

NOTES ON TENEBRIONIDÆ IN THE SOUTH AUSTRALIAN
MUSEUM, COLLECTED BY MR. A. M. LEA, 1911-12,
WITH DESCRIPTIONS OF NEW SPECIES.

By H. J. CARTER, B.A., F.E.S., Corresponding Member.

[Read May 14, 1914.]

I have received from the South Australian Museum, the *Tenebrionidæ* captured by Mr. A. M. Lea on his Queensland trip, for determination. The prolificacy of the country in *Coleoptera* and the energy of the collector are shown by the numbers sent in a single family, a total of 145 species, including sixteen new species and two new genera; and this must be taken in conjunction with the fact that an old collector like Mr. Lea would discard the commoner insects, so that there has evidently been no attempt to make a record number. The following is a list of *Tenebrionidæ*, and the localities of capture.

M.=Mittagong, N.S.W.; S.=Sydney; C.=Cairns district and Kuranda; T.=Mount Tambourine, Q.

Docalis funerosa, Hope, M. and T. *Cædiomorpha heteromera*, King, S. *Gonocephalum carpentariæ*, Blackb., Townsville and Hughenden, Q. *G. costatum*, n. sp., C. *G. torridum*, Champ., C. *G. walkeri*, Champ., C. *Mesomorphus leai*, n. sp., Hughenden, Q. *Cestrinus trivialis*, Erichs., C. and Gladstone. *C. piceitarsis*, Hope (?), C. *Crypticus submaculatus*, Champ. (?), C. *Scymena variabilis*, Pasc., S. *Mychestes congestus*, Pasc., Coff Harbour. *M. lignarius*, Pasc., C. *M. mastersi*, Macl., T. *Orcopagia regularis*, n. sp., C. *Dipsacovia pyritosa*, Pasc., M. *Byrsax egenus*, Pasc. (?), C. *Trichulodes punctatus*, n. g. and n. sp., C. *Typhobia fuliginea*, Pasc., T. and C. *Platydemia aries*, Pasc., C. *P. limacella*, Pasc., C. *P. tetraspilota*, Hope, C. and T. *P. victoriae*, Blackb., M. and S. *Spiloscapa thalloides*, Pasc., T. *Ceropria peregrina*, Pasc., T. and C. *Liochrodes suturalis*, Westw. (?), C. *Scotoderus (Dechius) aphodioides*, Pasc., T. *Uloma (Acthosus) consentanea*, Perr., C. *U. brunnea*, Cart., M. *U. laticornis*, Pasc., Lawson, N.S.W. *U. minuta*, Cart., C. *U. ovalis*, Perr. (?), C. and T. *U. pygmæa*, n. sp., C. *U. westwoodi*, Pasc., C. *Platycilibe bicolor*, n. sp., T. *P. brevis*, Cart., T. *Encyalesthus tuberculiceps*, n. sp., C. and T. *Gnathocerus cornutus*, Fab., C. *Tribolium ferrugineum*, Fab., C. *Heterochira nitida*, Cart., C. *Encara*

flocosum, Pasc., T. *E. submaculatum*, Breme, Lawson, N.S.W. *Pterohelæus alternatus*, Pasc., Winton, Q. *P. arcanus*, Pasc., Magnetic Island, Q. *P. bagotensis*, Blackb. (?), Winton, Q. *P. bremei*, Macl., Gayndah, Q. *P. bullatus*, Pasc., Longreach, Q. *P. sinuaticollis*, Macl., C. *P. pusillus*, Macl., C. *Saragus luridus*, Haag.-Rut., Hughenden, Q. *S. luridus*, var., Longreach, Q. *Saragus*, sp., Hughenden, Q. *Ospidus chrysomeloides*, Pasc., C. *O. paropsoides*, Cart., T. *Nyctozeilus reticulatus*, Bates, Young, N.S.W. *Asphalus ebeninus*, Pasc., T. *Hypaulax oblonga*, Bates, Gayndah and Gladstone, Q. *H. marginata*, Bates, Gayndah and Gladstone, Q. *H. tenuistriata*, Bates, C. *Hypaulax*, sp. (abnormal), Bundaberg. *Hydissus feronioides*, Pasc., T. *Encyalesthus atroviridis*, Macl., C. *E. punctipennis*, Pasc., T. *E. excisipes*, n. sp., C. *Promethis nigra*, Bless., var. *lethalus*, Pasc., C. *P. quadricollis*, Pasc., C. *Menephilus cœrulescens*, Haag.-Rut., M. and T. *M. lætus*, n. sp., C. *M. ruficornis*, Champ., T. and C. *M. sydneyanus*, Blackb., T. *Meneristes laticollis*, Pasc., T. *Teremenes convexiusculus*, Hope, T. *T. socius*, n. sp., C. *Toxicum punctipenne*, Macl., Townsville and C. *Lepispilus sulcicollis*, Bois., T. *Trisilus punctipennis*, Cart., T. *Oremasis cupreus*, Grey, Comboyne, N.S.W. *O. haagi*, Bates, T. *Paraphanes nitida*, Macl., T. *Chartopteryx imperialis*, Cart., C. *Titæna minor*, Cart., T. *Chariotheca oblonga*, Blanch., C. *Espites basalis*, Pasc., North Q. *Cardiothorax australis*, Cart., Vic. *C. castelnaudi*, Pasc., M. *C. æripennis*, Blackb., Blue Mountains. *C. egerius*, Pasc., N.S.W. *C. errans*, Pasc., T. *C. cœruleo-niger*, Cart., Bulahdelah, N.S.W. *C. cordicollis*, Pasc., T. *C. femoratus*, Bates, T. *C. macleayi*, Pasc., T. *C. mimus*, Cart., T. *C. Walckenaerii*, Hope, S. *Blepegenes equestris*, Pasc., T. *Adelium auratum*, Pasc., T. *A. brevicorne*, Bless., S. and Adelaide. *A. cyaneum*, Cart., C. *A. helmsi*, Cart., N.S.W. *A. plicigerum*, Pasc., var. *rugicolle*, Macl., Gladstone. *A. porcatum*, Fab., S. and M. *A. striatum*, Pasc., T. *Adelium*, sp., T. *Seirottrana catenulata*, Bois., S. *S. mastersi*, Macl., Q. *Licinoma nitidissima*, Lea, var., C. *Bluops verrucosus*, n. g. and n. sp., C. *Omolipus corvus*, Pasc., T. *Amarygmus bicolor*, Fab., C. *A. cupido*, Pasc. (?), C. *A. æger*, Blackb., T. *A. carbo*, Cart., C. *A. convexus*, Pasc., T. *A. ellipsoides*, Pasc., T. *A. morio*, Fab., C. *A. minutus*, Pasc., Lawson. *A. picicornis*, Hope, Lawson and T. *A. pinguis*, Blackb., C. *A. rugaticollis*, Blackb., T. *A. semissis*, Pasc., T. *A. striatus*, Macl., C. *A. tropicus*, Cart., C. *A. tibialis*, Cart., C. *A. variolaris*, Pasc., T. *A. tristis*, Fab., var. *obtusus*, Pasc., T. *A. stolidus*, Blackb., T. *A. queenslandicus*, Blackb., C. *A. regius*, n. sp., C. and Bloomfield, Q. *A. erubescens*, n. sp., C.

