

both young and adults; *Arion hortensis*, young and adults; *Arion ater*, young only. From this it may be seen that the genus *Arion* as well as *Limax* possesses the property.—B. J. C.

Tuam, Sept. 30, 1843.

EXPLANATION OF THE PLATES.

PLATE X.

- Fig. 1. *Limax maximus*, var. γ . Drap.
 — 2. Do. do. Nilsson's "Cinereo-niger."
 — 3. Tooth or cutting plate of *L. maximus*, magnified and nat. size.
 — a. Internal shell of *L. maximus*.
 — b. Do. do. *L. arboreus*.
 — c. Do. do. *L. flavus*.
 — d. Do. do. *L. agrestis*.
 — e. Do. do. *L. Sowerbii*.
 — f. Do. do. *L. Gagates*.
 — g. Do. do. variety *L. Gagates*.

PLATE XI.

- Fig. 4. *Limax arboreus*.
 — 5. Do. do. resting position.
 — 6. *L. arboreus*, variety.
 — 7. Do. do. resting position.
 — 8. *L. arboreus*, variety.
 — 9, 10. *L. arboreus*, young.
 — 11. *L. flavus*.
 — 12. Do. do. back view.

PLATE XII.

- Fig. 13. *Limax agrestis*.
 — 14. *L. Sowerbii*.
 — 15. Do. do. resting position.
 — 16. *L. Gagates*.
 — 17. Do. do.
 — 18. Do. do. variety.
 — 19, 20. Do. do. resting.
 — 21. Do. do. var. β . Férussac.
 — 22. *L. Gagates*, young.

XLIII.—*Descriptions of apparently new species and varieties of Insects and other Annulosa, principally from the collection in the British Museum.* By ADAM WHITE, M.E.SS. Lond. and Paris, Assistant Zoological Department, British Museum.

INSECTA.

COLEOPTERA.

BUPRESTIDÆ.

1. *Chrysochroa* (*Catoxantha*, Dej.) *opulenta* var. *purpurea*, White. C. *purpurea*, elytris post mediam flava fascia transversa, meso- et meta-thoracibus subtus purpureo et viridi micantibus. Long. unc. $1\frac{3}{4}$ —2.

Hab. Philippine Islands (Cuming): Brit. Mus.

This differs from the *Chrysochroa opulenta*, Gory, in the meso-

and meta-thoraces beneath being of a metallic purple like the under-side of the prothorax, and in the segments of the abdomen having a black mark on each side at the base; the upper surface is purple instead of green; it may however eventually be found to be merely a local variety of the *opulenta*. I have only seen two specimens.

2. *Chrysochroa praelonga*, White. *C. cærulescenti-viridis*, elongata, elytris subsulcatis, apice rude serratis, thorace sulco mediano cæruleo. Long. unc. 1, lin. 10—11.

Hab. Philippine Islands (Cuming): Brit. Mus.

A species near *C. ignita* and *fulminans*; it is of a bright metallic green, changing to blue in some lights, especially on the margins of the elytra. Thorax grooved down the middle, the grooved furrow and (concealed) scutellum of a fine deep blue. Elytra much elongated, strongly serrated at the apex and coppery. Abdomen beneath coppery, the last two segments more intensely so.

3. *Chrysochroa sublineata*, White. *C. viridis*, subdepressa, elytris margine laterali cupreo, basi lævibus ante mediam, lineis tribus subelevatis longitudinalibus, basi obsolete. Long. unc. 1, lin. 5.

Hab. N. Bengal. Brit. Mus.

This may prove a variety of *C. unidentata*. Each of the elytra has a short spine at the end, and three longitudinal raised lines not reaching the margin and obsolete towards the base, which is very smooth; the elytra are minutely punctured; the lateral margins are of a bright coppery hue; the thorax is roughly and coarsely punctured, and has a longitudinal, smooth, reddish dorsal line not reaching the posterior margin.

4. *Chrysochroa ocellata* (var. *ephippigera*), White. Long. unc. 1, lin. 6.

