensuing year. Mr. Westwood exhibited two apparently new and beautiful Noctuidæ from the neighbourhood of Carlisle, from the collection of J. Reeves, Esq. Memoirs were read upon some new Australian genera of Chrysomelidæ, by W. W. Saunders, Esq. ; upon some new species of Longicornes and Curculionidæ from the Philippine Islands, by G. R. Waterhouse, Esq. ; and upon Campodea Staphylinus, a new British genus of apterous insects, by J. O. Westwood. A series of notes on the habits of the insects of Chusan and the neighbouring islands, by Dr. Cantor, was also presented : and the Secretary stated that Mr. Weaver proposed to make an entomological excursion to the north of Scotland, in the ensuing summer, and was anxious to obtain subscribers for his captures.—*J. O. W.*

166. *Entomological Society, March 7, 1842.* W. W. Saunders, Esq., F.L.S., President, in the chair. Mr. Boreham exhibited some curious varieties of Hipparchia Janira, Mr. S. Stevens a number of minute Coleoptera found in moss, from the neighbourhood of Arundel, and Mr. Hope a specimen of a new and very strong kind of silk furnished by Mr. Strachan. Mr. Hope also read a letter recently received from Mr. Fortnum, containing numerous interesting particulars

relative to the Entomology of South Australia : he also communicated a memoir on the Coleoptera of China, with descriptions of numerous new species sent home by Dr. Cantor from the Chinese expedition to the Museum of the East India Company. A paper by the President was read, containing descriptions of some additional species of Australian Chrysomelidæ, allied to *Cryptocephalus*. Mr. Westwood exhibited specimens of *Uropoda vegetans*, which had been observed by a correspondent by thousands on the surface of the ground in a cucumber-frame, as well as upon the plants ; numbers of them had also fixed themselves on a beetle which had been introduced into the frame. He likewise read descriptions of some new genera belonging to the family of the sacred beetles. A memoir on the genus *Hylæus*, with descriptions of several undescribed British species, by Mr. F. Smith ; and some notes by G. H. K. Thwaites, Esq. on the economy of the same genus, were also read.—*J. O. W.*

167. *Entomological Society, April 4, 1842.* W. W. Saunders, Esq., F.L.S., President, in the chair. Mr. Westwood exhibited three new Australian species of *Rhipicera*, and the unique specimen of *Goliathus Delessertii* from the collection of M. Guérin-Meneville. The following memoirs were read. Descriptions of Australian Chrysomelidæ, continued, by the President. Description of an instrument for capturing insects by lamp-light, by Mr. Stevenson. Description of a new species of *Julus*, from Sandwich, Kent, by Mr. Newport. Note on Entozoa found in the large veins of the liver of the human subject, by Mr. Pettigrew. Description of a new exotic genus of lamellicorn Coleoptera allied to *Pachypus*, by Mr. Westwood. Notes on *Nyssia Zonaria*, by Mr. Gregson. Notes on the parasitic habits of the genus *Nomada*, by Mr. F. Smith.—*J. O. W.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XX.

JUNE, MDCCCXLII.

PRICE 6D.

ART. LXXXII.—*Analytical Notice of the 'Transactions of the Entomological Society of London,' vol. iii. part 1, with 6 plates.* London: Longman. 1841.

(Continued from page 275).

2. *Observations upon the Hemipterous Insects composing the Genus Syrtis of Fabricius, or the Family Phymatites of Laporte, with a Monograph of the Genus Macrocephalus.* By J. O. WESTWOOD.

AFTER some preliminary observations the author proceeds to describe a new species of Phymata.

Phymata integra. Pale whitish yellow: prothorax lengthened and anteriorly attenuated, its lateral margins nearly straight; the head is not bifid. Length $5\frac{1}{2}$ lines. Habitat unknown: the specimen is in the British Museum. (Trans. Ent. Soc. iii. 22).

The author then describes the following species of the genus *Macrocephalus*.

1. *Macrocephalus cimicoides*, Swederus, Act. Holm. 1787, p. 185, pl. 8, fig. 1. (Id. tab. 2, fig. 5 and 5 a).

2. *Macrocephalus notatus.* Pale fuscous, thickly punctured, head and antennæ obscurely fuscous: prothorax anteriorly reddish: head laterally reddish: legs dull yellow: scutellum with a large basal and two sub-apical oblong whitish spots. Length $3\frac{3}{4}$ lines. Colombia: in the Royal Museum at Paris. (Id. 24).

3. *Macrocephalus tuberosus.* Prothorax and scutellum somewhat granulate: fuscous, with the head and anterior part of the prothorax ochraceous: antennæ and eyes yellowish white: scutellum with an ovate hastate spot extending from the base to beyond the middle and two obscure basal lines. Length $4\frac{1}{2}$ lines. Brazil: in the Royal Berlin Museum. (Id. 24).

4. *Macrocephalus obscurus.* Pale yellowish grey: head, antennæ, and prothorax anteriorly, dull yellowish: scutellum rather darker at base, an ovate spot extending half its length, and a slender elevated line running to the apex. Length $3\frac{1}{2}$ lines. South America: in the Royal Museum at Paris. (Id. 24).

5. *Macrocephalus pulchellus*. Ochraceous; the disk of the head and prothorax fuscous, the latter with a slender pale margin and two oval oblique pale spots, its posterior part scarcely elevated: the antennæ and legs ochraceous: scutellum black, spotted and fasciated with white. Length $2\frac{1}{4}$ lines. Cuba: in the Royal Berlin Museum. (Id. 25).

6. *Macrocephalus leucographus*. Body dull yellow; head above black; antennæ brown: prothorax and scutellum varied with white spots: the uncovered sides of the abdomen fulvous, with black rings. Length $3\frac{1}{4}$ lines. Island of Hayti: in the Royal Berlin Museum.— (Id. 25).

7. *Macrocephalus crassimanus*. *Syrtis crassimana*, Fabricius, Syst. Rhynch. p. 123, No. 9.

8. *Macrocephalus affinis*, Guérin, Icon. R. An. Ins. tab. 56, fig. 10.

9. *Macrocephalus prehensilis*. *Syrtis prehensilis*, Fabricius, Syst. Rhynch. p. 123, No. 8.

10. *Macrocephalus pallidus*. Pale ochraceous: scutellum yellowish, punctate, with a smooth, slender, dorsal line: sides of prothorax slightly notched, its posterior angles produced: the incrassated portion of the fore wings luteous. Length $2\frac{2}{3}$ lines. Georgia: in the author's cabinet. (Id. 27).

11. *Macrocephalus macilentus*. Long, narrow, punctate, and beset with small white scales: head and antennæ fuscous: prothorax anteriorly luteo-fulvous, the hinder part slightly elevated and fuscous, the posterior angles prominent and acute: scutellum fuscous, ferruginous at the base. Length $3\frac{3}{4}$ lines. Colombia: in the Royal Museum at Paris. (Id. 27, tab. ii. fig. 6).

12. *Macrocephalus (Hemithyreus) cylindricornis*. Pale reddish yellow, punctured: legs rather paler: membranous portion of fore wings transparent: prothorax scarcely elevated posteriorly; its posterior angles slightly prominent and acute. Length $5\frac{1}{2}$ lines. Its habitat unknown: in the Royal Museum at Paris. (Id. 28, tab. ii. fig. 7):

The author also describes a new subgenus, which he names *Oxythyreus*, from the acute apex of the scutellum. No species mentioned.

3. *Description of a New Sub-genus of Exotic Hemipterous Insects*. By J. O. WESTWOOD.

Amblythyreus. Body flattened and much dilated at the sides: head oblong, narrow, bifid; ocelli 2; antennæ 4-jointed, the 1st joint moderately thick, 2nd and 3rd very small, 4th large, oval: prothorax

slightly elevated behind, much dilated, the hinder angles porrected and acute: scutellum reaching the middle of the abdomen, flat, rounded at the apex: abdomen flattened, rhombiform, twice as wide as prothorax, its sides not covered by the elytra: fore legs raptorial, longer than in *Macrocephalus*; middle and hind legs short and simple.

1. *Macrocephalus (Amblythyreus) rhombiventris*. Bright fulvous yellow, opaque, smooth, with the posterior part of head and prothorax blackish: abdomen in the middle under the wings rufescent; beneath and the legs fulvo-luteous. Length 6 lines. Habitat unknown: in the cabinet of the Linnean Society. (Id. 30, tab. ii. fig. 7).

2. *Macrocephalus (Amblythyreus) quadratus*. Pale luteo-fulvous, punctate: head and 3 basal joints of antennæ more brown: lateral angles of prothorax acutely produced, fuscous, posterior margin obscure: abdomen narrow, quadrate, the lateral angles obscure. Length 5 lines, breadth 3 lines. East Indies: in the author's cabinet. (Id. 31).

3. *Macrocephalus (Amblythyreus) angustus*. Black: prothorax and abdomen rather narrow, lateral margins of the former fulvous, its disk posteriorly reddish: abdomen fulvous, with a black median fascia: scutellum rather narrow. Length 5 lines, breadth $2\frac{1}{2}$ lines. Habitat unknown: in the cabinet of the British Museum. (Id. 31).

4. *A Descriptive List of the Species of Popillia in the Cabinet of The Rev. F. W. Hope, M.A., with one description added from a specimen in the British Museum.*
By EDWARD NEWMAN.

1. *Popillia Regina*. Bright golden green, glabrous: antennæ black: elytra deeply striated, the sides impressed in the middle, the striæ punctured, the 1st, 2nd, 3rd, 4th and 7th entire, the rest interrupted: the mesosternum anteriorly produced and curved. Length .7 inch, breadth .4 inch. From the Nielghery Mountains in the East Indies. (Id. 35).

2. *Popillia dorsigera*. Nigro-æneous, the elytra having a transverse median fulvous fascia: terminal segment of abdomen above brown, and marked with 2 white pilose spots: elytra striated, the striæ punctate, and, with the exception of the 1st, abbreviated. Length .75 inch, breadth .4 inch. Africa: in the British Museum. (Id. 36).

3. *Popillia brunnea*. Black, with the clypeus, antennæ, elytra and legs castaneous, the metatarsi pitchy black: the terminal segment marked with 2 conspicuous white pilose spots: elytra puncto-striate, the 1st, 2nd and 4th striæ nearly perfect. Length .65 inch, breadth .4 inch. Africa. (Id. 37).

4. *Popillia Æneas*. Olive, with the antennæ and legs brown, the metatarsi pitchy black: the terminal segment with 2 white pilose spots: the sculpture of elytra as in *P. brunnea*. Length '65 inch, breadth '375 inch. Africa. (Id. 37).

5. *Popillia rufipes*. *Cetonia rufipes*, Fabricius, Syst. Eleu. ii. 139. The author suggests that the two preceding species may possibly be varieties of this. (Id. 37).

6. *Popillia bipunctata*. *Trichius bipunctatus*, Fabricius, Syst. Eleu. ii. 132. (Tab. iii. fig. 1).

7. *Popillia olea*. Olive, varying with varied position: antennæ and elytra testaceous with a metallic lustre: legs testaceous, with a coppery metallic lustre: terminal segment marked with 2 white pilose spots: elytra puncto-striate, 2nd and 10th striæ abbreviated. Length '5 inch, breadth '3 inch. Africa. (Id. 38).

8. *Popillia mutans*. Castaneous, with a changeable metallic lustre: the antennæ and legs concolorous: the elytra puncto-striate, each with a deep impression near the suture. Length '45 inch, breadth '375 inch. East Indies. (Id. 39).

9. *Popillia Chlorion*. Dull green, shining: antennæ pitchy black: legs blue black: terminal segment with 2 white pilose spots: elytra striate, each with a deep impression near the suture. Length '4 inch breadth '25 inch. Madras. (Id. 39).

10. *Popillia cyanea*. Bright steely blue, with legs of the same colour: antennæ black: elytra puncto-striate, each with a deep impression near the centre. Length '4 inch, breadth '25 inch. East Indies. (Id. 39).

EDWARD NEWMAN.

(To be continued.)

ART. LXXXIII.—*Observations on Species and Varieties.*

By WILLIAM BENTLEY, Esq.

It must be acknowledged that when the varieties in this genus were first named and described by the author of 'Lepidoptera Britannica,' many of them were comparatively rare, and in some cases only unique specimens were known. With such limited information it is not in the least surprising that they should have been considered distinct species.

The case is now very different; Lepidoptera has become the favor-

ite order, and we have scientific observers and collectors in almost every county; and by newly devised means vast numbers of Lepidopterous insects are annually captured, thus affording facilities for determining species and varieties.

* *Thorax broad and body stout.*

Caradrina ambigua, redacta, Alsines, implexa, laevis, sordida.—These varieties are taken in woods, about field-hedges and gardens.

Var. 1. Anterior wings fuscous, with two stigmata, and a transverse row of black dots behind the posterior stigma, and a faint striga near the posterior margin; posterior wings ashy.

Var. 2. Anterior wings deep fuscous, with one obsolete transverse striga near the posterior margin, stigmata indistinct; posterior wings dusky.

Var. 3. *ambigua*. Anterior wings ashy brown, with three darker transverse strigæ, the first between the stigmata, the second behind the posterior stigma composed of black dots, the third undulated near the posterior margin, stigmata distinct, with slender pale margins; posterior wings ashy, with dusky margins.

Var. 4. *redacta*. Similar to the last in colour but smaller, stigmata and markings more indistinct.

Var. 5. *Alsines*. Anterior wings fuscous with two transverse strigæ, posterior stigma large and distinctly margined with white.

Var. 6. Anterior wings of a rusty yellowish hue, with five transverse fuscous strigæ, two before the anterior stigma, the third between the stigmata, the fourth composed of black dots, the fifth undulated, the posterior margin distinctly dotted with black; posterior wings ashy tinged with yellow.

Var. 7. Similar to the last in colour, with two large fuscous spots in place of stigmata, with a strong fuscous line extending from the posterior spot to the inner margin.

Var. 8. *implexa*. Anterior wings rusty or yellowish, with four fuscous transverse strigæ, the posterior striga rather more undulated.

This and the two preceding varieties are in the collection of Geo. Robertson, Esq., who has kindly sent me a fine series of these insects for examination

Var. 9. *laevis*. Similar to var. 5, except in the stigma, which is scarcely visible.

Var. 10. *sordida*. Rusty or reddish, with two transverse fuscous strigæ approximating towards the inner margin, posterior margin dot-

ted with black. I took this specimen many years since in a little wood at Highgate; it was examined and named by the late Mr. Haworth.

These varieties do not differ in the least in any one essential specific character, either in antennæ, palpi, tibiæ or tarsi; their only difference is in the number of the transverse strigæ, and the colour of the wings varying from deep fuscous to a rusty yellowish hue. They constitute but a single species.

** *Body slender.*

Caradrina Sepii and *Morpheus*. The anterior wings of *Sepii* are usually griseous clouded with fuscous, stigmata composed of fuscous spots, behind the posterior is a dusky fascia; some specimens are darker, clouded and spotted with deep fuscous or black, these are generally called *Morpheus*. I have lately examined two specimens in the British Museum named *Morpheus*: these have the anterior wings flavescent ash, with the stigmata and posterior fascia of a deeper hue; probably age has caused their flavescent appearance, they are only slight varieties of *Sepii*.

Caradrina cubicularis and *superstes*. The large and dark varieties are generally named in British collections *superstes*; * all that I have seen are mere varieties of *cubicularis*.

Caradrina glareosa. Of this distinct species I have never seen a variety.

W. BENTLEY.

3, Critchell Place, New North Road,
May 5th, 1842.

ART. LXXXIV.—*Cerambyciturum Insularum Manillarum D. Cuming captorum enumeratio digesta.* Auctore EDWARD NEWMAN.

(Conclusio. Vide p. 305).

85. (*Isosceles*) *macilentæ*. Genus novum? Caput pronum, prothorace plerumquè latius; facies convexa; mandibulæ parvæ, palpis manifestò breviores; oculi arcuati, antennarum basin ferè amplexi; antennæ basi distantes, corpore plerumquè breviores, subpilosæ, 11-articulatæ, articulis longitudine pedetentim decrescentibus: prothorax ferè cylindræus, lateribus rectus, inermis: elytra dorso complanata, prothorace paullò latiora,

* I know nothing about the continental species called *superstes*; my remarks are only applicable to those so named in British collections.

longa, linearia, lateribus recta, apice obliquè truncata: pedes pro corporis magnitudine parvi, brevissimi, æquales, mesotibiæ extùs quasi emarginatæ: insecta linearia, macilenta, cylindracea.

Isos. macilenta. Nigra, prothorace rufo: antennæ corpore vix breviores, pilosæ; oculi prominentes; caput prothorace manifestò latius: elytra asperè puncta, punctis magnis, profundis, lineatim dispositis; apice obliquè truncata, angulis acutè productis: pedes brevissimi: insectum gracillimum. (Corp. long. .625 unc. lat. .065 unc.)

86. (*Isosceles*) *seminigra.* *Oberea (saperda) seminigra*, Chevrolat. Revue Zoologique, 1841, p. 228.

87. (*Isosceles*) *demissa.* Facies gibba, faciei epicraniique sulcus manifestus longitudinalis continuus; oculi prominentes, nigri; antennæ nigrae, articulo basali fulvo; caput fulvum: prothorax fulvus, lineâ dorsali, longitudinali, subelevatâ, concolori: scutellum fulvum: elytra nigra, basi sordidè fulva, perlonga, dorso longitudinalitèr depressa, asperè puncta, punctis vix ordinatis, apice subrotunda, intùs obliquè truncata, angulo truncaturæ externo paullò producto: abdomen nigrum, basi aureo-villosum: pedes breves, fulvi, metatibiis nigris, tarsis piceis. (Corp. long. .725 unc. lat. .15 unc.)

88. *Saperda ustulata*, Erichson, Nov. Act. Acad. xvi. Supp. 270. *Saperda analis*? Fab. Syst. Eleu. ii. 325. "Africa." Annon patriæ error?

89. *Saperda albonotata.* *Colobothea leucospilota*, Westwood, Arc. Ent. 57, tab. xv. fig. 2. *Colobothea albonotata*, Id. ined.

90. *Homonœa patrona.* Genus novum. *Homonœa* generi *Tmesisternus* celeberrimi Latreillii affinis, et ejusdem generis ni fallor species nonnullas includens: caput pronum, vix ad perpendicularium exactum, longitudinalitèr sulcatum, prothorace paullò angustius; labrum manifestum; palpi subacuti; facies lata; antennæ basi distantes, corpore haud longiores, pro corporis magnitudine graciles, subpilosæ, 11-articulatæ, articulus 1mus mediocris, tumidus, paullò scaber, 2dus brevissimus, 3tius 1mo duplò longior, paullò curvatus; oculi magnitudine mediocres, ad antennarum basin ferè divisi: prothorax dorso complanatus, capitem versus paullò angustatus, margine antico incurvato, indentem obtusum parvum utrinquè plerumquè producto; lateribus subdilatus, sinuatus, indentem medianum obtusum utrinquè productus: elytra basi prothorace latiora, longa, apicem versus pedetentim attenuata: femora haud tumida: propedes

præsertim *maris* cæteris plerumquè longiores; protibiæ exteriùs curvatæ; mesotibiæ apicem versus quasi emarginatæ, subpilosæ: mesosternum nunc integrum nunc manifestò emarginatum, characteres genericos malè præbet. *Homonœa patrona*. Undiquè puncta, punctis manifestis sparsis; prothorax margine antico lateralitèr manifestò denticulatus; elytrorum carinæ 7 sive longitudinales indistinctæ; apices angustati, quasi truncati, truncaturâ pilosâ, obtusâ, nullo modo angulatâ: lanuginosa, fuscescens, capitis, prothoracis elytrorumque basis lineis binis ferè continuis, in epicranio ad oculos incipient satis approximatae, in prothorace continuant distantiores, in elytra cessant paullò post basin; utriusque elytri maculis 3 ferè suturalibus albidis, 1mâ oblongâ ante medium sitâ, 2dâ pone medium ferè rotundâ, 3tiâ præcedentibus minor, ante apicem sitâ; series quoque macularum albidarum marginem utrinquè lateralem ornat: corpus et femora ferè glabra, fusco-picea, maculis strigisque numerosis cinereo-lanuginosis: propedes prolongati, tibiis exteriùs curvatis. (Corp. long. 1·3 unc. lat. ·35 unc.)

91. *Homonœa longimana*. *Urocalymma longimana*, Westwood, Arc. Ent. 58, tab. xv. fig. 3, 3. ♀ ♂ *
92. *Homonœa præcisa*. Undiquè puncta, punctis magnis crebris: prothorax margine antico lateralitèr manifestò denticulatus: elytra carinis 6 vel 7 manifestis, apice obliquè truncata, angulo externo acuto, fulvescenti-fusca lanuginosa, lanugine maculatim dispositâ: abdomen subtùs et femora fusco-picea, maculis numerosis lanuginosis albidis. (Corp. long. 1 unc. lat. ·3 unc.)
93. *Homonœa pannosa*. Caput et prothorax puncta, punctis magnis sparsis: prothorax margine antico lateralitèr manifestò denticulatus: elytra puncta, punctis vix distinctis, longitudinalitèr quodammodò ordinatis, indistinctè striata, apice obliquè truncata, angulo externo vix producto vix acuto, cinereo-fusca, lanuginosa, elytri utriusque macula difformis ante apicem magna, densè lanuginosa: subtùs lanuginosa, maculis numerosis minutis glabris; segmenta abdominis 3 maculâ longitudinali glabrâ quoque signata. (Corp. long. ·8 unc. lat. ·25 unc.)
94. *Homonœa bilinea*. Antennæ læsæ, corpore longiores? facies vix verticalis; caput asperè ac pravè punctum, longitudinalitèr pro-

* I exceedingly regret being compelled to give Mr. Westwood's new name as a synonyme, but he has so restricted his generic description that it applies to one only of these insects, although less distinct from the remainder than these from each other.

fundè ac latè sulcatum: prothorax dorso complanatus, anticè angustatus, lateribus dentibus binis medianis armatus, glaber, profundè at pravè punctus; sterno posticè productus, in mesosterni incisuram receptus: * elytra paullò complanata, basi prothorace latiora, apicem versus pedetentim angustata, obsolete carinata, undiquè puncta, punctis profundis, haud ordinatis, apice truncata, truncaturâ concavâ angulis vix productis: fusca, lineis 2 albidis capiti, prothoraci elytrisque communibus. (Corp. long. .8 unc. lat. .275 unc.)

95. *Homonœa fornicata*. Structura ac sculptura ferè præcedentis, at elytra minùs complanata, convexiora: lanuginosa, fulvo-fusca; capitis prothoracisque lineæ 2 longitudinales albidæ: sternum præcedentis: elytri utriusque maculæ lanuginosæ, dorsales, albidæ 3, 1ma basalis, ferè humeralis, difformis; 2da mediana, parva, elongata, ferè suturalis; 3tia pone medium, parva, ferè marginalis; maculæque nonnullæ minutæ submarginales. (Corp. long. .8 unc. lat. .225 unc.)

96. *Homonœa aliena*. Antennæ corpore breviores; caput punctum, punctis profundis, sparsis: prothorax capite paullò latior, lateribus dentibus binis medianis valdè approximatis armatus, dorso posticè paullò depressus, glaber, punctus, punctis sparsis; sternum 2 præcedentium: elytra basi prothorace paullò latiora, apicem versus vix angustata, dorso vix complanata, apice rotundata, pravè puncta: fusca, paullò lanuginosa; utriusque elytri maculæ 2 laterales lanuginosæ albidæ, 1ma major, undata, ante medium sita, 2da minor, curvata, pone medium sita. (Corp. long. .55 unc. lat. .18 unc.)

97. (*Ichthyodes*) *biguttula*. Genus novum? Generi præcedenti simillima. Antennæ valdè graciles, *maris* corpore manifestò longiores, *feminæ* paullò breviores; caput pronum, punctum, longitudinalitèr sulcatum: prothorax ferè cylindræus, latitudine manifestò longior, anticè paullò angustior, lateribus rectus, nullo modo armatus, punctus, sterno posticè productus, in mesosterni incisuram receptus: elytra prothorace vix latiora, ferè parallela, apice valdè obliquè truncata, angulo externo producto: pedes breves, femoribus tumidis, tibiis brevissimis, mesotibiis extùs apicem versus emarginatis, hirsutis. *Ichthyodes biguttula*. Fusco-picea, lanugine cinereâ vestita; elytri utriusque macula parva mediana guttiformis albida: abdomen et femora

* The genus *Tmesisternus* of Latreille has this character.

cinereo-lanuginosa, maculis numerosis minutis rotundis, glabris. (Corp. long. .6—'8 unc. lat. .15—'2 unc.)

98. (*Demodes*) *immunda*. Genus novum? Caput pronum, longitudinalitèr sulcatum; palporum articulus ultimus elongatus, apice acutissimus; oculi ad antennarum basin ferè divisi; antennæ læsæ, corpore paullò longiores, hirtæ, articulus 1mus capite manifestò longior, paullò incrassatus, 2us 1mo paullò longior, manifestò gracilior, 4tus 3tio brevior: prothorax dorso complanatus, lateribus rotundatus, capite paullò latior: elytra prothorace paullò latiora, dorso paullò complanata, apicem versus subangustata, apice obtusa: pedes majores, femoribus validis, haud apice tumidis, mesotibiis extùs hirsutis, vix manifestò emarginatis, protarsis dilatatis. *Demo. immunda*. Picea, puncta, lanugine fulvâ passim obsita: scutellum glaberrimum. (Corp. long. .7 unc. lat. .23 unc.)

ADDENDA.

Family.—CERAMBYCIDÆ.

99. vel 23^a. (*Ceresium*) *raripilum*. Genus novum? Caput porrectum, anticè prolongatum, angustum; palpi mandibulis longiores, articulo apicali trigono; oculi magni; antennæ graciles, corpore longiores, articulo 4to sequentibus breviori; prothorax ferè cylindræus, capite manifestò longior, lateribus vix rotundatus: elytra prothorace latiora, parallela, apice rotundata: pedes mediocres, femoribus tumescentibus. *Ceres. raripilum*.—Nigrum, scabrè punctum, pilis longis sparsis undiquè obsitum: scutellum albido-tomentosum. (Corp. long. .45 unc. lat. .08 unc.)

Obs.—Huic generi addantur *Ceresium immite*, Obrium *immite* hujus enumerationis, No. 22; *Ceresium Æthiops*, Obrium *Æthiops* h. e. No. 23; et forsàn *Callidium intortum* et *Call. vile*, Entom. 223.

Family.—LAMIIDÆ.

100. vel 45^a. *Mimomorpha Clytiformis*. Genus novum? Caput pronum, longitudinalitèr sulcatum; antennæ læsæ, hirtæ, corpore longiores? articulus 1mus paullò incrassatus, longus, 3tius 1mo vix longior, 4tus 3tio haud brevior: oculi ad antennarum basin profundè emarginati: palpi longi, articulo ultimo tumido, apice truncato: prothorax capite paullò latior, dorso convexus, lateribus dente parvo acuto armatus: elytra prothorace paullò latiora, apice rotundata, utriusque carina ferè obsoleta prope suturam: pedes mediocres; femoribus extùs tumidis, mesotibiis extùs

hirsutis, vix emarginatis. *Mim. Clytiformis*. Prothorax et elytrorum basis asperè puncta: nigra; scutello, elytrorum suturà prope scutellum, fasciis 2 pravis apiceque cinereis; corpore subtus cinereo lanuginoso. (Corp. long. .4 unc. lat. .125 unc.)

101. vel 48^a. (*Abryna*) *comosa*. Antennæ corpore breviores, subfuscae, graciles, basi distantes; oculi ad antennarum basin divisi; facies densè comosa, obscurè ochracea; epicranium ochraceo fuscoque varium: prothorax capite latior, lateribus ferè rectus, dentibus 2 anticis armatus, quarum antica minuta, margine ipso sita, fusco-cinereus, margine postico rectus: elytra prothorace latiora, basi subpustulosa, apice rotundata, cinerea, apicem versus strigis nonnullis obliquis fuscis ornata: pedes mediocres, propedes cæteris longiores fortiores; femoribus tumidis; mesotibiis vix emarginatis. (Corp. long. .45 unc. lat. .2 unc.)
102. vel 54^a. *Mesosa*? *bigibbera*. Vix propriè hujus generis. Tota lanuginosa: antennæ corpore paullò breviores, cinerei; articulus 3tius omninò, cæteri apice fusci; caput cinereum, longitudinalitèr sulcatum; labrum densè hirsutum; oculi fusci, ad antennarum basin ferè divisi: prothorax ferè quadratus, ante medium paullò tumidus, cinereo cervinoque varius: elytra prothorace manifestò latiora, dorso valdè convexa, apice rotundata, apicibus paullò recurvis; utriusque elytri cristà discoidali prope basin elevatà carinisque 2 longitudinalibus; basin versus scabra, cinereo, cervino, umbrino nigroque pulcherrimè varia: pedes mediocres, cinerei. (Corp. long. .5 unc. lat. .23 unc.)
103. vel 62^a. *Hispomorpha horrida*. Genus novum. Generi *Hispa* simillima. Caput pronum, in prothorace ferè reconditum; antennæ corpore manifestò breviores, basi haud distantes, 11-articulatæ; articulus 1mus magnus, suprà paullò complanatus, 2dus brevis, ovatus, 3tius gracilis, elongatus, 4tus elongatus at 3tio paullò brevior, cæteri brevissimi; oculi parvi, reniformes: prothorax ferè quadratus, dorso convexus, capite paullò latior: elytra ampla, prothorace valdè latiora, apice truncata, angulis obtusis: pedes mediocres, femoribus paullò tumidis; mesotibiis manifestò emarginatis. *Hisp. horrida*. Cinerea, undiquè puncta, punctis crebris, profundis: prothorax dorso tuberibus binis auctus: elytra tuberibus elevatis scabris serratis horrida: antennarum articuli apice fusci, tibiæ extùs medio fuscae. (Corp. long. .25 unc. lat. .1 unc.)
104. vel 56^a. *Planodes quaternaria*. Genus novum. Caput pronum, prothorace ferè latius, inter antennas sulcatum; antennæ graci-

les, basi distantes, corpore manifestò longiores ; articulus 1mus crassus, capite longior, 3tius 1mo valdè longior, apice 1-spinosus, 4tus 1mo paullò longior, cæteri longitudine ferè æquales ; oculi ad antennarum basin ferè divisi : prothorax ferè quadratus, nullo modo armatus : elytra prothorace latiora, apice rotundata : pedes mediocres, femoribus paullò tumidis ; mesotibiis vix emarginatis ; metatibiis paullò recurvis. *Plan. quaternaria*. Nigra, lanugine fulvâ undiquè obsita, punctisque nigris irrorata ; utriusque elytri maculæ 2 dorsales nigræ ; 1ma major, subrotundus, ante medium sita, 2da minor, oblonga, pone medium sita. (Corp. long. .75 unc. lat. .225 unc.)

Nota.—Cerambycitum species 104 nunc enumeratæ Musæo Britanico cum multis aliis omnium ordinum depositæ.

EDWARD NEWMAN.

ART. LXXXV.—*Varieties*.

168. *The Purple Emperor, &c.* Knowing the difficulty which usually attends the capture of the Purple Emperor, I have thought that the following notice might probably be of some use. During the months of June and July, 1839, which, though at home very wet and unfavourable to Entomology, were on the continent dry, hot and sunny,—I spent most of my time in the forests which border the town of Kissingen in Bavaria ; and being enough of an invalid to curtail my rambling propensities, I had an excellent opportunity of observing the habits of the butterflies with which the woods abound. Amongst them none was more conspicuous, and few more abundant, than the Purple Emperor. During its earliest appearance—for it was the first time I had ever seen it alive, and was most anxious to obtain it—I had many a fruitless chase after it, as it would come down to cool itself in the shady walks of the forest ; and if successful in its capture, had the mortification of seeing its beautiful wings rubbed and broken by its efforts to escape. Afterwards, when they became more common, and I was better acquainted with their habits, I had no difficulty in obtaining as many as I chose. At the end of a long and very rapid flight at the outskirts of the wood they would enter its most shaded recesses, and settling wherever any moisture was to be met with, would protrude into it their long trunks, and were soon heedless of my approach. I found a flat bagless net far the best when their wings were

thus expanded, allowing them no room for motion. Instead of employing their sunny hours in sipping sweets, and —

“Gathering honey all the day
From every opening flow’r,”—

their delight was to extract the juices of each swamp-hole, and the filthier the puddle the more it seemed adapted to their taste. Herds of swine are brought to pasture on the borders of the forest, and it was their droppings that seemed to supply the purple emperor with the choicest feast. Seating myself near one of these I selected the finest specimens as they settled down, and watched them till they closed their wings; and so intent were they upon their occupation, that they would usually permit me to take them between my finger and thumb. They were so numerous that I had no less than seven under a small net at one time, and even then they showed but little anxiety to get away. Amongst them were several with more of red than purple in their upper wings, but I believe these were only varieties. I was surprised to meet with so few butterflies at this distance from home that were not familiar well-known friends: ten species only, and these include *Papilio Podalirius* and *Hipparchia Arcanius*; for I would with you expunge from our list every species that bears not upon the face of it an affidavit of its native land. The White Admirable, so justly noted for its graceful flight, was there in great beauty and abundance; whilst the Queen of Spain Fritillary and the Arion Blue were not uncommon. Upon a grassy bank of very limited extent in the centre of the forest, I saw thirty-five species of our British butterflies. Contrasting what I saw of the Entomology of this district with our own, and I speak from the experience of a second summer, I was surprised at the comparative paucity of insects generally, except the butterflies. I was not out at night, but during the day I found very few of the Noctuæ in their usual resting places, and Geometridæ were scarce. Coleoptera were nowhere numerous, and the only conspicuous beetle which I saw often was *Carabus auratus*, and it would frequently cross my path, glittering in the noon-day sunshine. The beautiful flies of the genus *Anthrax* were very abundant, and of these I took several species. I again spent the same months of 1841 at Kissingen, and was sadly disappointed, when the weather would permit me to visit my former haunts, to find them deserted by most of the more brilliant butterflies; indeed, so wet was the season, that the Purple Emperor, the White Admirable, and many others, never appeared at all.—*William C. Hewitson*; 8, Alfred Place, Kingsdown, Bristol, April 22, 1842.

169. *New British Elater*. I believe the following Elater to be, most probably, a species new to this country; and should you think the accompanying description worthy of a corner in 'The Entomologist,' you are at liberty to insert it. *Elater rufitarsis*.^{*} Deepest shining black: antennæ serrated, second joint very small: thorax convex, thickly punctate: elytra ruggedly punctate-striate, with a dense, short, hoary pubescence: tarsi dark rusty red, the first joint darkest, which extends to the apex of tibiæ; claws paler: the elytra are flat-tish beyond the middle: length 4—4 $\frac{1}{4}$ lines. I found three specimens of this insect in old decayed wood, Windsor Forest, March 7th, 1841.—*Thomas Desvignes*; 2, *Golden Square*, April 25, 1842.

170. *Chrysalides of Papilio Machaon*. I shall be most happy to forward, per post or otherwise, to any of your subscribers who may desire it, half a dozen or more of the chrysalides of *Papilio Machaon*. I am fearful it is too late to insert the above in the May No. of 'The Entomologist.' The perfect insect is appearing very fast.—*Marshall Fisher*; *Ely St. Mary's, Cambs.*, April 25, 1842.

171. *Vanessa Antiopa*. Several years ago I had a beautiful specimen given me alive; it was caught in a lady's garden near this place by the gardener. I was only a boy at the time, and the persuasions of my friends and the feeling of humanity made me allow it to escape.—*John Heppenstall*; *Upperthorpe, near Sheffield*, May 4, 1842.

172. *Saturnia Pavonia-minor*. A male of this fine moth reared by me appeared on the 1st of May. The larvæ are rather plentiful on the moors about Sheffield, but are more abundant on Hatfield Chase and Thorne Moors: they, in these situations, feed on *Calluna vulgaris* and other heaths, and can be kept with far better success than their constant companion *Lasiocampa Roboris*.—*Id.*

173. *Sphinx Convolvuli*. Last September I had one given me that was caught in Derbyshire; it flew against the donor's brother whilst surveying, and stuck to his coat. My friend Mr. Reid, of Doncaster, had a pair that were found in the sleeve of a lady's dress that was left out all night to dry.—*Id.*

174. *The flowers of the Sallows* in this neighbourhood were frequented by several species of Noctuidæ; and from experience I can corroborate Mr. Douglas's statement, that "they were more easily caught half an hour after their first appearance for the evening;" after 9 o'clock very few were to be found. Do they stay out all night, or only during twilight? I have often thought the latter is the case.—*Id.*

^{*} This is the true subdivision of the Elateridæ to which this insect belongs; it was examined through a lens of $\frac{1}{4}$ inch focus.—*T. D.*

175. *Enquiry respecting the mode of breeding Lasiocampa Rubi.* Being ardently attached to the study of Entomology, and a constant reader of your periodical, I should be much obliged if you, or any of your correspondents, would, through its pages, direct me in breeding the fox moth (*Lasiocampa Rubi*). The perfect insect has never, to my knowledge, been taken here, but the larvæ are abundant; I have taken them in all stages of growth, and supplied them with bramble, willow &c., until they appeared full fed and ceased eating. My breeding box being divided, in one partition I have kept the larvæ with the mould damp by means of moss, damping and changing it frequently all the winter; in another I have allowed the small branches of willow, dry grass, &c., to remain, taking care not to disturb the larvæ; but the result has always been the same, namely, in the early part of spring some of the caterpillars will just put their heads out of the branches and die; others will come from their concealment and range about the box a few days, when I have supplied them with young shoots of brambles and whatever else I could find coming into leaf, but could never find they eat anything, but soon followed the example of the others: one only began to spin, but died before it had half finished its shroud.—*I. W. Clarke; Horning, May 3, 1842.*

176. *Mode of breeding Lasiocampa Rubi.* I take a large box about ten inches deep, the bottom of which is bored with a number of holes to allow the water to drain out, and the top covered with wire gauze. In this box I place a turf of heath cut to fit it; the caterpillars are placed in it in the autumn and fed as long as the leaves last, or until they become torpid: they are left in the garden exposed to all the changes of the weather. The first warm days in March bring them out, and they bask in the sun for a week or two, *but never feed in the spring.* About the middle of April they begin spinning their cocoons, and by the end of May or early in June the moths appear. I have adopted this plan for several seasons, and have always had abundance of moths produced. I believe I have now at least two hundred in the chrysalis state. The same plan answers equally well with the larva of *Phragmatobia fuliginosa* and other species that live through the winter.—*Henry Doubleday; Epping, May 6, 1842.*

177. *Moths attracted by the light at the North Foreland.* When visiting the North Foreland light-house in August, 1840, the attendant informed me that some nights hundreds of moths were to be found reposing upon the lantern, while on other nights scarcely one was to be seen. After midnight these moths seem in deep repose, and are with ease pinned upon the lantern. The man at the light-house

collected insects for a friend, and I saw some hundreds that he had pinned in this way, for he had neither nets nor forceps.—*W. Bentley*; 3, *Critchell Place*, May 10, 1842.

