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DESCRIPTIONS OF NEW LAND SHELLS, WITH NOTES ON
KNOWN SPECIES.

By CHARLES HEDLEY, Conchologist.

(Plate xxviii.)

PAPUINA MAYANA, *sp. nov.*

(Pl. xxviii., figs. 10, 11).

Shell imperforate, ovately conical, periphery rounded, glossy. *Colour*—the base and a subsutural stripe in the lower three whorls are ochre-yellow, contrasting sharply with a broad dark chocolate band which intervenes, the upper whorls are slate. *Whorls* six, rounded, divided by an impressed suture. *Sculpture* oblique, regular, incremental lines are decussated by faint, spiral striations the latter only visible under the lens. *Aperture* very oblique, slightly descending, subrhombic; lip a little reflected; columella deeply entering, then straight, edged within, not truncate anteriorly but joining the basal lip at an angle; a thin white callus spreads on the base. Major diameter 22, minor 19 mm.; height 25 mm.; another specimen, 18, 22, 23.5 mm.

The species has a general superficial resemblance to *P. meta* from the Solomons. The Australian *Papuina* are confined to the Torresian Region, of which they are characteristic inhabitants. At present there are known, *P. macgillivrayi*, Forbes; *P. bidwilli*, Pfeiffer; *P. cerea*, Hedley; *P. poiretiana*, Pfeiffer; *P. fucata*, Pfeiffer; *P. conscendens*, Cox; and *P. folicola*, Hedley. The novelty is a near ally of *P. poiretiana*, from which it differs by colour, greater breadth, and absence of perforation.

Loc.—Collected by Miss E. Hatfield at Rossville, on the Upper Annam River, near Cooktown, Queensland.

It is named in honour of Dr. T. H. May, of Bundaberg, at the desire of Mr. Arthur Dean who presented the type specimens to the Trustees.

ENDODONTA ACULEATA, *sp. nov.*

(Pl. xxviii., figs. 1, 2, 3).

Shell thin, depressed, spire level, umbilicus a quarter of the shell's diameter. *Colour* pale ochraceous. *Whorls* three and a half, rounded. *Sculpture* oblique, thin, recurved, epidermal lamellæ, in number about thirty, cross the last whorl from the suture to the umbilicus. Each lamella is produced at intervals into long, slender points, so arranged as to fall into four equidistant spiral lines, one being on the base, one at the periphery,

and two above. On the inner whorls the lamellæ grow less prominent and disappear. Between the lamellæ the surface of the shell is microscopically spirally grooved. *Aperture* oblique, not descending, unfinished. A slight callus spreads in advance of the aperture on the previous whorl. Major diameter, 2·4, minor 2·2; height 1·2 mm.

The curiously tagged lamellæ sufficiently distinguish this species from all co-generic forms. In systematic order its place is next to *E. paradoxa*, Cox.

Loc.—Two specimens were collected at Wollongong, New South Wales, by Mr. A. E. Lower. That figured has been presented by Dr. J. C. Cox.

ENDODONTA NORFOLKENSIS, *sp. nov.*

(Pl. xxviii., figs. 4, 5, 6).

Shell minute, depressed globose, perforate. *Colour* uniform tawny-olive. *Whorls* five, gradually increasing, rounded, separated by a deep suture. *Sculpture*—fine close longitudinal riblets cross the whole breadth of each whorl. *Aperture* perpendicular, lunate, outer lip sharp. *Armature*—two lamellæ on the parietal wall, one median, curling within and projecting beyond the aperture, the other straight, posterior and deeper seated; on the outer wall two lamellæ are so situated as to divide with the parietals the height of the aperture into fourths; on the inner side of the columella is a short curved ridge; the armature does not extend back into the shell for more than half a whorl, its rear aspect is shown in the accompanying dissection (fig. 5). Base rounded, umbilicus about a fifth of the shell's diameter, exposing the previous volutions. Major diameter 1·44, minor 1·28; height 1 mm.

The mouth armature will readily distinguish this species, which belongs to the subgenus *Thaumatodon*, Pilsbry, and is one of many links between the faunas of Norfolk Island and New Zealand. Allusion was made to this species by Brazier in describing *E. dispar* from Tasmania.*

The land shells known from Norfolk Island have been described by authors as follows:—*Helix philippii*, Gray; *H. campbellii*, Gray; *H. insculpta*, Pfeiffer; *H. flosculus*, Cox; *H. quintalæ*, Cox; *H. exagittans*, Cox; *Carocalla stoddartii*, Gray; *Omphalotropis cerea*, Pfeiffer; *O. albocarinata*, Mousson; *Palaina coxi*, H. Adams; *Helicina pictella*, Pfeiffer; *H. norfolkensis*, Pfeiffer. Brazier has also recorded the introduction of the European *Vallonia pulchella*.†

Loc.—Collected by J. Brazier in 1865 on Norfolk Island, South Pacific, in a guava forest on a hill side.

* Brazier—Proc. Zool. Soc., 1870, p. 661.

† Brazier—Journ. Conch., 1879, p. 281.

