

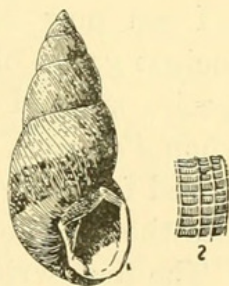
DESCRIPTIONS OF NEW MOLLUSCA, CHIEFLY FROM NEW CALEDONIA.

By C. HEDLEY, F.L.S.

PLACOSTYLUS REMOTUS, n.sp.

(Figs. 1-2.)

Shell an elongate cone, narrow in proportion to length, thick and strong, anteriorly broad and blunt, posteriorly tapering slowly, scarcely perforate. Colour pale ochre, with a darker broad peripheral band, which is edged above and below with a pale border, and a narrow, dull white margin below the suture. Whorls six, rounded, apex blunt, nepionic shell a whorl and a half. Suture impressed. Sculpture;—everywhere irregularly crossed by oblique growth lines, both fine and coarse, which interrupt and distort a series of minute, numerous, irregular, spiral scratches which are not to be perceived without a lens (fig. 2). Aperture oblique, rudely hexagonal, subchannelled anteriorly. Columella thickened, externally folded over a narrow umbilical chink, internally sharply bent, the upper limb a flat, deeply entering and obliquely ascending plate, the lower swelling into a slight but distinct tubercle. Outer lip internally much thickened, but neither thickened nor reflected externally, forming a sharp angle at the insertion. A thin callus is spread on the body whorl. In the specimen described the anterior corner of the aperture is externally surrounded by a series of imbricating lamellae; this may, however, be an individual feature or repair of breakage. Length 26, breadth 12 mm.



H a b.—The Mambare Goldfield, Brit. N. Guinea.

T y p e.—In the collection of Dr. J. C. Cox.

This species is represented to me by a single well-preserved specimen. Dr. Cox, having purchased a collection of land shells from a digger returned from New Guinea, found it jammed in the aperture of a large *Rhysota hercules*.

It is the smallest known *Placostylus*, and is remarkable besides for its narrow shape, blunt anterior extremity and peculiar aperture. Indeed it has a better claim to subgeneric distinction than have some proposed divisions of the genus. One of the chief claims it has on our attention is the extension of the geographical range which it brings to the genus.

In a paper read before this Society some years ago I pointed to *Placostylus* as illustrative of the antiquity, separation from outside and faunal unity within, of the larger islands of the South-West Pacific, deducing that New Zealand was an ultimate link thereof, that her fauna was thence derived, and "that this Melanesian plateau was never connected with, nor populated from Australia, probably its fauna was derived from Papua *via* New Britain."*

I am now disposed to regard *Placostylus* as an extremely ancient group of Antarctic origin, and consider that the present species strayed northwestwards by a now broken land route when *Papuina*, the land operculates and numerous other forms, passed from New Guinea, through New Britain and New Ireland into the Solomons.

The first writer, so far as my reading has served me, to recognise the geological connection between New Caledonia and New Zealand, was Heurteau.† He quotes the Rev. W. B. Clarke as also supporting the idea, but I have not been able to find in the writings of the latter author any statement to this effect.

The whole subject has been recently and thoroughly reviewed by Crosse.‡

A broken shell of an undetermined *Placostylus* in the British Museum is said, on the authority of Daintree, to have been found

* P.L.S.N.S.W. (2), vii. p. 339; reprinted Annals & Mag. Nat. Hist. No. lxvi. June, 1893, pp. 435-438; see also Thomson, Proc. Roy. Geogr. Soc. Australasia (Queensland), Vol. VIII. pp. 17-24, and IX. p. 23.

† Rapport sur la Constitution de la Nouvelle Caledonie, 1876, p. 17.

