

last dorsal ray connected by membrane with the root of the caudal. Canine teeth none.

Dark blackish olive, with scarcely a trace of lighter or darker bands on the body. Dorsal fin with very indistinct whitish oblique lines; anal fin with a broad black margin.

A single specimen, $3\frac{1}{3}$ inches long.

Exocætus melanopus.

D. 14. A. 13.

Mandible with a long black band-like appendage, bifid at the end and nearly extending to the end of the head. The height of the body is one-fourth of the total length (without caudal); the length of the head is contained thrice and three-fourths in it. Head nearly as deep as long, broad in its nuchal portion, and compressed in the rostral; snout obtuse and very short, one-half the length of the diameter of the eye, which is more than one-third of the length of the head. Pectoral fin extending beyond the root of the caudal. Root of the ventrals nearer to the end of the snout than to the base of the caudal; and they extend somewhat beyond the origin of the anal. The dorsal fin commences nearly opposite to the first anal ray. Trunk and tail with three blackish cross bands, the first corresponding to the space between ventrals and anal; pectoral uniform white, black at the base; ventrals deep black; caudal white.

One specimen, 2 inches long.

LIV.—On the *Species of Helicidæ found in Japan.*

By ARTHUR ADAMS, F.L.S.

THE following systematic list of inoperculate Pulmonifera which live upon the land contains notices of species collected by myself in Japan. It is doubtless very imperfect, because the interior of these beautiful islands has never yet been explored by naturalists. Newcombe (Proc. Cal. Acad. Nat. Sc. 1865) has described two species of *Helix* (*H. Blakeana* and *H. declivis*) and one species of *Succinea* (*S. japonica*) which I have not seen. Von Martens has made mention of *Helix* (*Ægista*) *Friedeliana* and *Stenogyra* (*Opeas*) *javanica*, Rve.; but I am not acquainted with either of these species. *Opeas juncea* of Gould has also been said to inhabit Japan; but I believe my *Opeas pyrgula* has been mistaken for that species. I obtained examples of *Helix* (*Plectotropis*) *Mackensii*, Val., at Cone Island, and specimens of *Helix* (*Plectotropis*) *ciliosa*,

Pfr., at Port Hamilton; but these localities belong to the Korean archipelago, which I have not included in my enumeration of Japanese Mollusca. *Helix* (*Plectotropis*) *elegantissima*, Pfr., is stated to have come from Japan; but I never met with that charming shell during my explorations.

In a future communication I shall examine the remainder of my Japanese Helicidæ, comprising the subfamily *Pupinæ*.

Fam. **Philomycidæ**.

Genus **PHILOMYCUS**, Rafin.

Philomycus bilineatus, Cantor.

Incillaria bilineata, Cantor, Bens. Ann. & Mag. Nat. Hist. 1842.

Hab. Takano-Sima, Sado, Tabu-Sima, Tago.

Fam. **Limacidæ**.

Genus **LIMAX**, Linn.

Limax varians, A. Ad.

L. corpore elongato, postice subcarinato, sordide albo, interdum nigro, nunquam variegato; clypeo elongato, concentrice rugoso; foramine antico; tentaculis attenuatis, elongatis.

Long. $1\frac{1}{2}$ poll.

Hab. Hakodadi, Rifunsiri, Risiri.

The only true slugs I have noticed. They are either white or black, and belong, I believe, to the same species. May be var. of *L. agrestis*, Linn.

Fam. **Helicidæ**.

Subfam. **Succininae**.

Genus **SUCCINEA**, Draparn.

1. *Succinea lauta*, Gould.

? *S. japonica*, Newc.

Hab. Hakodadi, Vladimir.

2. *Succinea putris*, Linn.

Hab. Olga Bay, Vladimir Bay.

Subfam. **Helicinae**.

Genus **HELIX**, Linn.

1. *Helix* (*Acusta*) *Sieboldiana*, Pfr.

Hab. Tsus-Sima, Sado, Mososeki.

2. *Helix* (*Acusta*) *læta*, Gould.

Hab. Matsumai, Hakodadi.

