

THE HELICOID LAND SHELLS OF THE FIJI ISLANDS, WITH
DEFINITIONS OF THREE NEW GENERA AND DESCRIPTIONS
OF FOUR NEW SPECIES.

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Read 11th April, 1913.

(PLATE XIV.)

AN interesting little collection of Helicoids from the Fiji Islands has been kindly placed in my hands for identification by Mr. John Ponsonby. They were collected by his son, Mr. Richard Ponsonby, during a temporary residence in that group of islands, and although there appears to be only one undescribed form among them, several of the older species, which have hitherto remained rare in collections, have now fortunately been rediscovered. It is also of interest having to record the presence in those islands of two Oriental species—doubtless introduced with living plants—viz. *Hemiplecta striata* (Gray), a native of the Malay Peninsula, and *Eulota similaris* (Fér.), believed to be indigenous in China, but at present found in many parts, not only of the old, but also of the new world. It is believed to owe its present wide distribution to the fact that it has been carried with the soil attached to coffee plants. My own records cover the following localities: Asia—China and Formosa, Japan, Siam, Cochin-China, Penang, Perak, Singapore, Java, Celebes, Philippine Islands, India, Burma, Ceylon; Australia—New South Wales; Pacific—Sandwich Islands; Africa—Natal, the Seychelles, Comoros, and the islands of Rodriguez, Mauritius, Bourbon, Madagascar, and Ascension; America—Bermuda, Cuba, Barbados, Brazil, and Argentina.

In comparing Mr. Ponsonby's shells with those in the Natural History Museum, I came across a considerable quantity of unnamed material collected in the Fiji Islands by the officers of H.M.S. *Herald* (MacGillivray, Rayner, and McDonald) between 1854 and 1857, and presented to the Museum by the Admiralty. Mr. E. A. Smith, the Assistant-Keeper of Zoology, having with his unvarying courtesy placed these at my disposal, I have considered this a fitting opportunity of working out these shells at the same time. This collection yielded four undescribed species—one of them co-specific with the one found by Mr. Richard Ponsonby—three of which I refer to the genus *Fretum*, while the fourth does not appear to be referable to any known genus, and I am therefore obliged to create a new genus for its reception.

FIJIA, nov. gen.

Shell discoid, umbilicated, thin, pellucid; the later whorls costulate, decussated by spiral sulci.

Type: *F. Macgillivrayi*, Gude.

Three other species (*Clayi*, *Barkasi*, and *Samoensis*) do not appear to assimilate with any other Zonitoids, and for these I propose—

LIARDETIA, nov. gen.

Shell small, trochoid, thin, finely but distinctly costulate, periphery carinated.

Type: *Nanina Clayi*, Liardet.

Three further species (*Nouleti*, *Pfeifferi*, and *Otaræ*) I am likewise unable to classify with any other Pacific shells. One of these, *Pfeifferi*, has indeed been referred by von Martens to the genus *Eurypus* of Semper¹—*Eurypus* being preoccupied, Mr. Sykes has substituted *Fretum* for Semper's name—but I am unable to concur in this view, seeing that this species and its allies are widely different from *Casca*, the type of that genus. More recently Mr. Sykes² has placed some Norfolk Island species in *Fretum*, which, however, likewise bear no resemblance to its type, and may in fact constitute another new genus, but these will, I hope, be dealt with on another occasion. For the reception of the three before-mentioned species I now propose—

IRENELLA,³ nov. gen.

Shell imperforate, turbinate or depressed conoid, solid, livid purplish, shining, smooth or striated and decussated with spirals.

Type: *Helix Nouleti*, Le Guillou.

FRETUM LEPIDUM, n.sp. Pl. XIV, Figs. 3a-c.

Shell perforate, turbinate, shining, dark fuscous above, milky white below, or entirely milky white; spire depressed, apex obtuse, suture channelled; whorls 4, rounded, very finely striated transversely and spirally, the striæ being perceptible only with a strong lens; aperture rotundate, margins acute, regularly curved; columellar margin reflected, practically covering the narrow perforation of the umbilicus, and furnished inside with a slightly entering callous fold, not equally developed in all specimens. Diam. maj. 9, min. 8 mm.; alt. 5.5 mm.

Hab.—Island of Ngau, under dead leaves and logs. October, 1855. (J. MacGillivray.) Six specimens.

Type in the British Museum.

Allied to *nodulata*, Mouss., but, while possessing only four whorls, it is nearly twice as large as that species, which has six whorls.

FRETUM PLACITUM, n.sp. Pl. XIV, Figs. 4a-c.

Shell narrowly perforate, conoid; spire depressed, apex obtuse, suture channelled; whorls 4, increasing rapidly, last more than twice as wide as the penultimate, slightly dilated towards the aperture, a little rounded above, angulated above the periphery, the angle disappearing towards the aperture, inflated below; smooth, shining, finely striated; aperture oblique, crescent-shaped, margins acute, regularly curved; columellar margin reflected and almost covering the narrow perforation of the umbilicus. Type whitish

¹ Monatsber. Berlin Akad., 1877, p. 268.