In the British Museum there is a much-injured specimen of this variety, which might probably be regarded as a species by Messrs. Laporte and Gory. It is not far removed from the *C. Edwardsii*, Hope, 'Linn. Trans.' vol. xix. The under-side is far more coppery than in two specimens of *ocellata* in the Museum collection, the deep purplish-blue line down the middle of the thorax is wider, and the margins are of a very deep coppery red, which colour occupies all the rest of the prothoracic back, excepting a narrow line of green which separates the blue from the coppery, and a narrow margin of green in front; the coppery red patches at the base and apex of each elytron are larger also and more intense; the yellow patch runs right across both elytra, and is pointed behind, very obtusely angled in front, the edge of the yellow being separated from the lateral margin by a narrow

bluish-black line; this yellow "saddle" is margined with black, especially in front and behind; the tibiæ are greenish.

5. *Stigmodera funerea*, White. *S. subcupraceo-nigra*, elytris fasciis 4, ochraceo-flavis, lateribus flavo connexo jugatis. Long. unc. 1, lin. 3.

Hab. Australia, King Geo. Sound (Capt. Geo. Grey). Brit. Mus.

This species comes close to *S. variabilis* and *Kingii*: it has striated deep black elytra, with four transverse ochrey yellow bands connected in pairs at the sides. The thorax, legs, and under parts are of a uniform deep shining black; the thorax below is covered with cinereous hairs.

6. *Stigmodera conspicillata*, White. *S. testacea fasciis viridibus*, thorace convexo, antice angustato viridi macula laterali flavescente. Long. lin. 11—15.

Hab. Australia (Swan River). Brit. Mus.: Dr. Richardson, F.R.S.

Elytra striated, of a testaceous yellow colour, with two violet-green transverse bands, the anterior not reaching the outer margin, second reaching the outer margin, and connected by a narrow line of the same colour with a large violet-green spot on the apex; the base is narrowly margined with green. Thorax very convex and small, narrowed in front, above green, with a yellowish spot on each side; sides beneath yellow, the yellow reaching the margin above in front and connected behind with the yellow spot. Body beneath yellow. Head, scutellum, legs, segments of abdomen behind and at the base edged with green, which is macular on the sides.

In one specimen (a smaller variety) the elytra are yellow, and have only the narrow green margin at the base and the large violet-blue spot on the apex.

LEPIDOPTERA.

BOMBYCIDÆ.

7. *Saturnia Helena*, White, n. sp. *S. ochraceo-fulva*; alis superis apice subrosaceis, macula nigra postica, alis ambobus linea transversa (post mediam currente) triseriatim colorata, ocello paululum fenestrato ochraceo-rufo, lunula subcærulea nigroque annulato; corpore subtus, capite, antennis pedibusque subaurantiacis, tarsis nigro-annulatis. Exp. alar. ♀ unc. 6—6 $\frac{1}{4}$; ♂ 5 $\frac{1}{2}$.

Hab. Australia. Brit. Mus. Hardw. Bequest and J. Hunter, Esq.

In shape and general appearance not far removed from the *Saturnia Paphia* (L.), *Mylytta* (Drury), the well-known Tusseh silk-moth, whose history is given by Dr. Roxburgh in the 'Linneæan Transactions.'

8. *Saturnia Janetta*, White, n. sp. *S. ochraceo-brunnea*; alis superis linea subbasali W notata; macula parva fenestrata brunneo cir-

cumdata prope mediam, linea transversa brunnescenti-undulata fasciaque maculari indistincta, maculis subcinereis postice obscurioribus, alis inferis lineis 2 transversis undulatis brunnescentibus, fasciaque maculari subcinerea; corpore ochraceo-aurantiaco. Exp. alar. unc. $4\frac{1}{2}$ (♂).

Hab. Australia? Brit. Mus.