DENDROTRUCHUS MENTUM, *sp. nov.*

(Pl. xxviii., figs. 12, 13).

By colour, texture and general shape this species might be taken for a diminutive form of the well known *D. helicinoïdes*, Hombron and Jacquinot, of the Solomon Islands. The chief distinction between the two, lies in a thickened, curved ridge, analogous to that of certain species of *Papuina*, situated behind the aperture of *D. mentum*. This ridge is a constant feature in a fair series before me, supported by the difference in size, *D. mentum* being three quarters of that of *D. helicinoïdes*, and the difference of locality, sufficiently isolates the novelty to require a name for it. Major diameter 12, minor 10; height 9 mm.

D. pyxis, Hinds, from the adjoining island of New Ireland, also is contracted and then inflated behind the aperture, though not so sharply so as *D. mentum*. In the species now recorded, the genus has its most western outlier. It was demonstrated in a previous article in this serial,* that *Dendrotrochus* was related not to *Papuina* but to *Trochomorpha*. The group seems worthy of generic recognition.

Loc.—Ralum, New Britain; presented by Madame E. E. Kolbe.

TORNATELLINA WAKEFIELDÆ, *Cox.*

(Pl. xxviii., fig. 14).

Achatinella wakefieldæ, Cox, Mon. Australian Land Shells, 1868, p. 78.

Specimens of this unfigured species having recently been received by the Trustees from Bryon Bay, New South Wales, the opportunity is taken to illustrate it.

In reviewing the above quoted work, G. W. Tryon pointed out that the species could not be included in *Achatinella*.† Crosse followed by suggesting that it would be more appropriately placed in *Tornatellina*,‡ an opinion which was echoed by Brazier.§

Petterd reported the species as occurring in rotten wood near Lismore and on the Clarence River, New South Wales.|| H. Tryon found it on orange trees in the vicinity of Brisbane, Queensland.¶

* Hedley—Rec. Austr. Mus., ii., 1895, p. 90.

† G. W. Tryon—Am. Journ. Conch., iv., 1868, p. 285.

‡ Crosse—Journ. de Conch., xvii., 1869, p. 176.

§ Brazier—Proc. Zool. Soc., 1872, p. 807.

|| Petterd—Journ. de Conch., xxv., 1877, p. 361.

¶ H. Tryon—Report on Insect and Fungus Pests, No. 1, 1889, p. 148.

PAPUINA HINDEI, Cox.

(Pl. xxviii., figs. 7, 8, 9.)

Cochlostyla Hindei, Cox, Proc. Linn. Soc. N. S. W. (2), ii., 1888, p. 1063, pl. xxi., figs. 1, 2.

Helicostyla hindei, Pilsbry, Man. Conch., ix., 1894, p. 229.

The most eastern point to which on assured, that is anatomical, grounds, the tribe of Belogona has been traced, is Waighiou, Dutch New Guinea, in the form of *Helicostyla conformis*, Férussac. On other and doubtful grounds this tribe is assumed to occur as far east as the Solomon Islands, in *Crystallopsis*, Ancey. With a view to deciding on more exact limits, I wrote to Madame Kolbe, of Ralum, New Britain, enclosing a coloured drawing of *Cochlostyla hindei*, and requested her to procure the animal for study. Madame Kolbe, always a generous friend to this Institution, kindly responded by forwarding some well preserved material. The result of an examination of this is as follows:—

Jaw (fig. 7) thin, ends rounded, smooth, centre crossed by weak ribs.

Radula (fig. 9) of the type which Pilsbry has described for *P. vexillaris*, with rows meeting in the centre at an acute angle, and with enlarged and broadened cusps.

Genitalia (fig. 8) without accessory organs on vagina. Tentacle retracted between the branches. Penis-sac long, flattened, without internal papilla. Retractor muscle attached to floor of lung cavity. Epiphallus long, slender and twisted. Spermatophore on long slender duct.

This dissection must certainly effect the transference of *Cochlostyla hindei*, from *Helicostyla* to *Papuina* as those genera are arranged in Pilsbry's classic "Guide to the Study of Helices." On this point the absence of a dart sac is conclusive and is supported generally by the structure of the male organ and of the dentition. Credit must be given to Brancsik, who in describing *H. heimbürgi*, synonymous as Pilsbry suggests with the species before us, correctly indicated its systematic position by referring it to *Geotrochus*. I regard *P. hindei* as related to *P. xanthochila*, Pfr.

EXPLANATION OF PLATE XXVIII.

- Figs. 1, 2, 3. Various aspects of *Endodonta aculeata*, Hedley.
,, 4, 5, 6. Various aspects of *Endodonta norfolkensis*, Hedley.
,, 7. Jaw of *Papuina hindei*, Cox.
,, 8. Genitalia of the same.
,, 9. Portion of radula of the same.
,, 10, 11. Two aspects of *Papuina mayana*, Hedley.
,, 12, 13. Two aspects of *Dendrotrochus mentum*, Hedley.
,, 14. *Tornatellina wakefieldae*, Cox.

Figs. 10 and 11, natural size ; the remainder enlarged to various scales.