178. *Cleora teneraria*. I beat a single larva of this insect from whitethorn, near Lyndhurst, Hants. It changed to a pupa in July, and produced a fine female in August following.—*Id.*

179. *Homæosoma gemina*. In June last I met with this insect in plenty about the cliffs near Margate, Ramsgate, and Pegwell Bay.—*Id.*

180. *Orsodacna humeralis*. In May last I took this insect at Broxbourne, Herts., I think it was from whitethorn.—*Id.*

181. *Eupæcilia luteolana*, Stephens. I met with this insect last June, near Sandwich, Pegwell Bay and Margate. From the varieties that I found I am inclined to think that *Lozopera Dubrisana* and *marmoratana* are only varieties of this species; some of the large specimens are of a sulphur colour, with two indistinct oblique fuscous bands; the wings beautifully variegated with shining silvery spots, the costa thickly spotted with brown, posterior wings dusky. Some are small and almost white, slightly mottled with fuscous and silvery spots, posterior wings white; others are of a dull colour, clouded throughout with minute fuscous atoms. I saw these beautiful insects in profusion, but the wind blew almost a hurricane from the 7th to the 14th of June, which prevented my taking many specimens.—*Id.*

182. *Biston hirtarius*. Last April this insect appeared in vast numbers, so much so that every poplar tree north and south of London literally swarmed with them: thirteen specimens were taken from one tree in Hoxton one evening; every fence and paling situated near poplars was sure to produce some fine specimens. Does it presage a good season for Lepidopterous insects?—*John Chant*; 3, *Critchell Place*, New North Road, May 10, 1842.

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXI.

JULY, MDCCCXLII.

PRICE 6D.

ART. LXXXVI.—*Analytical Notice of the ‘Transactions of the Entomological Society of London,’ vol. iii. part 1, with 6 plates.*
London: Longman. 1841.

(Continued from page 316).

4. *A Descriptive List of the Species of Popillia in the Cabinet of The Rev. F. W. Hope, M.A., with one description added from a specimen in the British Museum.*
By EDWARD NEWMAN.

11. *Popillia Adamas*. Blue-black, shining, legs of the same colour: antennæ black: terminal segment with 2 white pilose spots: elytra puncto-striate, each with a deep impression near the suture.—Length $\cdot 45$ inch, breadth $\cdot 25$ inch. East Indies. (Id. 40).

12. *Popillia complanata*. Head, prothorax and scutellum gold-green; clypeus castaneous; antennæ castaneous, with a black apex: elytra testaceous, flattened, puncto-striate, with an indistinct impression near the suture: legs castaneous with a metallic lustre: terminal segment nigro-æneous, with 2 white pilose spots. Length $\cdot 45$ inch, breadth $\cdot 275$ inch. East Indies. (Id. 40).

13. *Popillia lucida*. Gold-green, with a steel-blue tinge: antennæ pitchy black: elytra testaceous, puncto-striate, each with a deep impression near the suture: legs castaneous, with a bright metallic lustre: the terminal segment with 2 white pilose spots. Length $\cdot 3$ inch, breadth $\cdot 2$ inch. (Id. 41).

14. *Popillia minuta*. Obscure gold-green; antennæ black: legs nigro-æneous: elytra testaceous, with the margins and suture nigro-æneous, puncto-striate, each with a deep impression near the suture: terminal segment with 2 white pilose spots. Length $\cdot 3$ inch, breadth $\cdot 2$ inch. East Indies. (Id. 41).

15. *Popillia cupricollis*. Coppery gold-green; antennæ black: legs nigro-æneous, tarsi very black: elytra testaceous, with a bright metallic lustre, puncto-striate: terminal segment with 2 white pilose spots. Length $\cdot 425$ inch, breadth $\cdot 325$ inch. East Indies. (Id. 42).

16. *Popillia Japonica*. Coppery gold-green; antennæ pitchy, with a black apex: legs gold-green, or coppery gold-green, with the tarsi

black: elytra testaceous, with the suture and margins nigro-æneous, puncto-striate: terminal segment with 2 white pilose spots. Length .45 inch, breadth .275 inch. Japan. (Id. 43).

17. *Popillia virescens*. Bright gold-green, very shining: elytra testaceous, with a metallic lustre, puncto-striate: antennæ testaceous, with a black apex: legs brown, with a coppery metallic lustre, metatarsi pitchy black: terminal segment with 2 white pilose spots. Length .45 inch, breadth .3 inch. East Indies. (Id. 44).

18. *Popillia marginicollis*. Bright gold-green, very shining; clypeus, antennæ and margins of the prothorax testaceous: elytra testaceous, with a gold-green suture, puncto-striate: legs testaceous, with a metallic lustre: terminal segment gold-green, with 2 white pilose spots. Length .45 inch, breadth .275 inch. East Indies. (Id. 44).

19. *Popillia biguttata*. *Melolontha biguttata*, Wiedemann, in Germar's 'Magasin der Entomologie,' iv. 136.

20. *Popillia difficilis*. Bright gold-green: antennæ testaceous, with a black apex: elytra testaceous, puncto-striate: legs castaneous, with a metallic lustre: terminal segment gold-green, with 2 white pilose spots. Length .325 inch, breadth .175 inch. East Indies. (Id. 45).

21. *Popillia nitida*. Bright gold-green; antennæ, elytra and legs testaceous, with a metallic lustre: elytra puncto-striate, the striæ very regular: the terminal segment is clothed with a cinereous pilosity. Length .475 inch, breadth .25 inch. East Indies. (Id. 46).

22. *Popillia nasuta*. Coppery: antennæ pitchy black; clypeus prolonged, turned up, obtuse: elytra striate, the striæ punctured, regular and entire, between the 1st and 2nd, at the base, is a short series of scattered punctures: terminal segment gold-green. Length .45 inch, breadth .275 inch. East Indies. (Id. 46).

23. *Popillia acuta*. Bright coppery gold-green: antennæ castaneous; clypeus prolonged, turned up, acute: elytra testaceous, with a bright metallic lustre, puncto-striate &c. as in the preceding: terminal segment gold-green. Length .45 inch, breadth .275 inch. East Indies. (Id. 46).

24. *Popillia rugicollis*. Head green; clypeus and prothorax testaceous: prothorax rugose, green, with testaceous margins: elytra testaceous, sulcated, the bottom of the sulci punctate: terminal segment nigro-æneous, pilose: legs testaceous. Length .375 inch, breadth .2 inch. East Indies. (Id. 47).

25. *Popillia fimbriata*. Black; antennæ testaceous with a black apex; head and prothorax with an obscure green tinge: elytra steel-blue, obscurely puncto-striate: terminal segment with a transverse

fringe of white hairs. Length $\cdot 3$ inch, breadth $\cdot 175$ inch. East Indies. (Id. 47).

26. *Popillia sticticollis*. Testaceous, with 2 spots on the hinder part of the head, 2 discoidal spots on the prothorax, as well as its anterior and posterior margins, the margin of the scutellum, the suture of the elytra, as well as the lateral margin towards their apex, black.—Length $\cdot 45$ inch, breadth $\cdot 25$ inch. Mexico. (Id. 48).

27. *Popillia vidua*. Black; antennæ testaceous, with the apex black. Length $\cdot 425$ inch, breadth $\cdot 25$ inch. Mexico. (Id. 48).

28. *Popillia semirufa*. Ferruginous; the apex of the antennæ, the crown of the head, the disk of the prothorax, the entire elytra, the entire protibiæ, the apices of the metatibiæ and all the tarsi, black. Length $\cdot 425$ inch, breadth $\cdot 25$ inch. Mexico. "The extreme similarity in the sculpture of these insects leads me to suspect the invalidity of the distinctions which I have derived from colour only." (Id. 49).

29. *Popillia Castor*. Castaneous; the disk of the prothorax rugose, its margins ochraceous: elytra sulcate, sulci deeply punctate, the shoulders of the elytra black. Length $\cdot 28$ inch, breadth $\cdot 175$ inch. Mexico. (Id. 49).

30. *Popillia Pollux*. Nigro-æneous; the margins of the prothorax and the entire elytra testaceous: legs brown, with the tarsi piceous: elytra deeply puncto-sulcated. Length $\cdot 27$ inch, breadth $\cdot 16$ inch. Mexico. (Id. 50).

5. *Description of a new Strepsipterous Insect*. By ROBERT TEMPLETON, Esq., R.A.

This singular insect was found at Rio Janeiro in the abdomen of a *Sphex*, which the author supposes to be new, and has named —

Sphex aurocapillus. Body black, covered with golden hair, especially at the margins of the thoracic plates and of the forehead: antennæ black: wings pale brown, the posterior margin of each wing with a broad dark band: legs ferruginous: abdomen rufous, with the apex darkish. (Id. 56, tab. iv. E).

The parasite, which the author has named *Xenos Westwoodii*, is described at great length and with much care, not simply as a species, but with a view of showing the true external anatomy of the genus and even order of insects to which it belongs: it appears from the description and figures that the parts which have occasioned so much discussion find precise equivalents in the segments &c. of Coleoptera, the so-called pseudelytra being analogous to the elytra, and so forth.

Xenos Westwoodii. Antennæ 4-jointed, the 1st and 2nd joints very short and somewhat cup-shaped, 3rd and 4th apparently equally short

and cup-shaped at the base, but each emitting a long ramulus; the eyes are placed on short thick tubercles, and each consists of about 70 facets, which are separated by narrow spaces which are filled with dense, minute, black ciliæ. The base of the elytron is a little bulb or ball, a neck very apparent anteriorly joining it to the thin, elongate, ribbon-like part: the anterior edge is thickened. The abdomen is soft, sessile, incrassated, of 9 segments: the tarsi are 4-jointed, all the joints bilobed. (Id. 53, tab. iv. fig. A—D).

6. *Descriptions of two Hymenopterous Insects from Northern India.* By W. W. SAUNDERS, Esq., F.L.S., &c.

1. *Myrmicaria brunnea*. New genus. Eyes lateral, small, oval; antennæ filiform, 13-jointed; mandibles small, almost concealed: the fore wings with a strongly marked stigma, 1 cubital and 1 discoidal cell complete, and 3 cells on the apical margin subcomplete; the radial, discoidal and subdiscoidal nervures nearly reaching the apical margin: abdomen subcordate, petiolate, the 2 first joints inversely clavate and forming the petiole. *Myrm. brunnea*. The species is shining chesnut brown, hairy, posterior margins of the last five abdominal segments dark brown: wings slightly tinged with brown. Length .6 inch, breadth .8 inch. In the collection of Mrs. T. Prinsep. (Id. 57, tab. v. fig. 2).

2. *Pronæus Campbellii*. Light red brown, with the petiole reddish and the abdomen dark chalybeous purple: wings burnt sienna, with a broad marginal fuscous band. Length 1.2 inch breadth 1.8 inch. In the collection of Mrs. T. Prinsep and the author. (Id. 58, tab. v. fig. 1).

7. *Descriptions of four new Dipterous Insects from Central and Northern India.* By W. W. SAUNDERS, Esq., F.L.S., &c.

1. *Gastroxides ater*. New genus. Proboscis straight, inclined downwards above, as long as the head; antennæ rather longer than the head, 3-jointed, the 3rd joint with 4 rings dividing it into 5 divisions, the 1st of which is as long as the 4 following, and produced at the base into an acute spine pointing forwards: abdomen ovate-conic, terminating in an acute point. *Gas. ater*. The species is coal-black, hairy: wings nearly black, with 2 discoidal, transverse, yellowish spots on each. Length $\frac{1}{2}$ an inch, expansion of wings 1 inch. Central India: in the author's cabinet. (Id. 59, tab. v. fig. 5).

2. *Anthrax ruficollis*. Dull black, hairy, with a reddish collar and a round white spot on each side of abdomen: wings with the basal portion and a broad but abbreviated fascia, black; the costa is also

black, uniting these. Length 1·6 inch, expansion of wings ·7 inch. Central India: in the author's cabinet. (Id. 59, tab. v. fig. 5).

3. *Ceria eumenioides*. Head yellow, eyes black: thorax reddish brown, a spot on each side the anterior margin, a central transverse band, and the posterior margin of scutellum, yellow: abdomen petioled, the segments margined with yellow. Length 1·3 inch, expansion of wings ·8 inch. Northern India: in the author's cabinet. (Id. 60, tab. v. fig. 6).

4. *Dasyneura zonata*. New genus. Antennæ approximating at base, 3-jointed, 2 joints short, the 3rd long, declining, ovate-conical, with a plain seta arising from the base: abdomen roundish: wings with the anal nervure very much incrassated. *Dasy. zonata*. The species is reddish brown: on each side of thorax a yellow line; scutellum and the margin of the 1st abdominal segment also yellow. — Length $\frac{1}{4}$ inch, expansion of wings $\frac{1}{2}$ inch. Central India: in the author's cabinet. (Id. 61, tab. v. fig. 3).

8. *Description of some new Lamellicorn Coleoptera from Northern India.* By The Rev. F. W. HOPE, F.R.S., &c.

1. *Eucirrus Griffithii*. Dull testaceous; prothorax cinereous: elytra almost glabrous, under a lens strongly punctate, the punctures scattered: body and legs clothed with white scales. Length 2 inches, breadth 1 inch. Assam. (Id. 62).

2. *Rhomborhina Cantori*. Black: clypeus cornuted: body above violet black, beneath black: prothorax wider than elytra, under a lens minutely punctate: elytra smooth, scarcely strio-punctate: femora and tibiæ red, tarsi black. Length 13 lines, breadth 7 lines. Assam: in the author's cabinet. (Id. 62).

3. *Rhomborhina Hyacinthina*. Body above black, with a purple clypeus; beneath black, with the sternum, femora and tibiæ violet: tarsi pitchy black. Length 13 lines, breadth $6\frac{1}{2}$ lines. Assam. (Id. 63).

4. *Rhomborhina distincta*. Green; segments of abdomen posteriorly black: femora and tibiæ bright green, tarsi black. Length 14 lines, breadth $6\frac{1}{2}$ lines. Assam. (Id. 63).

5. *Rhomborhina Japonica*. Opaline green, the legs dull green: antennæ and palpi pitchy black: sternum tinged with yellow; 4 basal segments of abdomen dull yellow, the last but one golden, the last green. Length 13 lines, breadth 6 lines. Japan: in the author's cabinet. (Id. 64).

6. *Coryphe jucunda*. Green, shining; elytra striated with black points: clypeus somewhat cornuted, green; eyes black; antennæ

pitchy black : anterior portion of abdominal segments violet : femora and tibiæ almost straight. Length 12 lines, breadth $5\frac{1}{2}$ lines. Assam. (Id. 64).

7. *Coryphe amœna*. Prothorax green, punctated : elytra yellow, striated with black points : femora and tibiæ blue, tarsi pitchy black : beneath green, with numerous black points. Length 8 lines, breadth $3\frac{3}{4}$ lines. Assam : in Mr. Solly's cabinet. (Id. 64).

8. *Campsiura nigripennis*. Black ; clypeus and margins of prothorax yellow : sternum spotted on each side with yellow : elytra black : abdomen and legs black. Dimensions not given. Assam. (Id. 65).

9. *Mimela Princeps*. Above golden green, shining : sides of prothorax impressed with foveæ : femora and tibiæ yellow brown, tarsi bronze-coloured. Length 10 lines, breadth 6 lines. Siam : in Mr. Solly's collection. (Id. 65).

10. *Mimela decipiens*. Above opaline green, beneath emerald green, brilliant, legs of the same colour : prothorax impressed with a fovea on each side, and having elevated lateral margins. Length $10\frac{1}{4}$ lines, breadth 5 lines. Assam : in the author's cabinet. (Id. 66).

11. *Mimela Pyroscelis*. Shining ; elytra green-gold, rugose, punctate, deeply sulcated towards the apex : body beneath nigro-æneous ; the abdominal segments variegated with testaceous : femora and tibiæ of a fiery red, tarsi blackish, Length $6\frac{1}{2}$ lines, breadth $3\frac{1}{4}$ lines. Assam : in the author's cabinet. (Id. 66).

12. *Mimela glabra*. Glabrous ; above dull green, beneath golden green : legs green : apex of antennæ black : prothorax with 2 impressed points on each side ; abdominal segments purple. Length 7 lines, breadth $3\frac{1}{2}$ lines. Assam : in the author's cabinet. (Id. 67).

9. *Notes on a species of Stylops*. By G. H. K. THWAITES, Esq.

I have given this note as a Variety, (Entomol. 342).

EDWARD NEWMAN.

(To be continued).

ART. LXXXVII.—*Descriptions of Chalcidites*.

By FRANCIS WALKER, Esq.

(Continued from p. 220).

Isosoma Egesta. Fem. Atrum, antennæ nigrae, pedes rufi, femora basi nigra, alæ limpidæ.

Atrum, longum, angustum, convexum, cylindricum, punctatum, parum nitens,

parcè pubescens : caput thoracis latitudine : oculi et ocelli picei : antennæ nigræ, graciles, subclavatæ, moniliformes, hirtæ, thoracis dimidio longiores ; articulus 1mus longus, sublinearis ; 2dus cyathiformis ; 3us et 4tus minimi ; 5tus longicyathiformis ; 6tus et sequentes breviores, subrotundi ; clava conica, articulo 10mo duplò longior, vix latior : thorax sublinearis : prothorax magnus, quadratus, longitudine vix latior : mesothoracis parapsidum suturæ benè determinatæ ; scutellum parvum : metathorax per longum carinatus : petiolus brevis : abdomen longifusiforme, nitens, læve, glabrum, thorace multo longius, apice acuminatum, pilis albis parcè hirtum ; segmenta 1mum et 2dum brevia ; 3um multò longius ; 4tum adhuc longius ; 5tum et 6tum breviora ; 7um et 8um brevissima : oviductus subexertus : pedes graciles, rufi ; coxæ nigræ ; femora basi nigra ; tarsi apice picei : alæ limpidae, angustæ : squamulæ piceæ ; nervi fulvi ; nervus humeralis ulnari plus duplò longior, cubitalis radiali vix brevior, apice bifurcatum. (Corp. long. lin. $1\frac{3}{4}$; alar. lin. 3).

Inhabits the vicinity of Geneva. In the collection of M. de Romand, and obligingly lent me, with others from the same locality : the present and four following appear to be the only undescribed species.

Genus.—SELIMNUS, N.

Corpus sublineare, convexum, parùm nitens, scitè punctatum, parcè hirtum : caput transversum, breve, thorace vix latius ; vertex latus ; frons impressa, abruptè declivis : oculi mediocres, non extantes : ocelli vertice triangulum fingentes, medius perparùm antepositus : antennæ clavatæ, pubescentes, mediâ fronte insertæ, thorace breviores ; articulus 1mus longus, gracilis ; 2dus cyathiformis ; 3tius et 4tus minimi ; 5tus et sequentes breves, transversi, usquè ad 10um latescentes ; clava conica, articulo 10mo longior : thorax ovatus : prothorax maximus, transversus : mesothoracis scutum longitudine multò latius ; parapsidum suturæ benè determinatæ, posticè approximata ; scutellum obconicum, sat magnum : metathorax obconicus, mediocris, declivis : petiolus brevis : abdomen ovatum, nitens, læve, suprâ convexum, subtùs carinatum, apice acuminatum, thorace brevius et angustius ; segmentum 1mum magnum ; 2dum et sequentia brevia : pedes mediocres, simplices, subæquales ; coxæ parvæ ; femora gracilia ; tibiæ rectæ ; tarsorum articuli 1mo ad 4tum longitudine decrescentes, 5tus 4to paullò longior ; ungues et pulvilli minuti : alæ mediocres ; nervus humeralis ulnari triplò longior, radialis ulnari brevior cubitali non longior, cubitalis longus ; stigma parvum.

Selimnus Diores. Fem. Ater, antennæ nigræ, pedes nigri, tarsi picei, alæ limpidae.

Ater : oculi et ocelli picei : antennæ nigræ : pedes nigri ; genua picea ; tarsi picei : alæ limpidae ; squamulæ piceæ ; nervi picei. (Corp. long. lin. 1 ; alar. lin. $1\frac{1}{2}$).

Pteromalus Bryce. Fem. Nigroviridis, abdomen cupreoæneum, antennæ nigræ, pedes nigropicei, tarsi ferruginei, alæ fuscæ.

Corpus nigroviride, convexum, nitens, scitissimè squameum, parè hirtum : caput transversum, breve, thorace latius ; vertex latus ; frons impressa, abruptè declivis : oculi picei, mediocres, non extantes : antennæ clavatæ, nigræ, thorace longiores ; articulus 1mus longus, linearis ; 2dus longicyathiformis ; 3us et 4tus minimi ; 5tus et sequentes approximati, usque ad 10um curtantes et latescentes ; clava conica, acuminata, articulo 10mo multò longior : thorax ovatus : prothorax transversus, brevissimus : mesothoracis scutum longitudine latius ; parapsidum suturæ non benè determinatæ ; scutellum subconicum : metathorax mediocris, declivis, obconicus : petiolus brevissimus : abdomen cupreoæneum, fusiforme, læve, suprà depressum, subtùs carinatum, apice acuminatum, thorace multò longius et angustius ; segmenta 1mum et 2um magna ; 3um et sequentia breviora : pedes picei, simplices, subæquales ; coxæ nigrovirides ; femora nigra ; genua ferruginea ; tibiæ apice ferrugineæ ; tarsi ferruginei, apice fusci ; protarsi fusci : alæ fuscæ ; squamulæ piceæ ; nervi picei ; nervus humeralis ulnari ferè duplò longior, radialis ulnari brevior cubitali longior ; stigma mediocre. — (Corp. long. lin. $1\frac{1}{4}$; alar. lin. 2).

Pteromalus Felginas. Fem. Cyaneus, abdomen purpureum, antennæ nigræ, pedes picei, femora cyanea, tarsi flavi, proalæ fusco nebulosæ.

Corpus cyaneum, convexum, nitens, scitissimè squameum, parè hirtum : caput transversum, breve, thorace latius ; vertex latus ; frons impressa, abruptè declivis : oculi picei, mediocres, non extantes : antennæ nigræ, subclavatæ, thorace longiores ; articulus 1mus fulvus, longus, linearis ; 2us longicyathiformis ; 3us et 4tus minimi ; 5us et sequentes approximati, usque ad 10um curtantes et latescentes ; clava conica, compressa, articulo 10mo longior : thorax ovatus ; prothorax transversus, brevissimus : mesothoracis scutum longitudine latius ; parapsidum suturæ vix conspicuæ ; scutellum subconicum : metathorax transversus, declivis, posticè angustus : petiolus brevissimus : abdomen longiovatum, læve, purpureum, basi cyaneum, suprà depressum, subtùs carinatum, apice acuminatum, thorace longius vix angustius ; segmenta 1mum et 2um magna : pedes picei, simplices, subæquales ; coxæ cyaneæ ; femora cyanea ; genua ferruginea ; tibiæ apice flavæ ; tarsi flavi, apice fusci ; propedes tibiis tarsisque fulvis : alæ sublimpidæ ; proalæ fusco nebulosæ ; squamulæ piceæ ; nervi fusci ; nervus humeralis ulnari multò longior, radialis ulnari paullò longior cubitali multò longior ; stigma minutum. (Corp. long. lin. $1\frac{1}{4}$; alar. lin. $2\frac{1}{4}$).

Entedon Daurises. Mas. Cyaneoviride, abdomen flavomaculatum, antennæ nigræ, pedes nigrocyanæi, tarsi albi, alæ limpidæ.

Corpus convexum, nitens, scitè et confertim punctatum, parè hirtum : caput transversum, brevissimum, thorace vix latius ; frons impressa : ocelli sat magni, extantes : ocelli vertice triangulum fingentes, medius perparum antepositus : antennæ subsetaceæ, densè pubescentes, corporis dimidio longiores, fronte mediâ insertæ ; articuli discreti ; 1mus longus, fusiformis, sat gracilis ; 2us brevis, subrotundus ; 3us longus, linearis ; 4tus 3tio multò brevior ; 5tus 4to paullò brevior ; 6us adhuc brevior ; clava articulo 6to paullò longior et angustior, acuminata, setigera : thorax ovatus : prothorax brevissimus, suprà aciem fingens vix conspicuum : mesothoracis scutum longitudine latius ; parapsides non extantes, suturæ non benè determinatæ ; scutellum subco-

nicum, sat magnum : metathorax mediocris, declivis, obconicus, ferè lævis : petiolus brevissimus, vix conspicuus : abdomen sublineare, depressum, micans, læve, glabrum, apice pilis nonnullis brevissimis albis hirtum, basi et apice semicirculum fingens, thorace brevius et angustius ; segmenta 5 suprà conspicua, 1mum medioere ; 2um multò longius ; 3um et sequentia breviora, transversa : sexualia subexerta : pedes simplices, subæquales, pubescentes ; coxæ parvæ ; femora gracilia ; tibiæ rectæ, apice spinis armatæ ; tarsorum articuli 1mo ad 3um longitudine decrescentes ; 4tus 1mo paullò longior ; ungues et pulvilli parvi : alæ amplæ ; nervus ulnaris humerali longior, radialis vix ullus, cubitalis brevissimus ; stigma nullum.

Lætè cyaneoviridis : oculi picei : ocelli rufi : antennæ nigræ ; articulus 1mus et 2us cyaneovirides : abdomen basi cyaneum purpureo varium : discus viridiæneus : macula ante medium flava, trigona : pedes cyanei ; trochanteres picei : genua alba : tarsi albi, apice fusci ; protibiæ apice et subtus albæ ; mesotibiæ albæ basi suprà nigræ ; metatibiæ nigræ, apice albæ : alæ limpidæ ; squamulæ piceæ ; nervi fusci. (Corp. long. lin. $1\frac{1}{4}$; alar. lin. 2).

Smiera Lamyrus. Fem. Flava, antennæ nigræ, dorsum nigro varium, alæ fuscæ, apice sublimpidæ.

Corpus convexum, flavum, pubescens, nitens, transversè rugosum : caput transversum, breve, nigrum, ferè læve, thorace non latius ; frons abruptè declivis, ad antennarum receptionem excavata : oculi flavi, medioeres, extantes : ocelli flavi, approximati, vertice triangulum fingentes : antennæ nigræ, filiformes, compactæ, pubescentes, thorace paullò longiores ; articulus 1mus flavus : thorax subovatus, maculâ subpentagonâ mesothoracis dorsum occupante ornatus : prothorax mediocris, transversus, posticè concavus ; latera anticè indentata : mesothoracis scutum magnum, longitudine latius ; parapsidum suturæ benè determinatæ ; scutellum subhexagonum, rudè punctatum, sat magnum, apice in dentibus 2 elevatis productum : metathorax brevi-obconicus, magnus, declivis : petiolus cylindricus, longus, gracilis : abdomen ovatum, læve, glabrum, anticè flavum, posticè nigrum, thorace multò brevius, petiolo vix longius ; segmentum 1mum magnum, 2um et sequentia breviora : oviductus vaginæ nigræ : metapedum coxæ longissimæ, apice piceæ ; trochanteres picei ; femora maxima, ovata, crassa, subtus dentibus 9 minutis nigris armata ; tibiæ valdè arcuatæ, femoribus applicatæ, apice piceæ et acuminatæ : alæ amplæ, basi ultra medium obscurè fuscæ, apice obsolete griseæ : proalis nervus humeralis ulnari duplò longior ; radialis ulnari longitudine æqualis ; cubitalis longus sed radiali plus triplò brevior eoque angulum acutum fingens, subincurvus, stigma nullum fingens nec ramulum emittens. (Corp. long. lin. 3 ; alar. lin. 7).

Inhabits Mexico. In the collection of Mr. Shuckard.

Smiera Pylas. Fem. Flava, nigro-maculata, antennæ piceæ, alæ limpidæ. *S. subpunctata*, latior, abdomen brevius.

Corpus convexum, flavum, pubescens, rudè punctatum, parùm nitens : caput transversum, breve, posticè et inter ocellos nigrum, thorace paullò angustius ; frons abruptè declivis, ad antennarum receptionem excavata : antennæ piceæ, subclavatæ, compactæ, thorace non longiores ; articuli valdè approximati, 1mus flavus : thorax brevioratus : prothorax transversus, mediocris, anticè angustior : mesothoracis scutum magnum, longitudine latius, nigro unifasciatum et trivittatum ; fascia antica, marginalis, abbreviata ; vitta intermedia angusta ; vittæ laterales latæ, posticè abbreviatæ ;

parapsidum suturæ conspicuæ sed non benè determinatæ; scutellum hexagonum, fasciâ marginali anticâ et maculâ obconicâ dorsali nigris ornatum, posticè aciem fingens acuminatam; paraptera maxima, nigro bimaculata: metathorax sat magnus, transversus, rugosus, nitens, abruptè declivis: petiolus subcylindricus: abdomen ovatum, nitens, læve, apice piceum et acuminatum, thorace paullò brevius et multò angustius, petiolo plus quadruplò longius; segmentum 1mum magnum, 2dum et sequentia breviora, fusco obsolete fasciata: pedes lætè flavi; tarsi apice fusi: metapedum coxæ magnæ, nigromaculatæ, femora maxima, ovata, crassa, piceo trimaculata, subtùs dentibus 9 nigris armata, tibiæ valdè arcuatæ, apice in dentem productæ, femoribus applicatæ et in eorum sulcis receptæ: alæ limpide: proalæ amplæ; nervus humeralis ulnari duplò longior; radialis ulnari non brevior, cubitali triplò longior; cubitalis sat longus, angulum acutum radiali fingens, ferè rectus, apice latior et obsolete furcatus. — (Corp. long. lin. $2\frac{3}{4}$; alar. lin. $5\frac{1}{2}$).

Inhabits ———? In the collection of Mr. Shuckard.

Smiera Dares. Fem. Præcedenti longior, alæ minores. Flava, nigro maculata, antennæ piceæ, alæ limpide.

Corpus convexum, flavum, pubescens, rudè punctatum, nitens: caput transversum, breve, thoracis latitudine; frons abruptè declivis, ad antennarum receptionem excavata: antennæ piceæ, subclavatæ, compactæ, thorace vix longiores; articuli valdè approximati, 1mus flavus: thorax ovatus: prothorax transversus, mediocris, anticè angustior: mesothoracis scutum magnum, longitudine latius, nigro unifasciatum bimaculatum et univittatum; fascia antica, marginalis, abbreviata; vitta intermedia basi et apice angustior; maculæ laterales; parapsidum suturæ sat benè determinatæ; paraptera ad dorsum nigra; scutellum ferè ovatum vix hexagonum, basi nigrum, nigroque univittatum, posticè aciem fingens: metathorax sat magnus, transversus, rugosus, abruptè declivis, basi nigro maculatus: petiolus brevis, subcylindricus: abdomen longiobconicum, læve, apice piceum attenuatum et acuminatum, thorace multò longius et angustius; segmenta obsolete piceo fasciata: pedes flavi; tarsi apice fusi: metapedum coxæ magnæ, nigro maculatæ; trochanteres nigro-maculati; femora maxima, ovata, crassa, apice nigro maculata, subtùs dentibus 10mis minutis et 1mo magno armata; tibiæ valdè arcuatæ, apice productæ et acuminatæ, femoribus applicatæ et in eorum sulcis receptæ: alæ limpide, parvæ: proalis nervus humeralis ulnari duplò longior; radialis ulnari non brevior, cubitali triplò longior; cubitalis sat longus, angulum acutum radiali fingens, ferè rectus, apice latior et obsolete furcatus. (Corp. long. lin. $2\frac{1}{2}$; alar. lin. $3\frac{1}{4}$).

Inhabits Brazil. In the collection of Mr. Shuckard.

Chalcis Orseis. Mas. Atra, antennæ piceæ basi nigræ, pedes flavo varii, alæ limpide.

Corpus breve, validum, concavum, atrum, punctatum, parùm nitens, densè pubescens: caput breve, transversum, thoracis latitudine: vertex sat latus; frons abruptè declivis, pilis albis vestita, ad antennarum receptionem excavata: oculi et ocelli rufi: antennæ compactæ, subclavatæ, piceæ, basi nigræ, thorace non longiores: thorax breviovatus: prothorax sat magnus, transversus, subquadratus: mesothoracis scutum latum: parapsidum suturæ benè determinatæ; paraptera flava; scutellum obconicum, apice aciem

figens subproductum : metathorax sat magnus, rugosus, transversus, abruptè declivis : petiolus brevissimus : abdomen breviovatum, nitens, læve, thorace paullò brevius, segmentum 1mum ejus dimidium occupans, ferè glabrum ; 2dum punctatum, 1mo multò brevius ; 3um et sequentia adhuc breviora : pedes nigri ; profemora et mesofemora apice flava ; metafemora ovata, maxima, subtùs multidentata, apice flavo maculata ; tibiæ flavæ ; tarsi flavi, apice picei : alæ limpidæ ; squamulæ flavæ ; nervi picei : nervus humeralis ulnari ferè duplò longior ; ulnaris radiali duplò longior ; radialis cubitali plus duplò longior ; cubitalis brevissimus, apice latior, non furcatus, radiali angulum acutum figens. (Corp. long. lin. $2\frac{1}{4}$; alar. lin. 4).

Inhabits Brazil. In the collection of Mr. Shuckard.

Hockeria Hydara. Fem. Ater, antennæ piceæ, tarsi rufi, alæ fusco subfasciatæ.

Corpus convexum, atrum, obscurum, punctatum, pubescens : caput breve, transversum, thoracis latitudine ; vertex sat latus ; frons abruptè declivis, ad antennarum receptionem excavata : antennæ extrorsum crassiores, graciles, compactæ, piceæ, ad os insertæ, thorace paullò longiores ; articulus 1mus longissimus, sublinearis ; 2us et 3us rufi ; 4tus et sequentes valdè approximati : thorax ovatus : prothorax transversus, brevis : mesothoracis scutum longitudine latius ; parapsidum suturæ conspicuæ ; scutellum obconicum, apice aciem figens : metathorax brevis, declivis : petiolus brevissimus : abdomen ovatum, nitens, læve, apice acuminatum, subtùs nisi ad apicem carinatum, thorace paullò longius et angustius : oviductus non exertus : pedes nigri ; trochanteres picei ; genua rufa ; tarsi rufi ; metapedum femora magna, ovata, crassa, subtùs dentata ; tibiæ valdè arcuatæ : alæ angustæ, sublimpidæ, fusco obsolete fasciatæ ; proalis nervus humeralis ulnari plus triplò longior, ulnaris cubitali plus duplò longior ; radialis nullus aut brevissimus, cubitalis brevissimus, apice latior, non furcatus. (Corp. long. lin. $1\frac{1}{4}$; alar. lin. $2\frac{1}{4}$).

Inhabits Brazil. In the collection of Mr. Shuckard.

FRANCIS WALKER.

ART. LXXXVIII.—*Varieties*.

182. *Singular growth of Fungi*. A very curious example of the growth of Fungi within the living animal body has lately been detected, and the knowledge of it has proved of great importance. The silkworm breeders of Italy and the South of France, especially in particular districts, have been subject to a considerable loss by a disease termed *muscardine*, which sometimes attacks the worms in large numbers, just when about to enter the chrysalis state. This disease has been ascertained to be due to the growth of a minute vegetable of the fungus tribe, nearly resembling the common mould, within their bodies ; it is capable of being communicated to any individual from one

already affected, by the introduction beneath the skin of the former of some particles of the diseased portion of the latter, and it then spreads in the fatty mass beneath the skin, occasioning the destruction of this tissue, which is very important as a reservoir of nourishment to the animal when about to pass into a state of complete inactivity. The plant spreads by the extension of its own structure, and also by the production of minute germs, which are taken up by the circulating blood and carried to distant parts of the body. The disease invariably occasions the death of the silkworm, but it does not show itself externally until afterwards, when it rapidly shoots forth from beneath the skin. The caterpillar, chrysalis and moth are all susceptible of having the disease communicated to them by the kind of inoculation just described, but it is only the first which usually receive it spontaneously. The importance of this disease to the breeders of silkworms led, as soon as its true nature was understood, to careful inquiry into the circumstances which favour the production of the fungus, and it has been shown that if bodies of caterpillars which (from various causes) have died during breeding, be thrown together in heaps, and exposed to the influence of a warm and moist atmosphere for a few days (as has been very commonly the case), this fungus almost invariably appears upon them, just as other kinds of mould appear on other decaying substances, and that it is then propagated to the living worms by the diffusion of its germs through the atmosphere. The knowledge of this fact, and the precautions taken in consequence, have greatly diminished the mortality.

