

## NOTES ON SPECIES OF *CYPRÆA* INHABITING THE SHORES OF TASMANIA.

BY C. E. BEDDOME, R.N.

(PLATES XX.-XXI.)

The individuals of this genus found off the coast of Tasmania live in deep water on rocky bottoms, and are consequently not often procured by the dredge. As a rule they are obtained when washed up after gales, but many of such specimens are of comparatively little value to the collector, being water-worn or broken. An experience of nineteen years' collecting has enabled me to bring together a good series of specimens of the species found on these shores, an advantage which former writers and monographers of the genus have not had, and much confusion has consequently arisen in their definitions of the species.

In offering to conchologists a paper embodying my experiences, I desire to acknowledge the assistance I have received from fellow-workers in this and in the other Colonies. Dr. James C. Cox, of Sydney, has given me much valuable information as to the early literature of several species, and has lent me specimens from his collection for comparison and illustration. Messrs. T. W. Bednall, and D. J. Adcock, of Adelaide, Miss Lodder and W. L. May, Esq., of Tasmania, have also been most liberal in lending me specimens.

### 1.—*CYPRÆA UMBILICATA*, G. B. Sowerby, Senr., 1825.

This is the largest of the Tasmanian *Cypræas*. The species was described in the publication known as the Tankerville Catalogue\* (Appendix, pp. xxx.-xxxi., Pl. VII., two figs.), compiled by

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\* A Catalogue of the Shells contained in the Collection of the late Earl of Tankerville, arranged according to the Lamarckean Conchological System; together with an Appendix, containing Descriptions of many new Species. Illustrated with several coloured Plates. London, small 4to. 1825. By G. B. Sowerby, F.L.S. [There are nine coloured unnumbered Plates.]



G. B. Sowerby, Senr., at the request of the late Earl of Tankerville's executors preparatory to the offer for sale of the unique collection. The description is as follows:—

“2260. *Cypræa umbilicata*.—*C. testâ oblongo-ovatâ, basi acuminata, superne subrostratâ, umbilicatâ, dorso ventricosus, pallido, fusco-maculato; ventre subrotundato, albido; marginibus rotundatis, albidis, fusco maculatis; aperturâ, dentibusque subdistantibus, pallidissime subfuscis; long.  $3\frac{8}{10}$  unc., lat.  $2\frac{3}{10}$  unc.*”

“*Obs.*—This singular Cowry, of which we have only seen two specimens, neither of them in good condition, appears not to have been noticed by any author; it is principally distinguished by a deeply umbilicated spire, the upper part of the aperture being produced and rather reflected, and by its acuminate base: in general form it resembles a pear, and its colour and markings are like those of some varieties of *C. Tigris*. We are not acquainted with its native country. The other specimen is in our own collection.”

In the Zoological Journal for 1826 (Vol. ii. p. 494) will be found a paper by G. B. Sowerby, Senr., entitled—“Descriptions of two new Species of *Cypræa*, principally extracted from a ‘Catalogue of the Shells in the Collection of the late Earl of Tankerville.’” In this paper the Latin description of *C. umbilicata*, and the observations with a slight and unimportant variation in the wording are repeated; and the following new matter is added:—

“Shell oblong-ovate, acuminate at its base; upper extremity (of the two lips) subrostrated; spire deeply pressed in or umbilicated, volutions apparent; back ventricose, pale coloured; spotted with brown; under part rather rounded, whitish; margins rounded, whitish, with brown spots; the aperture and the teeth, which are rather distant, very pale brownish. Length  $3\frac{8}{10}$ ; breadth  $2\frac{3}{10}$  inches.”

“Syn. *Cypræa umbilicata*, Sowerby, in Tankerville Catalogue, Appendix, p. xxx. No. 2260. Cum Icon.”

The name again crops up in the next Volume of the Zoological Journal (Vol. iii. 1828, p. 315) in a paper by L. Dillwyn, entitled



—"Remarks on Cypræa described by Mr. Gray," in which the following passage occurs:—"No. 33. *C. pyriformis* is the *C. umbilicata* of Solander, and as such is mentioned in my Index to the 3rd edition of Lister's Hist. Conch., see t. 667, fig. 12. It is said in the Portland Catalogue, Lot 255, to inhabit the coasts of Coromandel, and till after the publication of my Descriptive Catalogue I never saw the shell."

A footnote initialled G.B.S. (doubtless those of G. B. Sowerby, one of the committee who conducted the Journal) is appended to the above remarks, the opening sentence of which is as follows:—"No. 33. I transcribe the following from my copy of Solander's MS. to show that the *C. pyriformis* of Gray cannot be identical with *C. umbilicata* of Solander." The long, narrow, brown teeth crossing the base of *C. pyriformis* do not appear to have been noticed by Dillwyn, otherwise he could hardly have confused the two species. However, as he says he had not seen *C. umbilicata* when he wrote his Descriptive Catalogue, he had only Gray's description to guide him; nevertheless, meagre as that is, it mentions the brown character of the teeth.

Lister's *Historia sive Synopsis Methodica Conchyliorum*, 3rd edition (1823) referred to by Dillwyn was not Dillwyn's Descriptive Catalogue of Recent Shells (1817). The former was purely an illustrated work, the latter only a Descriptive Catalogue.