A. minimus, n. sp., *C. Chalcopterus amethystinus*, Fab., Hughenden and Bluff, Q. *C. arthuri*, Blackb., T. *C. cairnsi*, Blackb., C. *C. affinis*, Bless., S. *C. levicollis*, Bless., Brisbane and Gladstone. *C. plutus*, Blackb., T. *C. rufipes*, Macl., Rockhampton. *C. setosus*, Blackb., C. *C. smaragdulus*, Fab., C. *C. variabilis*, Bless., S. *Strongylium reticulatum*, Mak., C. *S. mastersi*, Macl., C. *S. fusco-vestitum*, n. sp., T. *Pseudostrongylium viridipenne*, Kraatz (?), C.

The following synonymy has not yet been recorded:—

APATELUS SQUAMOSUS, Macl. = CESTRINUS TRIVIALIS, Erich.

HOPLOCEPHALA JANTINIPENNIS, Chev. = CEROPRIA PEREGRINA, Pasc.

MICROPHYES RUFIPES, Macl. = ALPHITOBIUS PICEUS, Oliv.

The latter name in each case having the priority.

The following are the descriptions of the new species:—

MESOMORPHUS LEAI, n. sp.

Oval, subnitid, brownish-black, sparsely clothed with yellowish hair.

Head clypeus semicircularly excised, not definitely separated from the front, densely and strongly punctate, eyes small and completely divided, the canthus narrower than the eye (wider than in *M. darlingensis*, Blackb.), antennæ not reaching base of prothorax, more slender than usual, joints 9-10 not transverse. *Prothorax* 2 × 3 mm., widest at base, width at apex 2 mm., apex semicircularly emarginate, base strongly bisinuate, sides arcuately converging from base to apex with a faint sinuation anteriorly, anterior angles slightly produced, declivous and acute, posterior produced backwards and acute, without foliate margins, the lateral border only partially evident from above; disc closely covered with round even punctures (more closely placed than in *M. darlingensis*), with a smooth medial line indicated. *Scutellum* triangular, punctate. *Elytra* of the same width as prothorax at base, oval, strongly striate punctate, the seriate punctures round and evenly placed at a distance of the width of one, intervals flat on the middle, convex towards the sides, finely setulose and granulated. All tibiæ (the anterior strongly so) dilated at apex. *Dimensions*—6.7 × 3 mm.

Hab.—Queensland: Hughenden.

This species is a close ally of *M. darlingensis*, Blackb., from which it differs especially in the produced declivous anterior angles of prothorax, the slight sinuation behind these, and the lateral border not entirely evident from above, the

acute posterior angles, the larger seriate punctures of the elytra, and the granular intervals. The size of the single specimen sent is also smaller than Blackburn's insect, with its elytra not wider than the thorax. Type, I. 2206, in the South Australian Museum.

GONOCEPHALUM COSTATUM, n. sp.

Shortly, rather squarely ovate, dull-fuscous, clothed with squamose derm, with some vitreous nitid spots irregularly scattered over the whole upper-surface (as in some *Trox* species), head and thorax closely covered with bristly short black hairs.

Head deeply received into the thorax, clypeus with shallow arcuate emargination, a narrow straight impression separating it from the front, canthus as wide as the eyes and extending about half-way across posteriorly, surface rather strongly granulose, antennæ not reaching the base of prothorax, joints 8-10 transverse and successively wider, eleventh oval. *Prothorax* 2 (vix) \times 2.8 mm., widest at the middle, much wider at base than at apex, the former bisinuate the latter circularly emarginate, anterior angles rounded and reflexed, produced in front of the eyes, sides rather widely rounded, subsinuate before the produced acute posterior angles; foliate margins wide, horizontal behind, reflexed at the wide anterior angulation, the short bristly hairs giving the border an appearance of serrulation; disc rugose granulose, with some scattered vitreous spots on the intervals, medial impression distinct throughout. *Scutellum* small and indistinct. *Elytra* as wide as prothorax at base, slightly widened behind the middle, each elytron with four (besides a short scutellary one) rounded, slightly raised costæ consisting (when seen under a strong lens) of two or three rows of elongate granules (these where denuded of the clothing very nitid); alternating with these costæ are narrow lines of single rows of granules, the intervals (when denuded of the close derm by pin scratch) showing fine seriate punctures very closely placed. Anterior tibiæ moderately dilated at apex, and strongly serrated on outside, prosternum, epipleuræ, sides of abdomen and legs granulose and nigro-setulose, metasternum and abdomen coarsely punctate. *Dimensions*—6 (vix) \times 3 mm.

Hab.—Queensland: Cairns.

This little species differs from all those described in its costate elytra, with the alternate rows of granules, its apparently impunctate elytra, its nigro-setulose clothing, and the nitid quasi-vitreous maculæ on its upper-surface. In sunlight these spots flash brightly in contrast to its otherwise

dingy surface. Type, I. 2207, in the South Australian Museum.

ORCOPAGIA REGULARIS, n. sp.