The two species of moths, described above, are alluded to in a paper laid before the Entomological Society of London, Oct. 6, 1843, containing remarks on the fenestration in the wings of *Saturnia*, prefatory to a notice of the remarkably grooved and tense undulating-surfaced tympanum on the upper wing of the genus *Hecatesia*. In the *Saturnia* division of *Bombycidae*, these fenestræ, when they occur, seem to be common to both sexes, and appear to be merely ornamental; they are sometimes quite obsolete; in *Hecatesia* they are limited, I believe, to one sex, and, as was remarked in the appendix to Capt. Grey's 'Travels,' the individuals possessing them make a remarkable noise, as was told me by that excellent observer Capt. George Grey, now in S. Australia. I wish that some competent physiologist would thoroughly examine this beautiful tympanoid membrane, and explain how the noise *could* be produced by the insect, and whether or not the fenestra has any connexion with the noise.

CRUSTACEA.

DECAPODA.

9. *Atelecyclus spinosulus*, White. Carapace as long as broad, with the surface granulated and rather uneven. In front, between the orbits, the carapace projects, but not so far as the end of the eye; the projecting part ends in a strong tooth; the sides of the carapace are spinulose and have five indistinct teeth. The hands are externally rough with spines, and have on the upper edge a series of larger teeth and a row of longish hairs. Colour above red spotted with white, beneath entirely white.

Hab. Falkland Islands (W. E. Wright, Esq.). Brit. Mus.

This species comes near the *Atelecyclus Chilensis* of Edwards in marks and general appearance, but in the form of the carapace resembles *A. heterodon* of Leach.

ISOPODA.

10. *Sphæroma gigas* (var. *lanceolata*), White. Body smooth, last joint of the abdomen considerably arched above, and having near the base a slight elevation grooved in the middle; the last joint is also in most of the specimens considerably pointed, and extends very slightly beyond the extremity of the inner plate of the last false legs; the outer plate of these appendices is narrow and lanceolate; both of the plates are minutely punctured with black.

Hab. Falkland Islands (W. E. Wright, Esq.); Salvador Bay, under stones, very common. Brit. Mus.

There are specimens in the British Museum collection varying from three-quarters of an inch to a whole inch in length. This species or variety comes very near the *S. gigas*, Leach, 'Edw. Crust.' iii. p. 205, from which it principally differs in the more elongated and narrower outer plate, and in the grooved elevation at the base of the more arched last joint of the abdomen.

11. *Serolis paradoxa* (Fabr. spec.), Leach.

Mr. Wright informed me, on his return from the Falkland Islands, that this singular flat crustaceous animal is very common in the Carnash, Berkley Sound, Falkland Islands; it is found in shallow places with a bottom of light sand and mud, among which it burrows, and in which, when disturbed, it buries itself very rapidly. He assured me he had seen specimens at least six inches long. This species was first found by Sir Joseph Banks on one of Cook's voyages, off the coast of Tierra del Fuego. We have one specimen in the Museum labelled as coming from Senegal, the others were given by Mr. Wright from the locality above mentioned.

XLIV.—On the British Diatomaceæ. By JOHN RALFS, Esq.,
M.R.C.S., Penzance*.

[Continued from p. 276.]

[With a Plate.]

MELOSEIRA, Ag. (GALLIONELLA, Eh.)

Filaments cylindrical, siliceous, jointed, fragile; one or two lines passing round each frustule near its centre.

This genus in its cylindrical filaments differs from the other *Cymbelleæ*, and thus connects them with the *Conferveæ*; but it agrees with them in being generally of a brown or yellowish colour when recent, and especially in its siliceous filaments and in the presence of striæ; characters which sufficiently point out the propriety of its present situation amongst the *Diatomaceæ*.

The filaments have no proper margins marked by distinct characters as in the other genera of the *Cymbelleæ*; and the striæ when present on the junction-surfaces are not transverse but radiated.

The cylindrical form of the filaments, and also the other differences just mentioned, compel me, in describing this genus, to use the terms length and breadth in the sense in which they are applied to a *Conferva*, and consequently in one the reverse of that which they have in respect of the other genera of this family.

This genus may be divided into two sections, which differ in several respects.

* Read before the Botanical Society of Edinburgh.