From the above-recorded quotations it appears that the specific name *umbilicata* was given to a Cypræa as a manuscript name by Solander, long before Sowerby described what we now know to be the Tasmanian species, though no doubt the same. Dillwyn tells us in his Descriptive Catalogue of Recent Shells (Vol. i. p. xi. of the catalogue of books consulted by him, dated 1826) that Solander's MSS. were manuscript descriptions of shells by the late Mr. Solander, in the library of the Right Hon. Sir Joseph Banks; but I am quite unable to discover the date thereof. According to Hanley in Wood's *Index Testaceologicus* (new ed. 1856, on p. xix. of the summary of the principal abbreviations of authors quoted from) Solander's manuscripts were never printed, but several copies of them were made, presumably in writing.



Sowerby, therefore, is entitled to be considered the author of the species in question, for although he was not the first to suggest the name *umbilicata*, he was the first to publish a description; possibly as a matter of courtesy he adopted Solander's MS. name.

There are other early references to this species of interest. In the Zoological Journal for 1829 (Vol. iv. p. 66) will be found a paper by J. E. Gray, entitled—"Additions and Corrections to a Monograph of *Cypræa*." Omitting the description in Latin, the following is what Gray has to say of

"31. *Cypræa umbilicata*, Sowerby, App. Tank. Cat. xxx. No. 2260; not Solander. Icon. Sowerby, t. 7, Wood's Cat. App. t. 3, fig. 13."

"Inhabits ———? Mus. Brit."

"Shell oblique-ovate, anterior extremity attenuated and elongated, hinder rather beaked, spire deeply concave; centre of the body whorls ventricose, pale brownish, brown spotted; base rounded, whitish; margin rounded, whitish-brown, spotted. Mouth rather wider in front; teeth rather large, nearly equal, those of the inner lip short; front of the columella flat without any distinct concavity. Axis  $3\frac{1}{4}$ , diameter  $2\frac{1}{4}$  of an inch."

"Obs.—The only specimen known of this shell is now in the British Museum. It has many characters which would lead to a belief that it is a monstrous variety of *Cyp. tigris*, and indeed more specimens are wanted to firmly establish its right to be considered a species."

"The form of the columella has induced me to place this species in the present section. This may have been altered by the same cause which produced the sunk form of the spire."

The next notice of this species is to be found in Vol. iv. of the same Journal, p. 217, 1829, in a letter dated 25th July, 1828, addressed to W. J. Broderip, Esq., entitled—"Notes on Mr. Gray's Additions and Corrections to a Monograph on *Cypræa* (Z. J. iv. p. 66)."

Mr. Sowerby says (p. 221):—"No. 31. *Cypræa umbilicata* requires only a few words. The specimen which Mr. Gray has described is not the only one known, and Mr. Gray has seen the



individual which I have stated in the Appendix to the Tankerville Catalogue to exist in my own collection. It is much the worse of the two, but it helps to establish the species; which, by the way, is more nearly allied to *Cyp. pantherina* than to *Cyp. tigris*."

Fig. 1, (the lower figure) Plate xx., is that of a typical but large Tasmanian specimen of *C. umbilicata*; spire deeply umbilicated, shell thickly spotted with chestnut; base white, highly enamelled;  $4\frac{1}{4}$  inches long.

*Hab.*—Northern Tasmania, towards Circular Head, where some 20 years back it was secured by Mr. W. F. Petterd, and more recently by Mr. R. Thatcher, in numbers after a gale. Since then it has not been found so plentifully. It has also been dredged up off the coast of New South Wales at a depth of 1900 fathoms by the Challenger Expedition, but smaller and paler in colour than the Tasmanian specimens thrown up on the beaches.

Fig. 2, Pl. xx., is that of a specimen found on the beach at Port Stephens, N. S. Wales, by Dr. A. E. Cox, and now in the collection of Dr. James C. Cox, of Sydney; it is such a distinct variety that I consider it worthy of illustration. Like all the members of this species it has a deeply umbilicated spire, is lighter in colour than the average Tasmanian shells, covered with light chestnut spots; base white, but not so highly enamelled as the southern forms found here; it is only  $2\frac{1}{2}$  inches long.

A very interesting variety of this species from Circular Head, Tasmania, also is to be found in Dr. Cox's collection; it has been recorded by him in the Proc. Linn. Soc. N. S. Wales, Vol. iv. 1879, p. 386. It is pure white, and of a medium average size.

CYPRÆA ANGUSTATA, *Gray* (Pl. xxi. figs. 1-3).—The narrow Cowry. This species was described by Gray on p. 497 of Zoological Journal, Vol. i. 1824. After pointing out that it was figured by Gmelin, 3421 (1)—I presume in his Systema Naturæ, dated 1788—in Schreiber's Conch. Einl., j. 77, dated 1788, by Schroeter, j. 150, in 1784, and in Gualtier's Icon. dated 1742, t. 13, f. 22, he says:—

"Inhabits New Holland. Mus. Brit."



“Shell ovate, reddish-brown, or rarely pale brown; the spire prominent, covered; the base convex, white; the margin slightly thickened, rounded, with small, round, black spots; that of the inner lip rounded, only slightly extended; and that of the outer rather sharply edged, with the extremities generally dark; the aperture rather large; teeth equal, small, close; columella rather concave, and rather deep, plaited nearly the whole length; inside pale brown. Axis  $\frac{10}{16}$ , diameter  $\frac{7}{16}$  of an inch.”