3. *Helix (Acusta) conospira*, Pfr.

Hab. Nangasaki, Yeddo (Martens).

4. *Helix (Camena) quæsitæ*, Desh.

Hab. Simoda, Tabu-Sima, Sado.

5. *Helix (Camena) peliomphala*, Pfr.

Hab. Mososeki, Tago.

6. *Helix (Camena) luchuana*, Sow.

Hab. Dagelet Island.

7. *Helix (Camena) Simodæ*, Jay.

H. Herklotsi, Martens.

Hab. Simoda, Vladimir Bay, Olga Bay.

8. *Helix (Camena) myomphala*, Martens.

H. daimio, A. Ad.

Hab. Tago.

9. *Helix (Camena) orientalis*, Ad. & Rve.

H. germana, Rve.

Hab. Nangasaki, Mososeki, Tsus-Sima.

10. *Helix (Camena) pyrrhozona*, Phil.

Hab. Hakodadi, Olga Bay, Vladimir Bay.

11. *Helix (Camena) miranda*, A. Ad.

H. testa depresso-globosa, late perforata; spira turbinata, elatiuscula, apice obtusa; anfract. 6, convexis, strigis obliquis conspicuis et striis volventibus confertis decussatis; anfractu ultimo ad peripheriam rotundato, ad basim convexo; apertura obliqua, lunata; peristomate expanso, reflexo, intus incrassato. Straminea, fascia rubro-fusca ad peripheriam et ad suturas ornata.

Lat. 1 poll. 3 lin., alt. 9 lin.

Hab. Rifunsiri Island.

A handsome species, of a deep straw-colour, adorned with a red-brown band at the periphery and another at the suture. I found several specimens adhering to the stems of a gigantic species of *Archangelica*, in the little island of Rifunsiri, near the Straits of La Perouse.

12. *Helix (Camena) serotina*, A. Ad.

H. testa subglobosa, late perforata; spira elato-turbinata, apice obtusa; anfract. 6, convexis, oblique strigatis (strigis inæqualibus) et striis minutissimis volventibus confertis decussatis; basi convexa; apertura lunata; peristomate expanso, reflexo, intus albo,

incrassato, ad umbilicum dilatato. Serotina vel straminea, interdum fascia transversa rufo-fusca ornata.

Lat. 9 lin., alt. 7 lin.

Hab. Sagaleen, near Cape Notoro.

A pretty species, orange- or deep straw-coloured, very much resembling in general appearance the bright-yellow varieties of *Helix hortensis*. I found it living in the dense thickets of bamboo near the shore.

13. *Helix (Camena) Editha*, A. Ad.

H. testa depresso-conoidali, late perforata; spira elatiuscula, obtusa, apice obtusa; anfract. 6, convexiusculis, oblique strigosis et striis volventibus confertis decussatis; anfractu ultimo ad peripheriam rotundato, ad basim planiusculo; apertura obliqua, lunata; peristomate subexpanso, reflexo, intus vix incrassato. Albida, fasciis duabus rubro-fuscis in anfractu ultimo et fascia unica ad suturas ornata.

Lat. $8\frac{1}{2}$ lin., alt. 4 lin.

Hab. Risiri Island, Vladimir Bay.

This species resembles in general appearance *H. pyrrhizona* of Philippi; but the spire is more elevated, and the outline of the shell is more conoidal.

14. *Helix (Fruticicola) similis*, Fér.

Hab. Kino-O-Sima, Simoda.

15. *Helix (Fruticicola) textrina*, Bens.

Hab. Tago.

16. *Helix (Fruticicola) genulabris*, Martens.

Hab. Nangasaki.

17. *Helix (Fruticicola) japonica*, Pfr.

Hab. Tabu-Sima, Matsumai.

18. *Helix (Fruticicola) Stimpsoni*, Pfr.

Hab. Simonoseki.

19. *Helix (Fruticicola) patruelis*, A. Ad.