Elongate, parallel, opaque-brown above, rather nitid-brown beneath, antennæ and tarsi red, upper-surface clothed with squamose derm.

Head clypeus trilobed and subcornute, concealed from above by the prothorax, antennæ moniliform, 10-jointed, the last two forming a club, ninth widely ovate, tenth elongate ovate, of the same width as nine (these joints smaller than in *O. monstrosa*, Pasc., but the ninth proportionately more transverse). *Prothorax* much wider in front than at base, the latter straight and thickly margined; sides strongly serrated, anterior angles produced and acute, posterior acute; disc with a wide and nearly smooth medial excavation, the rest of the surface nodulose, ridged on each side of medial excavation, these ridges produced into a bilobed or strongly notched hump anteriorly. *Elytra* wider than prothorax at base, cylindrical, shoulders square and prominent, with about six lines of regularly placed tubercles on each elytron, the intervals with subfoveate punctures, more or less in lines, the seriate punctures evident on the sides, margins serrate (formed by lateral row of tubercles). Underside closely and strongly punctate, tibiæ serrated on the outside, anterior tibiæ much less dilated than in *O. monstrosa*, Pasc. *Dimensions*— $6\frac{1}{2} \times 2\frac{1}{2}$ mm.

Hab.—Queensland: Cairns.

A single specimen given me by Mr. A. M. Lea some time ago differs from *O. monstrosa*, Pasc., in its more regularly, though coarsely, sculptured elytra; the pustules being of even size and much smaller than the large irregularly placed pustules in Pascoe's species. *Regularis* is also without the scutellary crest of *monstrosa*. Type in the author's collection.

A second specimen is amongst the insects lately taken by Mr. Lea himself at Cairns.

TRICHULODES, n. gen. (*Ulodinarum*).

Body oval, winged.

Head subtriangular and vertical, received into the thorax as far as the eyes, these transverse, large, reniform, and coarsely granulated; mentum trilobed, raised in the middle, maxillary palpi long, the last joint widely triangular, labial palpi very short, last joint clavate, mandibles bifid; epistoma very short, separated from the front by a nearly straight depression, labrum prominent, canthus small, little raised, oblique; antennæ longer than the thorax, joint 1 smooth and

shortly cylindric, other joints hairy and successively a little wider, 2 very small, 3-10 moniliform (8-10 slightly triangular), 11 oval. *Prothorax* very transverse. *Scutellum* equilateral-triangular, anterior coxæ close, middle and posterior more widely separated, the middle coxæ without distinct trochantins, posterior intercoxal process triangular; prosternum shortly produced into a shallow arcuate receptacle in the mesosternum. Legs slender, scantily pilose, tibiæ not dilated at apex, tibial spurs very short, first joint of posterior tarsi as long as the rest combined, all tarsi very slightly pubescent.

TRICHULODES PUNCTATUS, n. sp.

Ovate, subnitid reddish-brown, flanks of pronotum paler, oral organs, extreme basal and apical joints of antennæ, and legs yellow, the remaining joints of antennæ and sternum fuscous, abdomen and basal half of femora dark-brown; the whole upper-surface clothed with long thin upright red hairs.

Head coarsely rugose-punctate, space between the eyes about as wide as the apparent (seen from above) diameter of one eye. *Prothorax* 1×2.5 mm., subtruncate at apex and base, widest at middle, anterior angles obtuse and scarcely produced, sides widely rounded, strongly-sinuately incurved behind the middle, then dentate and again incurved to the widely-obtuse posterior angle; extreme border crenulate, foliate margins horizontal, ending at the middle tooth; disc coarsely rugose-punctate with raised nitid medial impression and vermiculate nitid intervals. *Elytra* oval, rather depressed, considerably wider than prothorax at base, shoulders round but prominent and subrectangular, with narrow crenulate border not channelled within; the whole surface a network of subconfluent punctures, the intervals finely rugose and nitid, a single hair arising from each puncture. *Prosternum* coarsely; abdomen finely punctate, the latter sparsely pilose. *Dimensions*— 5.6×3 mm.

Hab.—Queensland: Cairns.

Three specimens, including the sexes which are scarcely differentiated. At first sight very near *Ectyche*, especially in the shape of the prothorax with broadly-emarginate posterior angle, dentate in the middle; but its winged body, non-striate elytra, wider form, undilated tibiæ, *inter alia*, place it in a different group. In some respects it seems to come near some genera of the *Heterotarsina* (e.g., *Lyprops*), which are not so far recorded from Australia, and with which I am not acquainted. It seems best placed near the end of *Ulodinx* near *Ganyme* (in which the apical-joints of the antennæ are also pale-coloured, but with much stouter joints), especially since there are no trochantins to the middle coxæ,

the tibial spurs very small, and tarsal pubescence slight. Type, I. 2208, in the South Australian Museum.

ACTHOSUS PYGMÆUS, n. sp.

Elongate-ovate, parallel; dark-castaneous above; antennæ, legs, and abdomen pale-red, with the apical joint of the first yellow.

Head densely-punctate, epistomal suture deep and straight, eyes round and prominent, antennæ very short and less enlarged apically than usual, joints 7-10 very closely joined, 11 spherical. *Prothorax* wider than long, about 1.5 mm. wide, parallel till near apex, then slightly incurved, the anterior angles narrowly rounded and produced, apex otherwise truncate, base truncate, sides and base narrowly bordered, posterior angles rectangular; disc finely and closely punctate and with an elongate fovea near lateral border, the discal punctures smaller than in *A. minutus*, Cart. *Elytra* of the same width as prothorax, subparallel, minutely striate punctate. *Prosternum* very coarsely, *abdomen* very finely punctate, front and middle tibiæ finely serrated, the tibial spurs rather long. *Dimensions*—3.35 × 1 (*vix.*) mm.

Hab.—Queensland: Cairns.

Eight specimens sent, differ from *A. minutus*, Cart., in their larger size, finer punctuation of the prothorax, and especially in the less-widened antennæ. Type, I. 2209, in the South Australian Museum.

PLATYCILIBE BICOLOR, n. sp.

Shortly-ovate; upper-surface—in some examples nitid-black, in others head and prothorax yellowish-red; underside—legs and antennæ red, abdomen sometimes suffused with black.