“This shell has not been taken notice of by any of the French writers, although it is not uncommon in old collections. It varies sometimes in being of a very pale yellowish brown.”

Figs. 1, 2, 3, of Pl. xxi., represent examples of what I propose to call the typical group of this very variable species.

The specimen represented on Pl. xxi., fig. 1, measures from the syphonal end to the posterior apertural notch 31 mm., 22 mm. wide, and 18 mm. high, *i.e.*, from base to dorsum; and is one of the finest specimens of the species I have seen. Colour deep chocolate, base bluish-white showing very few spots on the base; the slight dorsal sulcus is covered with chocolate spots on a lighter ground than the dorsum; spire deeply sunk; on the right columellar margin there are 27 strong white teeth sloping into the aperture; the teeth on the left point directly to the aperture, and do not show on the base.

Fig. 2, Pl. xxi., is that of a specimen measuring from the syphonal end to the posterior apertural notch 26 mm., 17 mm. wide, and 13 mm. high from base to the most prominent part of the dorsum. Of a lighter chocolate colour than the preceding example on the dorsal surface; there are two indistinct bands of a darker colour across the dorsum, which are found in many of the varieties of this species; there is a very distinct dorsal sulcus covered with dark chocolate spots; in looking down on the dorsum the spots can be seen on both sides; spire not so sunk as in the preceding example; on the right columellar margin there are 23 strong teeth sloping into the aperture; on the left side the teeth are finer and do not show on the base, which is of a bluish colour.



Fig. 3, Pl. xxi., is that of a specimen measuring from the syphonal end of the posterior apertural notch 25 mm; it is 15 mm. wide, and 13 mm. high from base to the most prominent part of the dorsum, which is of a deep chocolate colour; there is a slight trace of two bands of a darker colour across the dorsum; the shell is more pyriform in shape than either of the preceding examples; spire sunk; a small dorsal sulcus, the spots along which are not so large or numerous, and very few are seen in looking down on the dorsum; on the right columellar margin there are 30 strong teeth running straight into the aperture; on the left side the teeth are very fine and not seen on the base, which is of a bluish colour.

CYP. ANGUSTATA, Gray, *var.* MAYI, C. E. *Beddome* (Plate xxi. figs. 4-7).—I can pick out four varieties from many examples of this species, and think it best to describe and figure them. Fig. 4 is that of a specimen measuring from the syphonal end to the posterior apertural notch 24 mm., 16 mm. wide and 13 mm. high from base to most prominent part of the dorsum, which is of a rich orange colour; there are two distinct chocolate bands across the dorsum, and above the spire some spots that form a third band; a slight dorsal sulcus with a few chocolate spots on it; the spots on the other side are few, about sixteen in number; on the right columellar margin there are 26 teeth, not so strong as in the typical group, and those on the left are fine and not seen on the base, which is whiter than in the former.

Fig. 5, Pl. xxi., represents a specimen of about the same measurements as fig. 4; dorsum dull salmon colour, two brown bands across dorsum, and between the spire and one of the bands with a raised line of growth.

Fig. 6, Pl. xxi., shows a rather young specimen, but I think it worthy of notice; it measures from the syphonal end of the posterior apertural notch 25 mm., 16 mm. wide and 12 mm. high; dorsum of a dull chocolate colour which extends down the left side of the shell into the aperture; three distinct bands across the dorsum; spire region tinged with orange; a very slight dorsal



sulcus, with very few minute spots, none on the left side; tothing about normal.

Fig. 7, Pl. xxi., is that of an example measuring from the syphonal end of the posterior apertural notch 21 mm., 14 mm. wide, and 11 mm. high; dorsum a rich orange colour; with two raised lines across the dorsum close together and another near the spire; a pronounced dorsal sulcus covered with chocolate spots which can be seen in looking down on the dorsum; the spots on the left hand side of shell are distinct but not numerous; tothing distinct, pointing into the aperture; base of the shell with a slight orange tinge.

CYP. ANGUSTATA, *var. SUBCARNEA*, C. F. Ancey (Pl. xxi., figs. 8-10).—Retaining Mr. Ancey's MS. name, I recently described this variety in Proc. Linn. Soc. N.S.W. 1896, Part iii. p. 467. Some of the Hawaiian *Cyp. helvola* are of a similar cream colour, which I have little doubt is caused by some defect in the pigment-producing powers of the animal.

CYP. ANGUSTATA, *var. ALBATA*, C. E. Beddome.—Fig. 11, Pl. xxi., is that of a specimen measuring from the syphonal end to the posterior apertural notch 25 mm., 18 mm. wide and 15 mm. high; the whole shell snow-white not showing any spots; with three raised lines over the dorsum, and a strong dorsal sulcus; the tothing on the right side of shell very strong, 24 teeth showing more than half way across the base; on the left the tothing very fine, not visible on the base.

*Hab.*—Derwent River, Tasmania. I have seen a specimen of this shell from South Australia. *Cyp. angustata* and many of its varieties are found on the Australian coast.