H. testa globoso-conoidali, perforata; spira elata, turbinata; anfract. 7, planiusculis, oblique striatis et striis subtilissimis confertis volventibus decussatis; anfractu ultimo ad peripheriam obtuse angulato, ad basim planiusculo; apertura oblique lunata; peristomate expanso, reflexo. Luteo-cornea, interdum fascia transversa pallida ad peripheriam ornata.

Lat. 8 lin., alt. $6\frac{1}{2}$ lin.

Hab. Tabu-Sima.

Very similar in general appearance to *H. japonica*, Pfr., but more conoidal, and with the periphery more decidedly angulate. It is also a smaller and thinner shell.

20. *Helix (Fruticicola) peculiaris*, A. Ad.

H. testa globoso-conoidali, anguste perforata, tenui, luteo-cornea; spira turbinata, modica, apice obtusa; anfract. 6, convexis, oblique striatis et striis volventibus subtilissime decussatis; anfractu ultimo ad peripheriam rotundato, antice deflexo et constricto, basi convexo; apertura perobliqua, lunata; peristomate expanso, reflexo, ad basim rectiusculo et callo vix elato instructo, ad umbilicum late reflexo.

Lat. 6 lin., alt. $6\frac{1}{2}$ lin.

Hab. Tanabe.

H. japonica, *H. patruelis*, and the present species form a group which seems peculiar to Japan, and which is characterized by the conoidal form of the shell, by the base being more or less flattened, and by the straight horizontal basal portion of the peritreme. To this section may be assigned the name *Satsuma*.

21. *Helix (Fruticicola) gibbosa*, A. Ad.

H. testa depresso-globosa, tenui, perforata; spira parva, conoidali, apice acuta; anfract. 6, convexiusculis, striis incrementi et volventibus minutis decussatis; anfractu penultimo gibboso, ultimo subinflato ad peripheriam rotundato, antice deflexo; apertura obliqua, lunata; peristomate expanso, breviter reflexo. Albido-cornea.

Lat. $6\frac{1}{2}$ lin., alt. 5 lin.

Hab. Tanabe.

A species remarkable for the sudden deflection of the last whorl anteriorly, which produces a gibbose appearance of the penultimate whorl. The peristome on the left side is broadly reflexed, and nearly covers the umbilicus.

22. *Helix (Fruticicola) sphinctostoma*, A. Ad.

H. testa globoso-conica, anguste perforata; spira conoidali; anfract. 6, convexis, oblique striatis, ultimo ad peripheriam rotundato, ad aperturam valde constricto; apertura perobliqua, lunata; peristomate albilabiato, late expanso, reflexo. Lutescenti-cornea.

Lat. 6 lin., alt. 5 lin.

Hab. Tago.

A species remarkable for the constriction of the last whorl just behind the aperture, and with the peristome white, expanded, and reflexed.

23. *Helix (Fruticicola) Collinsoni*, A. Ad.

H. testa globoso-conica, late perforata, tenui; spira elata conoidali; anfract. 6, convexiusculis, oblique striatis, creberrime transversim striatis, anfractu ultimo ad peripheriam rotundato; apertura obliqua, lunata; peristomate subexpanso, breviter reflexo. Albido-cornea, fascia lata ad suturas et ad peripheriam ornata.
Lat. $5\frac{1}{2}$ lin., alt. 3 lin.

Hab. Tago.

A pretty, fragile species, somewhat conoidal, and adorned with a spiral red-brown band.

24. *Helix (Fruticicola) commoda*, A. Ad.

H. testa globoso-conoidali, late perforata, tenui, corneo-rufescente; spira obtusim conica, elata; anfract. 5, convexis, oblique striatis, ultimo ad peripheriam rotundato; apertura orbiculato-lunata; peristomate breviter reflexo.
Lat. 3 lin., alt $2\frac{1}{2}$ lin.

Hab. Mososeki.

A very neat and pretty little species, of a reddish horn-colour, and with a conoidal spire and rounded whorls.

25. *Helix (Fruticicola) despecta*, A. Ad.