I send you the above extract from the 'Popular Cyclopædia of Natural Science,' which I think may be interesting as a variety for 'The Entomologist,' and may furnish some useful remarks to the breeders of moths in this country. — *John Chant* ; 3, *Critchell Place, New North Road, May 10, 1842.*

183. *Economy of Papilio Machaon.* In my notice of the capture of *Papilio Machaon* (Entomol. 307), I should have mentioned Haverhill as the place of capture ; on enquiry I found it has several times been taken in that place, but never heard of its occurrence at Lavenham, nor do I expect to meet with it, except in my own room. The following account of the habits of this splendid species in confinement, may be interesting to some of the readers of 'The Entomologist.' Having, in the spring of 1840, obtained a number of chrysalides from Barwell-sedge fen, near Newmarket, Cambridgeshire, a male and female emerged from them on the morning of the 27th of May, and were left near each other on the window-blind to expand and dry

their wings; on my return from a short walk I was agreeably surprised to find them *in coitu*, and having a fine plant of *Selinum palustre* in a garden pot, I placed it in the window of the room and confined the female on it, as well as I could, with the blind. On the 29th she had deposited fourteen eggs, but appearing nearly exhausted I supplied her with a little moistened sugar in a teaspoon, uncurling her trunk with a pin; she seemed to enjoy her feast, and being left with the sash raised about an inch for the admission of air, made her escape. The plant was returned to its place in the garden with the eggs attached; they were of an oval shape and of a pale green colour, but changed in a few days to steel blue, and, before the exclusion of the caterpillar, to black. The first caterpillar was hatched on the 10th of June, and the others on the following day; they were at first black and spiny, with a light-coloured patch in the middle of the back, but at every change of skin acquired more of their brilliant colours, and when full fed altogether looked very beautiful, and if touched darted forth their retractile horns, scenting the garden very powerfully to some distance. The shell of the egg was, in every instance, the first meal of the caterpillars; and the cast-off skin was always first eaten after every change, which took place on the 18th and 26th of June, and the 3rd and 13th of July, when they had completely stripped the plant; and not being able to get a fresh supply, I placed some carrot-leaves in a small jar of water, and introduced them amongst the stalks of *Selinum palustre*: contrary to my expectations the caterpillars fed on them without any apparent reluctance, and by the end of the month were full fed. Up to this time, although left in the garden day and night, they never quitted the plant, but now it was impossible to keep them on it; and after one had been finally lost, the others were removed into the breeding cage, where they passed into the chrysalis state on the 30th and 31st of July and the 2nd of August. The first butterfly was produced on the 14th of June, 1841, and ten more in the course of a fortnight. One died in the chrysalis state, and one continued in that state until this day, the 10th of May, 1842, when a very fine and perfect female made her appearance. I tried very much to continue the brood, but was unsuccessful.—*W. Gaze; Lavenham, May 10, 1842.*

184. *Apus Cancriformis*. Having recently received several specimens of the young of *Apus Cancriformis* in different stages of growth, from the same locality as noticed in my communication of last year, (*Entomol.* 226), I have no doubt of its breeding in this neighbourhood, although search has been made in vain for any other locality. It

does not appear that they have been noticed by naturalists as found in this country, although met with in great abundance on the continent, where they are said frequently to descend with the showers of rain in stormy weather. The notice which appeared in No. 14 of 'The Entomologist,' not having been replied to by any succeeding correspondent, I suspect that this curious crustacean has not hitherto been noticed, or is altogether unknown as an inhabitant of our ponds and ditches; and it will indeed be a singular circumstance, should such prove to be the case, that it is found in one of the most inland counties of the kingdom.—*John Evans; Grove House, Worcester, May 17, 1842.*

185. *Description of Pancalia grandis.* I herewith forward you a description of a very beautiful insect; and as I believe that it has not yet been described in English works, perhaps you will do me the favour of inserting it in 'The Entomologist.' From its size and beauty I have given it the specific name of *Pancalia (grandis)*. Anterior wings narrowish, golden yellow, glossy, (terminating in a forked appearance towards the hinder margin); at the base is a semiquadrate black fascia, uniting with the costa, which is purple to near the middle, where it is interrupted by a small, parallel, light yellow spot, between this and the apex is a large oblique dash of the same hue; the border, which is broad, brownish purple, extends from the apex to a little before the middle of the inner margin, where it is interrupted by a narrow transverse band; a streak in the middle of the disk, and another above, uniting before, with the costa, all shining silvery and edged with deep black; on the inner margin beyond the middle, and between the opposite two spots on the costa, is another, larger, triangular, also pale yellow; posterior wings fuscous, strongly ciliated; head and corselet metallic purple; tip of antennæ chalky white; palpi yellow. The insect observed at different angles has considerable variation in its tints. Expansion of the wings 6—6½ lines. I received three specimens from Mr. E. Baugh of Bewdley, who captured them in the adjoining forest, one of which I presented to Mr. Bentley.—*Thomas Desvignes; 2, Golden Square, May 26, 1842.*

186. *Notes on a Species of Stylops.* On the 3rd of May, 1838, one of my brothers brought me two specimens of *Andræna convexiuscula*, from both of which I obtained a *Stylops*, which circumstance induced me to make immediate search for more of these bees, and I succeeded in capturing several, almost all either containing the larva of *Stylops*, or showing evident signs of a *Stylops* having escaped from them, but none with the perfect insect. However, on May 6th, I had the good

fortune to capture a *Stylops* flying; and on the Tuesday following saw at least twenty flying about in a garden at Kingsdown, near Bristol, but so high from the ground that I could capture only about half a dozen. Since that time they have become gradually more scarce, and to-day (May 12th) I have not been able to see one. The little animals are exceedingly graceful in their flight, taking long sweeps, as if carried along by a gentle breeze, and occasionally (which, however, I have only observed in the first I caught) hovering at a few inches distant from the ground.* When captured they are exceedingly active, running up and down the sides of the bottle in which they are confined, moving their wings and antennæ very rapidly. Their term of life seems to be very short, none of those I have captured living above five hours; and one I extracted from a bee in the afternoon, was dead the next morning. All the stylopized bees, both ♂ and ♀, I have taken, have manifested it by having underneath the fourth (invariably) upper segment of the abdomen a protuberance, which is scale-like when the *Stylops* is in the larva state, but which is much larger and more rounded when the *Stylops* is ready to emerge. A bee gives nourishment generally to but one *Stylops*; but I have occasionally found two, and once three! larvæ in one bee. — *G. H. K. Thwaites*, in ‘*Transactions of the Entomological Society of London*,’ iii. 67.

187. *Singular cause of Vegetation in the desert.* Thinking it might be interesting to the readers of ‘*The Entomologist*,’ I have copied the following sentence from the Rev. A. Bonar and R. M. M’Cheyne’s ‘*Narrative of a Mission of Inquiry to the Jews from the Church of Scotland in 1839*,’ p. 109. “We noticed here (at Catieh, the ancient Casium) that most of the green patches in the sand (of the desert) are the production of the beetle’s industry. The beetle, with amazing labour, drags the camel’s dung into its hole in the sand, and thus a fruitful soil is formed ready to receive the seeds of plants. To this small insect probably we owe the greater part of the verdure of the wilderness.”—*Adam White*; *British Museum*, May 30, 1842.

188. *Enquiry respecting the Cabbage-butterfly.* Two distinct caterpillars abound on the *Brassica oleracea* in this part of the country: one of them is of a green colour (nearly that of the plant); the other is of gayer hues, brown, striped with yellow, black, &c. Of the latter I collected a few, and they have recently come out in the butterfly

* Their expanse of wing and mode of flight give them a very different appearance to any other insect on the wing.

state: they are—I am at a loss to say what, since they resemble the common cabbage-butterfly itself more than any other, according to the figures of indigenous British butterflies in the ‘Naturalists’ Library,’ where the green caterpillar is stated to belong to that species; the Bath White (*Manicium Daplidice*) is the next resemblance to it. Perhaps you can assist me through the medium of your useful periodical; I have enclosed two specimens of the butterflies of this doubtful species, and will forward you specimens of the caterpillar itself, in its season, if desirable.—*Geo. W. Edginton, Surgeon; Benfield, Berkshire, May 30, 1842.*

[The specimens sent are the male and female of *Pontia Brassicæ*, the common cabbage-butterfly.—*E. N.*]

189. *The Gaz or Gazu*, which is much used for making sweetmeats in Persia, is a glutinous substance, like honey, deposited by a small green insect upon the leaves of the oak-tree. See *Diod. xvii. ch. 8.* It is the manna of the chemists.—*F. Walker.*

190. *Anommatus terricola*. (Xylophages, Bostrichins). *M. Robert l’a decouvert à Chenée près de Liege.* Pour en procurer ces petits insectes il met des planches sur la terre légèrement remuée, et bientôt ils viennent se placer à la face inférieure de celles-ci. Ayant étendu des planches sur la gazon d’un prairie, il n’en a pris aucun; mais ayant ôté le gazon, il n’en a tardé à en prendre plusieurs. Je n’ai pu apercevoir la moindre trace des yeux.—*Bull. Acad. Roy. des Sci. &c. à Bruxelles. 1836.*

[*M. Robert* has discovered *Anommatus terricola* at Chenée, near Liege. In order to obtain these little insects, he spread boards upon ground lightly stirred up, and they soon placed themselves on the under surface of the boards. Having laid the boards on the grass in a meadow, he could not find any of the insects; but on removing the turf they soon reappeared in numbers. I have not been able to perceive the slightest trace of eyes.—*E. N.*]

191. *Megachile Papaveris*. In the collection of indigenous bees in the British Museum is a series which *Mr. Shuckard* has pointed out as belonging to this most interesting species, which was not previously ascertained to be a native of Britain.—*E. N.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXII.

AUGUST, MDCCCXLII.

PRICE 6D.

ART. LXXXIX. — *Analytical Notice of a Paper entitled "Notes on some Insects from King George's Sound, collected and presented to the British Museum by Captain George Grey. By ADAM WHITE, Esq., British Museum."* [Being a portion of the Appendix to Capt. Grey's Journals of two Expeditions of Discovery in Australia, in 1837—39. Two vols. London: Boone, 29, New Bond St. 1841.]

MR. WHITE commences his paper by enumerating the various authors who have described Australian insects: the list is a long one, including almost all our publishing entomologists. In the catalogue which follows forty-five species are enumerated; of these nineteen are described, the author supposing them to be new.

COLEOPTERA.

1. *Carenum perplexum*. The author appears to think this may be the *Scarites cyaneus* of Fabricius.

2. *Chlænien Grejjanus*. Above bright gold-green; rather larger than *Chlænien quadrisulcatus*.

"The elytra are very distinctly sinuated towards the extremity, and the three elevated ribs are smooth and of a coppery bronze colour, with the intervening spaces smooth (at least not granulated as in the *C. quadrisulcatus*) and have two longitudinal lines of impressed points, one on each side of the smooth interval."—ii. p. 458.

3. *Staphylinus erythrocephalus*, Fabricius, Syst. Eleu. ii. 593.

4. *Cryptodus variolosus*.

"Smaller than Mr. Macleay's species and of a pitchy brown, it is less depressed; the head is squarer and not so broad, the two tubercles are more prominent, the *mentum* is deeply emarginate: *antennæ* nine-jointed; basal joint dilated, *prothorax* not so transverse, much more closely punctured: the *elytra* are scarcely dilated behind, shorter, and are covered with exceeding minute punctures in addition to the larger ones."—ii. 459.

5. *Brachysternus*? *Epichrysus Lamprimoides*.

"Yellowish metallic green, legs darker. The head is somewhat square, the transverse suture being rather indistinct; the margin of the clypeus is distinctly reflexed. *Antennæ* dark brown, ten-jointed; 1st joint longest, thickened at the end, with ferruginous hairs behind; 2nd rounded, thin; 3rd, 4th and 5th, with the separating lines

very indistinct, those before the 3 lamellated joints short, transverse. Maxillary palpi with the terminal joint dilated, rather blunt at the tip, depressed above, and hollowed out at its base. Legs rather thick, the outer of the two tarsal claws of the third pair of legs, cleft at the end, anterior tibiæ externally sub-tridentate. Thorax with the sides somewhat angulated and narrowly margined, rounded behind, but the sides of the posterior margins are straight, the surface is minutely punctured and covered with brown hairs, the sternum of the mesothorax is without a spine, or projecting angle; elytra in some specimens of a rich, lively, metallic, yellowish green, in other coppery green with the suture and margin dark green, the surface shagreened and punctured. Under side of the body and legs dark green, the former covered with ash-grey pubescence, or rather longish soft hairs."—ii. 460.

6. *Biphyllocera Kirbyana*, new genus.

"Antennæ (seemingly) nine-jointed, the first joint long, much thickened at the end, and furnished with several stiff hairs, the five last are lamelliform, the lamellæ in the male long, and pinnated on one side; labium deeply grooved in the middle, notched at the tip; palpi with the terminal joints longest, sub-cylindrical; head moderate; clypeus separated by a distinct line, basal part slightly hollowed out, as is the head between the eyes; thorax short; elytra elongate, somewhat rounded on the lateral edge, truncated at the end; legs slender; tibiæ of first pair anteriorly sub-tridentate, tibiæ of second and third pairs with many spines, claws of posterior tarsi entire, joints of tarsi slender, elongate."—ii. 461.

The species is "Shining, more especially on the head and clypeus, the crown of the head very smooth, the space between the eyes with impressed punctures, the clypeus slightly notched in front; antennæ pale ferruginous; thorax with short rust-coloured hairs, and the lateral margin slightly reflexed and paler than the dorsal part, which is covered with short striolæ, giving a squamulate appearance to it; when narrowly examined, just above the rather large and bluntish scutellum, there are some distinct scattered punctures; thorax beneath covered with fulvous hairs."—ii. 462.

7. *Lamprima Micardi*, Reiche, Rev. Zool. 1841, No. 2, p. 5.

8. *Porrostoma rufipenne*, Laporte, Hist. Anim. Art.

9. *Porrostoma serraticorne*, Lap.

10. *Saprinus cyaneus*, Erichs. Uebers. der Hister. in Klug's Jahrb. d. Insectenk. i. p. 178.

11. *Stigmodera Roei*, Hope, 'Synopsis of Austr. Ins.' p. 2, No. 15.

12. *Stigmodera iospilota*, Hope, var. Lap. and Gory, pl. 7. fig. 39.

13. *Diphucrania scabiosa*, Gory? Boisd. Voy. de l'Astrol.

14. *Ptomaphila lacrymosa*, Hope, Man. pt. 3, p. 150.

15. *Belus suturalis*, Boisd. Voy. de l'Ast. Ent. ii. 304, pl. 7, fig. 20.

16. *Catasarcus rufipes*, Schoenh. Curc. v. 814.

17. *Helæus echidna*.

"The dilated sides of thorax meeting in front, and projecting beyond head, a short spine in the middle near the hind margin. Elytra with two rows of spines close to the suture, and another close to the edge, where the dilated part commences: the central rows of spines are not continued to the tip, the spines being placed irregularly; they are also much larger than those of the side row. General surface of thorax and ely-

tra very smooth, shining, the dilated parts of thorax and elytra with the surface somewhat undulated."—ii. 464.

18. *Emcephalus (Cilebe) tricostellus*.

"Much larger than *E. gibbosus*, of a dirty brown, glossed, the wide margin of elytra flat, the extreme edge somewhat turned up, the sides of the elytra at base are somewhat strait, but the edge soon gradually gets rounded off towards tip. Towards the suture the elytron is raised so as to form a very prominent keel down the back of elytra; the general surface of the elytra is somewhat pustulose, and there are three slightly elevated longitudinal lines, nearly meeting (but indistinctly) behind on the convex part of each elytron. The middle of thorax is more shining than the other parts, and seems to have two impressions on the back on each side of a longitudinal, elevated dorsal line."—ii. 464.

19. *Hesthesis cingulatus*, Newman, Annals of Nat. History, v. 17.

20. *Phoracantha semipunctata*, Newman, Id. v. 19.

21. *Hebecerus marginicollis*, Boisd. Faune de l'Océanie.

22. *Bardistus cibarius*, Newman, Entomol. 80.

23. *Paropsis*.

24. *Coccinella Tongataboæ*, Boisd. Voy. de l'Astrol. Ent. ii. 595, pl. 8, fig. 24.

ORTHOPTERA.

25. *Blatta subverrucosa*.

"Apterous, oval; thorax in front semicircular, shrouding the head; posterior angle sharp, rounded behind, the frontal edge bent slightly back, and yellowish; the upper surface brown, rather obscure, the surface irregularly raised, below deep shining pitchy brown. Abdomen yellowish brown, above sprinkled with dark brown, the edges of each segment with several small wartlike prominences; two first segments being also shagreened at the sides, beneath pitchy brown, segments at the base black with green reflections; the femora are pitchy brown; the tibiæ pale yellowish with black spines; the tarsi of a deeper yellow; head dark brown, the trophi and a narrow line on the cheeks yellowish; antennæ somewhat ferruginous."—p. 467.

26. *Mantis latistylus*, Serv. 'Suites de Buffon,' 179.

27. *Mantis rubrocoxata*, Id. 203.

28. *Acheta ? marginipennis*.

"Thorax black with a yellow line above; head as wide as the thorax, with a blunted projection in front between the antennæ, which are very long and situated in a groove in front of the eyes, and have their basal joint very large. No ocelli visible. Thorax wider than long, somewhat narrower in front than behind. Hemelytra very transparent, longer than the abdomen, lying flat upon one another, the outer margin bent down; the horizontal portion has many irregular nerves; there are two longitudinal nerves at the angle formed by the bent down outer margin, which extend from base almost to the tip, the spaces between these nerves being of a yellowish colour, the general colour greyish, there are several oblique parallel veins on the bent down margin; wings very short; posterior legs very long; femora much thickened, brown, at the base very pale; anal appendages very long and hairy. Somewhat allied to the

Acheta arachnoides of Westwood, figured in the 'Naturalist's Library, Introduction to Entomology,' vol. i. pl. 6.'—ii. 467.

29. *Tympanophora pellucida*.

"Antennæ very long, arising from between the eyes, labrum heartshaped, eyes very large, prominent; ocelli 3, the first the largest, situated between the antennæ, the two others being placed on the sides of a slight groove behind them. Prothorax widest behind, in front not so wide as the head; abdomen small, two of the segments on the back with projecting knobs; anal appendages in the male short cylindrical, slightly hooked inwardly, furnished at the end with two teeth, the surface is rough with short bristly hairs. The elytra are much longer than the wings, which again are at least twice the length of the abdomen; the first and second pair of legs are rather stout, the tibiæ having two rows of strong spines on the underside; the hind legs are long and slender, the under surface of the tibiæ being but slightly denticulated. The head is green, the front inclining to yellow, the crown is reddish brown, eyes green, ocelli yellow, two basal joints of antennæ green, the remainder rust-coloured; prothorax green, brown behind, with a broadish line of same colour down the middle; body rusty green, each segment with a dusky ring; elytra pale green with few longitudinal nerves, but many cross ones; wings of a very pale green; anterior legs of a pale brown, femora of second and third pair green; the tibiæ pale brown, the tarsi and joints darker."—ii. 468.

30. *Saga denticulata*.

"Head yellowish green with a brownish tint; the cheeks below the eyes and an irregular mark above the clypeus brownish in some specimens; labrum yellow, in some at the base brown; mandibles pale at base, succeeded by a reddish brown hue, the cutting edges being black and shining; antennæ lower half green, terminal portion brownish green; prothorax without transverse grooves, the surface with minute wart-like prominences; elytra (in male) pale green with darker reticulations, the inner edge with a rosy hue; abdomen of a dark dull green above, beneath pale; legs green, changing into yellowish and brownish; the two rows of spines on the underside of the femora and tibiæ short and blackish; anal appendages in the male knife-shaped, with a broad tooth at base. The ovipositor of female has the edges quite smooth beneath."—ii. p. 469.

31. *Tropenotus cinnamomeus*, Serville, Orthopt. 620.

32. *Calliptamus carbonarius*, Id. 691.

33. *Calliptamus brunneus*.

"Head smooth, of a light brown; antennæ somewhat red, at the tip brownish; ocelli yellow; the four facial keels distinct; thorax light brown behind with foveated impressions, amidst which arise a few longish prominences, transverse grooves feeble, dorsal keel very distinct. Elytra longer than the body, slightly opaque, light brown, with a few indistinct spots; wings scarcely as long as the elytra, with a greenish hue, except at the tip which is brownish; abdomen brown, shining, palest beneath, segments keeled above, posterior tibiæ of a bright red, sides at the base yellowish, spines black, posterior femora with two brown bands on the upper edge about the middle."—ii. 470.

HYMENOPTERA.

34. *Onchorhinus xanthospilos*, Shuck.

"Black—clypeus, mandibles, lower portion of face in front of eyes, a narrow streak above and behind them—anterior margin of collar, tegulæ, tubercles and adjacent part of epimeræ—a round spot on each side of each segment of the abdomen, except the terminal one—apex of the femora, the tibiæ and tarsi, all yellow; the posterior tibiæ being only brown within, and the extreme apex of the joints of their tarsi also brown."—ii. 471.

NEUROPTERA.

35. *Bittacus australis*, Klug, Monog. Panorp. Berlin Trans. sp. 11.

HEMIPTERA.

36. *Chærocynus foveolatus*, new genus.

"Head broad, in front somewhat truncated; ocelli wanting; antennæ five-jointed, second joint longest, third, fourth and fifth, somewhat thickened and nearly equal; beak reaching to base of last pair of legs, if not beyond; third joint the longest; thorax in front notched for reception of head, not so wide as the body; scutellum long and pointed, the line separating it from hemelytra very indistinct; hemelytra without a membrane at the end; tibiæ very spiny; abdomen broadest behind; tarsi of fore-legs very feeble, two-jointed, second joint shorter than the first, and ending in two claws."—ii. 472.

The species is described as "Dark pitchy brown; head, thorax, and body margined with hairs; head above minutely punctured, an elongated space in the middle, smooth; thorax above minutely punctured with some larger impressed dots, and irregularly shaped smooth spaces, the coriaceous part pitted; antennæ and tarsi light ferruginous."—Id.

LEPIDOPTERA.

37. *Papilio Liris*, Godart, Enc. Meth. ix. Pap. 72.38. *Pieris Aganippe*, Boisd. var. Lepidopt. i. 457.39. *Hipparchia Merope*, Fab.40. *Hesperia* ? *Sophia*.

"Above, brownish black; upper wings varied with bluish grey scales, many near the outer margin arranged into a somewhat regular series; a transverse, slightly bent white band runs from near the outer edge close to the tip, to near the middle of the wing; wings fringed with greyish and black; under wings brownish black, with fulvescent orange spots and a band, one small spot somewhat transverse near the middle, beneath this a broadish band extends from the anal margin nearly to the outer side of wing, which is divided by a brown line, leaving an irregular squareish spot, attenuated towards the outer margin; on the margin are three differently shaped spots beginning from the internal margin, and in one of the specimens are four slight lunules, growing fainter as they approach the outer margin. Beneath, upper wings with two transverse fulvescent orange bands, one near the centre, the other at the tip, broadest externally, with three black spots, the outer largest running into it near the margin, interiorly it is much contracted ending in spots; the base of the wings is yellowish

grey, under wings yellowish grey at base, otherwise very similarly marked, the outer part of the orange band having two longitudinal whitish lines on it; antennæ at base fringed with white; club brown. Body above silky yellowish brown; borders of segments lighter; beneath, greyish white."—ii. 474.

This insect is certainly not an *Hesperia*, and I think not even belonging to the *Rhopalocerous* *Lepidoptera*. Mr. White should have given it a generic name.

41. *Hecatesia thyridion*, Feisthamel, *Lepidopt. Voy. Favorite*, Sup. Pl. 5. fig. 1, ♂.

42. *Cossodes Lyonetii*.

"Wings black, with violet, purple and green reflections; upper with a longitudinal line, broken by the black of the wing near the base, the other part extending to the tip of the wing, situated anteriorly, and elbowed posteriorly; near the posterior margin are two irregular white spots, the upper sub-triangular, the under squareish; on the apical margin are seven whitish spots, the first very minute, the second largest, the others gradually diminishing towards the long white line where they terminate—the fringe is black, slightly greyish on the edge; the underside of the wing is greyish at the base, and on the inner edge, then violet, the apical portion being of a silky yellowish brown; the lower wings are purplish violet, the outer margin at the base is whitish, the fringe is black at the base, at the end white—the white forming a broader line than the black; beneath it is violet black, and black with a greenish tinge. The thorax and body in the specimen described is rubbed; the latter seems to be blackish green, banded with white. I have seen a species closely resembling the above in Dr. Boisduval's immense collection."—ii. 477.

43. *Odonestis Elizabetha*.

"Antennæ, with the pectinations rusty brown, lighter at the tips, the stem densely covered with white scales, palpi and head in front deep ferruginous. Thorax thickly clothed with fawn-covered hairs; body above, shining ochrey inclined to orange; short tuft at the end of the body; under side lateritious; upper surface of first pair of wings fawn, with a reddish hue, densely covered with hair-like scales, with shorter and somewhat square scales beneath, the scales over the nervures being reddish; an indistinct line of seven obscure spots still more indistinctly connected by a zigzag reddish line, runs across the wing nearly parallel to its apical margin, and nearer the tip of the wing than the middle. (In one of the two specimens this band of spots is obsolete, or nearly so, as are the reddish-coloured nervures). Second pair of wings of a blush red, the fringe fawn-coloured; under side of both wings, more of a brick colour than the upper surface of second pair; the fringes fawn-coloured; the second pair with a very indistinct band, nearly parallel to the posterior margin; the nerves on the first pair of wings are lighter than the general ground, on the second pair darker; space between the first pair of legs densely clothed with long ferruginous hair; two hind pair of legs with two strong spurs, one rather shorter than the other; the tibiæ have each a tuft of yellowish white hairs, the legs themselves are covered with short ferruginous scales or hair, those on the soles of the tarsus being somewhat ochrey in colour."—ii. 478.

44. *Trichetra Isabella*. Fore wings white, with three fasciæ and the apex black: between the second and third fascia are two subocellated spots, and there are eight spots in the black margin: hind wings black, with the base and apical margin ochraceous. This is congeneric with *Arcturus Sparshallii* of Curtis's 'British Entomology.' Mr. White, alluding to this insect's being described as British, says "there seem doubts of the correctness of this."—ii. 479.

45. *Agagles amicus*.

"A new species, at first sight resembling *Leptosoma annulatum*, Boisduval (Voy. de l'Astrolabe, i. p. 197, pl. 5, fig. 9), but differs; the thorax having four longitudinal narrow, light-coloured lines, the band across the upper wings is more continuous, and the circular spot on lower, larger. It is about the same size, and has the body ringed with black and yellow; the legs are brown; the femora on under side fringed with whitish hairs, simply pectinated; many of the pectinations of the antennæ end in a bristle-like hair; palpi somewhat prominent; last joint pointed."—ii. 482.

Mr. White would have done well in describing insects so entirely new to Entomology as these appear to be, to have given their exact dimensions: it would also be useful to indicate, in every instance, the family to which an insect belongs. Several of the insects are figured in wood, a mode of illustration most acceptable to the enquirer.

EDWARD NEWMAN.

ART. XC. — *List of Longicorns collected at Port Philip, South Australia, by Edmund Higgins, Esq.* By EDWARD NEWMAN.

MR. HIGGINS having most obligingly placed in my hands his fine collection of Australian insects, together with his MS. notes, I lose no time in laying before the readers of 'The Entomologist' a list of the Longicorns.

Family.—PRIONIDÆ.

1. (*Cnemoplites*) *edulis*. Genus novum? Protibiis excurvatis extûs spinosis. *Cnem. edulis*. Piceus, punctus, rugosus: prothorax dorso gibbus, inæqualis, medio cruciatim depressus, spatiis glabris nullis: *maris* abdomen densè lanosum, aureum: elytra apice rotundata, nullo modo armata. (Corp. long. 1·5—2 unc. lat. ·6—·7 unc).

Found under the bark of Eucalyptus in February, 1840. The larvæ of all the native Prionidæ are eagerly sought by the aborigines of Australia as an article of food. The two more common forms of Australian Prionidæ, — the first distinguished by the external side of the protibiæ being toothed or spined, and the second by the same part being perfectly smooth,—have never, I believe, been noticed as gene-

ra. To the first of these, for which I now propose the name of *Cnemoplites*, belongs the *Prionus spinicollis* of MacLeay (Appendix to King, ii. 449), which appears synonymous with the *Mallodon australis* of Boisduval (Faune de l'Océanie, 465); congeneric with these is the *Mallodon Manillæ* of Newman (Entomol. 247), so that the genus already contains three described species.

Family.—CERAMBYCIDÆ.

2. (*Pachydissus*) *sericus*, Newman, Ent. Mag. v. 498. Under bark.
3. *Petalodes laminosus*, Newman, Entomol. 9. On Exocarpus.
4. *Phoracantha semipunctata* Newman, Entomol. 3. Everywhere abundant in January 1840-41.
5. *Phoracantha recurva*, Newman, Entomol. 4. Ditto.
6. *Phoracantha quinaria*, Newman, Entomol. 3. Ditto.
7. *Phoracantha senio*, Newman, Entomol. 4. Under bark of Eucalyptus.
8. *Phoracantha elongata*. *Stenochorus elongatus*, Boisd., Faune de l'Océanie, 478. Everywhere abundant, January, 1840-41.
9. *Phoracantha imbellis*. Puncta; rufo-picea, elytris saturationibus, utriusque maculâ dorsali, subquadrâtâ, subsuturali, ochraceâ, paullò ante medium sitâ; dorso complanatis, apice truncatis, nullo modo armatis. (Corp. long. .5 unc. lat. .1 unc.)

Inhabits New Holland. Three specimens found under the bark of Eucalypti. This pretty little species at first sight a good deal resembles the *Stenochorus elongatus* of Boisduval, but the absence of the apical spines of the elytra, while they are invariably present in the cognate species, is, I think, a sufficient specific distinction, if taken in conjunction with its extremely small size. The antennæ of the males are much less hirsute and shorter; the metafemora less incrassated and shorter: in general form however it closely approaches *elongatus*. It may be remarked that *Stenochorus elongatus* of Boisduval agrees in every character with *Stenochorus dorsalis* of MacLeay, except that Mr. MacLeay has particularly described the latter insect as wanting the spines of the antennæ. The present species must not be mistaken for the *Stenocorus rhombifer*, Hope, Proc. Zool. Soc. 1840, p. 49, which has bidentate elytra, and indeed appears to me identical with *Pho. elongata* of this list.

10. *Didymocantha scutellata*. *Strongylurus scutellatus*, Hope, Proc. Zool. Soc. 1840, p. 54. It appears to me that *Strongylurus scutellatus* and *Coptopterus cretifer* as described by Mr. Hope (l. c. p. 55), are identical. Under decaying timber.
11. *Xystrocera virescens*, Newman, Ann. Nat. Hist. v. 19. Under bark.

12. *Callidium piceum*, Newman, Entomol. 9. Under bark of Eucalyptus.

13. *Callidium artifex*. Caput, prothorax et elytra fusca: antennæ fuscescentes: sternum et abdomen sordidè ochracea: femora sordidè ochracea, apicibus fuscescentibus; tibiis tarsisque fuscescentibus: prothorax dorso complanatus, punctis magnis impressus, spatiis nonnullis elevatis glabris, lateribus rotundatus: elytra complanata, crebrè puncta, apicibus rotundatis: pedes breves, femoribus paullò tumidis: totum insectum pilis longis fuscescentibus obsitum. (Corp. long. .35 unc. lat. .1 unc.)

On dying wattles.

14. *Callidium terebrans*. Piceum, nitidum: utriusque elytri vittà abbreviatà, ante medium sità, medio ferè interruptà, sordidè ochraceà; apice quoque ochraceo: gula, sternum, abdomen et pedes obscurè testacea; antennis, tibiis tarsisque paullò obscurioribus: *precedentis* sculptura et magnitudo; et fortè mera varietas. (Corp. .35 unc. lat. .1 unc.)

Under bark of Eucalyptus.

15. *Callidium signiferum*, Newman, Entomol. 10. Under bark of Eucalyptus.

16. *Pseudocephalus formicides*. Genus novum. Caput exertum, magnum, rotundum, porrectum: oculi ovati, mediocres, ad antennarum basin haud emarginati: antennæ dimidio corporis longiores, graciles, apice paullò crassiores, 11-articulatæ; articulus 1mus elongatus: prothorax capite vix longior sed angustior, anticè valdè angustatus, tubribus ponè medium paullò tumidis: elytra prothorace latiora, lateribus parallela, apice rotundata: pedes longi, femoribus tumescentibus. *Pseud. formicides*. Caput fuscum, sericatum; antennis oreque testaceis: prothorax inæqualis, fuscus, sericatus: elytra fusca, lanugine cinereà sericatà tecta, fascià communi medianà arcuatà, fusco marginatà pallidiori: femora fusca, basi apiceque testacea; tibiæ testaceæ; tarsi testacei apice fuscescentes. (Corp. long. .25 unc. lat. .05 unc.)



17. (*Omites*) *cucujides*. Genus novum? Caput porrectum, vix exertum, prothorace vix angustius: oculi reniformes, subtùs dilatati; antennæ filiformes, dimidio corporis paullò longiores, 11-articulatæ: prothorax ferè cylindræus, capite paullò longior,

lateribus parallelus, nullo modo armatus : elytra longa, parallela, prothorace paullò latiora, triplò longiora, longitudinalitèr depressa, apice rotundata : pedes breves, femoribus paullò tumidis. *Omotes cucujides*. Ochracea; oculis tantùm nigris; nitida, puncta, pilis ochraceis obsita. (Corp. long. .45 unc. lat. .06 unc.)

On tea-scrub.

18. *Pempsamakra dispersa*. Lanuginosa, vix potiùs squamea, aureo fuscoque pulcherrimè varia; elytra rugosa, ferè erosa, obsoletè bi-carinata. (Corp. long. .5 unc. lat. .15 unc.)

On tea-scrub. For the genus *Pempsamakra* see Ent. Mag. v. 495.

19. (*Sophron*) *inornatum*. Genus novum? Caput parvum, ferè pronum, in prothorace ferè receptum : oculi mediocres : antennæ filiformes, corpore longiores, 11-articulatæ, articulus 1mus subcrassus, brevis, 2dus brevissimus, cæteri longi, 4tus cæteris brevior : prothorax oblongus, lateribus rotundatus, inermis : elytra prothorace vix latiora, lateribus parallela, dorso complanata, apice rotundata : pro- et mesopedes mediocres, metapedes desunt ; femoribus manifestò tumidis. *Sophron inornatum*. — Fuligineum, confertissimè punctum : antennæ basi rufo-piceæ : elytron utrumque carinis 2 instructum, 1ma subsuturalis, à basi vix ad medium extendit, 2nda obliqua à humero ferè ad apicem ; carinæ suturaque pilis niveis (medio excepto) obsitæ ; sternum et abdomen lanugine cinereâ obsita. (Corp. long. .5 unc. lat. .1 unc.)

On blossoms of Eucalyptus.

20. (*Stephanops*) *nasutus*, Shuckard, Ent. Mag. v. 510.

Under decaying timber.

21. *Tessaromma undatum*, Newman, Ann. Nat. Hist. v. 20.

On blossoms of Eucalyptus.

22. *Hesthesis cingulatus*, Newman, Ann. Nat. Hist. v. 19.

Family.—RHAGIOMORPHIDÆ.

23. *Stenoderus rectus*, Newman, Entomol. 95.

24. *Stenoderus grammicus*, Newman, Ann. Nat. Hist. v. 21.

25. *Stenoderus Roeii*, Hope, Trans. Ent. Soc. i. 17, tab. II, fig. 3.

This and the two preceding were taken on tea-scrub. The sides of the elytra in this species, and indeed throughout the genus, are perfectly parallel, not tapering to the apex, as represented in the figure to which I have referred.

EDWARD NEWMAN.

(To be continued).

ART. XCI.—*Varieties.*

192. *Strictures on 'Entomological Notes, by Edward Newman.'*—*'The Entomologist'* has the defect of having been compiled with rather too much haste. I hand you a few corrections which appear to be necessary. *Elaphidion deflendum* (Entomol. 6) is identical with *Callidium notatum* of Olivier. *Lamia aliena* (Id. 11) is probably the *Lamia ferrugator* of Fabricius. *Callia axillaris* (Id. 14) has been described under the name of *Exocentrus axillaris*, in Germar's '*Species Insectorum.*' The genus *Curius* of Newman (Id. 17) is identical with the genus *Plectromerus* of Dejean's '*Catalogue des Coléoptères:*' Olivier published a species of the same genus under the name of *dentipes*, which increased the number of species to five, the *Pl. dentatus* of Dejean being distinct. The genus *Glaphyra* of Newman (Id. 19) is too near *Glaphyrus* of Latreille, it should therefore be changed. *Elaphidion spinicorne* (Id. 25) of Fabricius is not found in Brazil, but rather in North America. *Cerambyx torridus* of Olivier does not belong to this genus, but to the genus *Cordylomera* of Serville; this I can affirm, having long had the species in my possession: it is from Senegal. *Elaph. bidens*, Ol.; Olivier's original specimen of this insect, now in my possession, is from Carolina. *Pachyta Ione* (Id. 30) is *Pachyta Servillei* of Serville's '*Nouvelle Classification,*' Ann. iv. 213; it is from North America. *Leptura interrupta* (Id. 72) does not appear to me different from *Leptura vittata* of Olivier. *Hispa Pluto* of Newman (Id. 77), is without doubt the *Hispa excavata* of Olivier. Genus *Brachytria*, (Id. 95); is this a genus of Coleoptera, and to what tribe or family does it belong? There are no characters given by which one can recognise it.—*Chevrolat*; 25, *Rue Fontaine, St. George's, Paris, May 25, 1842.*

[I am always obliged for such criticisms as these; and although some of them appear very just, I cannot regret having published descriptions of species which had long stood unnamed, even though they should be doubly named, because a double name is better than no name, and entomologists have no choice but to adopt the rule of priority. As I fully intend, before the close of the volume, to give a list of addenda and corrigenda, I think it as well not to enter on this task at present; yet I must protest against the adoption of Dejean's Catalogue names, in preference to those to which I have appended descriptions. If we once admit this principle, where would it lead us? I might invent and print a catalogue of 100,000 names and date it 1842; and I might assert that every insect published during the next fifty years was previously named in my catalogue. The proposition strikes at the very root of science.—E. N.]