. CYP. DECLIVIS, *Sowerby* (Plate xxi. figs. 12-14), was originally described in Thesaurus Conchyliorum, Vol. iv., and figured on p. 31, Pl. 310, fig. 287, also on Pl. 321, figs. 328, 329,\* dated 1880.

The following is Sowerby's original description :—"Shell solid, closely resembling (*affini*) *C. angustata* but more pyriform, more

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\* This Monograph of *Cypræa* was published about 1870.



abruptly declining in front, and the posterior end more deflexed; the base also is more convex; the aperture is straighter; the dorsum is of a rosy-yellow hue sprinkled over with small maculæ; the lateral spots are also smaller."

*Obs.*—"A more solid shell than *angustata* and *Comptoni*, with a peculiar deflexion of the anterior extremity, which slopes from the back, and it is of a light colour sprinkled over the back."

The finest specimen of this species I have seen is in the collection of Dr. J. C. Cox, of Sydney, N.S.W. Specimens before me differ a good deal in shape and size, but I describe and figure three examples.

The first (fig. 12) is lighter in colour than most specimens, and is more cylindrical than any others I have seen. It measures, from the syphonal end to the posterior apertural notch 27 mm., 18 mm. wide and 13 mm. high. Colour pale bluish on the dorsal surface, which is covered with minute blurred spots; a slight dorsal sulcus covered with dark chocolate spots, very few of them showing on the base of the shell; a few spots on the left side of the shell, none showing on the base, which is of a dull white; with 26 teeth on the right columellar margin sloping into the aperture; those on the left very fine, not showing on the base.

The second (fig. 13) is more pyriform in shape; measuring 25 mm. long, 16 mm. wide and 13 mm. high. Dorsal surface is much darker, being a rich chocolate brown formed by minute dark spots which under the lens seem to run into each other; the dorsal sulcus with smaller and fewer spots on it than in the first example (fig. 12); base white, rounded; the tothing about the same as in first case (fig. 12) but on the left side of the shell a little stronger and more visible.

The third (fig. 14) is the smallest specimen of the three; measuring 21 mm. long, 16 mm. wide, and 12 mm. high. Colour: the dorsal surface pale drab flecked with irregular spots; a very strong dorsal sulcus, with a few darker spots on it, none of them showing on the base which is a very pale brown. The tothing on the right columellar margin stronger, extending well across the base; on the left very little of the tothing is seen.



*Hab.*—Derwent River, Hobart, Tasmania. I have a specimen of this species of a bluish-white with very few spots on the dorsum.

CYPRÆA COMPTONI, J. E. Gray, Jukes' Voyage of H.M.S. Fly, Vol. ii. Appendix No. x., p. 356 1847, Pl. i. fig. 3.

The following is his description:—"Shell ovate, grey-brown (when young paler zoned), with three darker bands. Spire small, flattened, hidden, right margin rather thickened, sharp edged above, reddish white minutely black dotted, and stained with black, brown above in front; left margin roundish, scarcely thickened, brown dotted. Under side purplish brown, mouth moderate, rather wider in front, teeth small, well defined, the outer hinder ones rather the larger, the columella with an elongated concavity in front not plaited.—Inhab. Port Essington."\*

I have not seen specimens from the north of Australia; some from South Australia which I have seen are much darker in colour than Tasmanian specimens, being a dark chocolate.

Fig. 15, Pl. xxi., is that of what I call a typical Tasmanian specimen of *C. Comptoni*, measuring from the syphonal end to the posterior apertural notch 24 mm., 15 mm. wide, and 11 mm. high from base to the most prominent part of the dorsum, which is a dull orange-brown colour; a slight dorsal sulcus covered with small dark spots not showing on the base of shell, which is of a pale orange-brown colour; on the left side of shell there are a few indistinct spots showing on the base; the right columellar margin with 23 teeth sloping into the aperture; the left has the teeth fine, not visible on the base of shell.

Fig. 16, Pl. xxi., represents a variety of this species measuring from the syphonal end to the posterior apertural notch 27 mm., 18 mm. wide, and 12 mm. high; dorsum a pale salmon colour all over, with the exception of a slight trace of two bands of a lighter colour; a slight dorsal sulcus with a few small brown spots, and on the left a line of very faint spots, none of which show on the

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\* Type in "My Cabinet." "The spots on the left side of the margin are rather the largest, and there are no spots on the lower surface. Named in honour of the Marquis of Northampton, P.R.S."



base, which is white; the tothing is weak on both sides of the aperture, the sunk spire is pronounced.

CYPRÆA PIPERITA, MSS. *Solander*.—Roberts in his paper in Vol. vii. of Tryon's Manual, p. 189, gives Solander as the author of this species, as also does Sowerby in his Thesaurus Conchyliorum, Vol. iv. p. 31. Roberts, however, on p. 222 of the index of same work quoted calls it *Cy. piperita*, Sol. MSS., and as it is put it leads one to suppose that it was so called by Solander. In the Zoological Journal for 1824, Vol. i. p. 498, one finds in Gray's Monograph on the *Cypræidæ* the following description:—

“67. *Cypræa piperita*.—The Peppered Cowry.” “Testa ovato-oblonga, castanea, obscure quadri-fasciata; basi albida, marginibus sub-incrassatis, albidis, fusco-punctatis; labiis supra marginatis; columella concava, plicata.”