‡ Journal de Conchyliologie, xlii. 1894, pp. 443-456.

in the Post-Pliocene alluvium of King's Creek, Darling Downs.* I have myself no doubt that this is an error. Firstly, such an occurrence would be utterly at variance with the remainder of the fossils and with the recent fauna. Secondly, *Placostylus* is essentially gregarious, where it occurs at all there it occurs abundantly, if it had really existed in Queensland it would have recurred to subsequent collectors. While serving on the scientific staff of the Queensland Museum I enjoyed the opportunity of seeing the largest collection yet unearthed of King's Creek fossils; the agent of the Museum was expressly directed to search for mollusca. All that were obtained passed through my hands officially, yet I saw nothing of *Placostylus*. Thirdly, had *Placostylus* really occurred in Australia it is unlikely that it should occur as a species not distinguishable, as Harris says, from the New Zealand form. In short, the Queensland *Placostylus* had best be banished to join the company of Owen's Australian Elephant, Ettingshausen's Australian Oaks, Filhol's New Caledonian Rhinoceros, and Owen's Gigantic Lord Howe Lizard.

In the above-quoted paper I drew attention to the probability that the Fijian fauna was derived from the Solomons, a theory which had not, I believe, been advanced before. In addition to the evidence there cited of the *Placostylus*, I have since collected other interesting testimony in support of this view.

Treating of the geology of Rotuma, Mr. J. S. Gardiner† points out that, whereas in the antiquated charts of the Challenger Reports, Fiji is shown united in a submarine plateau to the Tongan, Ellice, and Samoan Groups, modern surveys have demonstrated that the two latter are separated from each and the others by abyssal gulfs deeper than 2,200 fathoms. Recent soundings have developed a plateau of a depth not greater than 1,500 fathoms in a general depth of from 2,000 to 3,000 fathoms, including Tonga and Fiji, and extending westwards to Santa

* Jack & Etheridge, *Geology & Palæontology of Queensland and New Guinea*, 1892, p. 646. Harris, *Catalogue Tertiary Mollusca of the British Museum*, 1897, p. 4.

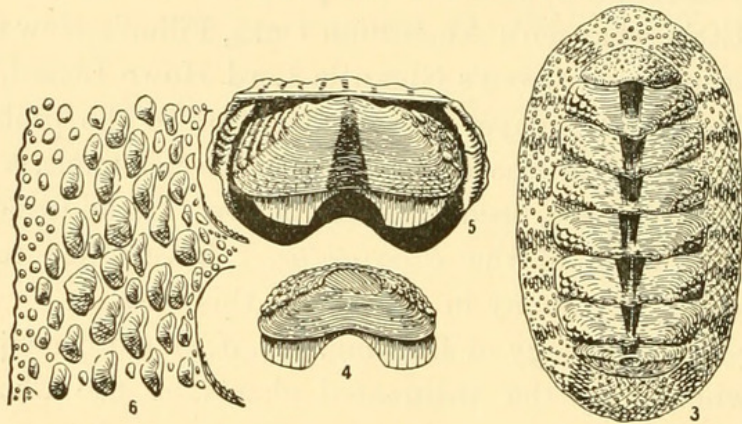
† *Quart. Journ. Geol. Soc.* liv. 1898, p. 2.

Cruz and the Solomons. Mr. W. B. Hemsley has described a remarkable Sapotaceous genus *Chelonespermum*, of which two of the known species are from the Solomons and the third from Fiji.* It is remarkable how strictly *Nautilus* observes as its eastern limit the ancient coast line of the Melanesian plateau. At a recent meeting of this Society† Mr. E. R. Waite exhibited examples from Fiji of *Typhlops aluensis*, Blgr., a species previously known only from the Solomon Islands.

ISCHNOCHITON ARAUCARIANUS, n.sp.

(Figs. 3-6.)