193. *Anacampsis longicornis*, &c. I captured some fine varieties of this beautiful insect on Chat Moss, May 1st; the specimens varying from a brick red to nearly black: Wood's figure of the insect is very

bad. Along with the above I took a new species, quite black, not figured in that work. In the same locality I have taken this year, the following insects : —

Heusimene fimbriana, Step.	Acronycta Rumicis	Hipparchia Davus
Heribea Haworthana	Menyanthidis	Bupalus favillacearius
Anacampsis Betulea	Hadena adusta	Anarta Myrtilli
marmorea	Lappo	Phycita fusca
Lampronia auropurpurella	Notodonta Dromedarius	Orthosia intermedia, Step.
Achatea piniperda		

R. S. Edleston ; 13, Derby St., Cheetham, Manchester, June 9, 1842.

194. *Oporabia polata*. I have captured a female specimen of this insect off stone walls near Staley Bridge, every year for the last three years. Mr. Weaver met with it in the Isle of Arran last year.—*Id.*

195. *Nemeophila Plantaginis* is caught with the best success from two to three o'clock in the afternoon. The plan is to walk amongst the long grass, where they are concealed. On being put up, they fly swiftly for about twenty yards and settle; then they may be taken by using a little caution in approaching with the net. Before and after this hour of the day they keep perfectly quiet. On the 8th of June I took several specimens in Lord Scarborough's park at Sandbeck, at the same time taking *Nemeobius Lucina*, *Melitæa Artemis* &c. *Melitæa Selene* was very abundant. — *John Heppenstall ; Upperthorpe, near Sheffield, June 10, 1842.*

196. *Phragmatobia fuliginosa*. Last May I obtained a female, which laid eggs; these hatched, and the caterpillars are thriving well under the excellent system of breeding so successfully practised by Mr. H. Doubleday; and I am pretty confident by this plan of rearing this handsome and rather rare moth.—*Id.*

197. *Melitæa Artemis*. This insect has appeared in two localities near us, at Ongar woods and at High Beech. I little thought of seeing it in this neighbourhood.—*H. Doubleday ; Epping, June 14, 1842.*

198. *Larva of Pterophorus galactodactylus*. In April I noticed the leaves of the burdock eaten into holes, and on examining the under side I found several small green hairy larvæ, which have produced *Pterophorus galactodactylus*, a rare species in our neighbourhood. — *Id.*

199. *Larva of Miana latruncula* &c. I have this year discovered the larvæ of *Miana latruncula* &c. They much resemble those of the Tortrices, and I thought might possibly belong to a species of *Hypena*: they feed on grass, nettles, willows &c. I have bred *M. strigilis*, *præduncula* and *æthiops* of Stephens from similar caterpillars, clearly proving they are all one.—*Id.*

200. *Capture of minute Lepidoptera in May*. Should you think

the following list of Lepidoptera captured by me in the month of May worth inserting in 'The Entomologist,' it may be useful to some of your subscribers to know when to look for them.

<i>May 1.</i>	<i>Semioscopis Steinkellnerana</i>	<i>Eupœcilia nana</i>
<i>Semasia perlepidana</i>	<i>Gracillaria syringella</i>	<i>Antithesia corticana</i>
<i>Pseudotomia fraternana</i>	<i>May 15.</i>	<i>Orthotania comitana</i>
<i>atromargana</i> [trana	<i>Heribeia simplicella</i>	<i>Lophoderus ministranus</i>
<i>Steganoptycha tetraque-</i>	<i>Anacampsis Betulea</i>	<i>Spilonota rusticana</i>
<i>angulana</i>	<i>rhombella</i>	<i>May 29.</i>
<i>Microsetia sericiella</i>	<i>dodecella</i>	<i>Macrochila bicostella</i>
<i>floslactella</i>	<i>Argyromiges sylvella</i>	<i>Aphelosetia marginea</i>
<i>Lampronia auropurpurella</i>	<i>Astyages flavicaput</i>	<i>Batia flavifrontella</i>
<i>purpurella</i>	<i>Lampronia Helwigella</i>	<i>Lampronia Seppella</i>
<i>subpurpurella</i>	<i>Ennychia octomaculata</i>	<i>bistrigella</i>
<i>Argyromiges Harrisella</i>	<i>Anarta Myrtilli</i>	<i>Microsetia aurella</i>
<i>Cramerella</i>	<i>May 22.</i>	<i>Pfeifferella</i>
<i>mespilella</i>	<i>Anchylopera siculana</i>	<i>Drepana falcataria</i>
<i>Aphelosetia rufocinerea</i>	<i>uncana</i>	<i>Bupalus piniarius</i>
<i>Incurvaria maseulella</i>	<i>Lundana</i>	<i>Pterophorus trigonodactylus</i>
<i>Cœphora sulphurella</i>	<i>Anticlea subocellana</i>	

W. Courtney; 5, Charles Court, Hull St., St. Luke's, June 20, 1842.

201. *Sphinx Ligustri* and *Smerinthus ocellatus*. I know you were somewhat sceptical about the hybrids said to have been produced between *Smerinthus ocellatus* and *Populi*, but I write to tell you of something far more extraordinary. On opening one of the cages this morning, to my astonishment I found a male *Sphinx Ligustri* in copulâ with a female *Smerinthus ocellatus*; and what renders this still more singular is that there were several individuals of both sexes of the two species at the same time in the cage. Of course, if the female lays eggs and they hatch, I shall take every possible pains to rear them.—*Henry Doubleday; Epping, June 21, 1842.*

202. *Captures near West Teignmouth, Devon.* I am very sorry to find you are going to discontinue 'The Entomologist'. The only good captures of the present year in this neighbourhood are *Agrotis suffusa*, *Eupithecia coronata*, *Zeiraphera hastiana* and *Homœosoma gemina*. I saw *Botys longipedalis* the other day but did not catch it; it is a common insect on the cliffs in this neighbourhood. — *Robert Jordan; West Teignmouth, Devon, June 21, 1842.*

203. *Shuckard's Elements of Entomology.* Permit me through the medium of your valuable miscellany to enquire whether there is any probability of Mr. Shuckard's 'Elements of Entomology' being completed, the 'British Coleoptera' being very incomplete without it. I hope Mr. S. will muster courage to finish it now, as I perceive there

is to be a re-issue of the latter work. I should also feel gratified by observing an advertisement that Mr. Shuckard's long-promised work on the British Bees was ready for sale.—*James Bladon ; Pont-y-Pool, June 21, 1842.*

[I shall feel obliged by a reply from Mr. Shuckard.—E. N.]

204. *Notes on Captures.* This season is a good one for Lepidoptera. The following among many others have fallen to my share ; a notice of their capture may be interesting.

Clostera reclusa. Bred May 14th from larvæ found last September on dwarf poplar at Birch Wood.

Ptilodontis palpina. April 30, Putney Heath.

Demas Coryli. Bred May 5, larvæ found last October in Norbury Park, on beech and hazle.

Rusina ferruginea. Richmond Park, June 17.

Apamea secalina. May 27, marshes at Deptford.

Nonagria Vectis. June 8.

Cucullia Chamomillæ. May 19, near Wimbledon common.

„ *Asteris.* June 26, near Dulwich Wood.

Ceropacha ridens. Bred April 21, from larvæ found last June on oaks in the New Forest. I have also taken the larvæ this year at Leatherhead Common.

Thyatira batis. Birch Wood, July 2.

Hipparchus vernarius. Darenth, July 3.

Geometra illustraria. April 24, one female beaten out of a yew-tree at Birch Wood.

Geometra lunaria. June 16, Dulwich Wood.

Eurymene Dolabraria. Richmond Park, June 5.

Eupithecia variegata. Bred April 29, from a larva found last September at Birch Wood.

Lobophora sexalisata. Wimbledon Common, May 25.

Semasia perlepidana. Wimbledon Common, April 30.

Anchylopera Lundana, siculana, cuspidana. Wimbledon Common, May 14.

Carpocapsa grossana. Near Norbury Park, June 11.

Peronea umbrana. Birch Wood, May 1.

Epigraphia Steinkelnerana. Near Dulwich Wood, April 18.

Macrochila bicostella. Putney Heath, June 2.

Pancalia Latreillella. Norbury Park, June 11.

Callisto Fyeselella. Wimbledon Common, June 2.

Leptura 4-fasciata. The larva feeds on the rotten stumps of birch. I found some at West Wickham last March.

Tinea semifulvella. Richmond Park, June 17.

Aradus corticalis. Inhabits dried Boleti, in which I found them on stumps of trees and on palings in the New Forest, in June, 1841.

The saccharine system of taking moths has proved very successful to me, so far as numbers are concerned. There are two posts in our little garden here, which I have wetted with sugar and water every night that I have been at home, and to these the moths came in droves — common sorts in general, it is true, yet occasionally I get a good one. *Nonagria Vectis* was taken in this way. I think some of our rarer moths might be obtained in this manner, if collectors living near their localities would try it: Mr. Edleston however says that it is useless at Manchester, possibly the sugar he uses is not strong enough; treacle I find does equally well. Having informed several friends of the capture of the two larvæ noted in a previous number (Entomol. 309), they joined in the search for more, and during April a good many were taken: these have hitherto produced *Triphæna orbona*, *T. janthina*, *T. fimbria*, *Graphiphora brunnea*, *G. triangulum*, *G. baja*, *G. festiva*, *Phlogophora meticulosa*, *Polia bimaculosa*, *P. tineta*, *Ourapteryx sambucaria* and *Campæa margaritata*. All these larvæ were nearly full fed, and had doubtless lived through the winter. Their capture by lamp-light should be an inducement to search for the larvæ of other and rarer species, on plants whereon they are known or supposed to feed.—*J. W. Douglas; Coburg Road, Kent Road, July 6, 1842.*

206. *Note on the Species and Economy of Cerura.* In submitting to you the following views, it is not my intention to put my opinions in opposition to those possessing more scientific knowledge, I shall merely state my practical experience on the subject. I have for several years taken the smaller species of this genus in the larva, pupa, and imago states. Last autumn, from very distant localities, I took several larvæ amongst which two were distinct; subsequently I found several in the pupa state; all these, during the latter part of May and the beginning of June I have bred. As far as I can perceive several species in the Catalogue are produced from the same larvæ; the two which were different from the others are smaller, but I cannot perceive much variation in their markings. Mr. J. Standish, this last and the preceding autumn (October), beat off fallow two larvæ which appeared to be different, and have produced what is called *bicuspis*, which I think is a good species; and from the others I think all the species can be made out, however *I must think so till I see the larvæ.* The following account of the economy of the larvæ of these insects may interest some of your readers. Before they enter the pupa state,

the larvæ, like those of *Notodonta ziczac*, *dromedarius* &c., change to a bluish grey, the beautiful saddle-like marking with its yellow border appears much darker, but is blended into the general tint. They next spin a thick web, and then eat into the bark or wood on and in which they form the cocoon. The particles eaten off are forced through the web, giving it the appearance of the substance to which it is attached, so that it is not easily discovered until winter's rains and winds have bleached it. The cocoon is generally erect, the head of the insect being uppermost. The escape of these beautiful insects from the cocoon is as mysterious as the manner in which they form it: how so delicate a creature can, without injury, break through so hard a substance, is one of the wonders of Entomology. I have observed that the perfect insects generally come out towards evening; they remain quiescent much longer than several of our *Lepidoptera* before they begin to expand their wings, and previously to doing so they rarely remove far from the cocoon. The larva of this genus is attacked by a very small parasite of a metallic green or bronze colour. So far as my experience goes, it does not appear to attack the larva until the latter has formed its shell-like covering, and has entered the pupa state, or is about doing so. The parasite then drills a small hole in the cocoon, through which it deposits its eggs. It has been suggested that this hole probably affords the means of egress; this cannot be the case, as the hole is funnel-shaped, being larger at the top than at the bottom. On opening one of these cocoons in August last I found it full of the fly; and a few days afterwards I discovered a cocoon, which, from the freshness of the edges of the hole, I concluded had been recently perforated; by means of a powerful glass I could perceive that the tenant was still in the larva state, and at work. This cocoon I opened the middle of last month, and found that the larva had gone into the pupa state and was full of small cocoons, from which no doubt the same flies had been produced, but they had all escaped from the cage where the cocoon had been placed, the hole made by the parent fly having afforded them the means of egress. — *Alfred Lambert*; 6, *Trinity St., Southwark*, July 7, 1842.

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXIII.

AUGUST, MDCCCXLII.

PRICE 6D.

ART. XCII.—*List of Insects collected at Port Philip, South Australia, by Edmund Thomas Higgins, Esq.* By EDWARD NEWMAN.

Natural Order.—CERAMBYCITES.

(Continued from page 354.)

Family.—LAMIIDÆ.

26. *Acanthoderus marginicollis*, Boisduval, Faune de l'Océanie, 490.

Found in December and January, on dying wattles. Some of the numerous specimens of this insect are much worn, and I may possibly have placed more than one species under this name.

27. *Acanthoderus australis*, Boisduval, l. c. 489.

Found in December, on Wattles. The specimens of this insect differ slightly from those I possess under the same name.

28. *Acanthoderus inglorius*. Niger, concolor, lanugine cinereâ irroratim obsitus: antennæ pilosæ, articulis basi cinereis: caput et prothorax confertissimè puncta, punctis haud magnis at confluentibus: elytra puncta, punctis magnis, profundis, distinctis, utriusque carinæ 2 elevatæ glabræ, ante basin desinientes, ante apicem adjungentes carinâ singulâ desinientes. (Corp. long. .6 unc. lat. .25 unc.)

Found in December and January, on Wattles. This specimen, being in good preservation, and essentially differing in colour, &c. from the previously characterized species, I have ventured to describe as new.

29. (*Pentacosmia*) *scoparia*. Genus novum? Antennæ corpore longiores, hirtæ, 11-articulatæ, articuli 3 et 4 valdè longi, 5us fasciculo scopario gaudens, cæteri breves simplices: oculi ad antenarum basin angusti: prothorax latitudine brevior, dorso transversè obsoletè rugatus, lateribus medio 1-dentatus: elytra dorso complanata, apice rotundata: pedes mediocres, femoribus paullò tumidis. *Pent. scoparia*. Fusco-picea, lanugine pallidiori maculatim obsita: elytra obsoletè 1-carinata, puncta, punctis magnis profundis undiquè sparsis. (Corp. long. .25 unc. lat. .1 unc.)

On Wattle trees, in December and January.

30. (*Rhytiphora*) *mista*. Fusca, maculis minutis cinereis vel ochreis omninò varia: antennæ nigricantes, articulorum basi cinereâ: elytra præsertim basi tuberibus incertis scabra. (Corp. long. 1·2 unc. lat. ·45 unc.)

On Exocarpus, in December, 1840. This insect resembles in size and figure the well-known *Lamia porphyrea* of Donovan, but the fringe of the antennæ is very short and scarcely observable, and the basal joint is black instead of red, as in that species. The wrinkles or folds of the prothorax are irregular and shallow. The basal portion of the elytra has scattered and indistinct tubers; these are not nearly so obvious as in *porphyrea*, where they give the elytra a file-like character: the pale downy spots scattered over every part of the insect are of two colours, cinereous and ochraceous; they are very variable in form: the fore and middle legs have a somewhat uniform coating of down, while that on the hind legs is more varied, mixed and spotty.

31. (*Rhytiphora*) *nigrovirens*. *Lamia nigrovirens* of Donovan.

Under decaying timber.

32. (*Rhytiphora*?) *caprina*. Fusca, lanugine pallidiori obsita, maculis nonnullis minutis flavidis ornata: antennæ corpore vix breviores, subtùs pilosæ, basi vix distantes: prothorax capite vix latior, lateribus rectus, dorso tuberibus binis minutis glabris armatus: elytra prothorace paullò latiora, puncta, punctis haud magnis, sparsis, basin versus tuberibus nonnullis dentiformibus instructa, apice vix manifestò truncata, lanugine canâ præsertim lateralitèr et versus basin obsita. (Corp. long. ·55 unc. lat. ·2 unc.)

On Wattle trees, in December and January.

33. (*Symphyletes*) *nodosa*. Genus novum? Antennæ corpore paullò longiores, graciles, articulo basali brevi, tumido, cæteri graciles, paullò curvatæ, ultimo apice repente curvato: prothorax capite paullò latior, lateribus parallelus dente antico minuto instructus: elytra prothorace latiora, longa, parallela, apice plùs minùsve truncata, plùs minùsve bidentata: pedes mediocres, femoribus paullò tumidis. *Symp. nodosa*. Fusca, lanugine pallidiori obsita, antennarum articuli manifestò curvati, fusci, maculis minutis albidis irrorati: prothorax dorso inæqualis, tuberibus binis elevatis instructus: elytra dorso valdè inæqualia, utriusque tubere oblongo elevato prope basin, pustulis quoque nonnullis lanuginosis præsertim basalibus; puncta, fusca, lanugine fuscescenti obsita, maculis quoque nonnullis lanuginosis, cinereis, luteisve ornata. (Corp. long. ·75 unc. lat. ·275 unc.)

On the blossoms of *Exocarpus*, *Eucalyptus*, and tea-scrub. This form of *Lamia* appears frequent in Australia. *Lamia pedicornis* and *L. Solandri* may be referred to it.

34. *Parmena rugulosa*, Guérin, Voyage de la Coquille, pl. 7, fig. 9.
Under decaying timber.

Natural Order.—CLERITES.

In an early number of 'The Entomologist' I described several Australian Clerites under the generic name of *Clerus*, at the same time expressing an opinion that they could not with propriety be included in that genus: on the present occasion I think it best to assign a generic name to each species, still however placing such names in parentheses to indicate their minor importance.

35. (*Xanthoceros*) *fasciculatus*. Genus novum? Antennæ clavatæ haud capitatæ, articulus ultimus præcedentibus duplò longior, vix lator. *Xanth. fasciculatus*. *Clerus fasciculatus*, Schreiber.

On White Gum. The described species which I suppose referrible to the proposed genus *Xanthoceros* have brilliantly yellow antennæ, which moreover are structurally different from those of the European genus *Clerus* or *Trichodes*, the only other genus to which the species assimilate.

36. (*Xanthoceros*) *idoneus*. Antennæ flavæ: elytri utriusque fasciis 2 tenuibus obliquis albidis: cætera nigra, fulgore purpureo nitentia: caput et prothorax puncta, punctis mediocribus, confluentibus, indistinctis: elytra asperè puncta, punctis magnis, profundis, distinctis, subseriatim dispositis: pedes nigri, tarsis ferrugineis, quasi 4-articulatis. (Corp. long. '6 unc. lat. '15 unc.)

On blossoms of *Eucalyptus*, in November and December. The first fascia of each elytron is placed rather before its middle; it commences near, but not at, the lateral margin, and proceeds obliquely downwards until it nearly approaches the suture, when it bends upwards, still however not quite reaching the suture: the second fascia is placed rather below the middle; it commences at the lateral margin, and proceeds obliquely upwards to the suture: the first fascia is naked, the second densely lanuginose: near the apex of the elytra is a sutural space, nearly glabrous, and of a deep metallic green colour.

37. (*Xanthoceros*) *splendidus*, Newman, Entom. 15. On blossoms of *Eucalyptus*, in November and December.

38. (*Xanthoceros*) *simplex*, Newman, Entom. 16. Ditto.

39. (*Xanthoceros*) *pulcher*, Newman, Entom. 16. Ditto.
40. (*Eleale*) *rugosa*, Newman, Entom. 36. On the blossoms of the common Ranunculus.
41. (*Eleale*) *obscura*. Clerus obscurus, Newman, Entom. 16. On the blossoms of Eucalyptus.
42. (*Pylus*) *fatuus*. Genus novum. Prothorax lateribus medio tuberculatus, corpus obesum. Clerus? *fatuus*, Newman, Entom. 35. On blossoms of White Gum, in December and January.
43. (*Pylus*) *bicinctus*. Antennæ nigræ, articulis basali et apicali ferrugineis: caput et prothorax nigra, aspera, obscurè hirta: elytra nigra, punctis incertis confluentibus aspera, lanugine nigerrimâ obscura, fasciis 2 communibus tenuibus lanuginosis micantibus albidis ornata; fascia 1ma recta paullò ante medium sita; 2nda paullò arcuata ante apicem sita: abdomen et pedes obscurè ferruginea; tarsi quasi 4-articulatis: insectum obesum. (Corp. long. .3 unc. lat. .1125 unc.)

On blossoms of Eucalyptus.

44. (*Thanasimus*) *accinctus*. Antennæ fuscescentes: caput nigrum, punctum, hirtum: prothorax asperè punctum, hirtum, ferrugineum (*exemplario altero* nigrum): elytra hirta, confertim puncta, punctis confluentibus; nigra, fasciâ ferè medianâ, communi, rectâ, maculâque communi apicali albidis: abdomen nigrum: pedes ferruginei, tarsi quasi 4-articulatis. (Corp. long. .25 unc. lat. .07 unc.)

On blossoms of Eucalyptus.

45. (*Thanasimus*) *acerbus*. Antennæ fuscescentes, pro corporis magnitudine parvæ, subserratæ, apice vix crassiores: caput pronum, ferè trigonum; oculis magnis: prothorax asperè punctus, densè pilosus, fuscescens: elytra fuscescentia, basi pustulis elevatis scabra, hirta, fasciâ indistinctâ communi ante medium sitâ obscuriori, alterâque distinctâ pone medium sitâ, ad suturam angustatâ, ferè interruptâ, apice cano-lanuginosa: pedes picei, fusco varii, tarsi 5-articulatis. (Corp. long. .3 unc. lat. .1 unc.)

On blossoms of Eucalyptus.

46. (*Thanasimus*) *confusus*. Antennæ basi piceæ aut rufo-piceæ, apice fuscæ: caput et prothorax nigra vel picea, lanugine sericatâ obsita, puncta, hirta: elytra nigra vel picea, fasciis 2 incertis undatis pravis canescentibus sericatis, hirta, puncta, punctis lineatim dispositis: pedes hirti, fuscescentes, tarsi quasi 5-articulatis. (Corp. long. .25 unc. lat. .075 unc.)

On blossoms of Eucalyptus.

47. (*Notoxus*) *porcatus*, Fab. Syst. Eleu. i. 287. Under the bark and on the blossoms of White Gum, in December and January.
48. (*Opilus*) *congruus*. Umbrinus, elytrorum fasciâ communi ferè rectâ, paullò pone medium sitâ, maculâ quoque utriusque apicali testaceis: femora basi lætè pallida: caput et prothorax puncta, punctis parvis distinctis haud confluentibus: elytra puncta, punctis magnis profundis, subseriatim dispositis, ante apicem indistinctis, ferè obsoletis: tarsis quasi 4-articulatis. (Corp. long. .45 unc. lat. .11 unc.)

On blossoms of Eucalyptus. Extremely similar to *Opilus mollis*.

49. *Hydnocera* ? *conferta*. Antennæ parvæ, basi testacæ, apice fuscescentes: caput et prothorax nigro-purpurea, puncta, punctis vix determinatis ferè asperis: elytra nigro-ænea, nitentia, nec maculata nec fasciata, puncta, punctis confertis, confluentibus, nec magnis nec profundis: pedes rufo-testacei, femoribus apice tarsisque fuscescentibus. (Corp. long. .3 unc. lat. .07 unc.)

On blossoms of Eucalyptus.

Natural Order.—PSEUDOMORPHITES, *Newman*.

The insects forming this natural order are remarkable for possessing many of the structural characters and the economy of the Carabites, while the lateral margins of the head, prothorax and elytra, form an almost uninterrupted and continuous outline, thus giving the body that figure and appearance possessed by the Dytiscites and Gyrinites, so peculiarly adapted to the aquatic economy of those orders. From the very valuable observations of Mr. Haliday (Entomol. 305) on *Adelotopus Dytiscides*,* it appears that these insects naturally form a

* *Adelotopus Dytiscides*. Ater, lævis, elytra obsoletè striata, minutissimè puncta. (Corp. long. .375 unc. lat. .2 unc.)

Several specimens were found by Mr. Davis under bark of Eucalyptus, at Adelaide. The head is immersed in the prothorax, the outline of the two being all but continuous: the prothorax is very convex transversely, its lateral margins dilated and recurved: the elytra are very convex transversely, the lateral margins nearly parallel, dilated and recurved; the basal margin is also dilated, attenuated, and folded back on the elytron, to which it is closely soldered; it partially covers the lateral margin of the scutellum, which is of moderate size and triangular, and the suture between the scutellum and this folded portion of the elytron is so nicely fitted as to be observable only under a lens of high power: the folded portion of each elytron, together with the scutellum, unite in forming a most anomalous band across the insect, between the prothorax and normal part of the elytra. For a long time I supposed this insect identical with the *Adelotopus gyrinoides* of Hope, but now believe it to be distinct.

group equivalent to the Carabites, Dytiscites, and Gyrinites. We have abundant evidence in the testimony of Mr. Davis and Mr. Higgins that these insects are not aquatic, although they assume the form and even structural characters of aquatic groups. I think, therefore, there is no choice but to raise them to a rank equal to that of the other orders, and to apply to them a name indicative of the genus first described.* The order at present contains but a single —

Family.—PSEUDOMORPHIDÆ, *Newman*,
whose characters must consequently be those of the order.

50. *Adelotopus inquinatus*. Nitidus, glaber, ater, elytrorum apex latè rufus, abdominis apex quoque rufus. (Corp. long. .35 unc. lat. .13 unc.)

Under bark of Eucalyptus. The head is very convex, rounded in front, and its outline almost continuous with that of the prothorax : prothorax very convex transversely, but nearly straight longitudinally ; its lateral margins slightly dilated ; the dilated portion recurved, and the sides of the head slightly produced ; the posterior angles rounded : the scutellum is apparent as a mere point : the elytra are long, transversely very convex, the sides parallel, with a slightly dilated and recurved margin : the apex broadly truncate ; the angles of the truncature rounded : the abdomen protruding considerably beyond the elytra : the entire insect above is smooth and shining ; the abdomen beneath manifestly shining : the legs are very short ; the femora greatly dilated and oval : the metasternum is produced posteriorly into two divaricating lobes, as in the genus *Dytiscus*.

51. *Adelotopus Scotytides*. Nitidus, glaber, ater, scutelli marginibus et elytrorum apicibus piceis : abdomen fusco-ferrugineum. (Corp. long. .225 unc. lat. .1 unc.)

Found with the preceding, under bark of Eucalyptus. The antennæ are very small, flattened, and the divisions of the joints are exhibited rather as transverse striæ than obvious divisions ; they however follow the normal form, as figured in the illustrations of Mr. Hope's paper : † the scutellum is large and triangular : the elytra are dorsally much flatter than in the species previously described ; they are broadly

* *Pseudomorpha excrucians*, Kirby, Trans. Linn. Soc. xiv. The same insect has subsequently been described by Dejean as *Axinophorus Lecontei*, and again as *Drepanus Lecontei* : the name *Drepanus* appears to have been proposed by Illiger, but no definition was given.

† Trans. Ent. Soc. of London, vol. i. pl. 1, fig. 1—9.

truncate; the exterior angles are obviously rounded, the interior scarcely so. In figure and size this insect very much resembles *Scolytus destructor*: it will probably form a genus intermediate between *Adelotopus* and *Silphomorpha*, a species of which is described below. For the genus the reader is referred to the paper by Mr. John O. Westwood, entitled "Illustrations of the Relationships existing amongst Natural Objects, usually termed Affinity and Analogy, selected from the class of Insects," and published in the Transactions of the Linnean Society, xviii. 409: in this paper three new species of this remarkable order are described.

52. *Silphomorpha guttigera*. Nitidus, glaber, ater, elytrorum maculâ medianâ communi, longitudinalitèr oblongâ, lætè ferrugineâ. (Corp. long. .3 unc. lat. .15 unc.)

Under bark of *Eucalyptus*. In size, shape and general appearance, excepting the bright ferruginous spot, it closely resembles our common *Gyrinus*. This and the two preceding species run with great agility, and are captured with difficulty: they never occurred in, or particularly near, water.

Natural Order.—CARABITES.

53. *Cymindis australis*, Dej. Sp. Col. ii. 448. Under bark.
 54. *Calleida vittata*, Dej. Between the layers of Stringy bark and under Woolibut bark.
 55. *Calleida suturata*. Caput asperè punctum, cum antennis ferrugineum, oculis tantùm nigris: prothorax obcordatus, latitudine manifestò latior angulis posticis paullò productis, dorso longitudinalitèr profundè canaliculatus, medio ferè glaber, marginibus postico et lateralibus profundè punctis: elytra ferrugineo-fusca, marginibus suturâque pallidioribus, 8-striata, striis sub lente manifestò punctis, interspatiis quoque punctis; elytrorum truncatura lata paullò concava, angulo externo rotundata, interno subacuta. (Corp. long. .4 unc. lat. .13 unc.)

Under bark.

56. *Lebia corticalis*, Dej. Sp. Col. v. 390. Between the layers of Stringy bark and under Woolibut bark.
 57. *Lebia callida*. Caput læve, ferrugineum, ferè trigonum, antennis obscurioribus, oculis nigris: prothorax lævis, ferrugineus, latitudine latior, truncatura lata, recta, angulis quadratis, bene determinatis, vix acutis: elytra 8-striata, striis subtilissimè punctis, interspatio marginali punctis nonnullis magnis interrupto, cæteris

lævibus, truncatura obliqua haud valdè manifesta; fusca, utriusque macula magna ferruginea, a basi ferè ad medium extendit; marginibus quoque apiceque ferrugineis. (Corp. long. .45 unc. lat. .2 unc.)

Under bark.

58. *Lebia luctuosa*. Lævis, glabra, piceo-fusca, prothoracis elytrorumque marginibus subdiaphanis, pallidis: prothorax longitudine latior, dorso longitudinalitèr 1-canaliculata, margine postico lato, angulis distinctis: elytra 7-striata, striis manifestis, vix profundis, truncatura paullò sinuata. (Corp. long. .3 unc. lat. .15 unc.)

Under bark of Woolibut and under Stringy bark.

59. *Lebia luculenta*. Caput nitidum, ferrugineum, antennis obscurioribus, oculis nigris: prothorax ferrugineus nitidus transversim tenuissimè rugatus, latitudine brevior, angulis posticis manifestis, vix productis, haud acutis: elytra fusca, utriusque maculâ magnâ sesquialterâ discoidali, alterâ difformi apicali, margineque laterali ferrugineis, confertim ac subtilissimè puncta, longitudinalitèr lineatim quasi striis obsoletè impressa. (Corp. long. .3 unc. lat. .15 unc.)

Between the layers of Stringy bark and under Woolibut bark.

60. *Lebia benefica*. Caput et prothorax glaberrima, nitidissima, ferruginea; antennis obscurioribus; oculis nigris: prothorax longitudine latior, angulis posticis manifestis, haud acutis: elytra glaberrima nitidissima, 7-striata, fusca, utriusque maculâ scutellari parvâ, alterâ exterâ discoidali longâ difformi ferrugineis. (Corp. long. .25 unc. lat. .11 unc.)

Between the layers of Stringy bark and under Woolibut bark.

61. *Lebia posticalis*. Guérin, Voy. de la Coquille, pl. 1, fig. 8.

Between the layers of Stringy bark and under Woolibut bark.

62. *Lebia irrita*. Fusco-ferruginea, nebulis certis sed indeterminis obscurioribus: caput glabrum, nitidum: prothorax (medio glabro excepto) confertim punctus, latitudine brevior, angulis posticis haud productis, vix distinctis: elytra confertim puncta, quasi obsoletè striata, apice latè ac ferè rectè truncata: abdomen fusco-ferrugineum, pedibus paullò dilutioribus. (Corp. long. .2 unc. lat. .1 unc.)

Between the layers of Stringy bark and under Woolibut bark.

63. *Lebia mollis*. Sordidè ochracea vel potius lutosa, fasciis 2 obscuris fusciscentibus, quarum 1mâ basali, 2dâ pone medium; colores valdè indistincti sine dubio inconstantes: insectum, plerumquè

elytris, confertim punctum, elytris manifestò lineatim impressis : prothoracis anguli postici benè determinati, haud acuti : elytra quadratim truncata, abdomine manifestò breviora, angulis externis rotundatis. (Corp. long. .175 unc. lat. .075 unc.)

Between the layers of Stringy bark and under Woolibut bark.

64. *Lebia civica*, Newman, Entomol. 31. Under bark of Woolibut.

65. *Helluo costatus*, Latreille. Under stones.

66. *Carenum loculosum*. Nigrum, frons profundè longitudinalitèr bisulcata : prothorax transversè lunatus, medio longitudinalitèr sulcatus : elytra foveis magnis pravè dispositis aspera : protibiae dentibus 2 longis externis, spinisque 2 internis armatae : mesotibiae dentibus 5—6 externis minutis spinis 2 apicalibus. (Corp. long. .625 unc. lat. .25 unc.)

This insect was found dead ; it is very imperfect, wanting the antennae and some of the legs. It is perfectly distinct from *Carenum Spencii* described by Mr. John O. Westwood, at page 85 of his periodical entitled “*Arcana Entomologica*.”

EDWARD NEWMAN.

(To be continued).

ART. XCIII. — *Supplementary Note to the Descriptive Catalogue of the Longicorn Beetles collected in the Philippine Islands by Hugh Cuming, Esq.* By EDWARD NEWMAN.

(THE insects enumerated below are in the cabinet of Mr. Waterhouse)

Family.—LAMIIDÆ.

I do not recollect having seen any character defined by which the Lamiidæ may be readily distinguished from the Cerambycidæ. I would suggest the following : in the Cerambycidæ, as well as the Prioidæ and Lepturidæ, the mesotibiae are externally naked throughout their entire length ; whereas in the Lamiidæ the apical portion of the mesotibiae externally is more or less hirsute, sometimes densely clothed with hair. Beneath this hair is a notch, often indicated through the coating by a corresponding notch in its surface : the variations in this part afford excellent characters by which to distinguish minor divisions. In following out a system dependent on the characters usually laid down, no satisfactory result can be obtained. A little attention to the natural distribution of the Lamiidæ, will convince the entomologist that they are divisible into two principal groups, represented by

the Fabrician genera *Lamia* and *Saperda*: in the latter the peculiar structure of the mesotibiæ is less apparent.

Genus.—*PTEROLOPHIA*, *Newman*.

This genus, if so it may be called, differs from *Mesosa* in a few trivial characters, which have been already incorporated with the specific description of *Mesosa*? *bigibbera* (Entomol. 323), and therefore a second Latin description does not appear requisite: the species *bigibbera* may be considered as the type of the genus. The antennæ are distant at the base, generally obviously shorter than the body, and 11-jointed; the 1st and 3rd joints are longest and of nearly equal length, the 4th is rather shorter, and the rest rapidly decrease to the extremity; the head is rather long, the mandibles strong, curved and rather conspicuous: the prothorax is rather wider than the head, its fore and hind margins quite straight, its lateral margins and back convex; it is quite unarmed: the elytra are wider than the prothorax, very ample, convex, and obsoletely truncate at the apex; on each is a little dorsal elevation, near the base, and situated about half way between the suture and shoulder: this elevation is sometimes scarcely apparent: the legs are short; the femora scarcely incrassated, and the hirsuties and notch of the mesotibiæ little conspicuous. The genus appears to be rich in species, which are of small size.

105. (*Pterolophia*) *vitticollis*. Fusca; prothoracis vittæ 2 latæ, nigræ. (Corp. long. .55 unc. lat. .2 unc.)

The antennæ are broken, the portion remaining is fuscous, with the exception of the fourth joint, which, excepting at its tip, is cinereous; the face is lanuginous and hoary: the prothorax is strongly punctured, fuscous, with two broad, black, longitudinal stripes, the margins of which are cinereous: the basal portion of the elytra is strongly and deeply punctured; below the middle are two short elevated carinæ, neither of which extends to the tip, the exterior of these is rather the longest, the suture is also elevated and prettily speckled; the basal crest on each elytron is conspicuous, and placed on a line continuous with the interior carina: the general colour of the elytra is fuscous, with paler lines and other markings.

106. (*Pterolophia*) *digesta*. Fusca; capitis, prothoracis elytrorumque basis vitta communis lata pallida, elytrorum fascia lata mediana pallida vittæ conjuncta; quoque macula pallida utriusque ovata, ferè suturalis ferè apicalis. (Corp. long. .4 unc. lat. .15 unc.)

The antennæ are fuscous with the 4th joint paler: the general colour is dark fuscous approaching to black, the head, prothorax, and

base of the elytra have a continuous, broad, pale vitta, the median line of which is rather darker; this vitta unites with a broad, concolorous, transverse fascia on the elytra, in which are several little dark brown spots; on each elytron, near its apex, is an irregular somewhat oblong spot of the same colour; in a line continuous with the dorsal crest on each elytron is a slight carina below the middle.

107. (*Pterolophia*) *camura*. Antennæ pilosæ, pallidè fuscæ, utriusque articuli basis cinerea: prothorax umbrinus, vittâ latâ medianâ pallidâ: elytra umbrina colore pallidiori varia. (Corp. long. .4 unc. lat. .15 unc.)