Now I maintain that this is the original description of this species, and that it was written by John Edward Gray. Following the description in Latin as given comes this:—“*Cypræa piperita*, “Solander's MSS.” Humphrey. Mus. Nost.” What does this mean? It means this, that Humphrey had a collection of shells (Mus. Nost.), and in that collection was a shell to which Solander affixed a MS. name.

Gray in a liberal spirit, when he described the species in his valuable monograph, allowed Solander's MS. name to continue, but was in no way bound to do so. Then follows:—“Icon. Zoological Journal, t. . 6.” It is evident that Gray had intended his new species (*piperita*) to be figured on a certain Plate as figure 6; but it never was figured, as the first Plate illustrative of his paper is Pl. vii. This is not a mistake, for in the explanation of Pl. vii., of *Cypræas* described by him, it gives 6 to *Cyp. arenosa*, an excellent illustration of the species. Then Gray's description goes on—“Inhabits New Holland; *Mawe* (Mus. Nost.)” Indicating that Mawe, who wrote up the Linnæan System of Conchology (dated 1823), had a specimen of Gray's new species (*piperita*) in his cabinet from New Holland.



Gray then gives a running minute description of his new species in English as follows :—

“Shell ovate, oblong, pale chestnut-brown, polished, with four narrow, sometimes slightly interrupted bands, one of which is near the spire, and another in the front of the shell, and the other two about the middle of the back. The spire is slightly prominent, and partly covered; the base is convex, white, very slightly thickened on the inner lip, exhibiting the bands through it. The margin of the outer lip and extremities is slightly thickened, white, ornamented with numerous small round brown spots on the upper part, and a large blotch over the spire, and on each side the anterior extremity. The aperture rather wide; the teeth equal, small, close; the columella deeply concave in front and plaited the whole length; the inside purplish-white. Axis  $\frac{11}{10}$ , diameter  $\frac{6}{10}$  of an inch.

“I have had it from several old collections under the above name, and have therefore adopted it out of courtesy, and to prevent confusion.

“When worn it is pale flesh-coloured, with the bands interrupted.”

Should Gray in common honesty be deprived of the credit of having named and described this species? Manuscript names may well be ignored in a case like this.

Fig. 17, Pl. xxi., is that of a specimen of *Cyp. piperita*, Gray, which measures 26 mm. long, 14 mm. wide, and 13 mm. high; there are four blotchy bands of brown across the shell; the whole dorsal surface is covered with minute specks as if it had been peppered all over; there is a slight dorsal sulcus with a few brown spots on it, not seen on the base of the shell, which is a dull white; there are 23 fine teeth on the right columellar margin; those on the left fine and not visible on the base of the shell. This specimen is from Miss Lodder's Collection.

Fig. 18, Pl. xxi., is that of a specimen similar to the one shown in fig. 17, but the specks over the dorsum are fine, hardly visible without a lens; there are four bands across the dorsum composed of square blotches, which are visible on the left base of the shell



into the aperture; measurements are 23 mm. long, 14 mm. wide, and 11 mm. high; the dorsal surface is of a pale orange colour; the dorsal sulcus has a few small spots on it, none visible on the base, which is of a pale orange tint; tothing about the same as in the last example.

*Hab.*—Rocky Cape and Tasmania (fig. 17); Flinders Island, Bass Straits (fig. 18).

CYPRÆA BICOLOR, Gaskoin, now generally acknowledged to be a variety of this species, is met with in Tasmania. Gaskoin's description will be found in the P.Z.S. Part xvi. 1848, p. 92; and good figures of it in Sowerby's Thesaurus Conch. Vol. iv. Pl. xxviii. (Genus Cypræa, Thes. Pl. 319, figs. 288-289).

TRIVIA AUSTRALIS, Lam. (Pl. xxi., fig. 19).—It is not necessary to describe this well known species, but I give measurements and figures of a specimen from Miss Lodder's Collection. Long 18 mm., wide 13 mm., high 10 mm. It is common on the shores of Tasmania and Australia.

#### EXPLANATION OF PLATES.

##### Plate xx.

Lower figure—(Fig. 1)—*C. umbilicata*; typical Tasmanian specimen.

Upper figure—(Fig. 2)—,, var., Port Stephens, N.S.W. (Coll. Dr. J. C. Cox).

##### Plate xxi.

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| Fig. 1—  | <i>C. angustata</i>                                    | } typical group.                           |
| Fig. 2—  | ,,   |  |
| Fig. 3—  | ,,   |  |
| Fig. 4—  | ,,   |  |
| Fig. 5—  | ,,   | } var. <i>Mayi</i> , C. E. Beddome.        |
| Fig. 6—  | ,,   |  |
| Fig. 7—  | ,,   |  |
| Fig. 8—  | ,,   | } var. <i>subcarnea</i> , C. F. Ancey, MS. |
| Fig. 9—  | ,,   |  |
| Fig. 10— | ,,   | ,, ribbed var.                             |
| Fig. 11— | ,,   | var. <i>albata</i> C. E. Beddome.          |
| Fig. 12— | } <i>C. declivis</i> , Sowerby.                        |  |
| Fig. 13— |  |  |
| Fig. 14— |  |  |
| Fig. 15— | <i>C. Comptoni</i> , Gray; typical Tasmanian specimen. |  |
| Fig. 16— | ,, var.  |  |
| Fig. 17— | <i>C. piperita</i> , Gray (Coll. Miss Lodder).         |  |
| Fig. 18— | ,,   |  |
| Fig. 19— | <i>Trivia australis</i> , Lam. (Coll. Miss Lodder).    |  |



## NOTES AND EXHIBITS.

Dr. Norton exhibited specimens of West Australian plants (*Dryandra* and *Anigozanthos*).