Head concave, strongly punctate, epistoma rounded in front, antennæ not reaching base of prothorax, the four apical-joints clavate, eyes round and prominent. *Prothorax* convex, arcuate-emarginate at apex, anterior angles slightly advanced and acute, sides moderately and evenly rounded, posterior angles subrectangular, base truncate, lateral border raised and channelled within, disc without medial line, rather strongly and evenly punctate. *Scutellum* small and rounded. *Elytra* ovate, of same width as prothorax at base, rather widely rounded behind, striate-punctate, the striæ very shallow, the punctures in striæ round and even, and not very close; a few scattered punctures in the scutellary region. Underside closely punctate, fore and mid-tibiæ minutely serrated, the tibiæ of male rather widely dilated at apex. *Dimensions*—2.25 × 1 (*vix.*) mm.

Hab.—Queensland: Mount Tambourine.

Many specimens obtained by Mr. Lea from the rotten cores of logs. All the male specimens examined have the upper-surface concolourous, while other specimens, probably female, have the head and thorax red. The underside is generally reddish often suffused with black as in the allied species of *Acthosus*. Compared with *P. Brevis*, Carter, this species is much smaller and more convex (especially as to the thorax), the surface is more varnished, the elytral striæ less marked, with the seriate punctures more widely separated. Types, I. 2210, in the South Australian Museum.

ENCYALESTHUS TUBERCULICEPS, n. sp.

Elongate-parallel; dull-black above, nitid beneath, antennæ and tarsi red, tibiæ piceous.

Head with forehead strongly and closely, the epistoma more lightly, punctate; the suture arcuate and deeply impressed, the eyes bordered on the inside by a shining carina raised behind into a blunt compressed tubercle; antennæ short, stout, not extending to base of prothorax, the last four joints considerably enlarged, 3 about as long as 1 and 2 combined, 4-7 much shorter than 3, subconic, 8-10 much wider than 7, cup-shaped and successively wider, 11 wider and longer than 10, squarely rounded. *Prothorax* 3 × 4 mm., bisinuate at base and apex, very little wider at base than at apex, faintly produced in the middle in front, the anterior angles obtuse, depressed and slightly rounded, sides feebly converging in front, thence nearly straight to the sharply rectangular posterior angles, lateral border narrowly carinate and sulcate within, a narrow sulcus also at the base near sides, apex without border; disc rather convex, moderately closely covered with round shallow punctures. *Scutellum* widely triangular with rounded sides. *Elytra* wider than the prothorax and nearly four times as long, subcylindric, seriate-punctate; each with nine rows of rather large deep punctures (larger than in *E. punctipennis*, Pasc.), besides a short scutellary, and a marginal row, the latter merging into the ninth row about half-way. The punctures becoming larger from base to apex; intervals impunctate. flat near base, becoming convex near apex, the rows sulcate in this region; margins very narrow and unseen from above. Prosternum, sides of metasternum, and basal segments of abdomen coarsely and sparsely punctured, apical segment closely and more finely so; epipleuræ smooth. Tibiæ straight, slightly enlarged at apex, basal-joint of hind tarsi shorter than the second and third combined. *Dimensions*—16 × 5.5 mm.

Hab.—Queensland: Mount Tambourine.

♀, var. (?). Nitid-black, punctures on head, pronotum, and elytra more pronounced, especially towards the sides and apex of elytra, the seriate punctures being more coarse and elongate here; the tubercles on the forehead more rounded, the sides of prothorax straighter, the anterior angles more squarely rounded, the elytral intervals more convex on apical half of elytra, the fifth and sixth intervals deeply sulcate in that region. *Dimensions*— $14 \times 4\frac{3}{4}$ mm.

Hab.—Queensland: Cairns.

The two specimens above, I believe, are conspecific, though the localities of capture are rather distant, and some of the differences are conspicuous; but in both the remarkable character of eyes bordered on the inside by a tubercle, forming the basal end of carina, together with its general form (nearly straight prothorax), sculpture (especially of the underside) point to a very close relationship. These specimens are only two I have yet seen. The carinate border of the eyes on the inside is one of the special characters quoted by Motschulsky for his *Nyctobates* (now merged in *Taraxides*, a West African genus). The true *Nyctobates* is confined to America. The name has long been erroneously given to Australian species of *Promethis*. I have specimens of *Nyctobates* (*gigas* and *maxima*) which are entirely different to anything Australian, but *Taraxides* is unknown to me. There is no doubt as to the above insect being an *Encyalesthus*, somewhat closely related to *E. punctipennis*, Pasc., from which it differs in its more elongate form, antennæ more enlarged at apex, the straight prothorax, convex elytral intervals at apex, and the coarser punctures of underside, *inter alia*.

BLUOPS, n. gen. (*Meracanthinarum*).

Body very convex, ovate acuminate, subpedunculate, apterous.

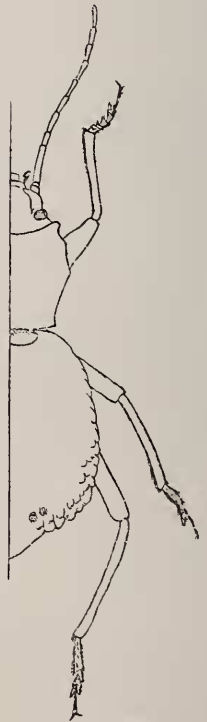
Head received into the thorax nearly to the eyes, these large, transverse, emarginate, and coarsely granulated; mandibles bifid at apex, labrum squarely prominent; canthus obliquely elevated over the insertion of antennæ; mentum trapezoidal, carinate in the middle, last joint of palpi strongly securiform; antennæ very long and slender, the outer joints very slightly thicker than the basal. *Prothorax* moderately convex, irregularly subcordate, anterior angles dentate and reflexed, posterior acute and deflexed, sides angulately crenate. *Elytra* soldered together and widely embracing the body; epipleuræ very narrow, not extending to the apex of elytra; metasternum short, anterior coxæ round, hind coxæ widely separated, all coxæ with trochantins; the middle intercoxal process with a raised transverse semicircular disc, the

posterior process subtruncate, very narrowly bordered; prosternal process produced into a conical lobe, not margined between the coxæ; the penultimate joint of all tarsi strongly bilobed.