H. testa depresso-conoidali, perforata, tenui, cornea, fusca, subtilissime oblique striata; spira conica; anfract. 4, planiusculis, ultimo ad peripheriam angulato; apertura angulatim lunata, peristomate recto, acuto, ad umbilicum breviter reflexo.
Lat. 3 lin., alt. $2\frac{1}{2}$ lin.

Hab. Mososeki.

A small, thin, horn-coloured species, with angular periphery, found on the foliage of plants at Mososeki, a village on the Straits of Simonoseki.

26. *Helix (Fruticicola) craspedocheila*, A. Ad.

H. testa depresso-conica, late perforata, albido-cornea; spira vix elata, apice obtusa; anfract. 5, convexiusculis, striis incrementi et volventibus decussatis; apertura perobliqua, lunata; peristomate rectiusculo, infra reflexo, intus albo, incrassato, ad basim callo instructo.
Lat. $4\frac{1}{2}$ lin., alt. 3 lin.

Hab. Kino-O-Sima.

A depressed species, with the peritreme internally thickened, and with a slightly elevated callus at the basal portion.

27. *Helix (Fruticicola) proba*, A. Ad.

H. testa orbiculato-depressa, late umbilicata, rufo-fusca, oblique striata; spira vix elata; anfract. 6, planiusculis, ultimo ad peri-

peripheriam obtusim subangulato; apertura rotundato-lunata, per-obliqua; peristomate breviter reflexo, ad basim regulariter arcuato.

Lat. 5 lin., alt. $2\frac{1}{2}$ lin.

Hab. Kino-O-Sima.

This species resembles somewhat in form and colour *H. Stimpsoni*, Pfr.; but it is more depressed, the umbilicus is wide and perspective, and the peritreme has not the peculiar bend seen in *H. genulabris* and *H. Stimpsoni*.

28. *Helix (Fruticicola) concinna*, A. Ad.

H. testa orbiculato-depressa, rufo-cornea, tenui, perforata, umbilico modico, oblique strigosa, striis volventibus conspicuis decussata; spira obtusa, elatiuscula; anfract. 5, convexiusculis, ultimo ad peripheriam rotundato; apertura lunata; peristomate recto, acuto, ad umbilicum reflexo.

Long. 6 lin., alt. 4 lin.

Hab. Tago.

A thin light-horncoloured species, with the revolving striæ very distinct, and with the peritreme sharp-edged.

29. *Helix (Ægista) Friedeliana*, Martens.

Hab. Nangasaki (Martens).

I do not know this species.

30. *Helix (Plectotropis) ciliosa*, Pfr.

Hab. Tsus-Sima, Awa-Sima, Tabu-Sima.

31. *Helix (Plectotropis) squarrosa*, Gld.

Hab. Kino-O-Sima, Tsus-Sima, Tsaulian.

32. *Helix (Plectotropis) conella*, A. Ad.

H. testa orbiculato-conica; spira depressa, umbilico modico, perforata, ochraceo-cornea, tenui, squarrosa, oblique valde strigosa; epidermide in lineis interruptis obliquis disposita; anfract. 6, planis, ultimo ad peripheriam acute carinato, basi convexo; peristomate acuto, expanso, et breviter reflexo.

Lat. 5 lin., alt. 3 lin.

Hab. Tabu-Sima.

Most like *H. squarrosa*, Gld., in colour and surface, which is scabrous and scaly; but the periphery, instead of being rounded, is acutely keeled; and the umbilicus, instead of being large and deep, is moderate.

33. *Helix (Plectotropis) setocincta*, A. Ad.

H. testa orbiculato-conica; spira depressa, umbilico lato et profundo

perforata, tenui, rufo-fusca, oblique striata; epidermide in lineis elevatis radiantibus disposita, ad peripheriam in ciliis modicis producta; anfract. 6, planis, ultimo ad peripheriam acute angulato, basi convexo; apertura obliqua, lunata; peristomate recto, acuto. Lat. 6 lin., alt. 3 lin.

Hab. Sado, Awa-Sima.

Most like *H. ciliosa*, Pfr.; but the outline is more conical, and the epidermis at the periphery is developed into longer hair-like projections than in that species.

34. *Helix (Plectotropis) trochula*, A. Ad.