Mr. Fred. Turner exhibited a collection of American Grasses, including some rare species from Mexico and Guatemala.

Mr. G. H. Halligan exhibited, for Mr. A. E. Flavelle, a specimen of a recently hatched Echidna (about 50 mm. from snout to tail, measured without straightening the specimen), together with the eggshell, both taken from the pouch on September 18th, 1897, at Gradgery, on Marthaguy Creek, County of Gregory, N.S.W.

Mr. North exhibited a specimen of the young in down of the Black-fronted Dotterel, *Ægialitis melanops*, Vieill., which he had caught in the dry bed of Cook's River, at Enfield on the 19th inst. It is apparently about three days old, and has the general colour above buff; a narrow black line extends from the base of the upper mandible below each eye and connects with a broad black collar around the nape; a similar black line above the fore part of each eye meets towards the crown of the head and forms a V-shaped marking; on the occiput a conspicuous white crescent bordered in the centre of the inner side with a blackish band; a broad black line extends through the centre of the wing-coverts around the sides of the body and meets in a point at the tail; in the centre of the back is a round black spot succeeded by another on the lower back, and a short black streak on the rump; short pen feathers of the tail which are just appearing black tipped with buff, on each side of the tail a tuft of long black filamentous down; all the undersurface and edge of the wing white; the lower sides of the body washed with buff; base of upper mandible reddish-flesh colour, of lower mandible orange, tip of bill black; iris dark brown, nearly black; legs and feet pale ochreous-yellow. Total length in life when in a prone position, 3 inches; weight  $\frac{1}{4}$  of an ounce.

Also a beautiful nest of the Black-capped Honey-eater, *Melithreptus lunulatus*, Shaw, obtained in a Eucalypt at Belmore on the



21st inst. It is of the usual cup-shaped form and is constructed almost entirely of white fowl feathers and white cow-hair, matted and held together with fine strips of bark-fibre and a few pieces of string. The nest, which measures exteriorly  $2\frac{1}{2}$  inches in diameter by  $3\frac{1}{2}$  inches, was found close to a poultry farm, and contained two young birds just able to fly.

Mr. Musson contributed a Note on the trimorphic character of *Anguillaria dioica*, R.Br. One thousand specimens of this variable plant (all those growing on six square yards) were pulled up and sorted. Of these, 26 (or 2·6 per cent.) were polygamous; 510 (51 per cent.) had potentially male flowers only, the pistils being rudimentary; and 464 (46·4 per cent) had female flowers only without indication of even rudimentary stamens. Other peculiarities furnished by these specimens were also noted. As the species occurs in all the Australian Colonies it would be of interest if observers elsewhere would tabulate their experiences. Sufficient data might thus be accumulated for satisfactory generalisation, as *Anguillaria*, like *Pittosporum undulatum*, seems to be in an advanced stage of transition towards complete separation of the sexes.

Dr. Cox exhibited, in illustration of Lieutenant Beddome's paper, specimens of *Cypræa subcarnea*, Ancey, and var., *C. declivis*, Sowb., *C. angustata*, Gray, and vars., *C. comptoni*, Gray, and vars., and *Trivia australis*.

Mr. Fletcher exhibited some hymenopterous insects (Fam. *Thynnidae*) forwarded last week by Mr. C. F. Bolton, of Moorong, Wagga, as a sample of myriads closely clustered on the wires of his vineyard fence. They were thickest in one spot where the clustering swarms extended over a distance of about five feet on each of three wires—one above another. The insects evidently had recently emerged from their underground cocoons. Possibly on account of the mild winter they had made an appearance earlier than usual and in advance of the flowers. A week later some swarms were still to be seen on the wires.



WEDNESDAY, OCTOBER 27<sup>TH</sup>, 1897.

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The Ordinary Monthly Meeting of the Society was held at the Linnean Hall, Ithaca Road, Elizabeth Bay, on Wednesday evening, October 27th, 1897.

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Professor J. T. Wilson, M.B., President, in the Chair.

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The President referred to the contemplated appointment of the Macleay Bacteriologist, and intimated that in about a fortnight's time advertisements inviting applications from Candidates in the Colonies would appear in the Sydney and other newspapers.

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## DONATIONS.