Extremely like the last in size and the disposition of colour: the antennæ are totally different, being hairy beneath, and having the base of each joint cinereous: the prothorax is bright umber brown, with a pale dorsal vitta: the elytra are bright umber brown, rather before their middle is a paler fascia, which bends obliquely forwards to the lateral margin; near the apex is another very irregular fascia of the same colour; the base of the elytra have numerous small glabrous pustules: the crest on each elytron is very distinct: the legs are pale, the apical portion of the tibiæ being darker.

108. (*Pterolophia*) *hybrida*. Nigricans, ferè concolor, puncta; elytris obsoletè striatis; elytrorum cristæ vix agnoscendæ. (Corp. long. .5 unc. lat. .2 unc.)

Concolorous, nearly black, lanuginous, the down somewhat hoary; at the base of the prothorax are three pale spots; they are close together, the middle one being the smallest: the scutellum is nearly black, its anterior and lateral margins being paler, and immediately adjoining it on each side is a pale spot at the base of each elytron: the elytra are obviously but not deeply striated; towards the base they are deeply punctured.

EDWARD NEWMAN.

ART. XCIV.—*Varieties.*

207. *Note of Captures in Lepidoptera.* On the 29th of May I bred a female of *Diphthera Orion* from the larva which I took in August, 1841, (Entomol. 208): I also bred, during the same month, the *Ceruræ* before mentioned (Entom. 359), together with *Notodonta Ziczac*, *N. dromedarius*, *Peridea serrata*, *Ptilodontis palpina*, *Leiocampa Dictæa*, *L. Dictæoides* and *Ceropacha Or.*—*Alfred Lambert*; 6, *Trinity St., Southwark, July 7, 1842.*

208. *The genus Fumea*. I think this genus has been extended, varieties made distinct species; I am acquainted with two only, — one which is generally found in the larva and pupa state on grass, and the other on the bark of aspen, birch or poplar trees and fences. These larvæ form a dwelling of pieces of dry grass, straw, &c., mingled and drawn together with a thick web, resembling the cases of the Phryganea or caddis-worm which is found in all our running streams; this they carry about with them, when about entering into the pupa state they firmly attach the end from which they move and feed to the above substances, they then reverse themselves in the cocoon, the head of the pupa being at the end which is free. The female of this genus is completely apterous, without antennæ, I cannot make out that it has legs; it is, I believe, considered rare, this can only be from ignorance of its economy. I have in three instances discovered it in the cocoon, and think it does not quit it until after its connexion with the male, as in these instances they deposited their eggs without leaving it: these female insects were in the same position as in the larva state, from this I conclude they do not reverse themselves like the male. — Our friend Douglas found a cocoon which, instead of producing the insect, brought forth a numerous brood, which immediately availed themselves of every particle in the box as a covering, but in this instance the parent insect was not in the cocoon, he has also discovered the eggs within the cocoon. The larvæ of the genus *Cochleophasia* is very similar in its economy, only the cocoon is formed of a more leathery substance intermingled with small particles of sand, and the female, though completely apterous, resembles others of the same description, having legs, antennæ &c.—*Id.*

209. *Localities and times of appearance of Agrotis*. Several of your correspondents, as well as others, have expressed to me a regret that I did not give the habitats and time of appearance of the more rare species of *Agrotis*, in my observations on that genus, (*Entomol.* 254); I therefore send the following for a place among your varieties.

Agrostis æqua: found from August to November. It has been taken at Epping by Mr. Doubleday, in Plaistow Marshes and in Kent. I have seen a fine female that was taken at the North Foreland light-house in September.

Agr. annexa: taken in June, near West Ham, Essex; Cork, Ireland; and also at Worcester.

Agr. lunigera: found in June near Cork in Ireland.

Agr. valligera: appears in August near Teignmouth, Devon; also near Liverpool.

Agr. nebulosa: captured in plenty by Mr. Raddon, in July, near Barnstaple, Devon.

Agr. subgothica: near Barnstaple, Devon, by Mr. Raddon.

Agr. cursoria: this appears a coast insect; I have received it from Essex and the coast of Dorset.

Agr. cinerea: taken in June; it has been found near Reading, Berks; in Kent; and I have a female captured in the Isle of Wight.

Agr. pascua: I should feel obliged to any of your correspondents who would, through your pages, give the habitat and time of appearance of this species. — *William Bentley*; 3, *Critchell Place, New North Road, July 8, 1842.*

210. *Argyrosetia semifasciella*. I have always beat this pretty and distinct species from sawfly in the month of June. I once found a few specimens near Coombe Wood, but have taken them more plentifully near Ringwood, Hants.—*Id.*

211. *Enquiry respecting the Caterpillars which feed on Cabbage.* Is not the green caterpillar which feeds on the cabbage the original of the cabbage-butterfly? Does it change its colours during its metamorphoses, or are these two caterpillars *varieties* of one species?—Your answering the above questions will oblige your correspondent, *G. W. Edginton, Surgeon; Binfield, Berks, July 11, 1842.*

[There are three species of *Pontia* or white butterflies which feed on the various species of cabbage, viz., *P. Brassicæ*, *Rapæ* and *Napi*. The largest of these, *Pontia Brassicæ*, is produced from a caterpillar of a greyish colour, with three yellow lines and black tubercles, it feeds principally on the *outer leaves* of cabbages. The caterpillars of the two other species are green, and closely resemble each other; but *P. Napi* feeds more upon *turnips* and *Cardamine pratensis* than on the common garden cabbages. The larva of a moth, *Mamestra Brassicæ*, is also very common on cabbages.—*H. Doubleday*].

212. *Note on Captures of Lepidoptera at Epping.* I send you a few remarks on the appearance of various *Lepidoptera* at Epping this season; although upon the whole the weather has been much warmer and apparently more favourable, yet the number of insects has certainly been considerably less than last year. About the middle of March *Orthosia instabilis*, *stabilis*, *munda* and *cruda*, and *Semiophora gothica* appeared, all, with the exception of *O. munda*, in tolerable plenty, but their numbers were not to be compared with the multitudes seen last spring. I captured two specimens of *Calocampa exoleta* in fine condition on the 16th of March. Towards the end of March and during the first week or two in April, the nights were cold and few

moths were seen; on the 7th I captured a single female of *Orthosia subplumbea*, and several of *O. sparsa*; *Glæa rubricosa* also appeared and in tolerable plenty. *Brepha Notha* was common early in March, but I saw only three specimens of *B. Parthenias*, usually the more common species: all the early *Geometræ* were much less numerous than usual. In May I took a few specimens of *Hadena adusta* and *remissa* and *Mamestra furva*. The following species, viz., *Agrotis segetum*, *Graphiphora brunnea*, *Hama aliena*, *Polia advena*, *Xylophasia polyodon*, &c., which abounded so greatly last year, have this season been very rare; but *Triphæna pronuba* has appeared in prodigious numbers. Among the butterflies many species have been far less plentiful than they are in general, particularly *Hipparchia Janira*, *Vanessa Urticæ*, and *Argynnis Adippe*; of the latter I have seen but a pair, and not a single individual of *A. Paphia*, usually one of our commonest species. It is not improbable that the almost incessant rain last autumn might have been injurious to the larvæ; but whatever the cause may be it is certain that many species which abounded last year, are this season scarcely to be seen. — *Henry Doubleday; Epping, July 15, 1842.*

213. *Graphiphora ravida*. I bred a specimen of this rare moth on the 3rd instant, from a larva found at night on a sallow, in company with the larvæ of *G. brunnea*, *G. baja*, *Triphæna orbona*, &c.—*Id.*

214. *List of some of the rarer Insects taken at Weybridge*, on the 18th, 21st and 23rd of June last, by me; exhibiting great similarity to the products of the New Forest, Hants. The species with an * annexed, were in profusion.

<i>Cicindela sylvatica</i> *	<i>Libellula Donovanii</i>	<i>Bupalus Piniarius</i> *
<i>Pæcilus lepidus</i>	—————	<i>Aspilates respersaria</i> *
<i>Leïodes humeralis</i>	<i>Rhyssa persuasoria</i>	<i>Anchylopera fractifasciana</i>
<i>Throscus obtusus</i>	<i>Methoca ichneumonides</i>	<i>Macrochila bicostella</i>
<i>Anomala Frischii</i>	<i>Pompilus rufipes</i>	—————
<i>Thanasimus formicarius</i>	<i>Miscus campestris</i> *	<i>Tabanus alpinus</i>
<i>Cleonus nebulosus</i>	<i>Ammophila argentea</i> *	<i>Anthrax ornata</i> *
<i>Luperus flavipes</i> *	<i>Ceropales maculata</i>	<i>Dolichopus atratus</i>
<i>Coccinella M-nigrum</i>	—————	<i>plumitarsis</i>
<i>ocellata</i> *	<i>Euthemonia Russula</i>	<i>Medeterus loripes</i>
—————	<i>Gnophria rubricollis</i>	<i>hipunctatus</i> *
	<i>Scotophila porphyrea</i>	<i>Lispe tentaculata</i>
<i>Agrion rufipes</i> *	<i>Anarta Myrtilli</i>	<i>Ochthra Mantis</i> *
<i>Lestes viridis</i> *	<i>Fidonia ericetaria</i>	

Mæsia favillacearia, *Pachynemina Hippocastinaria*, *Argyrolepis Bentleyana*, and *Dichæta caudata*, have also been taken at Weybridge. — *J. F. Stephens; Foxley Road, Kennington, July 21, 1842.*

215. *Calosoma Sycophanta*. A small but most brilliantly coloured and perfect male of this rare insect, was found crawling on the shore at Herne Bay, in the third week of June last, by a lady, who kindly added it to my cabinet. —*Id.*

216. *Entomological Society, May 2, 1842.*—W. W. Saunders, Esq. F.L.S., President, in the chair. J. E. Gray, Esq., F.R.S., &c., was elected an ordinary member of the Society. Captain Parry exhibited two cases of insects from Assam and Jamaica. Mr. A. White exhibited the singular cocoon of the North American Bombyx crepuscularis. Mr. Westwood exhibited specimens of the pupæ of a small species of Cicada, from the body of each of which one or several elongated vegetable appendages (Clavariæ) had been produced: also a numerous collection of the cases formed by various insects, especially Lepidoptera, allied to Oiketicus, and drawings of other kinds of cases. Mr. Shuckard stated that in the indigenous collection in the British Museum, he had observed specimens belonging to the genus Aruncobates, Latr. and Anthocopa Papaveris, St. Farg. He likewise exhibited several fine species of Hymenoptera, especially a very large species of Megalyra. Mr. Westwood read a paper, containing descriptions of some new exotic genera of lamellicorn beetles.—*J. O. W.*

217. *Entomological Society, June 6, 1842.*—W. W. Saunders, Esq. in the chair. The Marquis de Brême and Edward Doubleday, Esq. were admitted members of the Society. Numerous donations of books from Professors Milne Edwards, Passerini, Germar, Pictet, Messrs. Menetries, Lefebvre, &c., the Boston Society of Natural History, the Entomological Society of France, &c. F. Bond Esq. brought for distribution specimens of Blethisa multipunctata and Callidium violaceum; Mr. Evans also brought various Coleoptera for distribution. Mr. S. Stevens exhibited a box of Coleoptera recently captured, containing several rare species. Mr. Ingpen exhibited some branches of a spindle-tree from Lincoln's Inn Fields, covered with a woolly species of Coccus. Mr. Stephens exhibited the larvæ of Nyssia zonaria, reared from eggs forwarded by Mr. Gregson. Mr. Westwood exhibited numerous exotic insects. The following Memoirs were read:—Description of a new British Julus, by Mr. Newport. Description of Depressaria Gossypiella, a small moth which is very destructive to the cotton crops in India, by Mr. Saunders. Descriptions of new Australian Chrysomelidæ, by the same. Monograph of the genus Nyctelia, by Mr. Waterhouse. Descriptions of numerous new species of insects sent from Adelaide, South Australia, by Mr. Fortnum, by the Rev. F.

W. Hope. Other communications were made to the Society by Messrs. Evans, Westwood and Doubleday.—*Id.*

218. *Entomological Society, July 4, 1842.*—W. W. Saunders, Esq. in the chair. Numerous donations of books from the Royal Agricultural Society of England, Count Fischer de Waldheim, the Marquis de Brême, Professor Agassiz, Mr. A. White and others were announced, as well as a large case of Mexican Coleoptera, by E. P. Coffin, Esq. C.G. Mr. F. Smith exhibited various British Hymenoptera, with illustrations of their economy. Mr. Westwood exhibited various insects, including a new Indian Goliathus from the Bristol Institution, a new genus of Coleoptera of doubtful family from the collection of M. Dupont. Specimens of *Orchestes Quercûs* and its parasites reared from oak-leaves from Weybridge. Mr. S. Stevens exhibited a box of British moths, recently captured in marshy ground at Hammersmith, including the following rare species:—*Leucania obsoleta*, *L. suffusa*, *Nudaria senex*, *Melia sericea*, *Chilo gigantellus* and *phragmatellus*. The Rev. F. W. Hope exhibited a case of Coleopterous insects from Cape Palmas, including many new and singular species. Mr. Saunders exhibited numerous gall-like nidi upon a twig of *Lophospermum* from New Holland; also specimens of *Tryphæna pronuba* impaled by the butcher-bird. Mr. J. F. Stephens exhibited a specimen of *Calosoma sycophanta* recently taken in Kent, and Mr. Ingpen a fossil wing of a *Limnobia* from the lias near Gloucester. Mrs. North presented a small wasp's nest, the inhabitants of which had put to flight a hive of bees, in the hive of which they had built their nest. Mr. Raddon exhibited a specimen of *Goliathus Drurii*, Westw. (*giganteus*, McL.); and Mr. Hope read several long extracts from a letter received from the Rev. Mr. Savage, at Cape Palmas, relative to the habits of the *Goliathi*, a considerable number of which (*G. Drurii*, *Cacicus*, *principes* and *torquatus*) and other insects, had been forwarded to Mr. Hope. A paper was read containing further observations on the habits of *Mygale Ionica*, by J. S. Saunders, Esq. The Revds. C. Kuper and T. S. Savage were proposed as members of the Society.—*Id.*

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXIV.

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ART. XCV. — *A List of the British Noctuæ, extracted from the Arrangement of the European Species in the 'Annales de la Société Entomologique de France,' by M. Guenée.* By HENRY DOUBLEDAY, Esq.

- | | | |
|---------------------------------------|--|---------------------------------------|
| Tribe I. <i>Bombycoidi</i> , Bois. | Tribe III. <i>Bryophagidi</i> , Gu. | HYDRÆCIA, <i>Guen.</i> |
| SEMAPHORA, <i>Guen.</i> | BRYOPHILA, <i>Tr.</i> | 1. leucostigma, <i>Hub.</i> |
| 1. Psi, <i>Linn.</i> | 1. glandifera, <i>W. V.</i> | var. <i>fibrosa</i> , <i>Hub.</i> |
| 2. tridens, <i>Fab.</i> | 2. perla, <i>Fab.</i> | 2. micacea, <i>Esp.</i> |
| *3. cuspid, <i>Hub.</i> | Tribe IV. <i>Leucanidi</i> , Gu. | 3. nictitans, <i>Linn.</i> |
| APATELA, <i>Steph.</i> | CARADRINA, <i>Och.</i> | MIANA, <i>Steph.</i> |
| 1. Leporina, <i>Linn.</i> | 1. Morpheus, <i>W. V.</i> | 1. furuncula, <i>W. V.</i> |
| var. <i>Bradyporina</i> , <i>Hub.</i> | sepii, <i>Hub.</i> | humeralis, <i>Haw.</i> |
| ACRNYCTA, <i>Och.</i> | 2. cubicularis, <i>W. V.</i> | var. <i>terminalis</i> , <i>Haw.</i> |
| 1. Aceris, <i>Linn.</i> | 3. Alsines, <i>Hub.</i> | 2. strigilis, <i>Linn.</i> |
| 2. megacephala, <i>Fab.</i> | 4. bilinea, <i>Hub.</i> | præduncula, <i>Hub.</i> |
| 3. Alni, <i>Linn.</i> | 5. trilinea, <i>W. V.</i> | var. <i>latruncula</i> , <i>Hub.</i> |
| *4. strigosa, <i>Fab.</i> | SIMYRA, <i>Tr.</i> | var. <i>Æthiops</i> , <i>Haw.</i> |
| 5. Ligustri, <i>Fab.</i> | 1. venosa, <i>Tr.</i> | 3. rubeuncula, <i>Donzel.</i> |
| 6. Menyanthidis, <i>Esp.</i> | 2. nervosa, <i>Fab.</i> | rufuncula, <i>Haw.</i> |
| 7. Rumicis, <i>Linn.</i> | LEUCANIA, <i>Och.</i> | var. <i>fasciuncula</i> , <i>Haw.</i> |
| 8. auricoma, <i>Fab.</i> | 1. pallens, <i>Linn.</i> | § 4. literosa, <i>Haw.</i> |
| var. <i>Pepli</i> , <i>Hub.</i> | 2. impura, <i>Hub.</i> | § 5. minima, <i>Haw.</i> |
| 9. Euphorbiæ, <i>Fab.</i> | 3. obsoleta, <i>Hub.</i> | APAMEA, <i>Och.</i> |
| *10. Euphrasiæ, <i>Ræs.</i> | 4. Comma, <i>Linn.</i> | 1. ophiogramma, <i>Esp.</i> |
| DIPHTERA, <i>Och.</i> | 5. littoralis, <i>Curt.</i> | 2. didyma, <i>Esp.</i> |
| 1. Orion, <i>Esp.</i> | 6. pudorina, <i>Hub.</i> | var. <i>nictitans</i> , <i>Hub.</i> |
| Tr. II. <i>Noctuo-Bombycidi</i> , | 7. conigera, <i>Fab.</i> | var. <i>secalina</i> , <i>Hub.</i> ? |
| Bois. | *8. lithargyria, <i>Esp.</i> | var. <i>I-niger</i> , <i>Haw.</i> |
| CEROPACHA, <i>Steph.</i> | 9. Turca, <i>Linn.</i> | var. <i>rava</i> , <i>Haw.</i> |
| 1. ridens, <i>Fab.</i> | NONAGRIA, <i>Tr.</i> | var. <i>furca</i> , <i>Haw.</i> |
| 2. octogesima, <i>Hub.</i> | 1. Phragmatidis, <i>Hub.</i> | var. <i>oculea</i> , <i>Haw.</i> |
| 3. Or, <i>Fab.</i> | 2. fulva, <i>Hub.</i> | § 3. secalina, <i>Haw.</i> &c. |
| 4. flavicornis, <i>Linn.</i> | 3. neurica, <i>Hub.</i> | *4. unanimitas, <i>Hub.</i> ? |
| 5. diluta, <i>Fab.</i> | 4. Cannæ, <i>Fab.</i> | LUPERINA, <i>Bois.</i> |
| 6. fluctuosa, <i>Hub.</i> | 5. Typhæ, <i>Esp.</i> | 1. cespitis, <i>W. V.</i> |
| 7. bipuncta, <i>Bork.</i> | § 6. pilicornis, <i>Haw.</i> | 2. testacea, <i>W. V.</i> |
| CHYMATOPHORA, <i>Tr.</i> | § 7. crassicornis, <i>Haw.</i> | 3. basilinea, <i>Fab.</i> |
| 1. Viminalis, <i>Fab.</i> | Tribe V. <i>Apamidi</i> , <i>Guen.</i> | 4. Elota, <i>Hub.</i> |
| 2. Oo, <i>Linn.</i> | GORTYNA, <i>Tr.</i> | connexa, <i>Bork.</i> |
| | 1. flavago, <i>Esp.</i> | 5. aliena, <i>Hub.</i> |

6. *furva*, *W. V.*
 7. *albicolon*, *Hub.*?
 8. *abjecta*, *Hub.*?
 nigricans, *Steph.*
CRYMODES, *Guen.*
 1. *Templi*, *Thun.*
XYLOPHASIA, *Steph.*
 1. *scolopacina*, *Hub.*
 2. *hepatica*, *W. V.*
 characteria, *Hub.*
 epomidion, *Haw.*
 3. *rurea*, *Tr.*
 putris, *Hub.*
 var. *combusta*, *Dup.*
 4. *musicalis*, *Esp.*
 lithoxylea, *Hub.*
 5. *lithoxylea*, *W. V.*
 6. *polyodon*, *Linn.*
TRIPHENA, *Och.*
 1. *Pronuba*, *Linn.*
 *2. *subsequa*, *Hub.*?
 3. *orbona*, *Fab.*
 4. *fimbria*, *Linn.*
 5. *Janthina*, *Fab.*
 6. *interjecta*, *Hub.*
CERIGO, *Steph.*
 1. *Cytherea*, *Fab.*
 texta, *Esp.*
SEGETIA, *Steph.*
 1. *xanthographa*, *Fab.*
RUSINA, *Steph.*
 1. *tenebrosa*, *Hub.*
 ferruginea, *Esp.*
NOCTUA, *Linn.*
 1. *leucographa*, *Hub.*
 2. *umbrosa*, *Hub.*
 3. *bella*, *Bork.* [*Hub.*
 punicea, *Haw. nec*
 4. *baja*, *Fab.*
 5. *festiva*, *W. V.*
 6. *Dahlia*, *Hub.*
 7. *brunnea*, *Fab.*
 8. *rhomboidea*, *Esp.*?
 tristigma, *Steph.*
 9. *triangulum*, *Och.*
 10. *C-nigrum*, *Linn.*
 11. *depuncta*, *Linn.*
 12. *glareosa*, *Esp.*
 13. *porphyrea*, *Hub.*
 14. *plecta*, *Linn.*
AGROTIS.
 1. *augur*, *Fab.*
 2. *ravida*, *Hub.*
 crassa, *Haw.*
 3. *pyrophila*, *Fab.*
 4. *renigera*, *Hub.*
 5. *latens*, *Hub.*
 *6. *birivia*, *Hub.*
 7. *præcox*, *Linn.*
 8. *agathina*, *Bois.*
 *9. *Tritici*, *Linn.*?
 *10. *obelisca*, *W. V.*?
 11. *Aquilina*, *Hub.*
 var. *vitta*, *Hub.*
 var. *ruris*, *Goda.*
 var. *fictilis*, *Hub.*
 var. *unicolor*, *Hub.*
 12. *fumosa*, *Fab.*
 13. *cursoria*, *Bork.*
 14. *Ripæ*, *Hub.*
 var. *Desyllii*, *Pierret*
 var. *nebulosa*, *Steph.*
 15. *putris*, *Linn.*
 16. *Saucia*, *Hub.*
 var. *æqua*, *Hub.*
 var. *margaritosa*, *Ha.*
 var. *majuscula*, *Haw.*
 17. *cinerea*, *Bork.*
 18. *Corticea*, *W. V.*
 19. *exclamationis*, *Linn.*
 20. *Segetum*, *W. V.*
 21. *suffusa*, *Fab.*
 22. *puta*, *Hub.*
 radia, *Haw.*
 var. *radiola*, *Haw.*
 23. *valligera*, *Fab.*
 *24. *crassa*, *Hub.*?
 §25. *pascuea*, *Curtis*
PACHETRA, *Guen.*
 1. *leucophæa*, *Bork.*
HELIOPHOBUS, *Bois.*
 1. *Popularis*, *Fab.*
NEURIA, *Guen.*
 1. *Saponariæ*, *Esp.*
CHARÆAS, *Steph.*
 1. *Graminis*, *Linn.*
Tribe VII. Orthosidi Guen.
TRACHEA, *Och.*
 1. *piniperda*, *Esp.*
TENIOCAMPA, *Guen.*
 1. *gothica*, *Linn.*
 2. *rubricosa*, *Fab.*
 3. *instabilis*, *Linn.*
 4. *stabilis*, *Hub.*
 §5. *subplumbea*, *Haw.*
 6. *miniosa*, *Fab.*
 7. *ambigua*, *Hub.*
 cruda, *F.*
 8. *munda*, *Fab.*
ORTHOSIA, *Och.*
 1. *neglecta*, *Hub.*
 2. *Upsilon*, *W. V.*
 3. *Lota*, *Linn.*
 4. *macilenta*, *Hub.*
 flavilinea, *Haw.*
ANTHOCELIS, *Guen.*
 1. *Pistacina*, *Hub.*
 §2. *lunosa*, *Haw.*
 3. *litura*, *Linn.*
CIRRÆDIA, *Guen.*
 1. *Xerampelina*, *Hub.*
 centrago, *Haw.*
GONOPTERA, *Lat.*
 1. *Libatrix*, *Linn.*
TETHEA, *Och.*
 1. *retusa*, *Linn.*
 2. *subtusa*, *Fab.*
COSMIA, *Och.*
 1. *diffinis*, *Linn.*
 2. *affinis*, *Linn.*
 3. *Pyralina*, *W. V.*
EUPERIA, *Guen.*
 1. *trapetzina*, *Linn.*?
 2. *fulvago*, *W. V.*
XANTHIA, *Och.*
 1. *ferruginea*, *Hub.*
 macilenta, *Haw.*
 2. *rufina*, *Linn.*
 3. *aurago*, *Fab.*
 4. *silago*, *Hub.*
 5. *cerago*, *W. V.*
 6. *citrago*, *Linn.*
 7. *croceago*, *Fab.*

CERASTIS,

1. *spadicea*, *Hub.*
var. *subnigra*, *Haw.*
2. *Vaccinii*, *Linn.*
var. *polita*, *Hub.*
var. *spadicea*, *Haw.*

MECOPTERA, *Guen.*

1. *Satellitica*, *Linn.*

DASYCAMP, *Guen.*

1. *rubiginea*, *W. V.*
- Tribe VIII. *Hadenidi*.

VALERIA, *Germ.*

1. *oleagina*, *Fab.*

MISELIA, *Tr.*

1. *Oxyacanthæ*, *Linn.*
- *2. *bimaculosa*, *Linn.*

CHARIPTERA, *Guen.*

1. *Aprilina*, *Linn.*

DIANTHESIA, *Bois.*

1. *albimacula*, *Bork.*
2. *conspersa*, *Esp.*
3. *Capsincola*, *Esp.*
4. *Cucubali*, *W. V.*

ILARUS, *Guen.*

1. *ochroleuca*, *W. V.*

POLIA, *Tr.*

1. *dysodea*, *W. V.*
2. *serena*, *Fab.*
3. *Chi*, *Linn.*
4. *flavocincta*, *Hub.*
5. *Polymita*, *Linn.*²

HADENA, *Och.*

1. *lutulenta*, *W. V.*
fusca, *Haw.*
2. *Æthiops*, *Och.*
nigricans, *Hub.*
nigra, *Haw.*
3. *Persicariæ*, *Linn.*
4. *Brassicæ*, *Linn.*
5. *adusta*, *Esp.*
6. *Suasa*, *W. V.*²
Dens canis, *Haw.*
7. *oleracea*, *Linn.*
8. *Pisi*, *Linn.*
9. *splendens*, *Hub.*
10. *Thalassina*, *Bork.*
11. *Genistæ*, *Bork.*
12. *contigua*, *Fab.*

13. *rectilinea*, *Esp.*14. *Atriplicis*, *Linn.*15. *dentina*, *Esp.*
plebeia, *Linn.*²16. *glaucia*, *Hub.*
Lappo, *Dalm.*²17. *Chenopodii*, *Fab.*18. *Protea*, *Esp.*19. *lucipara*, *Linn.*APLECTA, *Guen.*

1. *tincta*, *Bork.*
2. *advena*, *Fab.*
3. *nebulosa*, *Tr.*
4. *occulta*, *Ross.*
5. *herbida*, *Hub.*

PHLOGOPHORA, *Tr.*

1. *meticulosa*, *Linn.*

THYATIRA, *Och.*

1. *batis*, *Linn.*
2. *derasa*, *Linn.*

Tr. IX. *Xylinidi*, *Guen.*XYLINA, *Tr.*

1. *rhizolitha*, *Fab.*
2. *petrificata*,
- §3. *semibrunnea*, *Haw.*

CALOCAMPA, *Steph.*

1. *vetusta*, *Hub.*
2. *exoleta*, *Linn.*

CUCULLIA.

1. *Verbasci*, *Linn.*
2. *Scrophulariæ*, *Hub.*
- *3. *Lychnitis*, *Ramb.*

*4. *Blattariæ*, *Esp.*5. *Thapsiphaga*, *Tr.*6. *Asteris*, *Fab.*§7. *Solidaginis*, *Steph.*8. *Lactucæ*, *Esp.**9. *lucifuga*, *Esp.*10. *umbratica*, *Linn.*11. *Chamomillæ*, *Ræs.*12. *Absinthii*, *Linn.*13. *Tanaceti*, *Linn.**14. *Artemisiæ*, *Fab.*CLOANTHA, *Bois.*

1. *Solidaginis*, *Hub.*
2. *conspicillaris*, *Linn.*
3. *perspicillaris*, *Linn.*
4. *Pinastri*, *Linn.*

XYLOCAMPA, *Guen.*

1. *lithoriza*, *Bork.*

CLEOPHANA, *Bois.*

- *1. *Linariæ*, *Fab.*

CHARICLEA, *Kirb.*

1. *Delphinii*, *Linn.*

Tribe X. *Heliothidi*, *Bois.*HELIOTHIS, *Och.*

1. *peltigera*, *W. V.*
2. *scutosa*, *Fab.*
3. *dipsacea*, *Linn.*

ANARTA, *Och.*

1. *vidua*, *Hub.*
2. *cordigera*, *Tr.*
3. *Myrtilli*, *Linn.*

HELIODES, *Guen.*

1. *Arbuti*, *Fab.*

Tribe XI. *Plusidi*, *Bois.*PLUSIA, *Lat.*

1. *interrogationis*, *Linn.*
2. *Gamma*, *Linn.*
3. *Iota*, *Linn.*

§4. *percontationis*, *Och.**5. *Chalsytis*, *Hub.*6. *Festucæ*, *Linn.*7. *bractea*, *Linn.*§8. *circumflexa*, *Linn.*9. *orichalcea*, *Fab.*10. *chrysitis*, *Linn.*11. *illustris*, *Fab.*ABROSTOLA, *Och.*

1. *Urticæ*, *Hub.*

2. *triplasia*, *Linn.**3. *Asclepiadis*, *Fab.*Tr. XIII. *Amphipyridi*, *Gu.*MANIA, *Tr.*

1. *typica*, *Linn.*

2. *maura*, *Linn.*PHILOPYRA, *Guen.*

1. *pyramidea*, *Linn.*

*2. *tetra*, *Fab.*3. *Tragopoginis*, *Linn.*Tr. XIV. *Ophiussidi*, *Guen.*TOXOCAMPA, *Guen.*

1. *lusoria*, *Linn.*

Tr. XV. *Catocalidi*, *Bois.*CATOCALA, *Och.*

1. *Fraxini*, *Linn.*

2. <i>Nupta</i> , Linn.	Tr. XVIII. <i>Noctuo-Phalæ-</i>	<i>HYDRELIA</i> , Guen.
3. <i>sponsa</i> , Linn.	<i>nidi</i> , Bois.	1. <i>argentula</i> , Esp.
4. <i>promissa</i> , Linn.	<i>EUCLIDIA</i> , Och.	2. <i>unca</i> , Esp.
*5. <i>conjuncta</i> , Esp.	1. <i>Mi</i> , Linn.	<i>AGROPHILA</i> , Bois.
Tr. XVI. <i>Phalænoidi</i> , Gue.	2. <i>glyphica</i> , Linn.	1. <i>sulphurea</i> , Hub.
<i>BREPHOS</i> , Och.	<i>MICRA</i> , Guen.	<i>PHYTOMETRA</i> , Steph.
1. <i>Parthenias</i> , Linn.	1. <i>ostrina</i> , Hub.	1. <i>ænea</i> , Bork.
2. <i>notha</i> , Hub.	2. <i>minuta</i> , Hub.	<i>ACOSMETIA</i> , Steph.
Tr. XVII. <i>Acontidi</i> , Bois.	<i>STILBIA</i> , Steph.	§1. <i>lutescens</i> , Haw.
<i>ACONTIA</i> , Och.	1. <i>anomalata</i> , Haw.	§2. <i>caliginosa</i> , Hub.
*1. <i>Solaris</i> , W. V.	<i>ERASTRIA</i> , Och.	§3. <i>rufula</i> , Haw.
2. <i>luctuosa</i> , W. V.	1. <i>venustula</i> , Hub.	§4. <i>lineola</i> , Steph.
	2. <i>fuscula</i> , Och.	§5. <i>arcuosa</i> , Haw.

OBSERVATIONS.

Those species with an * prefixed appear to have been introduced into the British list on rather doubtful authority; those with a § are good species and decidedly British, and probably are enumerated by Guenée under other names, but I have not at this time the means of deciding the question.

Apatela Leporina and *Bradyporina*. These I have no doubt are one species: the larva, when young, is covered with yellow hairs, and has three or four black tufts down the back, in the last skin pale green with whitish hairs.

Apamea secalina. The insect known by this name in Britain is very distinct from any variety of *A. didyma*, but it is doubtful if the *secalina* of Hubner is any more than a variety. By what name our species is known on the continent I cannot clearly decide.

Xylophasia rurea and *combusta*. I think these two reputed species are only one.

Triphæna subsequa? Mr. Curtis has a Scotch insect certainly distinct from *Orbona*, but I am doubtful if it be Hubner's *subsequa*.

Noctua bella. This insect has been always called *punicea* in Britain, but incorrectly.

Cerastis spadicea. In a few remarks I made last autumn, I mentioned my belief that we had two very distinct species of *Glæa* or *Cerastis*, both of which varied greatly, but were easily distinguished by the form of the upper wings. In this opinion I am confirmed by Guenée, who states the one with acute upper wings to be the true *spadicea* of Hubner, though that name has been applied here to a variety of *Vaccinii*. Whether Mr. Haworth clearly understood the species is doubtful, as his name *subnigra* may apply to varieties of either species. The species will stand thus:—

1. *Cer. spadicea*, Hubner; *subnigra*, Haw.? Alis primoribus ferrugineis, sæpè nigricantibus, apice quadrato-acutis; inferioribus unite fuscis, fimbria carnea, ad extremum fusco tincta.—Guenée.

Larva feeds on honeysuckle, plum and whitethorn; green in the early part of its life, when full grown brown, with a darker lateral band.

2. *Cer. Vaccinii*, Linn.; var. *polita*, Hub.; var. *spadicea*, Haw. Alis primoribus ferrugineis, sæpius fulvis; inferioribus fuscis, linea media carnea, fimbria unicolor.—Guenée.

Larva feeds on the oak; when young violaceous, when adult brown or reddish, mixed with brown.

H. DOUBLEDAY.

ART. XCVI. — *Supplementary Note to the Descriptive Catalogue of the Longicorn Beetles collected in the Philippine Islands by Hugh Cuming, Esq.* By EDWARD NEWMAN.

(Concluded from page 371.)

(THE insects enumerated below are in the cabinet of Mr. Waterhouse)

109. (*Pterolophia*) *commixta*. Umbrina; fascia elytrorum valdè indistincta pallidior; elytrorum crista vix distincta. (Corp. long. .45 unc. lat. .15 unc.)

Umber colour, the antennæ being concolorous: there are two small pale marks at the base of the prothorax: the central part of the elytra is paler, as well as a portion about the scutellum: the head and prothorax are regularly punctured: the elytra are punctured; the punctures towards the base larger and deeper than the rest; they are also indistinctly striated, the interspaces towards the middle of each elytron being somewhat elevated; on each of the two more prominent ridges is an oblong black spot below the middle: the crest is scarcely discernable; it is anteriorly pale, posteriorly black.

110. (*Pterolophia*) *imbuta*. Murina; prothoracis elytrorumque latera latè ac pravè fusca. (Corp. long. .45 unc. lat. .15 unc.)

This species is most distinctly marked: the antennæ are brown: the dorsal part of the head, prothorax and elytra are somewhat mouse-coloured, the sides of the prothorax and elytra being dark brown; the limit of this latter colour on the elytra is very irregular, just beyond the middle ascending nearly to the suture: the crest is scarcely conspicuous; on a line with it, below the middle of the elytron, is a second slight longitudinal elevation.

111. (*Pterolophia*) *jacta*. Murina; fasciæ elytrorum binæ obscuriores, fasciâ 1mâ ferè basali, medio interruptâ, 2dâ ferè medianâ. (Corp. long. .35 unc. lat. .125 unc.)

Antennæ fuscous; head and prothorax mouse-coloured, speckled with black; scutellum black, with a cinereous margin: elytra deeply punctured, especially towards the base; mouse-coloured, with two indistinct and rather darker fasciæ; the first very near the base, but interrupted at the suture; the second nearly median: the crests are prominent and distinct.

112. (*Pterolophia*) *ignobilis*. Antennæ corpore paullò longiores, fuscae : caput fuscum, epicranio pallidiori : prothorax punctus, fuscus, vittis 2 latis indistinctis pallidioribus : elytra profundè ac asperè puncta, fusca, colore murino nebulosa; elytrorum cristæ nullo modo conspicuæ. (Corp. long. .25 unc. lat. .075 unc.)
113. (*Pterolophia*) *immista*. Antennæ fuscae, colore pallidiori annulatae : prothorax punctus, umbrinus, lanugine pallidiori obsitus : elytra puncta, umbrina, lanugine pallidiori passim obsita, praesertim fasciâ pone medium communi rectâ ; elytrorum cristæ sub lente planè agnoscendæ : pedes umbrini ; tibiis medio pallidioribus. (Corp. long. .2 unc. lat. .065 unc.)
114. *Pachypeza trivittata*. Antennæ nigræ, subtus villosæ : caput asperè punctum, fuscum, lineis genarum 2 perpendicularibus lanuginosis albidis : prothorax cylindraceus, asperè punctus, transversim obsolete rugatus, fuscus, lineis longitudinalibus 5 lanuginosis, albidis, 1 medianâ, 2 utrinquè lateralibus : scutellum lanuginosum, album : elytra confertim puncta, punctis apicem versus pedetentim minoribus, fusca, vittis 3 lanuginosis albidis, 1 suturali communi, 1 utriusque medianâ : meso- et metapleura latè lanuginosa albida. (Corp. long. .7 unc. lat. .175 unc.)
115. *Hippopsis camuripes*. Prothorax cylindraceus, profundè punctus, fuscus, vittis 4 lanuginosis flavidis, 2 medianis, approximatis, tenuissimis, 1 utrinquè laterali : scutellum lanuginosum albidum : elytra puncta, punctis basin versus magnis scabris ; fusca, vittis nonnullis tenuibus lanuginosis flavidis : meso- et metapleura vittâ flavidâ ornata : abdomen glabrum, fuscum, vittis 2 lanuginosis flavidis : pedes mediocres tibiis paullò camuris. (Corp. long. .6 unc. lat. .15 unc.)