BLUOPS VERRUCOSUS, n. sp.

Elongate, ovate acuminate, glabrous; nitid metallic-black; the head coppery on sides, blue on labrum; legs and antennæ violet, anterior coxæ coppery.

Head deeply and unevenly pitted with coarse punctures; labrum strongly emarginate; epistoma wide, convex, and arcuate, continuous with the raised canthus; epistomal suture deep arcuate, terminating in foveæ within the antennal orbit, here joined by two curved depressed lines extending backward to the eyes; these widely separated and oblique; antennæ 8 mm. long, joint 2 very short and bead-like, 3 as long as 4-5 combined, 4 shorter than 5, 5-8 equal, 9-10 slightly shorter and scarcely wider than 8, 11 longer than 10, the basal-joints 1-5 more or less cylindric, 6-10 very narrowly obconic, 11 elongate-ovate. *Prothorax* 3.5 × 4.5 mm., moderately convex, wider at apex than at base, widest at middle, apex bisinuate, base truncate, anterior angles rounded, produced outward and reflexed, sides sinuate behind this lobe, then undulately and subangularly widened at the middle, then widely incurved and sinuate to the acute and outwardly produced posterior angles, border continuous throughout, widest at base, subobsolete at middle of apex, the disc continuous laterally to this border; rugosely vermiculate-punctate, the intervals smoother and wider at centre (otherwise without any medial line). *Scutellum* a raised transverse nitid ridge across the middle of the base of elytra, occupying half the width. *Elytra* very convex, ovate acuminate, of same width as prothorax at base (3.5 mm.), widest behind the middle, shoulders obsolete, sides expanding to the widest part, then rather rapidly and a little sinuately converging to the tapering apex. Epipleural fold evident in humeral region, the whole elytra, except the suture, closely covered with round, smooth tubercles arranged more or less in rows, about eight rows on each elytron, the tubercles in adjacent rows alternating (*i.e.*, those in row 2 fitting between the tubercles in row 1, etc.), those in the centre somewhat flattened, those on the sides and apex more conical,



the second, fourth, and sixth rows containing tubercles of a larger size than the others, a wide space on each side of suture smooth and nitid. The tubercles at the sides bearing short inconspicuous setæ. Sternum nearly smooth, abdomen with sparse scattered punctures. Legs very long, smooth and nitid, femora unarmed, tibiæ not dilated at apex, apical spines very short, tarsi (and tibiæ very narrowly) clothed with red tomentum, anterior and middle tarsi enlarged; basal-joint of posterior tarsi not as long as the rest combined. *Dimensions*— 17×7.5 mm.

Hab.—Queensland: Cairns.

A single specimen, male, was shaken by Mr. Lea from a bush. It is one of the most remarkable and interesting Tenebrionids I have seen. While placing it tentatively amongst the *Meracanthinae*, where it apparently comes nearest to Lacordaire's position for *Psorodes* or *Acanthomera* (a genus peculiar to South Africa). My knowledge of exotic insects is too limited to allow me to state the position of the genus very definitely. The two sides of the prothorax are slightly different in that the left side is more or less biangulate in the middle, while on the right side it is merely undulate before the middle subangulate widening. The long antennæ with its apical-joints not, or scarcely, enlarged at once differentiates it from all Australian Tenebrionidæ known to me except *Melaps*, *Melytra*, and *Strongylium*. I do not know *Axynaon*, of Blackburn, which is evidently a widely-different insect. Type, I. 2211, in the South Australian Museum.

There was also a single mutilated specimen in the South Australian Museum, without antennæ and palpi, labelled: "Cardwell," Fr. "gen. nov., near Helopinus," in Blackburn's handwriting.

Mr. K. G. Blair writes:—"I don't think it is a *Meracanthine*, which have the anterior femora strongly thickened and toothed, with the clypeus in the form of a quadrangular plate in front of the head. It seems near a thing that has been puzzling me from Borneo, and has the femora rather slender, etc. I place it tentatively in the *Euteliinae*, with which it seems to agree in all essentials."

[Not as regards the *antennæ*, in which the *Eutelides* of Lacordaire have "trois ou quatre derniers articles formant une massue déprimée."—H. J. C.]

AMARYGMUS REGIUS, n. sp.

Ovate; head, pronotum, underside, and legs black; antennæ piceous, elytra dark-green, with the suture and sides (sometimes) purplish, tarsi flavo-setose.

Head—Labrum and epistoma minutely-punctate, front nearly smooth, eyes distant less than the basal-joint of antennæ, without ocular sulcus; antennæ very slightly enlarged apically, joint 1 rather long and stout, 3 longer than 1 and 2 jointly and as long as 4 and 5 combined, 4-10 subequal in length, successively more obconic, 11 narrowly-obovate. *Prothorax* 3×4.5 mm., truncate at apex, bisinuate at base, widest at base (this one and a half times the width of apex), sides feebly curved and converging to apex; disc minutely and closely punctate (punctures only visible under a lens), anterior angles obtuse, posterior acute (seen from above). *Scutellum* triangular, black. *Elytra* convex, seriate-punctate, with eight rows (besides a short scutellary row) of subfoveate punctures of uniform size (scarcely smaller or less-deeply impressed to the apex); intervals subconvex, finely but distinctly punctate; sternum smooth, abdomen rugosely-longitudinally wrinkled. *Dimensions*— $10-14 \times 6-7.8$ mm.

Hab.—Queensland: Cairns, Bloomfield, etc.

This is the species referred to in my monograph as near *obtusus*, Pasc., and *tristis*, Fab., but the seriate punctures are distinctly and uniformly larger, and are not placed in striæ, the intervals are less convex, and the colour a distinct-green, sometimes with a slight tinge of purple. The interval between two punctures is less than the diameter of one. Evidently a common species and liable to be confused with *C. nobilis*, Blackb. (in which the punctures are purple at bottom), but the bifid mandibles will easily distinguish *regius* from *C. nobilis*. Type in the author's collection.

AMARYGMUS ERUBESCENS, n. sp.