H. testa orbiculato-conica; spira elata, umbilico lato et profundo perforata, tenui, rufo-fusca; epidermide in lineis obliquis interruptis disposita, ad peripheriam in ciliis brevibus producta; anfract. 6, planis, ultimo ad peripheriam acute angulato, basi convexo; apertura obliqua, lunata; peristomate acuto, expanso, breviter reflexo.

Lat. $6\frac{1}{2}$ lin., alt. 4 lin.

Hab. Tsus-Sima.

A larger and more conoidal species than *H. setocincta*, and with the epidermis forming raised, radiating, but interrupted lines, and with the ciliary fringe at the periphery much shorter.

35. *Helix (Plectotropis) scabricula*, A. Ad.

H. testa orbiculato-conoidali, late umbilicata, ochraceo-cornea, squarrosa; spira depresso-conica; anfract. $6\frac{1}{2}$, convexiusculis, ad peripheriam subangulatis; epidermide in squamulis elongatis, radiatim dispositis producta; apertura parva, angusta, lunata; peristomate breviter reflexo.

Lat. $4\frac{1}{2}$ lin., alt. 3 lin.

Hab. Awa-Sima.

Of the same form and with the same rough scaly surface as *H. squarrosa*, only smaller and with a more elevated spire and narrower umbilicus.

36. *Helix (Patula) paupera*, Gould.

Hab. Matsumai, Hakodadi, Olga Bay.

37. *Helix (Patula) elatior*, A. Ad.

H. testa orbiculato-conica, oblique costulata, late umbilicata; spira conica, elatiuscula; anfract. $4\frac{1}{2}$, planis, ad suturas marginatis, ultimo ad peripheriam acute carinato; apertura perobliqua, rotundato-lunata; peristomate simplici, acuto.

Lat. $3\frac{1}{2}$ lin., alt. 2 lin.

Hab. Dagelet Island.

A larger and more conical species than *H. paupera*, Gould,

with the whorls flat, the last acutely keeled, and with the sutures margined. Found under bark of dead trees in the little island of Dagelet, in the Sea of Japan.

38. *Helix (Patula) depressa*, A. Ad.

H. testa discoideo-conica, late umbilicata, rufo-cornea, oblique costellata; spira depresso-conica; anfract. $4\frac{1}{2}$, planis, ultimo ad peripheriam acute angulato; apertura perobliqua, anguste lunata; peristomate simplici, acuto.

Lat. 3 lin., alt. 1 lin.

Hab. Vladimir Bay.

A small, depressed species, with the whorls very finely obliquely ribbed, and with the last whorl acutely angulated at the periphery.

Subfam. *VITRININÆ*.

Gen. *HYALINA*, Fér.

1. *Hyalina? nitida*, Mill.

Hab. Tsus-Sima.

2. *Hyalina? electrina*, Gld.

Hab. Kino-O-Sima.

3. *Hyalina (Pseudohyalina) minuscula*, Binney.

Hab. Vladimir Bay.

4. *Hyalina (Microcystis) rejecta*, Pfr.

Hab. Tsus-Sima.

5. *Hyalina (Microcystis) labilis*, Gld.

Hab. Hakodadi.

6. *Hyalina (Conulus) pupula*, Gld.

Hab. Hakodadi (Stps.), Vladimir Bay (A. Ad.).

This is the species most probably mentioned by Middendorff as *H. chersina*, Say, in which, however, the whorls are narrower and more numerous.

7. *Hyalina (Conulus) phyllophila*, A. Ad.

H. testa subglobo-conica, imperforata, nitida, tenui, oblique striata, pellucida, succinea; spira elata, conica; anfract. $5\frac{1}{2}$, planis, ultimo ad peripheriam obtuse angulato, basi convexo; apertura rotundato-lunata.

Lat. 2 lin., alt. 2 lin.

Hab. Mososeki.

A thin, imperforate, turbinate, amber-coloured species, with

the spire elevated and the last whorl rounded. I found it at the Straits of Simonoseki, adhering to the leaves of trees in the vicinity of the village of Mososeki.