Although this insect is without a head and is otherwise mutilated, and the preceding insect, *Pachypeza trivittata*, is also mutilated and apparently greatly discoloured, I thought it would be interesting to record these decidedly American genera as natives of the Philippine Islands.

116. *Apomecina* ———? There are two specimens, but both of them too much discoloured to allow of my determining the species.
117. *Xylotoles*? *discordans*. Antennæ corpore vix longiores, murinae : caput murinum, maculis 2 verticalibus luteis : prothorax (pro generis) brevis, punctus, murinus, luteo paullò signatus : scutellum lanuginosum flavidum : elytra murina, utriusque maculae 2 lanuginosae luteae, 1ma lateralis ante medium sita, 2da

vix discoidalis vix lateralis pone medium sita : abdomen murinum ; pedibus concoloribus. (Corp. long. .35 unc. lat. .1 unc.)

For the genus *Xylotoles* see Entomol. p. 12 : the little insect now described appears intermediate between *Xylotoles* and *Apomecina* : the *Saperda lyncea* and *S. grisea* of Fabricius are referrible to the present genus. The remainder of the longicorns in this collection are so much discoloured, broken, or otherwise injured, that I cannot venture on giving them technical characters.

118. (*Microlophia*) *ignava*. (Corp. long. .5 unc. lat. .1 unc.)

The antennæ are 11-jointed, longer than the body and very slender ; they appear to have been brown, the base of each joint paler : the face is short, gibbose, sulcated, and furnished with black and rather rigid hairs ; the eyes are large, notched, but not nearly separated at the base of antennæ : the prothorax is twice as long as the head, and has a lateral tuber on each side rather beyond the middle ; except at this point it is narrower than the head : the elytra are wider than the prothorax ; they are flattened, and each has a small but very distinct crest of black hairs near its base ; their extremity is obliquely truncate : the legs are moderately long, and the thighs slightly incrassated. The colour is dark brown, but I am inclined to think this attributable to its being saturated with spirit, as there are obvious traces of great variety of colouring. It belongs to the Lamiidæ.

119. (————) *pellucida*. (Corp. long. .5 unc. lat. .15 unc.)

The antennæ are broken ; the portion left is very slender ; they appear to have been longer than the body, semi-pellucid, and of a pale obscure testaceous colour, except the basal joint, which is black at its base : the eyes are large and deeply indented at the base of the antennæ : the head is deeply notched between the antennæ : the prothorax is about of equal length and breadth, the sides a little rounded, not toothed, and its dorsal surface marked by a deep impressed transverse posterior line : the elytra are broader than the head ; the apex obliquely truncate ; the posterior angle a little produced : the legs are moderately long ; the femora incrassated ; the mesotibiæ distinctly notched : the legs, like the antennæ, are semi-pellucid, with the exception of the incrassated portion in the pro- and mesofemora, which is fuscous : the head, prothorax and elytra, are pale fuscous, covered with a still paler and somewhat silky changeable down. It belongs to the Lamiidæ.

120. (————) *dentipes*. (Corp. long. .7 unc. lat. .2 unc.)

The antennæ are broken, slender, and longer than the body : the head slightly notched between the antennæ ; the eyes of moderate size, and deeply notched at the base of the antennæ : the prothorax is nearly square and coarsely punctured ; in the middle of the lateral margin is a very minute tuber : the elytra are wide at the base, and gradually attenuated to the apex, which is very obliquely and imperfectly truncated, the outer angle being slightly produced : the legs are rather short ; the femora incrassated ; the mesofemora externally notched, internally furnished with a small tooth. The colour is dirty brown, with a variety of somewhat greyish lanuginous spotted markings. It belongs to the Lamiidæ.

121. *Lamia*.

122. *Lamia*.

123. *Callidium*.

} Too much injured to attempt descriptions.

EDWARD NEWMAN.

ART. XCVII.—*Captures of Lepidoptera in July during an Excursion of four days, between Walton-on-the-Naze and Brightlingsea, Essex; by A. Lambert and J. W. Douglas, Esqrs. Communicated by J. W. DOUGLAS, Esq.*

<i>Apatura Iris</i>	<i>Harpalyce immanata</i>	<i>Crambus Lythargyrellus</i>
<i>Limenitis Camilla</i>	<i>Steganolophia prunata</i>	argyreus
<i>Nudaria Senex</i>	<i>Emmelesia rivulata</i>	arbustorum
<i>Lithosia quadra</i>	<i>Polypogon cribralis</i>	argentellus
<i>Triphæna interjecta</i>	<i>Margaritia verbascalis</i>	hybridalis
<i>Graphiphora C-nigrum</i>	<i>Tortrix unitana</i>	parvus
<i>Miana Pulmonariæ</i> , 1 near	galiana	<i>Depressaria nervosa</i> , Haw.
Weeley	<i>Spilonota tetragonana</i>	<i>Phycita roborella</i>
<i>Cidaria quadrifasciaria</i>	aquana	<i>Acompsia cinerella</i>
<i>Harpalyce biangulata</i>	<i>Steganoptica stictana</i>	<i>Ditula angustiorana</i>

APATURA Iris was common in Hartley-wood and Riddles-wood; between eighty and one hundred were seen performing their graceful and rapid evolutions about the tops of the oaks and aspens, gliding among the foliage, and not returning to any particular tree, as Haworth has stated to be its habit. From the frequency with which they visited the aspens, and their greater inclination to settle on them, we are inclined to think that the larvæ feed on those trees as well as on the broad-leaved salallows. There was not a wet spot to be found in the woods, or we should have tried the method of capture mentioned by Mr. Hewitson, (Entomol. 324): only four were taken.

Limenitis Camilla was not nearly so common as usual in these woods, and judging from what was told us by residents on the spot, it seems to be gradually disappearing.

Carpocapsa ———, a new species allied to *C. pupillana*, but abundantly distinct. Mr. Stephens, with his usual kindness, looked carefully through the works of Hübner, Treitsche, and other German authors, in none of which is it figured. Taken on the sea-wormwood near St. Osyth, but very local.

Larvæ of *Peridea serrata*, *Clisiocampa castrensis*, *Notodonta ziczac*, *Apatela Leporina*.

July 24, 1842.

I have taken the following since my last communication:—

Pyrausta sordidalis, *Scotosia vetulata* and *Ypsolophus sequellus*, July 10th, Riddlesdown, near Croydon.

Apamea fibrosa, July 20, by mothing, and on the 4th of August at the sugar.

Ablabia quadripunctana, Riddlesdown.

Anchylopera cuspidana, (Trietsche). This pretty little moth is, I believe, new to Britain. It is a very different thing from the insect figured under this name in Wood's Index. Taken at Riddlesdown.

The following have also occurred during the summer.

Lozopera Smeathmanniana, May 25, Wimbledon Common.

Spilonota tetragonana, Coombe-wood, June.

Porrectaria ornatipennella. I found the pupa-case attached to an oak-leaf in May, and in June the perfect insect was produced. The case is the most curious specimen of insect architecture I ever saw; it very much resembles a dried labiate flower, there being a column with the top curved, from under which project two leaf-like appendages curved downwards and inwards. How such a structure is formed is to me quite a mystery.

Notodonta tritopha. During the Essex excursion I took from an aspen a larva of a greenish grey colour, having three prominences on the back, and which I thought was *N. ziczac*, though differing somewhat from the usual appearance of that larva. It formed a slight covering between two leaves in the collecting box, and appeared in its perfect state on the 10th of August. It has not, I believe, been taken in Britain before.

J. W. DOUGLAS.

August 14, 1842.

ART. XCVIII.—*On the appearance of Colias Hyale.*

By EDWARD NEWMAN.

ONE Sunday morning in the month of August, 1835, I was quietly walking by the side of the Croydon Canal—now, alas, no more! when I saw a yellow butterfly passing rapidly along the opposite bank, and though for the first time in my life, I knew that I beheld *Hyale*. He flitted up the bank, which was steep, and was soon out of sight. The next day, and day after day, whenever the sun shone, I shouldered my net and hunted all the lucerne fields by the canal in pursuit of my nimble friends, and many a weary chase they gave me, for they seemed to possess the wings of the wind; however, what with this species and *Electra*, I seldom returned without one. I often met with a companion—a Mr. Ardly, a Rotherhithe schoolmaster, of whom, as of Crabbe's weaver, it might be said,—

——— "Strong desires

Reign in his breast; 'tis beauty he admires.
See, to the lucerne field he wings his way
And feels in hope the captures of the day.
Eager he looks, and soon to glad his eyes,
From the sweet flowers in happy pairs arise,
Gambling in glee, the new-born butterflies."

He was one of those careful men who never overstate the number of their captures; I seldom persuaded him to plead guilty to the capture of more than two or three "clouded yellows," and one or two "pale clouded yellows," and of having seen one "clouded sulphur;" by the latter name he distinguished the North-American *Philodice*, in which every collector of Mr. Ardly's school religiously believes, and which, together with the "scarce swallow-tail," is ever present to his imagination. Mr. Ardly gave me information from time to time in this modest way; and when the season was over I recorded our captures of *Hyale* as thirty-four, and of *Electra* as twenty-seven.* I believe this was about a third of the real number. All the captures were made within a short distance of the spot where the Croydon railway now runs under the New-Cross road; those of *Electra* principally in a field in which the large engine-house of the railway-company now stands. Simultaneously with this appearance at Deptford it was taken in profusion at Brighton, Shoreham, Folkestone, Dover and Darent-wood; sparingly at Dorking, and on Riddlesdown, near Croydon; a single specimen at Ross, in Herefordshire, and occasional specimens here and there in several other localities. *Electra* appeared at Brighton, Dover and Gravesend, but more sparingly. The captures of *Hyale* ranged over nine days, from the 16th to the 24th of August inclusive, those of *Electra* continued much later.

Since that time I have anxiously watched for its reappearance, and on hearing of the great event during the early part of last month, I wrote to a number of Entomologists and obtained, amongst others, the following replies.

My dear Sir,— On the 4th of August I observed a single specimen of *Colias Hyale* flying in a clover field near Brighton, but was unable to capture him. On the 9th I saw another near Little Hampton; and on the 11th I captured, for the first time, a male, on a sloping bank bordering the Downs near Arundel, in the same spot where I met with *Colias Edusa* three years back. On the 13th, in a lucerne field about two miles from Arundel, I captured eleven; on the following morning, in a clover field, within an hour I took four more; and on the 15th, by devoting the entire day, I met with twenty-one in the same lucerne field that I took the others in; and on the follow-

* Entom. Mag. iii. 408.

ing day I met with thirteen more: on my route home I observed a couple near Brighton, one of which I captured, making in all fifty-one specimens, sixteen of which were females: nearly all the specimens in splendid condition. They are not generally easily taken, as they mostly fly with considerable rapidity, and rarely settle except for a moment; the females are by far the easiest caught. It appeared to me strange that I did not see or take a single specimen of *C. Edusa*.—*Samuel Stevens*; 38, *King St., Covent Garden*, August 20, 1842.

Dear Sir,—I beg leave to inform you that a few specimens of *Colias Hyale* have been taken within the last few days. The first specimen was taken on the 14th inst.; my brother also captured one on the 16th, since then five others have been taken; the last of them we have taken this afternoon, it is a female, being the only one taken as yet. They were all, with the exception of two, taken in an extensive field of clover, containing between four and five hundred acres, called “Heslington Field,” about two miles from York. They appeared to fly leisurely over the clover, some of them alighting upon the flowers from which they were taken. The situation is rather high for the Vale of York, and is a dry gravelly soil. I have no doubt they have been bred in the field, as they were all in beautiful condition, and appear to have flown very little. We took *Col. Edusa* in the same locality eight years ago, but *C. Hyale* has not, to my knowledge, been taken in this neighbourhood since 1826.—*Robert Cook*; 30, *Collier Gate, York*, August 24, 1842.

My dear Sir,—On Monday last, the 22nd of August, I captured at Chalk, near Gravesend, ten specimens of *Colias Hyale* (seven males and three females) from the flowers of *Medicago sativa* (lucerne). I did not observe it on the flowers of clover, or any other plant, indeed it appeared to me to give an entire preference to the lucerne.—*John Walton*; 9, *Barnsbury Square, Islington*, August 27, 1842.

Dear Sir,—I have the pleasure to inform you that I have captured two specimens of *Colias Hyale* in this neighbourhood. The first, a small male, expanding only 1 inch 8 lines, on the 24th instant, at 11, A.M., in a very heavy clay pasture at Cockfield, in the county of Suffolk, about three miles from Lavenham and seven from Bury St. Edmund's; it was on the wing when I first saw it, but settled twice on a flower of the autumnal hawkbit (*Apargia autumnalis*). The other specimen, a very fine female, expands 2 inches 2 lines, was taken this morning (the 27th), about half a mile from Lavenham on the Long Melford road; it was very busy feeding on the hawkbit, and visited several blossoms of it while I was screwing on my net, on one of which it remained some time, within a yard of my feet: the soil here is also a heavy clay. I acknowledge myself wholly indebted to you for this valuable addition to my cabinet, as, from its resemblance on the wing, at a short distance, to a worn specimen of *Pontia Rapæ*, it would most likely, but for your note, have been unnoticed.—*W. Gaze*; *Lavenham*, August 27, 1842.

Second Note from Mr. Stevens.—Whilst walking after church yesterday, by a clover field within a short distance of my own residence, I was not a little surprised to see fly up a male specimen of the *Col. Hyale*; and in another minute I observed another, which proved to be the other sex. Not being at the time provided with a net I did not attempt to catch them, but walked home and returned with the necessary apparatus, and in a short time took three specimens. How many more I

may capture there remains to be proved. They were in very different condition to those that I took a fortnight back, near Arundel. How is it to be accounted for—the extraordinary appearance of this insect in so many and distant places this season, and none of *C. Edusa*? (at least I have not heard of any being taken).—*Samuel Stevens*; 38, *King St., Covent Garden, August 29, 1842.*

My dear Sir,—I received your note, and according to your request I have sent you what information has come to my knowledge of *Hyale*. My son took nine specimens at Darenth on the 21st, in a bit of lucerne, in about an hour, and saw about a dozen more: three were taken at Snaresbrook on the forest, I am informed, the same day; and my friend Mr. Desvignes has sent me the enclosed letter, which he has given me the liberty of forwarding to you, thinking its contents may be interesting to some of your readers, should you deem it worthy a page in '*The Entomologist*.'—*Wm. Courtney*; 5, *Charles Court, Hull Street, St. Luke's, August 30, 1842.*

Dear Courtney,—I have received yours with No. 23. Now as to the "pale clouded yellow," you may safely state that it only appears every seven years (perhaps one or two may be seen in the interim). You very well know that I have, ever since I took them near Brighton in 1835, foretold that it would be taken in 1842, which turns out to be true. I made this conclusion from seeing a few with a Brighton collector when I was down there, and asking him how he came to know they would be out that year; he told me he took them seven years previously, and was certain they would be taken that year; and from this I concluded they would be found again in seven years from that time. The time of its appearance is from the 15th of August to the middle of September, but I recollect seeing some specimens with Johnson, that were taken in June by Lepastrier of Dover. There is no doubt of the caterpillar feeding on the lucerne, from having taken specimens just emerging from the chrysalis, that is, with the wings quite limp, and watching the lucerne field from 10 in the morning till 3 in the afternoon for four days together, during which time I have generally taken five or six every day; the hotter the weather the greater certainty of finding them. They are very much pursued by the *Pontia Brassicæ*, which appear to be continually tormenting them, seldom allowing them to settle; and should they survive the day, the following day they are very much worn and even the wings chipped. I have watched two males fighting and soaring in the air till nearly out of sight. They invariably settle on the flower of the lucerne, on which I should say they deposit their eggs, and which have been introduced into this country with the seed originally imported from Switzerland. In 1835 I took fifty specimens in several fields near Brighton; and this year twenty-two in only two, lying near a village called Wicken, in Northamptonshire, and probably the most inland county in England where *C. Hyale* has been captured. From the attention I have paid to the economy and habits of this insect, you may depend on the foregoing being as accurate as my observations have allowed me to assert.—*Thomas Desvignes*; *Stoney Stratford, August 25, 1842.*

My dear Sir,—I have delayed replying to your note of the 19th instant until nearly the last day, as I expected farther intelligence respecting *C. Hyale*. I have captured seven specimens at Riddlesdown, near Croydon, Surrey. Upwards of forty specimens, these included, have been captured by Mr. Joseph Standish and myself, at this locality; generally found in the red clover fields, but solitary specimens were met

with occasionally all over the Downs: these were met with from the 7th to the 21st instant, the soil chalky. A friend of mine has captured forty-one specimens at St. Osyth, Essex; these were taken in the red and white clover fields between the 6th and 18th instant: soil heavy clay, occasionally gravel, *no chalk*.—*Alfred Lambert; 6, Trinity St., August 30, 1842.*

My dear Friend,—In answer to your enquiry respecting *Colias Hyale*, I may say that I saw the first specimen on the 10th of this month, and about the 15th they seemed the most abundant, and on that day I took twenty-one specimens; altogether I have obtained forty-three. They seemed scattered about some large, open and rather barren fields, and were flying over a small patch of clover adjoining. I have never seen the insect in this neighbourhood before. I have not seen *Colias Edusa* this season.—*Henry Doubleday; Epping, August 30, 1842.*

Colias Hyale.—This usually rare butterfly I saw and took several specimens of at Riddlesdown, near Croydon, on the 14th of August. They were feeding on clover and scabious, which grow freely on the chalky soil of the district. I saw one on the railway at New Cross, and another that was taken at Peckham.—*J. W. Douglas; Coburg Road, Kent Road, August 24, 1842.*

My dear Sir,—Of *Colias Hyale*, — which seems to prefer chalky districts, and to make its appearance after a fine and hot summer, — I saw seven specimens in a deep chalk-pit on the southern side of the down near Guildford, on which the semaphore is erected, and about a quarter of a mile south of the building. I secured four only, owing to the insects choosing to select the face of the precipice for their haunts. — *J. F. Stephens; Shalford Vicarage, near Guildford, August 31, 1842.*

In conclusion, I beg to thank those gentlemen who have so kindly assisted me with information on this interesting subject, and to solicit every additional record of capture that can be procured, stating the date, number of specimens, county, precise habitat, flowers upon which it settles, and every other particular. Any memoranda confirmatory or otherwise, of Mr. Desvigne's suggestion of its being a septennial visitor, will be most acceptable. EDWARD NEWMAN

ART. XCIX.—*List of Lepidoptera captured in the vicinity of Teignmouth.* By W. R. HALL JORDAN, Esq.

Teignmouth, Devon, August 9, 1842.

My Dear Sir,

Thinking that a list of some of the rarer *Lepidoptera* which have been taken in this neighbourhood, together with their localities, may not be unacceptable, I venture to send you one.

Yours truly, W. R. HALL JORDAN.

To the Editor of 'The Entomologist.'

- Colias Electra*. Cliffs at Teignmouth
Leucophasia Sinapis. Common in the south of Devon
Melitæa Athalia. Buckland Wood, on the banks of the Dart, Dartmoor
Thecla Betulæ, Quercûs & Rubi. Teignmouth
Polyommatus Agestis. Bradley Woods, near Newton
P. Argus. Bovey Heathfield
P. Alsus, Hesperia alveolus and *H. Tages*. Cliffs at Teignmouth
Deilephila Elpenor. Islington.
Sphinx Convolvuli. Bishopsteignton
S. Ligustri. Not uncommon
Acherontia Atropos. Teignmouth, Islington, Newton
Smerinthus ocellatus and *Populi*. Teignmouth and Ashburton
S. Tiliæ. Teignmouth
Trochilium Apiforme. Teignmouth
T. Bembiciforme. Buckland Wood, near Ashburton
Ægeria Ichneumoniformis. Cliffs at Teignmouth
Hepialus Hectus. Buckland Wood.
Cossus ligniperda. Teignmouth, Ivybridge
Notodonta trepida. Bishopsteignton
N. tremula. Teignmouth
N. camelina. Buckland Wood
Pterostoma palpina. Teignmouth
Cerura Vinula. Cliffs at Teignmouth
Saturnia Pavonia-minor. Haldon
Pæcilocampa Populi. Teignmouth
Lasiocampa Rubi. Common
L. Medicaginis. Cliffs at Teignmouth; larva also at Bovey Heathfield
L. Quercûs. Teignmouth
Spilosoma mendica. Teignmouth, Bradley Woods
Phragmatobia fuliginosa. Haldon, and near Ashburton
Eyprepia Villica and *Caja*. Common
E. Russula. Haldon, Spitchweek, near Ashburton
E. Plantaginis. Spitchweek
Hypercompa Dominula. Islington, Buckland Woods
Lithosia griseola and *rosea*. Teignmouth
L. mesomella. Buckland Woods
Nudaria mundana. Common
N. senex. Teignmouth
Heliophobus Popularis. Ashburton
Agrotis suffusa. Teignmouth
A. valligera. Dawlish Warren
Graphiphora plecta and *C-nigrum*. Teignmouth
Mythimna conigera. Teignmouth, Ashburton
Orthosia miniosa, Amphipyra pyramidea, Triphæna fimbria, Xylina putris & Mamestra unca. Teignmouth
Hadena Cucubali & Capsincola. Ashburton
H. plebeia. Near Newton.
H. Lithorhiza and *Trachea protea*. Teignmouth
Acronycta Bradyporina. Islington
Polia flavocincta. Teignmouth
P. serena. Ashburton
Hapalia præcox. Dawlish Warren
Scotophila porphyrea. Buckland Wood
Bryophila glandifera, Phlogophora lucipara, Thyatira Batis, Cymatophora subtusa, Cosmia diffinis, Cucullia lucifuga, C. Verbasci, C. umbratica, Abrostola triplasia, A. Urticæ, Plusia chrysitis, P. Iota, Heliothis marginata. Teignmouth
Heliothis peltigera. Torre
Anarta Myrtilli and *A. heliaca*. Haldon
Acosmetia fuscula. Buckland Wood
Stilbia anomalata. Haldon
Ophiusa lusoria. Teignmouth
Mormo maura. Common
Phytometra ænea. Haldon
Euclidia glyphica & Mi. Cliffs at Teignmouth
Biston prodromarius. Totnes
B. Betularius. Ashburton
Alcis lichenaria. Ditto and Teignmouth
Bupalus favillacearius. Haldon
Hipparchus Papilionarius. Ashburton & Teignmouth
Timandra amataria & apiciaria. Teignm.
Eurymene dolabraria. Staverton
Ennomos illustraria, Himera pennaria,

<i>Crocallis clingularia</i> & <i>C. bidentaria</i> , Teignmouth	<i>vaticata, galiata, ruptata.</i> Teignm.
<i>Metrocampus margaritaria</i>	<i>Polyphasia testata.</i> Haldon
<i>M. fasciaria.</i> Buckland Wood	<i>Cidaria rubidata, C. sinuata</i> (1 specimen), & <i>Lozogramma petraria.</i> Teignm.
<i>Zerynthia didymaria.</i> Haldon, Buckland Wood	<i>Emmelesia sylvata.</i> Haldon
<i>Ephyra pendularia</i> and <i>Eucosmia undula- ta.</i> Buckland Wood	<i>E. subsericeata</i>
<i>Hybernia defoliaria, Æscularia</i> and <i>rupi- capraria.</i> Teignmouth	<i>Macaria imitaria.</i> Teignmouth
<i>Eupithecia nigropunctata.</i> Buckland Wd.	<i>M. emarginata</i>
<i>E. coronata, singulariata, Absinthiata, sub- fulvata, Centaureata, and venosata.</i> Teignmouth	<i>M. alternata.</i> Buckland Wood
<i>Minoa Chærophyllata.</i> Spitchweek	<i>Cilix compressa.</i> Teignmouth
<i>Xerene procellata, adustata, rubiginata, syl-</i>	<i>Tortrix sylvana</i>
	<i>Spilonota trigeminana, rusticana</i> and <i>tetra- gonana.</i> Cliffs at Teignmouth
	<i>Orthotænia cespitana.</i> Buckland Wood
	<i>O. politana.</i> Teignmouth
	<i>O. fuligana.</i> Dawlish Warren.

Lasiocampa Medicaginis, both male and female, I have twice reared from the larva; these are the only specimens I have been able to procure. *Nudaria senex* is, I believe, a rare moth. Of *Polia flavocincta* I have reared one specimen. Buckland Wood near Ashburton is a good locality; amongst other moths I have taken *Eupithecia nigropunctata* plentifully. *Cidaria sinuata* is, I believe, considered rare; I have never taken more than one. Of *Orthotænia fuligana* three specimens have been taken at Dawlish Warren. *Hypena crassalis* is not uncommon at Buckland Wood.

I am sorry to find that you are obliged to give up 'The Entomologist for want of support; it will not be easy to supply its place.

ART. C.—*On the Larvæ of Lepidoptera found upon Rhamnus catharticus and Frangula.* By W. GAZE, Esq.

The buckthorn (*Rhamnus catharticus*) is in this neighbourhood eaten by several lepidopterous larvæ. My attention was first directed to it on the 3rd of May last, by seeing a female of *Gonepteryx Rhamni* fluttering round a plant which was just putting forth its leaves; and having seen this butterfly only in its imago state, I cautiously approached, saw her alight, bend her body, and deposit an egg on the underside of a half-expanded leaf; this and two others I took as soon as they were deposited, and after watching the butterfly (which seemed regardless of my presence) for some time, I left her still employed. The eggs were cone-shaped, ribbed, and of a clear white colour, but were soon changed, by the enclosed embryo, to a deep straw colour. The caterpillars were hatched in nine days, and were of the same

straw colour, and about a line and a half long ; but although I supplied them with young shoots of buckthorn, I could not rear them : and on searching the plant about a week after, I found several eggs which had assumed the straw colour but none hatched, by which it appears that those I took home, from being kept in a warm room, were hatched several days sooner than they would have been if left on the plant. On a subsequent search I found several caterpillars, of different ages, from which I selected the largest (about half grown), but these being infested with *Ichneumons*, I afterwards obtained three from the buckthorn and one from the berry-bearing alder, which were nearly full fed. In this state of growth they were of a deep green colour, with a whitish line along each side, and exhibited, in certain lights, a very short pubescence of a purplish colour, and, like all the others, were found on the midrib of the upper surface of the young leaves, while the shell of the egg was often to be seen on one of the lower leaves, showing that they do not, like the larvæ of *Papilio Machaon* and those of the genus *Pontia*, eat the shell of the egg, but I observed a caterpillar eating its cast-off skin. Of the four in my breeding cage one attached itself to the midrib of the underside of a leaf, one to the stem of the plant and two to the top of the cage ; they were attached by the tail and had a loose band round them, and changed into chrysalides of a green colour, with a yellow line on each side : the butterflies, both male and female, were produced in nineteen days.

When searching the buckthorn for the above I found two caterpillars of a beautiful golden green colour, with a yellow line along each side, their hinder pair of pro-legs and a line extending over the next pair burnt umber : these produced *Scotosia Rhamnata*. Caterpillars of *Porthesia auriflua*, *Polia flavocincta*, *Lamptetia connectaria* and *Abraxas Grossulariata* were also found feeding on the buckthorn, and in the breeding cage one which produced a female of *Alcis repandata*, fed on it in preference to oak (from which it was taken) and a variety of other plants which were constantly kept in the cage : another caterpillar of *Alcis repandata* would only feed on the blackthorn.

W. GAZE.

Lavenham, Aug. 9, 1842.

JOHN VAN VOORST,



PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXV.

OCTOBER, MDCCCXLII.

PRICE 6D.

ART. CI. — *List of Lepidoptera captured near York, during the present year.* By THOMAS H. ALLIS, Esq.

<i>February.</i>	Cabera pusaria	Leucania pallens
Cheimatobia rupicaprarua	exanthemata	impura
Hibernia capreolaria	Graphiphora plecta	pudorina
<i>March.</i>	punicea	comma
Anisopteryx leucophæaria	Margaritia fimbrialis	Graphiphora augur
Æscularia	Acidalia flos-lactata	Hadena remissa
Brepha notha	Harpalyce silaceata	Abrostola Urticæ
<i>April,</i>	Xylophasia combusta	Nudaria senex
On sallow blossoms.	Acronycta Rumicis	Acosmetia arcuosa
Semiophora gothica	Thera variata	Ptychopoda decoraria
Orthosia stabilis	Bupalus piniarius	Polia advena
instabilis	Phibalapteryx lignata	<i>On the 21st of June at</i>
subplumbea	<i>June.</i>	<i>Monk's Wood.</i>
sparsa	Hadena plebeia	Angerona prunaria
cruda	adusta	Polypogon barbalis
Lampropteryx badiata	thalassina	tarsierinalis
suffumata	Odontoptera bidentata	nemoralis
Triphosa dubitata	Setina eborina	Cleora bajularia
Glæa Vaccinii	Hadena Cneubali	lichenaria
rubricosa	capsincola	Harpalyce silaceata
Hadena lithorhiza	Graphiphora C-nigrum	corylata
Lobophora dentistrigata	Erastria uncana	Xylophasia epomidion
Brepha Parthenias	Lobophora sexalisata	Scotosia vetulata
Achatia piniperda	Notodonta ziczac	rharnnata
Geometra illunaria	Plusia Iota	<i>July.</i>
Hemerophila abruptaria	percontationis	Agrotis corticea
<i>May.</i>	Festucæ	Xylina putris
Numeria pulveraria	chrysitis	Hipparchus Papilionarius
Lampropteryx derivata	Mamestra furva	Graphiphora baja
Lozogramma petraria	oleracea	festiva
Lasiocampa Rubi	Scotosia sparsaria	Nola strigulalis
Cidaria unidentified	Abraxas ulmata	Cucullatella
ferrugaria	Apamea secalina	Margaritia cinerealis
pendularia	Ptilodontis palpina	Steganophila prunata
Ephyra punctaria	Miana fasciuncula	Bombycia viminalis
Boarmia crepuscularia	Æthiops	Graphiphora brunnea

<i>Apamea fibrosa</i>	<i>Macaria liturata</i>	<i>Lytæa umbrosa</i>
<i>didyma</i>	<i>Miana literosa</i>	<i>August.</i>
<i>oculea</i>	<i>Mythimna grisea</i>	<i>Tethea retusa</i>
<i>rava</i>	<i>Gortyna micacea</i>	<i>Leucania pygmina</i>
<i>I-niger</i>	<i>Nonagria Typhæ</i>	<i>Triphæna Janthina</i>
<i>Agrotis vitta</i>	<i>Triphæna orbona</i>	<i>Eupithecia subfulvata</i>
<i>Lophopteryx camolina</i>	<i>interjecta</i>	<i>Cerapteryx Graminis</i>
<i>Anthrocera Lonicera?</i>	<i>Celena Haworthi</i>	<i>Epione apiciaria</i>
<i>Trifolii</i>	<i>Xanthia fulvago</i>	<i>Crocallis elinguaris</i>
<i>Polia herbida</i>	<i>Mythimna conigera</i>	<i>Lithosia complana</i>
<i>Ellopiæ fasciaria</i>		

Glea Vaccinii. This insect was abundant on the sallow blossoms, but I did not see a single example of *G. subnigra*.

Hadena Cucubali. Not scarce on the flowers of *Lychnis Flos-culi*.

Hadena capsincola. I have taken but one specimen in the winged state, though the larvæ are common in the seed-pods of *Lychnis dioica*.

Polia advena and *herbida*. Only one specimen of each; they are decidedly rare here.

Apamea fibrosa has been rather common; they, as well as many other moths, frequent the blossoms of the common rush.

Nonagria Typhæ. I took two worn females on the 26th of July, last year I captured a few females in the first week of September, after which I saw no more, although the males continued to be plentiful and in good condition till the end of the month. I have seen no males this year.

Xanthia fulvago. We appear to have this insect earlier than in the south. I took the first specimen this year on the 31st of July. I have seen but few good ones after the first week in September.

THOMAS H. ALLIS.

York, August 11, 1842.

ART. CII. -- *Captures of Lepidoptera near Teignmouth, Devon.*

By ROBERT JORDAN, Esq.

Teignmouth, Devon, August 20, 1842.

Dear Sir,

I send you a list of some of the smaller Lepidoptera caught in the neighbourhood, which perhaps may be acceptable; and remain,

Yours truly, ROBERT JORDAN.

To the Editor of 'The Entomologist.'

<i>Spilonota trigeminana</i> and rusticana. Rare; cliffs on the coast	<i>Peronea radiana</i> and stri- ana. Rare	<i>Eudorea mercurella</i> pyraella montana
<i>Aspidia Udmanniana</i>	<i>Sarrothripus ilicanus</i> degeneranus	<i>Leminatophila phryganella</i>
<i>Zeiraphera hastiana</i> comitana	<i>Nola strigulalis</i>	<i>Oporinia alternella</i>
<i>Grapholitha ephippiana</i>	<i>Simaethis Fabriciana</i>	<i>Adela Panzerella</i> cuprella sulzella
<i>Steganoptycha triquetrana</i> angulana trimaculana	<i>Pyrausta purpuralis</i> punicealis sordidalis	<i>Cecophora sulphurella</i>
<i>Philalcea campoliana</i>	<i>Hydrocampa Potamogata</i>	<i>Enicostoma Geoffroyella</i>
<i>Carpocapsa pomonella</i> Weberana Hypericana ulicetana nigricana	<i>Scopula prunalis</i> olivialis asinalis sambucalis longipedalis and fer- rugalis. Cliffs by the sea	<i>Phibalocera quercana</i> Depressaria Heracleana applana purpurea Alstroemeriana arenella costosa nervosa Sparmanniana umbellana
<i>Bactra pauperana</i>	<i>ochrealis</i>	<i>Anacampsis betulea</i> rhombella diffinis sequax tricolorella
<i>Cnephasia logiana</i>	<i>cinetalis</i>	<i>Apheloseitia cygnipennella</i>
<i>Orthotænia urticana</i> micana cæspitana. Buck- land wood, rare politana. Rare fuligana. Dawlish Warren	<i>lancealis. Buckland</i> wood, nr. Ashbur- sericealis [ton hybridalis	<i>Butalis flavicaput</i> Pancalia Merianella Microsetia posticella Argyromyges autumnella Harrisella trifasciella
<i>Ptycholoma Lecheana</i>	<i>Cledeobia costæstrigalis &</i> albistrigalis. Buck- land wood	<i>Ederesa pruniella</i>
<i>Lophoderus ministrana</i>	<i>angustalis. Dawlish</i>	<i>Erminea cæsiella</i> comptella Curtisella
<i>Xanthosetia diversana</i>	Warren	<i>Yponomeuta cognatella</i>
<i>Cochylis straminea</i> marmorata. Cliffs; one specimen angustana	<i>Pyralis tarsicrinalis</i> <i>Hypena crassalis. Buck-</i> land wood	<i>Ypsolophus antennellus</i> sylvellus variellus fissellus vittellus
<i>Diptyopteryx Forskaleana</i> Holmiana plumbana Læflingiana mixtana rhombana ciliana contaminana	<i>Asopia farinalis</i> <i>Aglossa pinguinalis</i> <i>Ilithya colonella</i> <i>Orthotælia venosa. Rare</i> <i>Harpipteryx nemorella</i> harpella	<i>Cerostoma Xylostella</i> Lampros oppositella Lampronia corticella auropurpurella calthella
<i>Teras effractana</i>	<i>Crambus combinellus</i> argentellus pinetellus inquinatellus geniculeus cerusellus pygmæus sylvellus?	<i>Phycita cristella. Very</i> rare
<i>Leptogramma Boscana. Rare</i>		
<i>Peronea asperana</i> variegana rufana Schalleriana favillaceana marmorana plumbosana	<i>Homæosoma gemina</i> <i>Phycita palumbella</i> formosa. Rare augustella. Rare	

Gracillaria substriga. One specimen	Pterophorus fuscodactylus	Pterophorus lunædactylus
falconipennella	pterodactylus	didactylus. Rare
Thunbergella	pentadactylus	trigonodactylus. Do.
	similidactylus	Alucita hexadactyla

ART. CIII.—*Captures near Henley-on-Thames.*

By The Rev. C. S. BIRD, M.A.

Fawley Rectory, Henley-on-Thames,

August 22, 1842.

My dear Sir,

I greatly regret, in common with many others, that 'The Entomologist' is about to be given up, especially because whatever you edit I should always be confident was worth reading. I have taken two copies in my house, since the commencement; so that I am not one of those who, when they lament the cessation of the work, have themselves to blame. Should you find it possible, in consequence of the feeling excited by the announcement of the intended cessation, to change that intention, and continue the work, I shall not be the only one who will rejoice to hear it.

Perhaps you may have room amongst your Varieties, to insert the following account of the insects I have captured at this place, to which I removed from Burghfield in the latter part of last April. July was very unproductive; the nights were cold.

Believe me, with every good wish,

Yours very truly,

C. S. BIRD.

To the Editor of 'The Entomologist.'

LEPIDOPTERA.