Ovate, convex; whole upper-surface reddish with green metallic reflections (the green predominating on head and pronotum); underside reddish-brown, legs metallic-black, antennæ piceous, tarsi flavo-setose.

Head distinctly and closely punctate, eyes widely separated by a distance greater than the length of basal-joint of an antenna; the latter slender at base, joints 7-11 moderately enlarged, 3 scarcely as long as 1 and 2 combined, 4-6 short, 7-10 longer than 6, 11 obovate. *Prothorax* $2 \times 3\frac{1}{2}$ mm., truncate at apex, bisinuate at base, widest at base, strongly and subarcuately narrowing at apex; anterior angles obtuse, posterior acute; disc rather strongly punctate, with a smooth medial line indicated. *Scutellum* triangular and punctate. *Elytra* very convex, narrowly ovate; seriate-punctate, with eight rows (besides a short scutellary row) of large round punctures (rather larger than but similarly placed to those in *A.*

foveolatus, Macl.), the punctures in the sutural row smaller and closer than those in the other series, the punctures more widely separated towards the apex; intervals quite flat, closely and unusually-strongly punctate; prosternum carinate, its sides with a few large punctures; abdomen strongly longitudinally strigose. *Dimensions*— 10×4.8 mm.

Hab.—Queensland: Cairns.

A single specimen, quite distinct from all described Australian species, in shape somewhat like, but wider than, *variolaris*, Pasc., with seriate punctures somewhat as in *foveolatus*, Macl. The ground colour is red, but metallic-green is dominant on the head and pronotum, and subdominant on the elytra. Seen in a strong light the red tints prevail, the larger punctures then appearing dark-green on a red ground. The puncturation is peculiar in that the quite regular row nearest the suture has smaller punctures than in the other series, quite evenly placed, the space between punctures in the first and second rows being as 3 : 2. Type, I. 2212, in the South Australian Museum.

AMARYGMUS MACULICOLLIS, n. sp.

Elongate-ovate; nitid greenish-copper above; pronotum with about 17 large purple spots, not placed in foveæ, the elytral punctures also purple; underside, legs, and antennæ red; tarsi flavo-setose.

Head with epistomal suture deeply impressed, front closely and strongly punctate, eyes widely separated by a distance equal to the combined length of the second and third antennal-joints. Antennæ with basal-joints very slender, 7-11 successively enlarging, three not as long as 4-5 combined, 11 longer and stouter than 10, ovate-acuminate. *Prothorax* convex, bisinuate at apex and base, the central lobe produced forwards at apex, backward at base, all angles deflexed and obtuse; sides well rounded, with stronger curve in front than behind; lateral carina not evident from above; disc closely punctate, the purple maculæ placed apparently quite regularly as follows: four forming a square in the middle, an elongate one behind these on middle line near base, and about six on each side of these (of these two near basal border). *Scutellum* triangular. *Elytra* convex, subparallel on basal half, tapering towards apex, as wide as prothorax at base; seriate-punctate, with eight rows (besides a short scutellary row) of subfoveate punctures rather widely separated (the distance between two punctures in the same row being considerably greater than the distance between adjacent rows), with a few elongate or confluent punctures in the series; the intervals quite flat and

strongly but finely punctate; sternum diffusedly punctate, abdomen finely strigose. *Dimensions*— 10×4.2 mm.

Hab.—Queensland: Kuranda (G. E. Bryant and A. M. Lea).

Two examples examined are close allies of *A. variolaris*, Pasc., and *A. rimosus*, Blackb., in having the strongly differentiated purple punctures with coppery elytra, but in *variolaris* the pronotum is a uniform bronze and the elytral punctures are scarcely seriate; while *rimosus* is a larger species with concolourous pronotum and much more elongate-seriate punctures. I have seen other specimens in collections, but have confused it previously with *variolaris*. Type in the author's collection.

AMARYGMUS MINIMUS, n. sp.

Ovate, convex; very nitid dark-bronze above, rufescent beneath, all appendages red.

Head closely punctate, eyes rather widely separated, antennæ slender with apical-joints slightly enlarged, joint 11 wider than 10 and elongate. *Prothorax* much wider at base than at apex, truncate at apex, sinuate at base, sides nearly straightly converging from base to apex, disc closely and distinctly punctate. *Elytra* considerably wider than prothorax, very convex, striate-punctate, the punctures in striæ very small and rather distant, the intervals everywhere quite flat, and almost microscopically punctate; abdomen closely striolate. *Dimensions*— 3×2 (*vix.*) mm.

Hab.—Queensland: Cairns.

Three specimens of this minute species evidently differ from *A. lilliputanus*, Blackb. (of which I have co-types, taken by Mr. Masters at Wide Bay), in (1) smaller size, (2) the form of prothorax (rather widely rounded in *lilliputanus*), (3) the finer puncturation of the elytral series. Blackburn gave the colour of *lilliputanus* as black, but the elytra have some metallic gleams with a tinge of green in my specimens. The dimensions of his species is 2 l. (4 mm.), but a difference of 1 mm. is considerable in dealing with such small insects. Type, I. 2213, in the South Australian Museum.

STRONGYLUM FUSCOVESTITUM, n. sp.

Elongate, moderately convex; brown, clothed above and beneath with rather dense adpressed pale-brown hair, apical-joint of antennæ yellow, tibiæ rufescent.

Head closely clad with recumbent hair, epistomal suture arcuate, longitudinally impressed between the eyes, these large and separated by a distance of about half the diameter of one eye (more approximate in the male than in the female);

antennæ long, filiform, the apical-joints slightly widened, 3 longer than 4, 7-10 equal, 11 elongate-ovate. *Prothorax* wider than long, apex and base nearly straight, base scarcely wider than apex; anterior angles rather squarely rounded, posterior sharply rectangular; sides slightly undulate, with a small angulate or dentate widening in the middle; basal border raised, lateral and apical border subobsolete; disc channelled medially, rugose and closely pilose. *Scutellum* curvilinear triangular. *Elytra* wider than prothorax at base, three and a half times as long; shoulders squarely rounded, sides nearly parallel till near apex; lineate foveolate-punctate, with about eight lines of oval foveæ, forming reticulate intervals, the two sutural rows of foveæ larger and shallower, their intervals less raised than the rest, the foveæ smaller towards the sides, the last three series containing approximate punctures, those in the extreme row closest, all becoming obsolete at apex; prosternum rugose, the last segment of abdomen finely punctate, fore coxæ approximate and nearly touching the front margin of prosternum, posterior intercoxal process narrowly triangular, legs rather slender, posterior tarsi with basal-joint nearly as long as the rest combined. *Dimensions*—12-13 × 3.5-4.5 mm.