Shell oval, depressed, valves rounded posteriorly, but the anterior ones more pointed. Colour greenish-grey, each valve shading posteriorly into cream, with a median wedge of black, which is sometimes split with a central white stripe. Interior



dull purple, shading posteriorly into brown. Girdle (fig. 6) chequered black and cream. Lateral areas elevated with about three obscure, diverging lines of granules, more prominent on the anterior valves. Central areas finely and evenly corded transversely. Anterior valve radiately tuberculated. Posterior valve (fig. 4) with subcentral mucro, anterior area concentrically striated, posterior concentrically tuberculated, the mucro is eroded in specimens studied. Anterior and posterior valves with eight slits, median with one; teeth finely pectinated and roughened with

* Journ. Linn. Soc. Botany, xxx. 1894, p. 164.

† See Vol. xxii. p. 685.

minute grains. Scales of girdle radiately furrowed, somewhat apart, large and small intermingled, with a series of very small next the valves and along the margin. Gills extending along five-sixths of the foot. Length 38, breadth 22 mm.

H a b.—The Isle of Pines, New Caledonia.

T y p e.—To be placed in the Australian Museum.

I found this species in abundance between half and high tide marks in a rock pool, about half a mile distant from the Commandant's House at the Isle of Pines, New Caledonia, in October, 1897. This island was so called by Captain Cook from its forest of *Araucaria cookii*, which then, as now, gives so quaint a charm to the landscape, and from which I have derived a specific name.

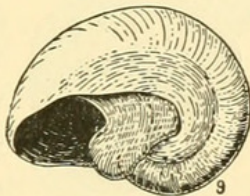
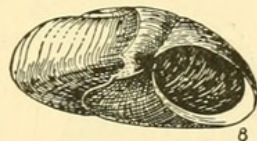
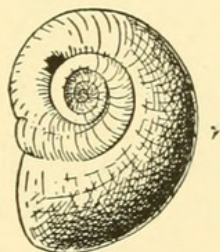
Clinging to the rocks beside it was *Acanthopleura spiniger*, and the *Littorina*, *Nerita* and *Ricinula* characteristic of the rocky shore of the Pacific tropics kept them company.

The arrangement of large and small scales together on the girdle separate this *Ischnochiton* from all but *I. cariosus*, Carpenter, a native of South Australia and Victoria. From that the novelty differs greatly by broader and flatter valves and by an entirely different scheme both of colour and of sculpture. Technically the shell under consideration should form a second species of Carpenter's subgenus *Heterozona*, based on the uneven girdle scales, but the general aspect of it suggests that such a union would be strained by the remaining features.

TEINOSTOMA OPPLETUM, n.sp.

(Figs. 7-9.)

Shell discoidal, thick, opaque, inner whorls sunk, each whorl margined by a heavy sutural band of callus, which projects at the aperture. Colour white, surface glossy. Sculpture;—indistinct malleations and obscure revolving grooves. Whorls $3\frac{1}{2}$, the spire sunk, last whorl subangled around the base, broadening and descending rapidly to the aperture.



The peculiar feature of the shell is that each whorl is separated from that within it by a thick layer of intercalated callus which arches higher than the vertex of the whorl, and at the finish projects as a knob beyond and beside the aperture. Beneath, the same callus spreads as a pad over the basal axis; so that could the callus be dissolved away the whorls would be seen separate. Aperture oblique, simple, oval; above lip sharp, and straight; basal lip thick, bevelled-edged. Diam. major 2, minor $1\frac{3}{4}$, height 1 mm.

H a b. —Panie, New Caledonia.

Type to be presented to the Australian Museum.

I collected five specimens among shell-sand at high water mark, two of which differ from the type specimen by the spire being raised instead of sunk.

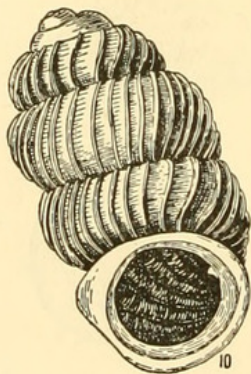
The development of the callus is not always so marked as in the individual figured. From Thursday Island, Torres Straits, I have seen what seems a variation of this species in which the sutural callus is hardly visible.