Thecla W-album	Cerigo texta	Apamea nictitans
Pamphila comma	Charæas graminis	Achatia piniperda
Hepialus carnus & Hectus	Rusina ferruginea	Miselia Aprilina & compta
Notodonta perfusca & ziczac	Agrotis cinerea	Acronycta Alni & Ligustri
Leiocampa dictæa	Graphiphora brunnea	Thyatira batis
Pterostoma palpina	festiva	Leucania comma
Chaonia dodonæa	Xylophasia hepatica	Bupalus piniarius
Peridea serrata	Hadena adusta, thalassina,	Ellopiæ fasciaria
Eriogaster lanestris	Genistæ, Cucubali,	Hipparchus papilionarius
Psilura monacha	ochracea, Saponariæ	Azinephora pulveraria
Colocasias Coryli	Glæa rubricosa	Abraxas ulmata
Phragmatobia fuliginosa	Mamestra furva	Bapta bimaculata
Lithosia aureola	Euplexia lucipara	Ptychopoda ornata
flava		Drepana unguicula

In the other orders I have found, *inter alia*, the following.

Lyda fasciata	Phasia hemiptera	Callistus lunatus
Microdon apiformis	Omaloplia ruricola	Oncomera Podagrariæ

ART. CIV.—*Captures near Hammersmith.* By SAMUEL STEVENS, Esq.

38, King St., Covent Garden,

August 24, 1842.

My dear Sir,

If the following list of captures within the last four summers in the vicinity of Hammersmith will tempt any of the London Entomologists to pay it a visit, it will afford me much pleasure to point out to any of your readers the spots that I have found in which there is the best collecting.

Believe me, Dear Sir,

Your very truly,

SAMUEL STEVENS.

To the Editor of 'The Entomologist.'

COLEOPTERA.

Demetrias atricapillus	Argutor inæqualis	Gnorimus nobilis, common
Dromius linearis	erythropus	in rotten apple and
glabratus	strenuus	cherry trees at the
truncatellus	Omasseus anthracinus	beginning of June
Clivina fossor	lævigatus	Hypolithus Agricola
collaris	Feronia picea	Ctenicerus metallicus
Dyschirius æneus	Platisma niger	Necrobia quadra
gibbus	Oödes helopioides	ruficollis
Cychrus rostratus	Amara and Harpalus ma-	Ptinus imperialis
Carabus monilis	ny species	Rhyncolus lignarius
cancellatus	Anisodactylus binotatus	Baris Atriplicis
arvensis	Stenolophus vaporariorum	pivicornis
Leistus spinibarbis	lateralis	Mecinus hemicylindricus
Loricera pilicornis	Blemus conspectus	Gymnaetron Beccabungæ
Badister cephalotes	Elaphrus cupreus	Veronicæ
bipustulatus	riparius	Miarus Campanulæ
Chlænus nigricornis	Hydrous piceus	Cionus Scrophulariæ
vestitus	Necrophorus mortuorum	Verbasci
Agonum marginatum	humator	Cleopus pulchellus
parumpunctatum	vestigator	Sphærola Lythri
picipes	vespillo	Cæliodes Geranii
pelidnum	Necrodes littoralis	Nedys assimilis
and other species	Nitidula limbata	syritis, <i>Germ.</i>
Argutor vernalis	Tiresias serra	contractus

Nedys Cochleariæ	Leiophlæus nubilus	Clytus Arietis
constrictus	Otiorhynchus sulcatus	Pachyta livida
nigrinus	scabridus	Donacia Lemnæ
mêlanarius	raucus	Sagittariæ
ovalis	Omiæ piceus	Proteus
Boraginis	Philopodon exaratus	rustica
quercicola	Strophosomus squamulatus	Menyanthidis
melanostigma	limbatus	simplex
marginatus	Sciaphilus muricatus	linearis
Poöphagus Sisymbrii	Lixus productus	Typhæ
Rhinonchus tibialis	Apion Pomonæ	Crioceris puncticollis
crassus	Rumicis	cyanella
Acalles variegatus	curtirostre	melanopa
Cryptorhynchus Lathrii	seniculus	Asparagi
Bagous tempestivus	pubescens	Haltica Brassicæ
binotatus	violaceum	4-guttata
Pachyrhinus Myriophylli	Hydrolapathi	Macrocnema Napi
Comari	hæmatodes	chrysocephala
4-tuberculatus	frumentarium	picina
villaris, <i>Gyl.</i>	Onopordi	Helodes Phellandrii
Amalus scortillum	Carduorum	Beccabungæ
Tachyergus saliceti	confluens	Cassida Salicorniæ
Notaris Scirpi, <i>Fab.</i> not de-	Loti	Coccinella 19-punctata
scribed in Stephens.	vorax	Cacicula scutellata
Dorytomus validirostris, <i>Sch.</i>	subsulcatum, &c.	Diaperis ænea
new to this country	Rhamphus pulicarius	Opatrum sabulosum
Hypera murina	Rhynchites Alliariæ	Helops cæruleus. In de-
Plantaginis	atrocæruleus	cayed apple & cher-
miles	æquatus	ry trees
Leiosoma punctata	Brachytarsus scabrosus	Eryx niger. Ditto
Tanysphyrus Lemnæ	Tetrops præusta	Mycetocharus scapularis
Barynotus Æscidii	Callidium bajulus	Sitaris humeralis. Re-
Merionus obscurus	variabile	mains of a specimen
elevatus	Clytus mysticus	from an old wall

LEPIDOPTERA.

The following have nearly all occurred this season in a marshy piece of ground; many other rarities will probably turn up, for until recently I have neglected searching for them.

<i>June.</i>	Electra comitata	Leucania impura
Apamea secalina	<i>August.</i>	vectis, <i>Curtis.</i>
Xylina putris	Leucania pygmina	pallens
Graphiphora augur	geminipuncta	Nudaria senex
Orthosia Upsilon	<i>September.</i>	Melia sericea
<i>July.</i>	Nonagria crassicornis ?	Chilo phragmatellus
Apamea fibrosa	Gortyna micacea	gigantellus
Orthotænia venosa	<i>June and July.</i>	Eudorea pallida
Antithesia salicella	Leucania obsoleta	Epione apiciaria

<i>June and August.</i>	<i>June to September.</i>	<i>Electra spinachiata</i>
<i>Graphiphora bella</i>	<i>Phibalapteryx lignata</i>	<i>pyraliata</i>
<i>July and August.</i>	<i>July to September.</i>	<i>&c. &c.</i>
<i>Nonagria Typhæ</i>	<i>Electra testata</i>	

ART. CV.—*Captures near York.* By ROBERT COOK, Esq.

30, Collier Gate, York,

August 25, 1842.

Dear Sir,

I have the pleasure to inform you that the present year, up to this time, has been very favourable for Lepidoptera in our part of the kingdom. The commoner species have appeared in great abundance; others that are comparatively scarce in some years, have appeared in tolerable plenty; whilst few have been more scarce than usual.

The following is a list of a few of my captures near York; should you consider it worth inserting in your periodical, you are quite at liberty to do so.

Cheimatobia rupicaprararia. Plentiful on the 14th of February.

Brepha notha. March 6th; on the 29th abundant.

„ *Parthenias.* April 5th. This species was very scarce, although the weather was more favourable than usual at that season of the year down here.

On the blossoms of willows, from the 12th to the 20th of April, I found the following.

Orthosia stabilis, (and var. *pallida*); *Semiophora gothica*; and bad specimens of *Gleæ Vaccinii*, having lived through the winter. These three species were very abundant.

Orthosia cruda. Nothing near so plentiful as the preceding.

„ *instabilis.* Not so common as *O. cruda*.

„ *sparsa.* Scarce; I captured only three males and but one female.

Gleæ rubricosa. I captured about twenty specimens; they were in beautiful condition.

Gleæ satellitia. A few very worn specimens.

Lobophora dentistrigata. Not common.

Larentia multistrigaria. A few worn specimens.

Achatia piniperda. Not scarce.

Hadena lithorhiza. A single specimen.

Geometra illunaria. A few unusually large male specimens.

Bupalus piniarius. June 8th. The males of this species were exceedingly abundant.

Melanippe hastata. More common in one locality than I ever recollect to have seen it here.

Scotosia sparsaria. June 13th. Rather scarce.

Phibalapteryx lignata. Beginning of June, and again in August; at the former time the most plentiful.

Lobophora sexalisata. June 18th. Scarce.

Sesia bombyliformis. Scarcer than I ever recollect to have seen it here.

Leucania pudorina. Not common.

Graphiphora punicea. Plentiful in the beginning of June, and again in August, but scarcer and considerably darker in colour.

„ *festiva*. Scarcely a specimen to be seen, other years very common.

Ægeria culiciformis. Although a very rare species here, I have been so fortunate as to capture a few fine specimens.

Nudaria senex. July 2nd. Rather scarce.

Bombycia viminalis. This insect has not appeared in such plenty as it did last year.

Hipparchus Papilionarius. Not common, though it has appeared more so this year than usual.

Apamea unanimitis? Scarce; 25th July.

„ *fibrosa*. From the 12th of July to the 16th of August, during which time beautiful specimens and varieties occurred, and in tolerable plenty. Last year I could obtain but three specimens, although I diligently collected in the same locality.

Agrotis nigricans? and two varieties.

Celæna Haworthi. August 1st, plentiful. Last year rather scarce.

Xanthia gilvago. Two specimens.

„ *fulvago*. August 16th, plentiful.

The following species of Coleoptera I took during last spring.

<i>Carabus nitens</i>	<i>Chrysomela Hanoveriana</i>	<i>Saperda populnea</i>
<i>Tritoma bipustulatum</i>	<i>fulgida</i>	<i>Pogonochebus nebulosus</i>
<i>Scaphidium 4-maculatum</i>	<i>Hygrotus decoratus</i>	<i>Elater balteatus</i>
<i>Mycetophagus 4-pustulatus</i>	<i>Homalata dimidiata</i>	<i>Attelabus curculionoides</i>
<i>Strongylus ferrugineus</i>	<i>Pæderus riparius</i>	<i>Apoderus avellana</i>
<i>Thanasimus formicarius</i>	<i>Elaphrus Lapponicus</i>	

Plusia bractea. I obtained three specimens of this splendid insect from a young friend of mine, who captured six specimens in his father's garden near Pateley Bridge, in this county, about the middle of last June.

I am, Dear Sir,

Yours truly,

ROBT. COOK.

To the Editor of 'The Entomologist.'

ART. CVI.—*List of Insects collected at Port Philip, New South Wales, by Edmund Thomas Higgins, Esq.* By EDWARD NEWMAN.

(Continued from page 369).

Natural Order.—CARABITES.

67. *Feronia Philippi*. Nigra, nitida, fulgore nigro-æneo splendida; elytra regularitèr haud profundè striata, striis obsoletè punctis, stria tertia puncto magno pone medium impressa. (Corp. long. .8 unc. lat. .275 unc.)

Under stones. Antennæ rather shorter than the prothorax, slender and brown at the tip; the face between the antennæ is impressed with two very deep longitudinal furrows; these are connected anteriorly by a transverse line, and between their posterior extremities is a small fovea: the prothorax is wider than the head; its anterior and posterior margins are nearly straight, its lateral margins much rounded, and the greatest breadth is rather before the middle; all its angles are rounded; within each posterior angle is a wide, shapeless, punctate depression; there is also a median longitudinal line, which has a large fovea near its posterior extremity: the elytra are convex, wider than the prothorax, their sides rounded, their greatest width rather behind the middle; each of them has eight equidistant, *very shallow*, scarcely punctate striæ; the third from the suture has a most distinct and obvious puncture; the last, that nearest the lateral margin, is much deeper than the rest, and has 10 or 12 large, deep, and irregularly placed punctures; the interspace between this and the margin is steel-blue, the other parts of the elytra are nigro-æneous, and the rest of the insect quite black: the tibiæ are hirsute; the apical portion of the protibiæ is very uneven, and its interior surface has a large spine before the extremity; all the tibiæ are spined at the extremity. This

insect is about the size of *Brosicus cephalotes*; it doubtless belongs to one of the numerous subdivisions of *Feronia*, but, not understanding the characters on which these are founded, I am unable to decide which.

68. *Chlænium australis*, Dej. Sp. Col. Supp. v. 650.

Under stones.

69. (*Anchomenus*?) *nigroæneus*. Nigro-æneus: antennæ prothorace manifestò longiores; oculi prominentes: prothorax capite paulò latior, lateribus paulò dilatatis, marginibus subdiaphanis: elytra prothorace valdè latiora, 8-striata, striis haud punctis, striâ 2dâ ante apicem puncto magno impressâ, interstitiis glabris, nitidis, nullo modo punctis, interstitiio marginali excepto, punctis nonnullis magnis interrupto: abdomen et pedes atra, tarsis piceis. (Corp. long. .425 unc. lat. .15 unc.)

Found under stones.

70. (*Homethes*) *elegans*. Genus novum? Maxipalpi elongati, articulo ultimo valdè acuto, caput angustum, longum, ore acuminatum; oculi vix prominuli: prothorax obcordatus, marginibus anticò excavatus, posticò valdè angustus, lateralibus rotundatus, dorso complanatus; elytra complanata, prothorace ferè triplo latiora, ovata, humeris omninò rotundata, apice truncata, truncatura ferè recta: pedes mediocres, *maris* protarsi paulò dilatati, protibiæ manifestò emarginatæ. *Homethes elegans*. Antennæ pallidè fuscæ; caput, prothorax et elytra fuliginea: femora paulò tumida, sordidè albida, apicibus nigris, tibiis tarsisque pallidè fuscæ: totum corpus subtùs piceum: elytra 9-striata, lanugine sericatâ maculatim ornata. (Corp. long. .35 unc. lat. .15 unc.)

Under stones. This elegant little insect somewhat resembles *Anchomenus pallipes*.

Natural Order.—CLERITES.

71. vel. 43^a. (*Pylus*) *Anthicides*. Caput punctum, asperum, hirtum, piceum; oculis nigris; antennis testaceis: prothorax punctus, asper, hirtus, piceus, lateribus medio gibberis: elytra lineatim puncta, punctis a basi ad apicem magnitudine pedetentim decrescentibus, ferruginea, fasciis 2 communibus fuscis, 1mâ rectâ, ante medium sitâ, medio interruptâ, 2dâ magis obscurâ, pone medium sitâ, medio quoque interruptâ: abdomen subtùs et pedes testacea. (Corp. long. .15 unc. lat. .05 unc.)

Between layers of bark.

Natural Order.—PTINITES.

72. *Synercticus heteromerus*. Caput exertum vix pronum, subcomplanatum, latum, pone oculos transversè sulcatum; oculi mediocres, rotundi, laterales; antennæ capite paullò longiores moniliformes extus paullò crassiores, articulo ultimo obconico apice acutissimo: prothorax capite paullò latior, obcordatus, postice truncatus, lateribus rotundatus: scutellum minutissimum, apice rotundatum: elytra prothorace latiora, dorso convexa, lateribus parallela, apice rotundata, ampla, abdomen tegentia: pedes subbreves, tarsis heteromeris. *Syne. heteromerus*. Piceofusca, nitida, epicranium posticè confertissimè punctum: prothorax confertim punctus: elytra lineis tribus vix distinctis elevatis aucta; confertim ac minutissimè sed irregulatè puncta. (Corp. long. .35 unc. lat. .125 unc.)

A pair of these insects were found on the blossoms of Eucalyptus. They bear considerable resemblance to the Clerites; and perhaps a more rigid investigation of the mouth will establish their claim to a station in that order.

73. *Epiteles contumax*. Caput magnum, porrectum; mandibulæ validæ arcuatæ, palpi longi, ferè æquales, articulo ultimo paullò incrassato, apice truncato; oculi mediocres, valdè distantes, reniformes; antennæ ad orem sitæ, capite vix longiores, 11-articulatæ, articuli basales 4, graciles, cæteri crassiores, serratæ: prothorax capite paullò brevior, paullò angustior, margine antico rectus, postico angustior ferè rectus, angulis manifestò rotundatis: scutellum manifestum, posticè rotundatum: elytra prothorace vix latiora, lateribus parallela, apice rotundata, abdomen vix tegentia: pedes æquales, breves, femoribus tumidis, tarsis quasi 5-articulatis. *Epiteles contumax*. Antennæ basi pallidæ, ferè pellucidæ, apice nigræ; caput, prothorax, elytra et sternum nigra: abdomen rufum, ano bifido nigro: pedes pallidi, protibiis basi fuscis: epicranium latum, perlongum, hirtum, asperè punctum: prothorax hirtus, anticè punctus, lateribus obsoletè transversim rugatus: elytra nitida, glaberrima, vix puncta.— Corp. long. .35 unc. lat. .075 unc.

Under bark of Eucalyptus.

74. *Deretaphrus fossus*. Caput vix pronum, exertum, pone oculos constrictum; oculi valdè distantes, magnitudine mediocres, laterales, ferè rotundi; antennæ capite haud longiores, curvatæ, apice paullò crassiores, articulo basali magno, apicali parvo, 9,

10 et 11 rectè truncatis: prothorax capite ferè duplò latior, manifestò longior, elongato-obcordatus; marginibus antico paullò sinuatus, lateralibus anticè paullò convexus, postico angustior, truncatus, angulis subprominentibus, ferè acutis: elytra longa, parallela, prothorace paullò latiora, apice rotundata: pedes breves, femoribus subtùs apicem versus excavatis tibiis recipientibus; tarsis 4-articulatis. *Deretaphrus fossus*. Fuscus, epicranium latum, confertim punctum: prothorax confertim punctus, medio profundè longitudinalitèr impressus: elytron utrumque 4-carinatum, interspatiis biseriatis punctis: corpus subtùs confertim punctum. (Corp. long. .475 unc. lat. .15 unc.)

Under White Gum bark.

75. *Deretaphrus puteus*. Fuscus: epicranium latum, confertim punctum: prothorax confertim punctus, lineâ ovatâ dorsali profundè impressus: elytra striata; utriusque elytri striæ 3 longitudinales dorsales impressæ, tunc carinæ 2 elevatæ interspatio profundè depresso, tunc carinæ 3 minores laterales. (Corp. long. .25 unc. lat. .075 unc.)

Taken by Mr. Davis, under bark.

76. *Deretaphrus illusus*. Piceus: epicranium latum, confertim punctum: prothorax confertim punctus, dorso, foveâ magnâ, anticâ, vagâ, lineâque curvatâ, posticâ, distinctâ, ferro equino simillimâ impressus: elytri utriusque striæ 3 longitudinales dorsales, spatio inter 2um et 3um planè elevato, tunc carinæ 5 elevatæ, laterales, interspatiis seriatim punctis. (Corp. long. .2 unc. lat. .06 unc.)

Between layers of Woolibut.

77. *Deretaphrus vittatus*. Piceus; utriusque elytri vittâ latâ lætè rufo-piceâ: caput punctum: prothorax punctus, dorso depressus, spatio mediano longitudinali elevato glabro: elytra lineata, lineâ 1mâ manifestâ. (Corp. long. .175 unc. lat. .5 unc.)

Between layers of Woolibut.

Natural Order.—HELOPITES.

78. *Bolitophagus Sapphira*. Fuliginèus, lanugine molli undique oblitus: elytra maculis 4 maximis, pulcherrimis, aurantiis ornata; vel potius, elytra pulcherrimè aurantia cruce nigro ornata. (Corp. long. .3 unc. lat. .15 unc.)

Found on wattles. This pretty little insect has the superficial appearance of an Endomychus, but I think it really belongs to the

heterogeneous group generally known under the name of *Bolitophagus*, more particularly to that division of the group with velvety vestiture and uneven surface, which are so well known as coming from North America. The antennæ are rather longer than the prothorax, 11-jointed, moniliform, and slightly incrassated exteriorly; they are black, with the terminal joint brown: the head is nearly received into the prothorax, and, together with that part, is uneven, velvety and black; the sides of the prothorax are dilated, turned up, and furnished with an acute tooth near the middle of each lateral edge: the elytra are wider than the prothorax, velvety, impressed with large and deep punctures, which appear partially arranged in striæ, but the striæ are much interrupted, and very difficult to trace; they are very uneven; each has seven tubercular elevations, elongated longitudinally, besides minor inequalities; they are of a rich velvety orange-red colour, with the suture, a central fascia, and the margins, black: the legs and under surface of the abdomen are thickly sprinkled with red hairs.

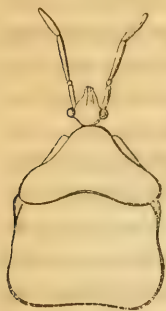
EDWARD NEWMAN.

ART. CVII. — *Varieties.*

219. *Vanessa Urticæ*. (Short duration in the pupa state). May 30th, I brought home several caterpillars of the above when they were upon the point of assuming the pupa state, (one of them formed its tuft, and appended itself horizontally whilst in the small box in my pocket), I put them into a breeding cage as soon as I arrived at home; the second caterpillar spun its tuft next day, and became a pupa on Wednesday afternoon, June 1st: on Thursday morning, June 9th, about 9 o'clock, I was surprised at beholding a butterfly in the cage, with its wings fully expanded, which I found, upon opening the box, to be the one that effected its metamorphosis on the Wednesday week previous: the exact time it became an imago I cannot state, further than it had not left its puparium at noon the previous day; but, even admitting that it had just effected its final change a couple of hours before I saw it, (which could not have been later from the full expansion of the wings), the duration of its life, in the quiescent state, was only $7\frac{1}{2}$ days, or, reckoning from the time it attached itself to the tuft, $8\frac{1}{2}$ days; a much shorter time than I have ever yet seen an account of, observed by any person.—*James Bladon; Pont-y-pool.*

220. *Notice of Captures.* If the following memoranda of captures are worth insertion in 'The Entomologist,' they are at your service. July 24. *Lepidocera Birdella*: marshes on the north side of the Grand Surrey Canal, near the Croydon Railway: I obtained them, about 12 o'clock, by sweeping the grass; I have since been to the same spot between 8 and 9 o'clock, but could not find a single specimen; it is probable they do not fly till about noon. July 25. *Agrotis Radiola*: on the trunk of a poplar near the Albany Road. *Microsetia* ———? (an apparently undescribed species): on the trunks of poplars near the Albany Road. — *Geo. Bedell*; 4, *Waterloo Place, Coburg Road, Old Kent Road, July 29, 1842.*

221. *Description of a new Scutelleridous Hemipterous Insect, from Sierra Leone.* PROBÆNOPS Dromedarius, White.*—Head rather long and narrow; eyes projecting from a dilated portion of the head; stemmata distant; neck very distinct, bulging slightly behind the eyes; antennæ longish, four-jointed, joints cylindrical, second joint minute, third longer than, or as long as, the other three taken together, fourth gradually thickened towards the tip, (the antennæ arise from a point on the under side of the face): beak long, extending beyond the insertion of the hind legs, second joint considerably swollen, third slightly so, terminal joint slender: thorax (measured across the posterior angles) rather wider than the scutellum behind, in front it is narrowed, excised and margined; behind, it is sinuated in the middle, the very broad scutellum being slightly depressed in that part; the scutellum is as long as the abdomen; the second and third pairs of legs are rather long, the tibiæ somewhat angular, *not spined*, but with some short stiffish hairs, especially near the tarsi, which seem two-jointed, (first pair of legs mutilated): the dorsal part of thorax projects somewhat as in the male of *Notoxus monoceros*. I have seen only one specimen of this singular Hemipterous genus, which seems to me to partake of the characters of Laporte's genera *Coptosoma* and *Podops*, near which *Scutelleridæ*, I am disposed, for the present, to place it. When I get another specimen, I may give a more detailed account of its beak and legs, as well as of its wings and hemelytra, which most probably resemble those of *Coptosoma* in being elbowed. I should be induced to regard this as a *preeminently* blood-sucking *Scutellera*,



* Read before the Entomological Society of London, September, 1842.

its beak, projecting eyes, longish legs and general aspect, seemingly indicating such a propensity: most of its congeners, although generally regarded as being more particularly fond of vegetable juices, I believe to be chiefly nourished by the juices of insects found on plants. The species, which I have named *PROBÆNOPS dromedarius*, from what most probably is only a sexual character, is a native of W. Africa; it is depressed, of a pitchy-black colour, curiously and minutely subverrucose, irregularly and transversely striated; edge of abdomen rufo-ochraceous, terminal joint of the antennæ yellow at the tip, a spot on the under side of nasus yellow. The Rev. D. F. Morgan brought it from Sierra Leone, and presented it to the British Museum. Its length is 5 lines, and breadth $3\frac{1}{4}$ lines.—*Adam White; July 30, 1842.*

222. *Polia occulta*. I captured a pair of this rare species here this week; a female on the 1st and a male on the 4th; they were both sucking sugar which I had placed on the trunks of some trees to attract moths.—*H. Doubleday; Epping, August 6, 1842.*

223. *Captures near Manchester*. *Anchylopera derasana*? I captured several specimens of this rare insect, on white moss, May 9th; as also *Cnephasia lepidana*, *Xylina combusta*, *Abraxas ulmata*, *Mamestra furva*, *Scotosia porphyrea*, *Electra imbutata*, *Drepana falcataria*, *Ennomos flexula*, and *Tortrix galiana*; these also occurred in other localities round this neighbourhood. July 24. *Orthotænia Bentleyana* and *Amphisa Gerningiana*, in beautiful condition on Baguley Moor; the former insect was very variable both in size and colour, and of the latter insect the females were so very rare that I found but three in four journeys: they fly very seldom, usually concealing themselves amongst the heath, so that it is almost an impossibility to find them. *Polia Herbida*: having procured a few eggs from two females, captured in Dunham Park last year, the larvæ raised from which lived through the winter, we were enabled, by attending to Mr. Chant's instructions, (Entomol. 229) to rear a few of the moths: oak not being so easy to procure, I fed them with black-thorn, and, on the buds making their appearance, I supplied them with twigs, and found that they fed only on the buds, and not on the bark like *Alcis Roboraria*. August 6. *Hama connexa*: I procured some fine specimens of this local insect in Lunn Wood, near Barnsley; and also a fine pair of *Psilura Monacha*.—*Robert S. Edleston; Cheetham, Manchester, August 10, 1842.*

224. *Note on Hipparchiæ*. The following *Hipparchiæ* are from Thorne Moor: *Davus*, *Semele*, *Megæra*, *Tithonus*, *Janira* and *Pamphilus*. The variety of *Davus*, I believe, has not been found there

yet : it is, as Mr. Dale states, (Entomol. 191) "the true *Davus*." The variety *Typhon* is found at Cottingham bog, near Hull.—*John Heppenstall ; Uppertorpe, near Sheffield, August 10, 1842.*

225. *Argynnis Aphrodite*. Since my former letter to you, in which I incidentally remarked upon the nationality (if I may so use the term) of the above, I have received the parts of Messrs. H. & W.'s work containing the plate and description of *Arg. Aphrodite*, and I perceive that they give rather more prominence to the black quadrate marks and line on the fore wings, than the Rev. W. T. Bree has in the *Mag. Nat. Hist. Pl. x.* ; and my reason (as stated l. c. 1840, p. 306) for not considering it one of the enumerated British species was, "it differed in not having a black border outside of the crescents : " as I stood contemplating it for some time, its peculiar markings were tolerably well imprinted in my memory ; I could not have avoided taking cognizance of any markings outside the crescents, although a faint line might have escaped observation : when I saw Mr. Bree's figure, I was struck with the extreme similarity of the hind wings to those of the one I had seen ; in the fore, as well as the hinder wings, the only difference being, that the crescents of the insect were fuller and more definite than the figure — so far for the identification : next as to its claim of being a denizen of this country, I must confess my evidence is far inferior to Mr. Bree's : we are only 10 miles from the port of Newport, (in a direct line it is about $8\frac{1}{2}$ miles to the locality), which has a considerable trade both with Canada and the Northern States, and annually imports a large quantity of timber, both in logs and planks, so that there is more likelihood of its being a foreign voyager here than in one of the midland counties : I have never since been able to obtain a view of one, although I visited the spot in question many times within a few weeks afterwards, in hopes of observing another specimen.—*James Bladon ; Pont-y-pool, August 29, 1842.*



JOHN VAN VOORST,

PATERNOSTER ROW.

THE ENTOMOLOGIST.

No. XXVI.

DECEMBER, MDCCCXLII.

PRICE 6D.

ART. CVIII.—*Captures near Towcester.* By HAMLET CLARK, Esq.

Wappenham, near Towcester, Northamptonshire,

August, 27, 1842.

SIR,

Enclosed you will find a list of Lepidoptera which I have captured in this neighbourhood during the present year; if you think it will be interesting to any of the readers of 'The Entomologist,' you are at liberty to insert it.

To the list of butterflies might be added *Apatura Iris*, several specimens of which were captured in Whittlebury Forest about three years ago, but as I have never met with it I have not inserted it. I have had no opportunity of investigating the nocturnal Lepidoptera as I could have wished; I doubt indeed whether the accompanying list will be worth inserting, as I am convinced it gives no idea of what might be captured by a diligent collector.

I remain, Your's &c.

HAMLET CLARK.

To the Editor of 'The Entomologist.'

Gonepteryx Rhamni	Vanessa Atalanta	Pamphila Paniscus
Pontia Brassicæ	Cynthia Cardui	Sylvanus
Rapæ	Hipparchia Aegeria	linea
Napi	Megæra	Ino Statices
Cardamines	Tithonus	Anthrocera Filipendulæ
Leucophasia Sinapis	Janira	Smerinthus Populi
Pieris Cratægi	Hyperanthus	Sphinx Ligustri
Nemeobius Lucinæ	Pamphilus	Deilephila Elpenor
Melitæa Artemis	Thecla Betulæ	Macroglossa Stellatarum
Selene	Pruni	Sesia Bombyliiformis
Euphrosyne	Quercus	Fuciformis
Argynnis Adippe	Lycæna Phlæas	Hepialus sylvinus
Paphia	Polyommatus Argus	Humuli
Vanessa C-album	Alexis	lupulina
polychloros	Agestis	Pygæra bucephala
Urticæ	Thymele alveolus	Orgyia antiqua
Io	Tages	Spilosoma Menthastræ

Spilosoma lubricipeda	Plusia chrysis	Harpalyce sylvaticata
Diaphora mendica	Anarta Heliaca	unangulata
Arctia Caja	Mormo maura	marmorata
villica	Brepha Parthenias	Abraxas Grossulariata
Phragmatobia fuliginosa	Euclidia glyphica	Xerene procellata
Callimorpha Jacobææ	Mi	Triphosa dubitata
Triphæna orbona	Bupalus Piniarius	Minoa Chærophyllata
pronuba	favillacearius	Bapta punctata
innuba	Biston prodromarius	Hereyna clathrata
interjecta	Betularius	Ptychopoda marginata
Janthina	Rumia Cratægata	Hypena proboscidalis
Polia bimaculosa	Cabera pusaria	Hydrocampa Potamogata
herbida	exanthemata	Botys Urticata
Calyptra Libatrix	Bradyepetes amataria	Diaphania forficalis
Nonagria Typhæ	dolabraria	Chlœophora Quercana
Leucania comma	Larentia bipunctaria	Lophoderus ministrana
Simyra venosa	Cidaria ferrugata	Eudorea dubitalis
Plusia percontationis	fluctuata	Clisiocampa Neustria
Iota and Gamma	propugnata	Trichiura Cratægi

ART. CIX.—*Captures in the Isle of Wight.* By AND. LIGHTON, Esq.

Ventnor, Isle of Wight,

August 28, 1842.

DEAR SIR,

If it does not trespass too much on your pages, and you should think the following list of a few of the Lepidoptera captured this season by my brother and myself, in the Isle of Wight, worthy of your notice, I shall feel much obliged by its insertion, as it may possibly be of service to entomologists visiting the island.

I remain, Your's very truly,

ANDREW LIGHTON.

Colias Hyale	Triphæna pronuba	Geometra Quercinaria
Leucophasia Sinapis	interjecta	illustraria
Hipparchia Galathea	Janthina	Hipparchus vernarius
Thecla Quereus	Charæas Graminis	Cabera rotundaria
Polyommatus Alsus	Agrotis radia	Cyclophora punctaria
Corydon	Xylophasia sublustris	Bradyepetes apiciaria
Adonis	Hadena Cucubali	Harpalyce ocellata
Sphinx Convolvuli	Scotophila porphyrea	Xerene procellata
Ligustri	Cucullia Absinthii	Phibalapteryx vitalbata
Macroglossa Stellatarum	Ophiusa lusoria	Charissa pullata
Psilura Monacha	Fidonia ericetaria	Eupithecia subfulvata
Triphæna orbona	Geometra Canaria	succenturiata

Eupithecia Centaureata	Eupœcilia roseana	Onocera sanguinella
Emmelesia affinitata	Depressaria Sparmanniana	Crambus chrysonuchellus
Ptychopoda aversata	Apheloseia cygnipennella	Ypsolophus sequellus
Drepana hamula	Phycita advenella	Pterophorus similidactylus
Margaritia flavalis	Onocera carnella	microdactylus
Sarrothripus Afzelianus		

We have captured, since the 10th of July, about one thousand Lepidoptera, a great many of them by means of the sinumbra lamp, so strongly recommended by the Rev. C. S. Bird, formerly of Burghfield.

ART. CX.—*Captures of Lepidoptera.* By WM. COURTNEY, Esq.

I SEND you a continuation of my list of captures since May (Entomol. 356) to the present time.

<i>June 2.</i>	<i>June 26.</i>	<i>Orthotelia venosa</i>
Fumea nitidella, ♂	Cnephasia ictericana	<i>July 17.</i>
<i>June 5.</i>	Heribæa Clerckella	Leucania arcuata, <i>Steph.</i>
Pseudotomia simpliciana	Porrectaria leucapennella	impura
Lampronia Calthella	Gallipennella	Melia sericea
<i>June 11.</i>	Adela fasciella	Nudaria senex
Fumea nitidella, ♂ and ♀.	Antithesia corticana	Eudorea pallida
<i>June 12.</i>	Semasia Hypericana	Apamea ophiogramma
Ceropacha Or	<i>June 29.</i>	<i>July 24.</i>
Xerene hastata	Xanthosetia Zægana	Lepidocera Taurella
Ditula semifasciana	Sericoris marmorana	mediopectinella
rotundana	undulana	Depressaria costosa
angustiorana	Lepidocera Chenopodiella	Phycita binervella
Pseudotomia Petiverella	Anacampsis atra	Semasia cana
sequana	aspera	Scopoliana
nitidana	<i>July 3.</i>	<i>August 1.</i>
Semasia Rheediella	Orthotænia geminana	Cochylis rosiana
Sericoris striana	<i>July 10.</i>	Lozotænia Corylana
Phtheochroa rugosana	Pancalia Merianella	Apamea fibrosa
Xanthosetia diversana	Glyphipteryx Linneella	secalina
Argyrolepis Baumanniana	eximia	I-niger
Lampronia melanella	Macrochyla parenthesesella	didyma
Pterophorus megadactylus	palpella [& vars.	oculea
<i>June 15.</i>	Steganoptycha Pavonana,	Graphiphora punicea
Glyphipteryx Schaefferella	Anticlea nigromaculana	pecta
<i>June 19.</i>	Tinea ustella	Calyptra Libatrix
Pterophorus galactodactylus, larva; the perfect insect appeared 17th.	corticella	Bradyepetes amataria
	Cerostoma Xylostella	apiciaria
	Depressaria Sparmanniana	Macaria imitaria

<i>August 3.</i>	<i>Electra achatinata, Steph.</i>	<i>Polyommatus Adonis</i>
<i>Antithesia Betuletana</i>	<i>August 12.</i>	<i>Agrotis Radiola</i>
<i>Pæcilochema Sparman-</i>	<i>Leucania geminipuncta</i>	<i>Peronea tristana</i>
<i>niana</i>	<i>Phibalapteryx lignata</i>	<i>favillaceana</i>
<i>Solandriana</i>	<i>Cerostoma maculipennis</i>	<i>August 22.</i>
<i>piceana</i>	<i>Anacampsis interruptella</i>	<i>Graphiphora C-nigrum</i>
<i>August 7.</i>	<i>Anticlea fimbriana</i>	<i>August 27.</i>
<i>Margaritia lutealis</i>	<i>August 19.</i>	<i>Gortyna micacea</i>
<i>Ditula Æthiopiana</i>	<i>Leptogramma literana</i>	<i>August 28.</i>
<i>Anacampsis fulvescens</i>	<i>August 21.</i>	<i>Plusia Festucae</i>
<i>lactella</i>	<i>Colias Hyale</i>	<i>Leucania pygmina</i>

WILLIAM COURTNEY.

5, Charles Court, Hull St.,
St. Luke's, Aug. 30, 1842.

ART. CXI. — *Captures near Ely, Cambridgeshire.*

By MARSHALL FISHER, ESQ.

Ely, August 30, 1842.

SIR,

The following list contains all the butterflies I have found within a circuit of three miles from Ely Cathedral during the past fifteen years.

<i>Papilio Machaon</i>	<i>Vanessa C-album, 1 only</i>	<i>Hipparchia Pamphilus</i>
<i>Gonepteryx Rhamni</i>	<i>polychloros</i>	<i>Thecla Quercus, a female</i>
<i>Colias Edusa, a few speci-</i>	<i>Urticæ</i>	<i>in 1835.</i>
<i>mens only</i>	<i>Io</i>	<i>Lycæna Phlæas</i>
<i>Pontia Brassicæ</i>	<i>Atalanta</i>	<i>Polyommatus Argiolus ra.</i>
<i>Rapæ</i>	<i>Cynthia Cardui</i>	<i>Alexis</i>
<i>Napi</i>	<i>Hipparchia Ægeria</i>	<i>Agestis</i>
<i>Mancipium Cardamines</i>	<i>Megara</i>	<i>Thymeles Alveolus, in one</i>
<i>Melitæa Artemis, two</i>	<i>Tithonus</i>	<i>locality only</i>
<i>Argynnis Aglaia, rare</i>	<i>Janira</i>	<i>Pamphila linea</i>
<i>Paphia, rare</i>	<i>Hyperanthus, rare</i>	<i>Sylvanus</i>

Although *Papilio Machaon* has been frequently taken in Ely, I have never found the larva here; the insects taken I considered had been brought in the chrysalis state with the sedge from Burwell or from Feltwell Fens. My opinion is now somewhat altered, for during the present summer I found in one of the fens, about two miles north of Ely, a number of plants of *Selinum palustre*, or marsh milk parsley, on which the larva feeds, growing very luxuriantly. Extensive works for the embankment and drainage of the great Cambridgeshire locality

of this insect, Burwell Fen, being now in progress, it is probable that both plants and insects will soon become rare in this neighbourhood.