8. *Hyalina (Conulus) incerta*, A. Ad.

H. testa globoso-conica, anguste perforata, corneo-fusca, tenui, oblique tenuiter striata; spira conica, elata; anfract. $4\frac{1}{2}$, planis, ultimo ad peripheriam obtuse angulato; apertura angulato-lunata; columella ad umbilicum breviter reflexa.

Lat. $1\frac{3}{4}$ lin., alt. $1\frac{3}{4}$ lin.

Hab. Tabu-Sima.

This may be an immature shell; but I know of no species from Japan to which it can be referred.

9. *Hyalina (Conulus) tenera*, A. Ad.

H. testa orbiculato-conica, imperforata, tenui, pellucida, luteo-cornea; spira conoidali, convexa, apice obtusa; anfract. 6, planis, oblique striatis, ultimo ad peripheriam acute carinato, basi nitido, convexo; apertura obliqua, lunata; columella ad umbilicum sub-reflexa.

Lat. 3 lin., alt. 2 lin.

Hab. Matsumai, Straits of Tsugar.

A depressly conical thin species, with no very marked characters, except its size, to distinguish it from others belonging to the same group. I found it among dead leaves in damp situations.

10. *Hyalina (Conulus) stenogyra*, A. Ad.

H. testa globoso-conoidali, tenui, imperforata, succinea, pellucida; spira conica, elata, convexa, apice obtusa; anfract. $9\frac{1}{2}$, planis, angustis, oblique striatis, ultimo ad peripheriam acute carinato, basi convexo, glabro; apertura obliqua, anguste lunata.

Lat. $1\frac{1}{4}$ lin., alt. $1\frac{1}{4}$ lin.

Hab. Tsus-Sima.

This is a very pretty little beehive-shaped, transparent, amber-coloured shell, with numerous narrow whorls. I found it, in considerable numbers, crawling over dead leaves in the woods.

11. *Hyalina (Conulus) acutangula*, A. Ad.

H. testa conoidali, imperforata, tenui, succinea; spira elata, conica, convexiuscula; anfract. $5\frac{1}{2}$, planis, oblique tenuissime striatis, ultimo ad peripheriam acute carinato, basi glabro planiusculo; apertura anguste lunata, perobliqua.

Lat. $1\frac{1}{2}$ lin., alt. $1\frac{3}{4}$ lin.

Hab. Tago.

This is a well-marked species, of very peculiar form, very

similar to the former, but larger and with fewer whorls. I found but a single example, at Tago, on the shores of the inland sea.

Subfam. *CLAUSILIINÆ*.

Genus *BALEA*, Prid.

Balea variegata, A. Ad.

B. testa sinistrali, rimata, fusiformi, tenui, oblique striata, corneo-fusca, albo variegata; anfract. 6, convexiusculis, lineolis transversis impressis ornatis; apertura pyriformi, obliqua; peristomate albilabiato, interrupto, marginibus expansis.

Long. $4\frac{1}{2}$ lin., diam. (anfract. ultimi) $1\frac{1}{4}$ lin.

Hab. Tago.

This is a very interesting addition to a genus so limited in species as *Balea*. It is a prettily variegated shell, and is found in localities similar to those preferred by *Clausilia*.

Genus *CLAUSILIA*, Draparn.

1. *Clausilia (Phædusa) Martensi*, Herklots, Zeitschr. 1859.

Hab. Tabu-Sima.

2. *Clausilia (Phædusa) Buschii*, Kust.

Hab. Japan (Kuster).

I did not meet with this species.

3. *Clausilia (Phædusa) Sieboldi*, Pfr.

Hab. Tsus-Sima.

4. *Clausilia (Phædusa) pluviatilis*, Bens.

Hab. Awa-Sima.

Found also by Mr. Benson in Chusan.

5. *Clausilia (Phædusa) aculus*, Bens.

Hab. Tsaulian, Odsi.

6. *Clausilia (Phædusa) valida*, Pfr.

Hab. Awa-Sima.

Found also in the Liewkiew Islands.