Hab.—New South Wales: Ourimbah (H. W. Cox); Queensland: Mount Tambourine (A. M. Lea).

The larger specimen happens to be the male, the other is, I think, female, and these two are the only specimens I have seen of a species evidently different to any of the described Australian *Strongylia*. It is nearest to *S. reticulatum*, Mäkl., in the elytral sculpture, in which species the alternate intervals are costate, with the reticulation more or less cancellate, while in *fuscovestitum* the intervals do not form regular lines, but are the raised borders of the irregularly-sized foveæ; moreover, in *reticulatum* the colour is a subnitid-black, and is without any pilose clothing. Male—Type in the author's collection. Female—Type, I. 2214, in the South Australian Museum.

S. reticulatum, Mäkl. I have not seen this species identified in any of the museums; but there seems to be little doubt as to my correct determination of this name as applying to an insect I have taken in the Blue Mountains under eucalyptus bark, and one specimen under a stone in the Victorian Alps.

S. macleayi, Pasc., determined from description for a specimen taken by Mr. H. W. Cox in the Gosford District.

S. mastersi, Macl. A single specimen by Mr. A. M. Lea, taken at Cairns, Queensland.

Pseudostrongylium viridipenne, Kraatz. I believe I have correctly identified this as a species very common in North Queensland, and taken in some numbers by Mr. H. Hacker.

Mr. Lea also took one near Cairns. The species, so determined, is very variable in colour, varying from concolourous-green or blue, above and beneath, to specimens in which the elytra has the base, suture, and sides red, with more or less red on the coxæ and underside. The type is described as being of the latter class.

BYRSAX PINNATICOLLIS, n. sp.

Rather squarely oval; reddish-brown, tarsi and antennæ red, clothed with a short scaly indumentum.

Head (of male) with two elevated, incurved, and pointed horns, serrated on the outside edge; antennæ short, the last four joints forming a club, the apical joint longer than the preceding. *Prothorax* about 1.5×3 mm., sides widely rounded, and like the fins of a fish, the outside edge strongly and evenly crenulated, discal portion very convex, with two conspicuous elevated tubercles on middle near front margin, and with sparse irregular tubercles elsewhere. *Scutellum* rounded. *Elytra* wider than prothorax at base, with humeral angles prominent and rectangular, widely rounded behind, margins evenly and closely crenulated; seriate-punctate, the intervals with from four to six tubercles on each, more or less in rows, the rather wide margins also bearing a few tubercles. Underside and legs rough, the abdomen rugose-punctate. Female without frontal horns. *Dimensions*— 5×3 mm.

Hab.—Queensland: Cairns (A. M. Lea and Macleay Museum).

Intermediate in size between *B. macleayi*, Pasc., and *B. egenus*, Pasc., it has not the pronounced oblique thoracic tubercle of *B. saccharatus*, Pasc., and with much more regularly-crenulated sides. I have named it as describing the lobate and finlike flanges of the prothorax. I think I have specimens of all the described species of *Byrsax*. *B. saccharatus*, Pasc. (of which my single specimen comes from the Richmond River) is either without frontal horns, or has been described from a female specimen. *B. macleayi* I have taken in quantity at Acacia Creek in rotten logs. It is remarkable for the pungent musk smell emitted, by which its presence may be detected at some distance. Types in the author's collection.

AUSTRALIAN AMARYGMINÆ.

Since the publication of my tables of *Chalcopterus* and *Amarygmus* (these Trans., 1913) I have received further information from Mr. K. G. Blair, of the British Museum, which enables me to correct certain mistakes, partly due to insufficient descriptions, partly to my incorrect determination of a

few species. It will, therefore, be some help to entomologists to add the following notes on the species in question.

The four following species were wrongly placed under the section "*pronotum black*." The notes appended are by Mr. Blair except where initialled by the author.

Ch. puer, Blackb., "has a *blue* pronotum and would come in your table next to *lætus*, Blackb., which it very closely resembles. The head is black, the eyes sulcate as in *lætus*; the prothorax is more strongly and closely punctured with a smooth median line, but not perceptibly different in shape, as one would gather from Blackburn's table. I doubt whether it is really distinct." [A specimen sent seems to me conspecific rather with *C. eremita*, Blackb.—H.J.C.]

Ch. palmerstoni, Blackb., "has a greenish-blue opaque thorax. In your table it would, I think, come next to *eyrensis*, but it much more closely resembles *C. minor*, Blackb. With this it agrees in colour, form of head, and general facies, but differs in having the elytral puncturation a little stronger, and the tarsi nigro-setose."

Ch. mundus, Blackb., "has the thorax *bright-greenish*, subopaque. It runs down next to *pulcher*, Blackb., from which it may be distinguished by its more elongate form, almost like that of *minus*, but more convex, with flat intervals. The elytra are tipped with coppery, unlike either species mentioned. *Minus*, by the way, has the elytra unicolourous, purplish-blue, *not* varicoloured."

Ch. minor, Blackb., "has a *blue* thorax"—"a specimen you return as 'probably *hartmeyeri*, Geb.'" "I sent a specimen to Gebien for verification, and he replies, 'The species is rightly determined.' Hence *hartmeyeri* sinks to *minor*, Blackb." [In the description of *minor* the colour is stated to be "niger, elytris cyaneis," while in *palmerstoni* it is given as "niger, elytris cæruleis."—H.J.C.]

[The following three species were wrongly placed under the section "*pronotum metallic or coloured*."—H.J.C.]—

Ch. inconspicuus, Blackb., "has thorax absolutely black. It would run down to your *latifrons*, but apparently less-strongly punctured. The elytral sculpture is like that of *prospiciens*, Blackb., which is not unlike, though broader."