Your very obedient servant,

MARSHALL FISHER.

To the Editor of 'The Entomologist.'

ART. CXII.—*Entomological Notes.* By EDWARD NEWMAN.

(Continued from p. 223).

Class.—COLEOPTERA. Natural Order.—CARABITES.

Enigma noctis. Nigrum, vel potius nigro-piceum: elytra confertim puncta, singulo striis 8 impresso. (Corp. long .2 unc. lat. .55 unc.)

Taken at Woodside, near Sydney, by Rupert Kirk, Esq., and presented by that gentleman to the cabinet of the Entomological Club.

Molpus sex-punctus. Genus novum. Antennæ prothorace paullò breviores; caput exertum, porrectum, latum, oculis maximis: prothorax paullò complanatus, marginatus, obcordatus, capite paullò angustior: elytra complanata, marginata, prothorace manifestò latiora, apice obliquè truncata, angulo suturali subproducto: pedes mediocres, protibiis latè emarginatis. *Molpus sexpunctus.* Nigra, fulgore metallico nigro-æneo subnitida: elytra prævè ac latè striata, vel potiùs obsoletè sulcata, utroque punctis 3 latis, magnis, suturam versus sitis, impresso. (Corp. long. .25 unc. lat. .1 unc.)

Taken at Adelaide, running on the ground, by A. H. Davis, Esq., and presented by that gentleman to the cabinet of the Entomological Club.

Natural Order.—CERAMBYCITES.

Callipyrga turrita. Genus novum? Antennæ basi valdè approximatae, corpore manifestò longiores, 11-articulatae; articulo basali incrassato, capite manifestò longiori, 2do brevissimo, 3tio 4toque longioribus, æqualibus, cæteris pedetentim brevioribus; oculi ovati, minores, basi antennarum haud emarginati: prothorax inæqualis, dorso dentibus 3 prominentibus, lateribus dente magno mediano instructus: elytra lata, subcomplanata, humeris ferè dentata, utriusque basi tubere magno, prominenti, glabro,

mediano armata; apice obliquè subtruncata, angulis valdè indistinctis: pedes mediocres, femoribus extus tumescentibus. *Cal. turrita.* Antennarum articulus basalis niger, cæteri lutei, apicibus fuscescentibus; caput nigrum, lineis 6 lanuginosis cinereis, 2 frontalibus, 2 utrinquè lateralibus; mandibulæ basi lanuginosæ, cinereæ: prothorax niger, fusco-lanuginosus, lineis longitudinalibus cinereis ornatus, dentibus 5 conspicuis (sic positus ::) armatus: elytra castanea, lineis 4 subelevatis longitudinalibus, tuberibusque binis, basalibus, armata; fasciculis plurimis, nigerrimis, perpaucisque niveis, lineâ quoque niveâ, undatâ, transversâ, pone medium sitâ, parum conspicuâ, pulcherrimè ornata; apice nigro fasciculata: pedes nigri, femoribus lanuginosis, fusco cinereoque ornatis; tibiis medio cinereo annulatis; tarsis dilatatis, subtus castaneis: abdomen subtus lanugine fuscâ cinereâque ordinatim ornatum. (Corp. long. 1 unc. lat. .4 unc.)

Taken at Woodside, near Sydney, by Rupert Kirk, Esq., and presented to the Entomological Club.

Lamia pardalis. Lanuginosa, aurantia, maculis numerosis nigris ornata: prothorax inæqualis, dorso haud rugatus, lateribus haud dentatus. (Corp. long. 1.2 unc. lat. .45 unc.)

Taken at Woodside, near Sydney, by Rupert Kirk, Esq., and presented to the cabinet of the Entomological Club.

Natural Order.—CHRYSOMELITES.

Paropsis beata. Minutissimè puncta, nigra, nitida; prothoracis margine, elytrorum margine maculisque 6 lætè ferrugineis. (Corp. long. .45 unc. lat. .35 unc.)

Paropsis intacta. Testacea; capitis macula verticalis, prothoracis maculæ 5, elytrorum lineæ impressæ punctæ 10, maculaque humeralis nigræ. (Corp. long. .6 unc. lat. .45 unc.)

Paropsis interlita. Testacea; capitis prothoracisque linea communis, prothoracis utrinquè linea pone oculos, elytrorum lineæ impressæ punctæ, 10, nigræ: elytrorum interspatii 4ti, macula ante medium interspatii 7mi, macula longa pone medium interspatii 8vi macula basalis. (Corp. long. .55 unc. lat. .425 unc.)

Paropsis insignita. Testacea, nitidissima, capitis macula verticalis, prothoracis maculæ 3, elytrorum lineæ impressæ punctæ 10 ni-

græ, interspatio 1um omninò, 2um basi excepto, 3um medio apiceque, 5um apice, 6um omninò, 7um basi excepto, 8um basi, 9um basi apiceque, 10um omninò, nigricantia. (Corp. long. .4 unc. lat. .325 unc.)

Paropsis circumdata. Nigro-ænea, nitida, prothoracis elytrorumque marginibus tenuitè ferrugineis: elytra striato-puncta. — (Corp. long. .3 unc. lat. .25 unc.)

Paropsis erudita. Caput piceum: prothorax piceus, lateribus ferrugineis: elytra nitida, fusca, literâ V dorsali marginibusque ferrugineis. (Corp. long. .4 unc. lat. .3 unc.)

Paropsis inspersa. Lutea: elytra puncto-striata, striæ punctis magnis, nigris, distantibus impressæ. (Corp. long. .35 unc. lat. .3 unc.)

Paropsis fallax. Elytra subtilitè puncta, subtilitè puncto-striata, nigra; elytrorum vittæ nonnunquàm inter strias sitæ, piceæ vel ferrugineæ valdè variabiles, nunc obsoletæ nunc lætè manifestæ. (Corp. long. .55 unc. lat. .375 unc.)

Paropsis amica. Lutea, lata, asperè puncta: scutellum nitidissimum, nigro-marginatum: elytra seriebus 10 pravis punctorum impressa, margine profundè puncta, lineâ tenui rufâ laterali ornata. (Corp. long. .375 unc. lat. .325 unc.)

Taken by Daniel Wheeler Esq., in some part of New Holland, and presented to the cabinet of the Entomological Club.

Paropsis irrita. Testacea, nitida, concolor: elytra 10-striata, striis regularitè punctis: corpore subtùs nigerrimo, nitidissimo. — (Corp. long. .4 unc. lat. .33 unc.)

All the above, with the exception of *Paropsis amica*, were taken at Port Philip, on the young plants of *Eucalyptus*, by Thomas Edmund Higgins, Esq., and are in that gentleman's cabinet.

Class.—NEUROPTERA. Natural Order.—HEMEROBIITES.

Psychopsis mimica. Genus novum. Generi *Chrysopa* affinis, at alarum nervuris alitè dispositis. *Psychopsis mimica.* Proalæ hyalinæ, luteo tinctæ, lineis transversis obliquis fuscis ornata; metalæ luteæ, maculâ subrotundâ pone medium sitâ fuscâ signata. (Alarum latitudo 1.5 unc.)

Taken at Adelaide, South Australia, by Joseph Addison, Esq., and now in the cabinet of the British Museum.

EDWARD NEWMAN.

ART. CXIII. — *Additional Notes on the appearance of Colias Hyale.*

As regards the capture of *Colias Hyale*, I can say but little. I captured *one* female on the 24th; on the 26th I saw a second specimen, the day was sunny and hot; its flight was excessively rapid, it made the circuit of a four-acre field in about a minute and a half. I observed that it rested once or twice on the flowers of *Centaurea nigra* and a few scattered buttercups, the last meadow children of the year.—*James Harley; Leicester, September 10, 1842.*

With respect to *Colias Hyale*, I captured them in some high pastures behind the Hope Inn, Lower Southend, Essex. They were flying with the common white butterflies (*Pontia Brassicæ* and *Rapæ*), and appeared to frequent the same flowers. The fields were chiefly pastures, but there were places where the aftermath had not been mown, and numerous grasses and wild flowers were in blossom. I took one specimen on the 12th and four on the 13th of August, and one subsequently at Springfield on the 7th of September. — *Alfred Greenwood; Springfield, September 8, 1842.*

A friend of mine informs me that two specimens of *Colias Hyale* have been taken this August at Birmingham.—*R. S. Edleston; 13, Derby St., Cheetham, Manchester, August 27, 1842.*

Last week, while spending an hour or two at Great Yeldham, in Essex, my attention was called to a specimen of *Colias Hyale*, which was passing rather rapidly along a hedge by the road-side. I afterwards saw a second in a neighbouring clover-field. — *William Doubleday King; Sudbury, September 3, 1842.*

Since writing to you before I have heard of six or seven dozen of *Colias Hyale* being taken at Darenth.—*William Courtney.*

Sir,—I beg to inform you that I obtained about fifty specimens of this beautiful insect [*Colias Hyale*] in the course of four or five days' casual entomologizing during the middle of last August, at Herne Bay; six only were females. — *W. F. Evans; Walham Green.*

A single specimen of *Colias Hyale* was taken about $2\frac{1}{2}$ miles from Lavenham, on the Long Melford road, while feeding on dandelion.—*W. Gaze; Lavenham.*

Colias Hyale.—A female specimen of this insect was captured on the 4th of September, in a clover-field near Didsbury, four miles from here, and the neighbourhood was well examined for some days afterwards, but without success. I am not aware of its capture in this county before, and the old collectors say it is many years since *Edusa* was seen.—*R. S. Edleston; 13, Derby St., Cheetham, Manchester.*

Sir,—On the 3rd of September I captured on the borders of a wood near the village of Silverstone in this neighbourhood, a mutilated specimen of *Colias Hyale*, (female). It was flying when first I saw it, but it afterwards settled several times on the flowers of the thistle. I remember the fact perfectly well, as I had not my net with me, and spent some time in endeavouring to secure it, while it was stationary, with my finger and thumb, which I at last succeeded in doing. I afterwards repeatedly

examined that and other localities in the neighbourhood, but with all my endeavours could not succeed in meeting with another specimen. This is certainly the first time that this species has been met with here during the last three years, beyond that time I cannot speak with any degree of certainty.—*Hamlet Clark; Wappenham, Towcester, October 3, 1842.*

On the 28th of August I caught a fine female of *Colias Hyale*, as it was flying along the cliffs overhanging the sea to the west of Ventnor. It had a very rapid flight, and occasionally settled on the common thistle. In 1836 however, we were more successful, as in that year we captured four specimens, two of each sex; a pair of them were taken on the beach, flying over the furze which grows in the sand, and a pair in clover-fields; all of them in the immediate vicinity of Ryde.—*Andrew Lighton; Belle Vue Cottage, Ventnor, Isle of Wight, August 30, 1842.*

With respect to *Colias Hyale*, we have taken eight specimens here between the 14th and 28th of August. *C. Edusa* is occasionally taken here, but has not been seen during the present year. We have no lucerne, but there is abundance of clover, although on Tilmire, where two were captured, there was nothing of the sort, it is a barren heath, overgrown with furze-bushes and thistles. One specimen which I took myself, was flying with great swiftness; of the eight specimens taken one only was a female. I believe this butterfly has not been previously taken at York since the hot summer of 1826, when one was taken on the embankment of the city walls, a second in T. and J. Backhouse's nursery, and two or three more near Skelton, about four miles from York.—*T. H. Allis; York, September 3, 1842.*

Sir,—I have this year, between the 3rd and 26th of August, captured fifty-four specimens of *Colias Hyale*, at New Cross, in the lucerne field where we took them together in 1835.—*Daniel Ardley; Rotherhithe, October 5, 1842.*

In addition to these, the number of captures, which have been communicated to me by word of mouth, amount to about 250, all of them in the vicinity of London, and generally in lucerne-fields; the dates range over the month of August.

EDWARD NEWMAN.

ART. CXIV.—*Variety.*

226. *Colias Philodice*. In your remarks on *Colias Hyale* (Entomol. 386), you speak of Mr. Ardley's being convinced that he had seen *C. Philodice*; something more than this occurred in this neighbourhood, a specimen having been actually *captured* at Collyhurst, after a desperate chase of two hours, the pursuing parties having no other implements than their hats, and the locality being a very awkward one. Still, this does not establish it as a native, for in my opinion the chrysalis must have been brought over with dye-woods, which are ground

at a mill some fifty yards from the spot where the insect was taken ; and when the boats conveying dye-woods from Liverpool to this town are unladen, great numbers of Coleoptera are occasionally seen.—*R. S. Edleston ; 13, Derby St., Cheetham, Manchester.*

Addenda and Corrigenda.

The following three generic names having been already employed in Zoology, must be changed : new ones are accordingly proposed.

Page 18, *for* Thia *read* Methia.

Page 19, *for* Glaphyra *read* Laphyra.

Page 202, *for* Parasemia *read* Eidophasia.

The following insects, described in the Entomological Notes, appear identical with others previously characterized.

Page 6, *Elaphidion deflendum* = *Callidium notatum* of *Olivier*.

Page 7, *Phacodes lentiginosus* = *Callidium obscurum* of *Fabr*.

Page 30, *Pachyta Ione*, = *Pachyta cyanipennis* of *Say*, *Pachyta Servillei* of *Serville*.

Page 136, line 1, dele "*of*," in the same page, after "*Genus Plataspis*," insert
"Sub-genus *Ceratocoris*, *White*."

Page 390, *for* Islington *read* Ilington, wherever that word occurs.

At page 183 add the size of figs. 1 and 4 : fig. 1 is 5 lines long ; fig. 4, $3\frac{1}{2}$ lines long.

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The Entomologist under its present title will now cease, but the spirit of the work, more particularly as regards those brief but highly interesting communications which my correspondents have from time to time contributed to the chapter entitled "Varieties," will be continued in the pages of the Zoologist.

EDWARD NEWMAN.

JOHN VAN VOORST,



PATERNOSTER ROW.

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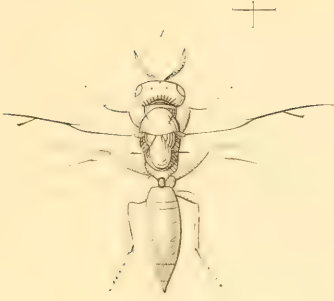
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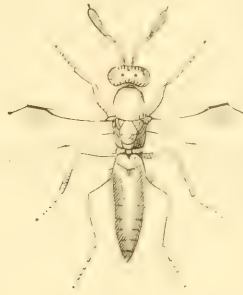
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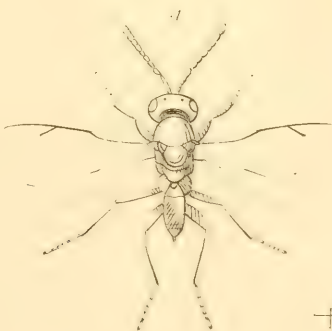
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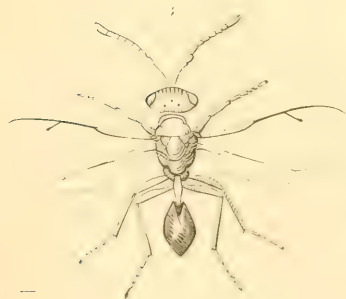
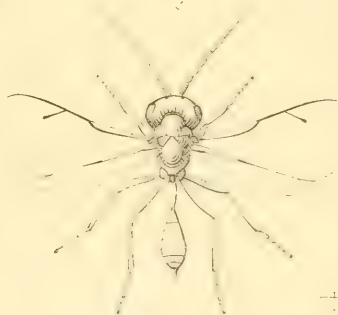


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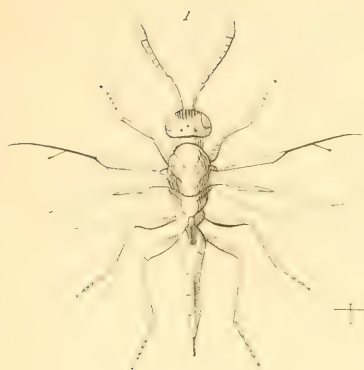


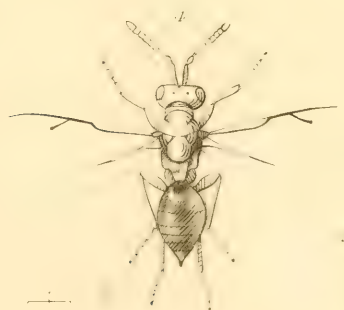
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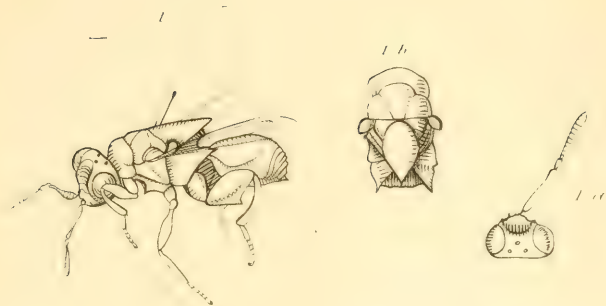


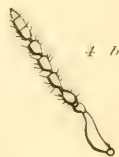
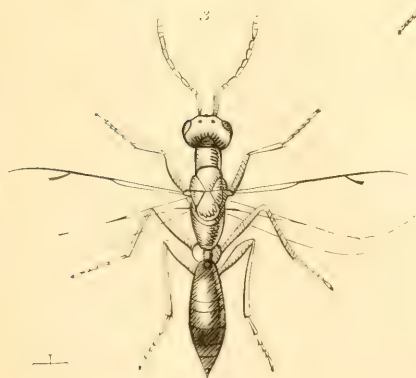
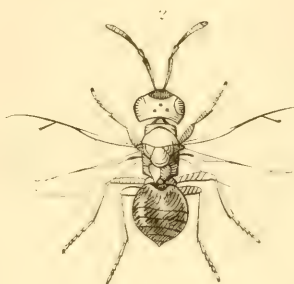
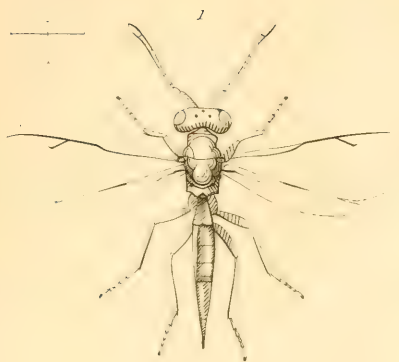


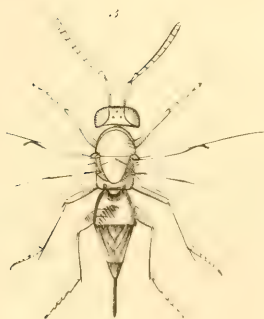
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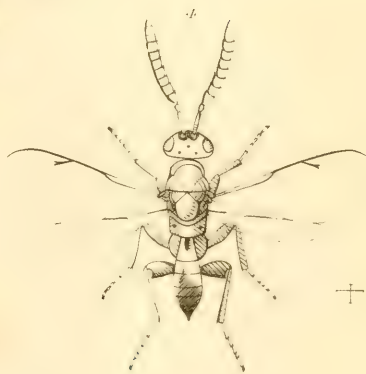
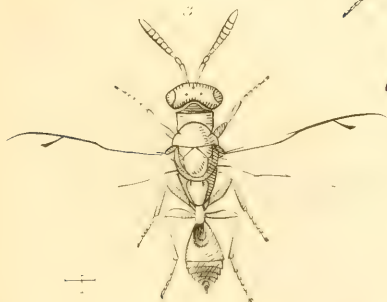
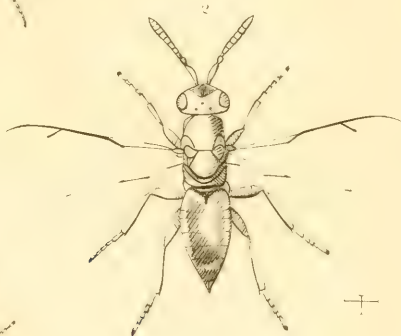




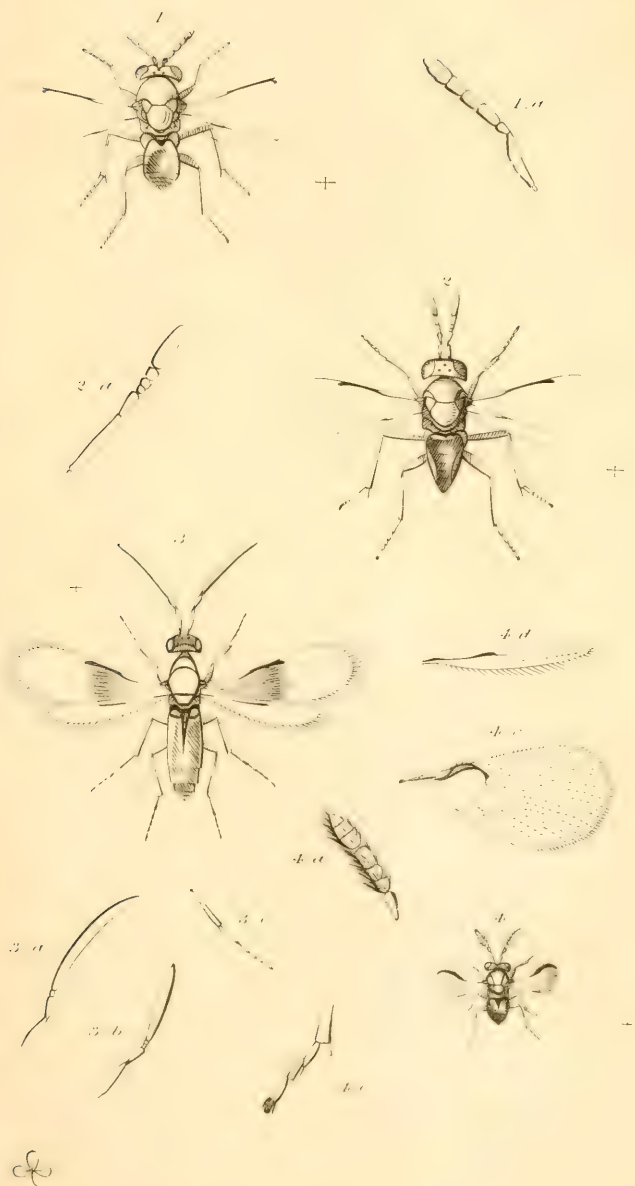


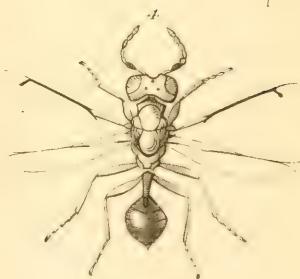
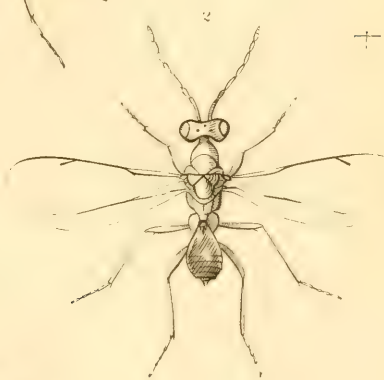
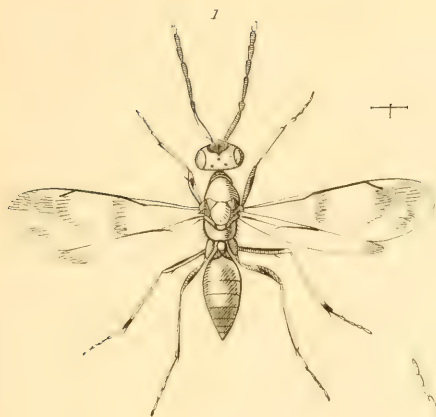


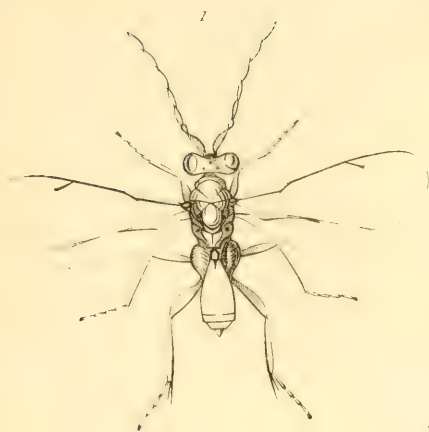




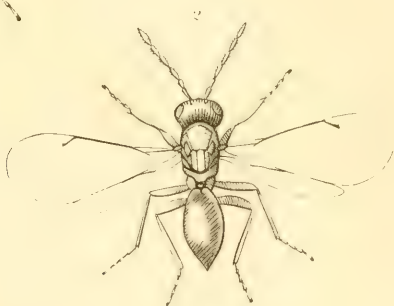
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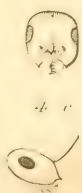
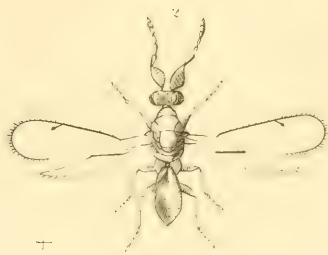
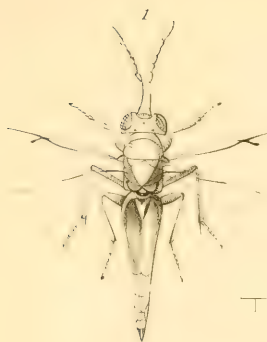


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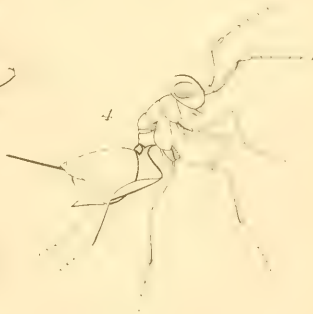
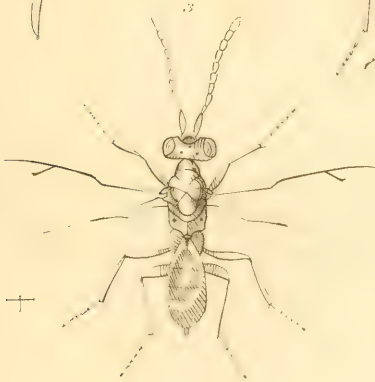
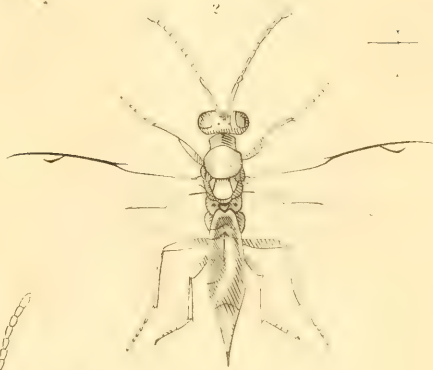
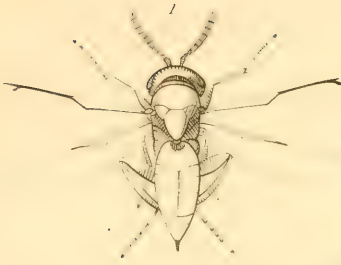


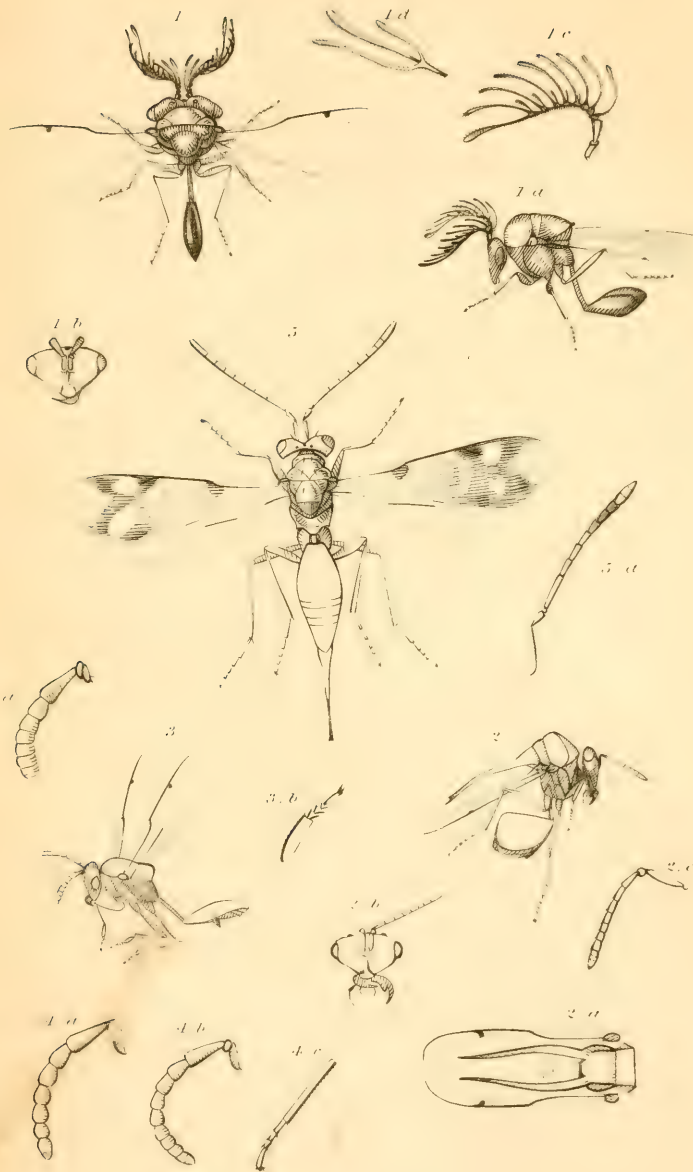
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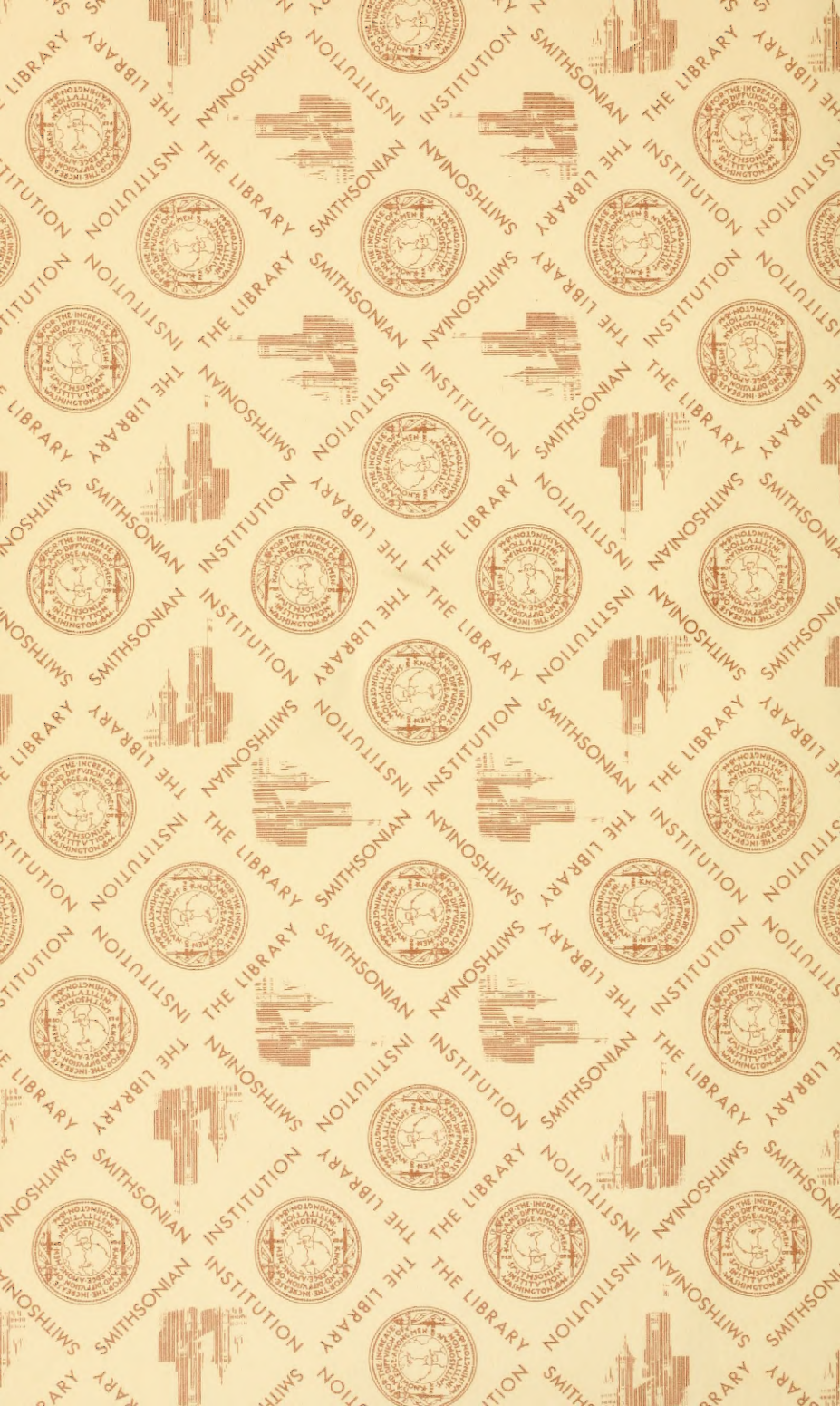


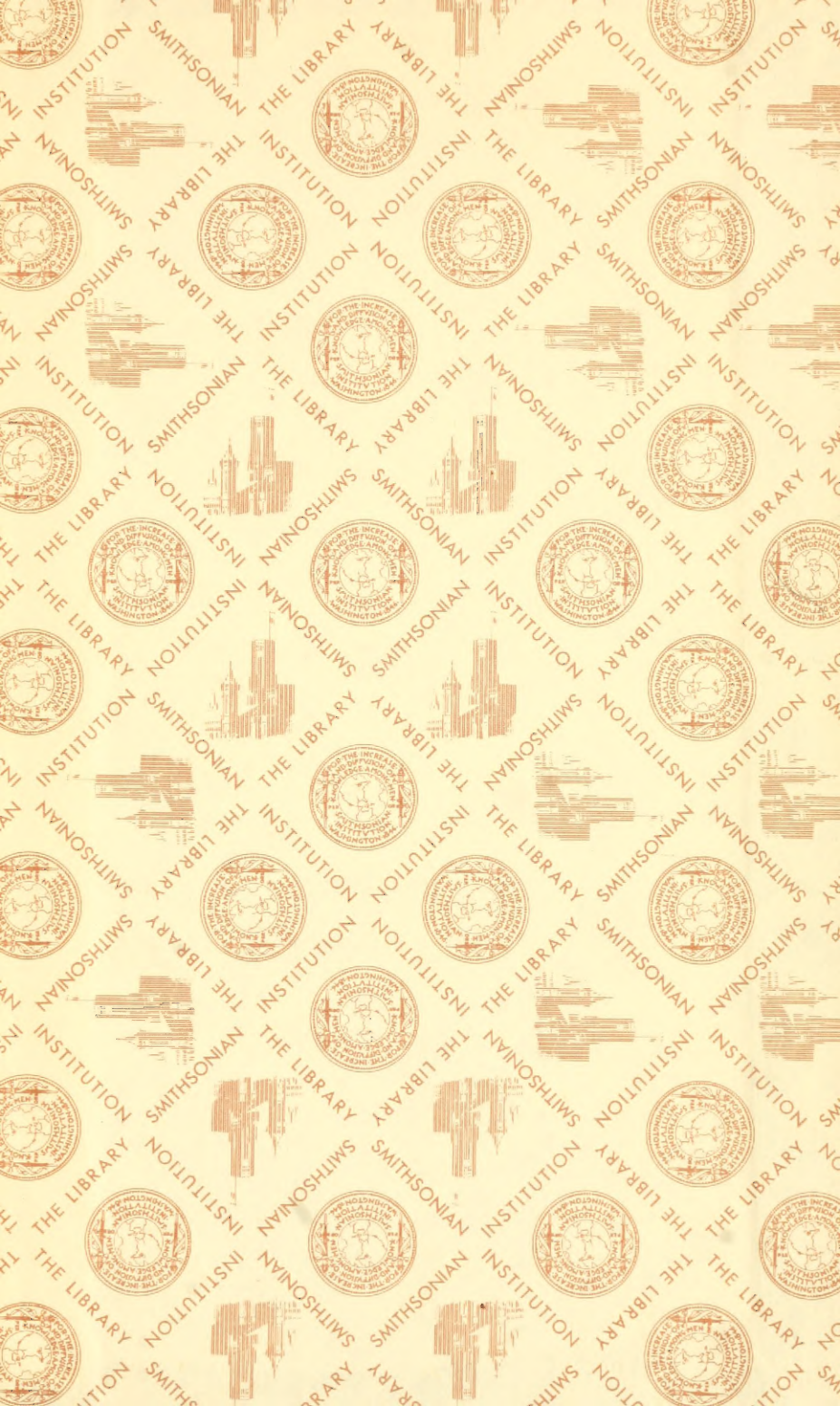


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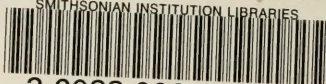








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