Zoologischer Anzeiger. xx. Band. Nos. 539-540 (Aug-Sept., 1897). *From the Editor.*

Bureau of Agriculture, Perth, W.A.—Journal. Vol. iv. Nos. 19-21 (Sept.-Oct., 1897). *From the Secretary.*

Pharmaceutical Journal of Australasia, Melbourne. Vol. x. No. 9 (Sept., 1897). *From the Editor.*

"The Surveyor," Sydney. Vol. x. Nos. 8-10 (Aug.-Oct., 1897). *From the Editor.*

Royal Society of New South Wales—Abstracts. May-October, 1897. *From the Society.*

Société Belge de Microscopie, Bruxelles—Bulletin. xxiii.<sup>me</sup> Année. Nos. vii.-x. (Aug., 1897). *From the Society.*



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Comité Géologique, St. Pétersbourg—Bulletin. Vol. xv. (1896), Nos. 6-9; Vol. xvi. (1897) Nos. 1-2: Mémoires, Vol. xiv. No. 5 (1896): Carte Géologique Générale de la Russie d'Europe. Feuille 114 (Astrakhan). *From the Committee.*

Royal Society, London—Proceedings. Vol. lxi. Nos. 376-378 (July-Aug., 1897). *From the Society.*

Société d'Horticulture du Doubs, Besançon—Bulletin. Série illustrée. No. 20 (August, 1897). *From the Society.*

Department of Agriculture, Sydney—Agricultural Gazette. Vol. viii. Part 9 (Sept., 1897). *From the Hon. the Minister for Mines and Agriculture.*

Geological Survey of Queensland—Bulletin. No. 6 (1897): Skertchly's Reports on Deep (Tin) Lead, Herberton (1896), and on Tin Mines of Watsonville (1897); Rands' Report on Croydon Gold Field (1896). *From the Government Geologist.*

Perak Government Gazette. Vol. x. Nos. 21-23 (Aug.-Sept., 1897). *From the Government Secretary.*

Museo de la Plata—Anales. Anthropologie ii. "Notes Ethnographiques sur les Indiens Guyaquis" (1897). *From the Director.*

Pamphlet—Contributions to the Flora of Queensland (July, 1897). By F. M. Bailey, F.L.S. *From the Author.*

U.S. Department of Agriculture, Washington: Division of Ornithology and Mammalogy—Report of the Chief of the Division for the Years 1887, '88, '89, and '90: Four Ornithological Separates from the Yearbooks for 1894 and 1895. *From the Chief of the Biological Survey.*

Natural History Society of New Brunswick—Bulletin. No. xv. (1897). *From the Society.*



Johns Hopkins University, Baltimore—University Circulars. Vol. xvi. No. 128 (Feb., 1897): Hospital Bulletin. Vol. viii. Nos. 77-78 (Aug.-Sept., 1897). *From the University.*

Field Naturalists' Club of Victoria—Victorian Naturalist. Vol. xiv. No. 6 (Oct., 1897). *From the Club.*

American Museum, N.Y.—Bulletin. Vol. viii. (1896). Vol. ix. Art. xviii. (pp. 225-230). *From the Director.*

Entomological Society, London—Transactions, 1897. Part iii. (Sept.); Charter and By-laws. *From the Society.*

Marine Biological Association of the United Kingdom, Plymouth—Journal. n.s. Index to Vol. iv.: Vol. v. No. 1 (Aug., 1897). *From the Director.*

Department of Agriculture, Brisbane—Queensland Agricultural Journal. Vol. i. No. 4 (Oct., 1897). *From the Secretary for Agriculture.*

Australasian Institute of Mining Engineers, Melbourne—Transactions. Vol. iv. (1897). *From the Institute.*

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Societas Zoologica Tokyonensis—Annotationes Zoologicae Japonenses. Vol. i. Pars iii. (Aug., 1897). *From the Society.*

Statistics of the Seven Colonies of Australasia, 1861-96: Wealth and Progress of New South Wales, 1895-96. Ninth Issue. Vol. ii. (1897). *From the Government Statistician, Sydney.*

Gordon Technical College, Geelong—The Wombat. Vol. iii. No. 1 (Oct., 1897). *From the College.*

Geological Survey of India—Records. Vol. xxx. Part 3 (1897). *From the Director.*

American Naturalist. Vol. xxxi. No. 369 (Sept., 1897). *From the Editor.*



Societas Scientiarum Fennica—Acta. Tomus xxi. (1896): Oefversigt. xxxviii. (1895-96). *From the Society.*

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Australasian Journal of Pharmacy. Vol. xii. No. 142 (Oct., 1897). *From the Editor.*

Smithsonian Institution, Washington—Annual Report of the Board of Regents to July, 1894 (1896). *From the Secretary.*

U.S. National Museum, under the direction of the Smithsonian Institution—Report for the year ending June, 1894 (1896): Proceedings. Vol. xviii. (1895): Bulletins. Nos. 47 Part i. (1896), and 49 (1896): Two Special Bulletins. Nos. 2-3. Bendire's "Life-Histories of N. American Birds, from the Parrots to the Grackles" (4to. 1895); and Goode and Bean's "Oceanic Ichthyology," Text and Plates (4to. 1895). *From the Director.*

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Field Columbian Museum, Chicago—Annual Report, 1895-96 (Oct., 1896): Botanical Series. Vol. i. No. 3 (Dec., 1896): Ornithological Series. Vol. i. No. 2 (Feb. 1897). *From the Museum.*

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Cincinnati Society of Natural History—Journal. Vol. xix. No. 2. (March, 1897). *From the Society.*

New York Academy of Sciences—Annals. Vol. ix. Nos. 4-5 (Jan., 1897). Transactions. Vol. xv. (1895-96). *From the Academy.*