T. oppletum appears to be a link between *Teinstoma* proper and *Leucorhynchia*.

DIPLOMMATINA OBESA, n.sp.

(Fig. 10.)

Shell minute, sinistral, ovate, stout, narrowly perforate, with dentate aperture, thin, translucent. Colour pale corneous. Whorls six, apex blunt, the first three whorls smooth, the latter three much inflated, drawn in deeply at the sutures, ribbed, the antepenultimate whorl the broadest, the final contracted and greatly descending. Sculptured by slender, forwardly bent lamellae, which curve across the whorls in a flattened S; of these the last whorl has thirteen and the one above about thirty-three; the interstices are microscopically, evenly, closely, spirally grooved. Aperture perpendicular, almost in the median line, greatly expanded, not



appressed posteriorly, eared on the upper external angle. When viewed in profile a second lip, similar to the first, is discovered immediately behind the aperture proper. Within the aperture is bevelled and contracted in a funnel, a small tubercle is seated deep within the aperture on the right side. Length $1\frac{1}{2}$, breadth $\frac{3}{4}$ mm.

H a b.—Oubatche, New Caledonia.

Type to be presented to the Australian Museum.

Oubatche is a station on the north-east coast of New Caledonia about $20^{\circ} 28''$ south latitude.* I procured this shell on the slopes of Mount Ignambi, about four miles distant from the house of my kind hosts, Messrs. A. O. and J. Henry, where the road to Ouaco enters the first piece of jungle. Among fallen leaves and dead sticks on stony ground I found the new *Diplommatina* in tolerable abundance. With the novelty was another and a larger *Diplommatina* $2\frac{1}{2}$ mm. long. I am inclined to consider it *D. perroquiniana*, but the account of *D. montrouzieri* answers to it almost as well. In doubt whether it be a distinct species or a link between these two, I refrain from describing it as new, but content myself with presenting a drawing (fig. 11) of this larger Oubatche species.

From New Caledonia there are already known three representatives of this genus, all found by one diligent and acute collector in the southern end of the island. They are *D. mariei*, Crosse, (Journ. de Conchyl. xv. 1867, p. 179, Pl. xvi. f. 6); *D. perroquiniana*, Crosse (*op. cit.* xxi. 1873, p. 144, Pl. i. f. 6); and *D. montrouzieri*, Crosse (*op. cit.* xxii. 1874, p. 394, Pl. xii. f. 8). Besides its distant habitat, *D. obesa* is easily separated from these as well as from most known species by its minute size and toothed aperture. This feature is common to such *Diplommatina* as the Papuan *D. symmetrica* and

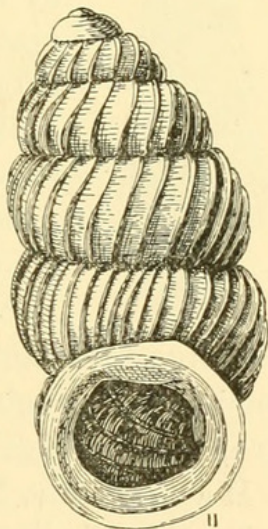


Fig. 11.

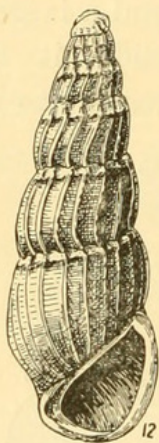
* For a fuller account, see Ogilby, *ante*, Vol. xxii. p. 762.

the Bornean *D. whiteheadi*, the latter of which presents other analogies.

Associated with the two *Diplommatina* in the forest at Oubatche were *Placostylus caledonicus*, Petit; *Rhytida beraudi*, Gassies; *R. ouveana*, Souverbie; *Microcystis savesi*, Gassies; *Pseudopartula singularis*, Pfeiffer; *Amphicyclotus guestierianus*, Gassies; *Helicina primeana*, Gassies; *Flammulina baladensis*, Souverbie; and *Endodonta confinis*, Gassies.