7. *Clausilia (Phædusa) plicilabris*, A. Ad.

C. testa rimata, fusiformi, solida, oblique striata, luteo-fusca; spira sursum attenuata, apice obtusa; anfract. 10, planis, ultimo antice tumido, rotundato; apertura pyriformi, obliqua, lamella supera valida, compressa, infera profunda bipartita; lunella inconspicua; plica palatali 1, suturæ parallela, longa, arcuata, subcolumellari

usque ad marginem peristomatis producta; perist. continuo, breviter soluto, crasso, margine dextro plicis pluribus corrugato.
Long. 8 lin., diam. (anfract. penult.) 2 lin.

Hab. Tanabe.

The most striking peculiarity in this species is the wrinkled or plicate nature of the right margin of the peristome.

8. *Clausilia (Phædusa) Stimpsoni*, A. Ad.

C. testa vix rimata, fusiformi, solida, pallide fusca, oblique striata; anfract. 9, planatis, ultimo antice angustato, rotundato; apertura parva, pyriformi, lamella supera valida compressa, infera profunda, callosa; lunella inconspicua; plica palatali longa, arcuata, suturæ parallela, subcolumellari usque ad marginem peristomatis producta; peristomate albilabiato, undique expanso, margine subincrassato.

Long. $6\frac{3}{4}$ lin., diam. (anfract. penult.) $1\frac{1}{4}$ lin.

Hab. Tsus-Sima, Awa-Sima.

A pale-brown, rather coarsely striated species, with the peristome white and thickened, and with the subcolumellar plica ending conspicuously on the right margin.

9. *Clausilia (Phædusa) stenospira*, A. Ad.

C. testa rimata, fusiformi, solida, oblique strigillata, viridi-fusca; spira sursum valde attenuata; anfract. 11, planiusculis, ultimo antice in cristam basalem compresso; apertura pyriformi; lamella supera compressa, infera valida callosa; lunella imperfecta; plica palatali 1 longa, suturæ parallela, subcolumellari intra marginem peristomatis desinente; perist. continuo, undique expanso, sub-reflexo, margine sinistrali inflexo, subincrassato.

Long. $8\frac{1}{2}$ lin., diam. (anfract. penult.) 2 lin.

Hab. Kino-O-Sima.

A greenish-brown species, with the peristome expanded but not reflexed, and with the left margin bent inwards and thickened.

10. *Clausilia (Phædusa) Gouldi*, A. Ad.

C. testa vix rimata, fusiformi, solida, pallide fusca, oblique striata; spira sursum valde attenuata, apice acutiuscula; anfract. 9, planiusculis, ultimo antice rotundato; apertura obliqua, pyriformi; lamella supera compressa, infera valida, arcuata, producta; lunella imperfecta; plica palatali 1 longa, suturæ parallela, subcolumellari usque ad marginem peristomatis producta; perist. albo, subincrassato, undique breviter expanso.

Long. 8 lin., diam. (anfract. penult.) $1\frac{3}{4}$ lin.

Hab. Tago.

A neat, dirty-brown, strongly striated species, with the spire very much attenuated towards the apex.

11. *Clausilia (Phædusa) proba*, A. Ad.

C. testa arcuato-rimata, fusiformi, solida, oblique striata, corneo-fusca; spira subattenuata, apice obtuso; anfract. 8, planiusculis, ultimo antice rotundato; apertura pyriformi; lamella supera valida, compressa, infera profunda, substricta; lunella inconspicua, imperfecta; plica palatali longa, parum curvata, suturæ parallela, subcolumellari profunda; perist. breviter soluto, crasso, undique expanso.

Long. $5\frac{1}{2}$ lin., diam. (anfract. penult.) $1\frac{1}{2}$ lin.

Hab. Kino-O-Sima.

A neat, simple, horn-coloured species, with several small palatal plicæ seen through the shell, forming an imperfect lunule.

12. *Clausilia (Phædusa) spreta*, A. Ad.