American Philosophical Society, Philadelphia—Proceedings. Vol. xxxv. No. 152 (Nov., 1896). *From the Society.*

Academy of Natural Sciences of Philadelphia—Proceedings, 1896. Part 3. *From the Society.*

Nova Scotian Institute of Science—Proceedings and Transactions. Vol. ix. (Second Series, Vol. ii). Part 2 (Oct., 1896). *From the Institute.*

Gesellschaft für Erdkunde zu Berlin—Verhandlungen. Band xxiii. (1896). Nos. 7-10; Bd. xxiv. (1897) Nos. 1-2: Zeitschrift. Band xxxi. (1896) Nos. 4-6. *From the Society.*

Naturhistorisches Museum in Hamburg. xiii. Jahrgang (1896). *From the Museum.*

K. K. Naturhistorisches Hofmuseum, Wien—Annalen. Bd. xi. Nr. 2 (1896). *From the Society.*

L'Académie Impériale des Sciences de St. Pétersbourg—Bulletin. v<sup>e</sup> Série, T. iii. Nos. 2-5 (Sept.-Dec., 1895); T. iv. Nos. 1-5 (Jan.-May, 1896); T. v. Nos. 1-2 (June-Sept., 1896): Mémoires. viii<sup>e</sup> Série. T. iii. No. 8 (1896); T. iv. Nos. 3-4 (1896). *From the Academy.*



DESCRIPTIONS OF NEW SPECIES OF AUSTRALIAN  
COLEOPTERA.

BY ARTHUR M. LEA.

## PART IV.

## CICINDELIDÆ.

## CICINDELA SLOANEI, n.sp.

♂. Rather narrow and subparallel; elytra subopaque, elsewhere shining. Head coppery; clypeus purplish-brown, a testaceous stripe down its middle; mandibles white, their apices brown; antennæ testaceous, each joint tipped with brown. Prothorax coppery. Elytra chocolate-brown, distinctly margined with white, extreme margins testaceous. Body beneath and legs reddish-testaceous, tips of tarsal joints and claws brownish.

*Head* large, longitudinally corrugated, near apex and base in middle irregularly transversely or obliquely corrugated; disc feebly concave; a whitish seta on each side near antennæ, and a longer one on each side close to eyes; eyes large, subreniform; antennæ slender, passing intermediate coxæ. *Prothorax* slightly longer than wide, transversely and irregularly corrugate, base and apex compressed; middle raised, bilobed, and with a feeble median line. *Elytra* slightly narrower than head across eyes, subparallel, about thrice the length of prothorax; each with an irregular row of shallow punctures (about five in number) at one-third from suture; with other and smaller punctures, which are moderately distinct near shoulders and only traceable with difficulty elsewhere; suture slightly thickened near apex. *Legs* very long, femora and tibiæ with rather sparse whitish setæ; tarsi (especially the anterior) with denser and blackish setæ. Length 9; width 3 (vix) mm.

♀. Differs in being larger (12 mm.), head smaller, eyes less prominent, clypeus unicolorous, apical segment of abdomen suffused with brown, anterior tarsi clothed as the four posterior.



*Hab.*—Western Australia: Mullewa. Three specimens (one of which is now in the possession of Mr. G. Masters) were obtained in the bed of a dry creek.

The white lateral stripes of the elytra are very distinct; the elytral punctures occasionally appear as if gilded.

## HISTERIDÆ.

### HOLOLEPTA MASTERSI, MacL.

In Masters' Supplementary Catalogue the above species is placed as a synonym (on the authority of Lewis) of *H. Sidnensis*, Mars. This is a mistake; the beetles themselves are very much alike, but the larvæ and pupal cases are very distinct. The case of *H. Sidnensis* is constructed in the fibre of the core of various species of *Xanthorrhœa*, and internally is of a shining jet black colour; that of *H. Mastersi* is brown inside, and is constructed on a somewhat different plan. The larvæ are dissimilar in several respects, that of *H. australis* (of which, however, I do not know the pupa) being decidedly closer to, though apparently distinct from *H. Sidnensis*. I have taken adults, larvæ and pupæ of *H. Mastersi* under rotting bark of several forest trees on the Tweed and Richmond Rivers; the two other species I have obtained only from *Xanthorrhœa*.

## TENEBRIONIDÆ.

Having recently examined Hope's original descriptions and figures of *Helæides*,\* and being enabled therefrom to identify some of the species I possess (scarcely possible by the descriptions alone), a few notes may be of use.

Judged by the illustrations *Helæus Bremeri*, *contractus* and *testudineus* would appear to belong to *Sympetes*, and this I am satisfied is the case. *H. Bremeri*, which Sir William Macleay thought belonged to *Encara*, is the same as *Saragus Duboulayi*, Pasc., and the latter name must therefore fall; the species (which has already been referred to *Sympetes*) is variable, and widely

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\* Trans. Ent. Soc. Vol. v. 1848, pp. 52-56, Plates 6 and 7.





Chenu, Jean-Charles and Beddome, C. E. 1898. "NOTES ON SPECIES OF CYPRAEA INHABITING THE SHORES OF TASMANIA." *Proceedings of the Linnean Society of New South Wales* 22, 564–583. <https://doi.org/10.5962/bhl.part.12733>

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