Ch. leui, Blackb., "has a *black* thorax. It would come next to *carinaticeps*, Blackb., to which it is closely allied. It differs in its more nitid thorax, less-developed ocular carina, more convex elytral interstices, and the finer punctures in the series."

Ch. proditor, Blackb., has "the thorax black and finds its natural (and tabular) position next to *obscurus*, Blackb., from which it differs in the convex interstices." [Mr. Blair also

includes *major*, Blackb., in this statement; but this is a mistake, as shown by the author's description, "capite prothoraceque plus minusve cyaneo tinctis;" moreover, my specimens (from Cooktown and Cairns) were personally determined by the author. Like a few other species, e.g., *Ch. yorkensis*, Blackb., the pronotum is often so dark that an old or greasy specimen might well appear quite black. Either this is the case with the type, or some mistaken labelling has taken place. In the case of *leai* and *proditor* I must candidly confess to a blunder of tabulation. I have specimens of *proditor* from Condon, W.A., determined by the author himself; while those of *leai* were compared with co-types in Mr. Lea's collection.--H.J.C.]

Ch. cyanipennis, Hope=var. of *laevicollis*, Bless. "This name must give way to *cyanopterus*, Hope (type in British Museum). This species was originally described (Gray's Zool. Miscell., i., 1831, p. 32) as from Nepal, but the species is identical with the type of *cyanipennis*, Hope (at Oxford). It is rather strange that there should be in Bates' collection two specimens purporting to be from Malabar, labelled *cyanipennis*, Reiche. I think the Indian localities must be erroneous." (K.G.B.)

Ch. variabilis, Bless.=*vinosus*, Pasc.=*columbinus*, Bois. On the synonymy of *variabilis* with *vinosus*, Mr. Blair writes: "Your determination of this species (*vinosus*, Pasc.=*opacicollis*, Blackb., nec. Macl.) is incorrect, so that a name appears to be required for this latter." As regards the synonymy, *vinosus*, Pasc.=*columbinus* Bois., Mr. Blair says: "Bates acquired with La Ferte's collection a set of duplicate *Heteromera* from the Dejeanian collection, and amongst these are probably co-types, possibly types of Boisduval's species. These are as follows:—

"*Amarygmus columbinus*, Bois.=*Ch. vinosus*, Pasc.=*variabilis*, Bless.

"*Adelium harpaloides*, Bois.=*A. calosomoides*, Kirby.

"*A. virescens*, Bois.=*A. brevicorne*, Bless."

N.B.—The last two were suggested by me (Proc. Linn. Soc., N.S.W., 1908, pp. 275, 276).

Ch. cupreus, Fab. Mr. Blair's note runs: "I cannot quite match this, but it seems to be very near, if not identical with, *setosus*, Blackb. The seriate punctures of the elytra are sharper and interstices flatter; with but one or two setæ towards the apex."

N.B.—For the hiatus left by the want of a name for *Ch. opacicollis*, Blackb., nec. Macl., I suggest the name *confusus*.

Ch. palmerensis, Blackb., "is erroneously determined. The type is superficially very like *cupriventris*, Cart., but has

the underside black, the thorax much wider, the tarsi nigro-setose. The thing you call *palmerensis*, Pascoe had as *grandis*, Macl., which you say it is not, so it seems in need of a name." [The specimens, of which I have two from Rockhampton, which I determined as *palmerensis* have the tarsi fulvo-setose, as stated by the author, though Blackburn admitted that his unique type was not in a good condition for determining this fact. There seems to be a possibility of some mistake here. A re-examination of my specimens shows an insect rather near *carinaticeps*, Blackb., even containing distinct ocular carinæ, but with more or less concolourous elytra—one greenish, the other purplish—but wider and larger than my specimens of *carinaticeps*, but with similar sculpture. As the latter species does certainly occur in the Rockhampton district, it is possible that my so-called *palmerensis* may be a var. of *carinaticeps*. It is better at present to avoid the further confusion of adding a name.—H.J.C.]

There is a small omission in my *Chalcopterus* table. After 109 should be inserted 109A. Size smaller.

In the *Amarygmus* table, *A. pectoralis*, Blackb., was inadvertently omitted. It should be placed near *kurandæ*, Mihi., and distinguished, *inter alia*, by its coarsely-punctured sternum. In this table (p. 37), for *geminatus* read *gemmatus* (as in description).

AMARYGMUS.

A. tristis, Fab. "The type is not in the Banks Collection, its habitat and whereabouts are not stated in the description. The latter says '*elytris cyaneis*,' which may be taken as referring to the form with purple elytra."

A. obtusus, Pasc., "is, I believe, specifically distinct. You seem to have taken a specimen I sent as 'near *obtusus*,' to be identical, which I did not intend. My remarks stated, 'type (*obtusus*) larger, thorax much more rounded at sides, head punctulate between eyes, clypeus depressed at base, puncturation of elytra the same and jaws.' I may add—a distinct though narrow ocular sulcus. It was formerly catalogued as *Chalcopterus*."

A. pusillus, Pasc., "is not *maurulus*, Pasc., but is like a black *pinguis*, Blackb., of the same size, shape, and form of elytral interstices. *Maurulus* you have correctly identified."

N.B.—Types of *pinguis*, *perplexus*, and *queenslandicus*, are all of same colouration, thorax dark blue-black (almost black), elytra distinctly blue. *Pinguis* differs in its more convex elytral interstices, but I am unable to separate *queenslandicus* and *perplexus* (I see no trace of ocular sulcus in the latter).

A. semissus, Pasc. There appears to have been an error in labelling the type here. Pascoe's specimen labelled "Kiama," and bearing his name label with the word "type," is Hope's *anthracinus*, and his own *ellipsoides* (of which there is no specimen definitely labelled "type") merely one with a temporary label "*ellipsoides*." Of *semissus* there is also a specimen bearing Pascoe's temporary label, "*semissus*," with no locality. I take it that the temporary labels indicate the true types (in other cases they have not always been replaced by final labels), and that the final label has been wrongly attached. In this case the types bear out the descriptions, otherwise they do not. The two species are readily distinguished.