RISSOINA ANGUSTA, n.sp.

(Fig. 12.)



Shell narrowly conical, tall, slender, with whorls longitudinally ribbed and contracted beneath the suture. Colour uniform golden brown. Whorls seven, of which two are nepionic, the last equalling in length the three previous, slightly rounded; each whorl contracted, the third at midway down, the rest at intervals receding posteriorly, the last at just beneath the suture; sutures sharply sinuate. Sculpture;—no spiral sculpture is visible, the longitudinal is by sharp, strong, perpendicular ribs, slightly arched, suddenly deflected and almost beaded at the above described contraction, continuous from whorl to whorl, faint upon the last. Aperture perpendicular, ovate, scarcely effuse anteriorly, outer lip sinuate, produced, fortified outside by a slight varix, columella overlaid by a thick callus. Length $3\frac{1}{4}$, breadth 1 mm.

H a b.—Panie, New Caledonia. One example.

Type e.—To be preserved in the Australian Museum.

This species was collected with the *Teinostoma* on a little beach, immediately beneath and to the eastward of Mt. Panie, the culminating peak of New Caledonia.

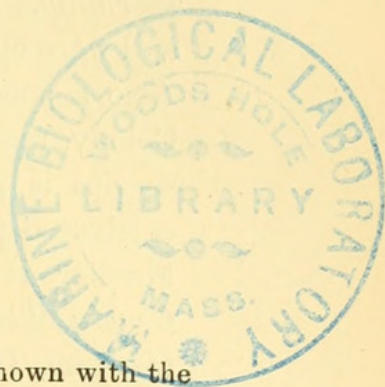
Messrs. Melvill and Standen have lately published* a catalogue of shells from the Loyalty Islands, which, containing

* Journ. Conchology, viii. 1897, pp. 84-132, 273-315, 379-381, and 396-421, Pls. ii., iii., ix., x., xi.

860 species, is the fullest local marine molluscan fauna yet enumerated from the tropical South-west Pacific. I was much interested to find, during a few hours' search upon the Panie beach, situated about 120 miles W.N.W. of the Loyalties, several of the species which they mention. These are now first recorded from the mainland, some of the more noteworthy finds being: *Megerlia sanguinea*, Chem.; *Ervillia sandwichensis*, Smith; *Columbella stephensi*, M. & S.; *Marginella elliptica*, Redfield; *Rissoa pyrrhacme*, M. & S.; *Schismope ferriezi*, Crosse, and *S. moreleti*, Crosse; *Barleia chasteri*, M. & S.; *Mangelia rhodacme*, M. & S.; *Caecum exile*, Folin; *Cadulus vivipidens*, M. & S.; *Minolia glaphyrella*, M. & S., which I cannot separate from *M. pudibunda*, Fischer, and *Pyrgulina gliriella*, M. & S., which I have also seen from Thursday Island, Queensland.

EXPLANATION OF FIGURES.

- Fig. 1.—*Placostylus remotus*, Hedley.
 Fig. 2.—Sculpture of the same, from the body whorl.
 Fig. 3.—*Ischnochiton araucarianus*, Hedley.
 Fig. 4.—Posterior valve of the same.
 Fig. 5.—Intermediate valve of the same, external aspect shown with the internal.
 Fig. 6.—Portion of girdle of the same.
 Fig. 7.—*Teinostoma oppletum*, Hedley, superior aspect.
 Fig. 8.—Peripheral aspect of the same.
 Fig. 9.—Basal aspect of the same.
 Fig. 10.—*Diplommatina obesa*, Hedley.
 Fig. 11.—*Diplommatina* (?) *perroquiniana*, Crosse.
 Fig. 12.—*Rissoina angusta*, Hedley.





Hedley, Charles. 1898. "Descriptions of new Mollusca, chiefly from New Caledonia." *Proceedings of the Linnean Society of New South Wales* 23, 97–105.

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