C. testa vix rimata, fusiformi, luteo-fusca, obsolete oblique striata; anfract. 8, convexiusculis, ultimo antice rotundato; apertura parva, pyriformi, obliqua; lamella supera valida, infera profunda, sursum bipartita; lunella imperfecta; plica palatali suturæ parallela, subcolumellari inconspicua; peristomate continuo breviter soluto, luteo-labiato, undique expanso.

Long. 5 lin., diam. (anfract. penult.) $1\frac{1}{4}$ lin.

Hab. Tago.

A small, smooth, yellowish-brown species, with the surface generally very much eroded, and with the spire usually decollated.

13. *Clausilia (Phædusa) pinguis*, A. Ad.

C. testa arcuato-rimata, pupoidea, oblique striata, lutescente, solida; spira attenuata; anfract. 8, convexiusculis, ultimo basi in cristam brevem compresso; apertura obliqua, pyriformi; lamellæ validæ, supera compressa, infera ascendente incrassata; lunella imperfecta; plica palatali longa, suturæ parallela, subcolumellari usque in marginem peristomatis producta; perist. crasso, continuo, undique expanso.

Long. $6\frac{1}{2}$ lin., diam. (anfract. penult.) 2 lin.

Hab. Kino-O-Sima.

A short, fat, pupiform species, with the peristome thickened and expanded, but not widely reflexed.

14. *Clausilia (Phædusa) lirulata*, A. Ad.

C. testa arcuato-rimata, fusiformi, tenui, læte fuscescente oblique striata; spira elongata, sursum attenuata; anfract. 10, planiusculis, lirulis transversis impressis ornatis, ultimo antice subconstricto rotundato; apertura parva, pyriformi; lamina supera compressa sursum bipartita, infera profunda, ascendente; lunella imperfecta; plica palatali 1 longa vix curvata, subcolumellari

usque in marginem peristomatis producta; perist. pallido, margine subincrassato, undique expanso.
 Long. $6\frac{1}{4}$ lin., diam. (anfract. penult.) $1\frac{1}{4}$ lin.

Hab. Mososeki.

A very pretty slender species, with several transverse impressed lines on the whorls.

LV.—*Observations on some proposed new Species of Oliva.*

By F. P. MARRAT.

IN the May Number of the 'Annals,' p. 344, Mr. Ponton, of Clifton, has taken exception to the whole of my proposed new species of the genus *Oliva*. It is, I think, a grave offence to occupy the pages of the 'Annals' with conclusions hastily adopted; and I therefore beg permission to clear myself of the implied charge of having done so.

The collection from which the materials of my paper were taken has been the work of several years: it contains of each of the more variable species from forty to one hundred or more specimens, and includes, with the exception of a very few (perhaps five or six), every species and every named variety that I have been able to find figured or described in the works of Lamarck, Sowerby, Chenu, Gray, and Reeve. In such a series, numbering some thousands of specimens, it might reasonably be expected that undescribed forms would occur as much deserving to be named as many of the forms identified by the above-named authorities. My supposed new forms have been selected with much care and reserve; and all pretensions to be able to make positive assertions on the extent or limit of particular species I freely resign to others.

Mr. Ponton states that colour altogether fails as a specific character in this genus. It is not surprising that an inspection of such species as *O. ispidula*, Linn., *O. irisans*, Lam., *O. maura*, Lam., and *O. ventricosa*, Soland., should produce an impression of this kind; but nowhere amongst the Gastropoda are the indications afforded by colour of more value than in the genus *Oliva*. Even slight differences of shade may often afford a clue leading to the recognition of affinities afterwards abundantly substantiated by more permanent characters.

I find in Reeve's monograph, after the description of *O. volvarioides*, the following remark:—"The uniform chestnut colouring appears to be peculiar to the species in this instance." At the same time Mr. Reeve forgets to tell us that Duclos has figured a nearly white variety on the same plate; and also that there is a variety of *O. lepida*, Duclos, of a uniform chestnut-



Adams, Arthur. 1868. "LIV.—On the species of Helicidæ found in Japan." *The Annals and magazine of natural history; zoology, botany, and geology* 1, 459–472.
<https://doi.org/10.1080/00222936808695731>.

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