² Proc. Malac. Soc. Lond., vol. iv, p. 140, 1900.

³ εἰρηνη, 'peace,' to convey the idea of the locality: Pacific Ocean.

corneous, slightly suffused with pale fuscous. Diam. maj. 10, min. 8.75 mm.; alt. 6 mm.

Hab.—Island of Ngau. September, 1854. (MacGillivray.) Five specimens.

Type in the British Museum.

One specimen is fuscous in colour, and measures, diam. maj. 10.5, min. 9 mm.; alt. 6 mm.

Allied to the preceding species, but larger, the last whorl is more tumid below towards the aperture, the umbilicus is narrower, the aperture less dilated transversely and the angulation above the periphery is much less, while the microscopic spirals of *Fretum lepidum* are absent in the present species.

FRETUM RICHARDI, n.sp. Pl. XIV, Figs. 1a-c.

Shell narrowly umbilicated, depressed, conoid, pellucid, clouded at the umbilical region, corneous, shining, smooth, faintly and irregularly striated; apex acute, suture shallow, margined; whorls 5, increasing rapidly, the last twice as wide as the penultimate; flattened above, rather acutely angulated above the periphery, inflated below; aperture diagonal; margins acute, upper and outer nearly straight, lower regularly curved, columellar obliquely descending, slightly reflected and overhanging the narrow umbilicus. Diam. maj. 15.5, min. 13.5 mm.; alt. 9 mm.

Hab.—Viti Levu, under dead leaves. September, 1856. (Rayner and McDonald.) Two specimens.

Allied to *Fretum Hoyti*, Garr., but more depressed than that species and with more conical spire; the angulation of the whorls is more pronounced, the whorls increase more rapidly, the aperture is more dilated transversely, and the shell is of a thinner texture. The second specimen measures, diam. maj. 14.25, min. 13 mm.; alt. 9 mm.

Var. *atrofusca*, n.var.

Differs from the type in being dark fuscous. Diam. maj. 15.5, min. 13.5 mm.; alt. 9.5 mm.

Hab.—Suva Harbour. (Mr. Richard Ponsonby.) Two specimens.

FIJIA MACGILLIVRAYI, n.sp. Pl. XIV, Figs. 2a-c.

Shell narrowly umbilicated, conoid, pale corneous; spire depressed, apex obtuse, suture deep; whorls $5\frac{1}{2}$, tumid, increasing slowly and regularly, apical whorl almost smooth, the next regularly and strongly costulate above, the costulae becoming more crowded and finer on the last portion of the last whorl; costulae strongly decussated by spiral sulci; last whorl angular above periphery, costulae and spiral sulci descending below the periphery where they terminate abruptly, below which the shell is finely striated transversely, shining, with some distant, irregular, shallow spiral grooves; aperture oblong-ovate; margins acute, regularly curved, columellar shortly dilated, reflected and overhanging the moderate umbilicus. Diam. maj. 12, min. 11 mm.; alt. 7 mm.

Hab.—Matuku, under dead leaves. August, 1855. (MacGillivray.) Seven specimens.

As regards sculpture and shape of shell the present species somewhat resembles a miniature *Hemitrichia*. I do not know any species with which to compare it.

As a quarter of a century has elapsed since any new species of Helicoids from this group of islands were described,¹ the present would appear to be a suitable occasion to tabulate all the known forms from that region.

In the subjoined classified list the species represented in the *Herald* collection are indicated by the letter H, while those brought home by Mr. Richard Ponsonby are distinguished by R.P. A few species sent to the British Museum by Liardet are marked with the letter L. In each case the localities are appended.

Genus PARMELLA, H. Ad.

planata, H. Ad.

Genus LIARDETIA, Gude.

Clayi (Liardet). Vatou, Ngau; H. Taviuni; L.

Barkasi (Liardet). Ngau, Vatou; H.

Genus SITALA, H. Ad.

Pinnocki (Liardet). Taviuni; L.

sansita (Cox). Pl. XIV, Figs. 7a-c. Totoya; H. Island in Suva Harbour; R.P.

microconus (Mouss.). Also found in the Samoa and Friendly Islands.

Genus PHILONESIA, Sykes.

sororia (Cox).

Vitiensis (Mouss.). Viti Levu, Moalu, Totoya; H. Island in Suva Harbour; R.P.

perpolita (Mouss.). Also found in the Samoa and Friendly Islands.

Upolensis (Mouss.). Totoya; H. Also found in the Samoa Islands.
= *Samoensis* (Baird, non Mouss.).

Genus LAMPROCYSTIS, Pfeff.

excrescens (Mouss.). Viti Levu; H. Island in Suva Harbour; R.P.
Also found in the Cook Islands, the Friendly Islands, and the New Hebrides.

firmostyla (Mouss.). Also found in the Samoa and Friendly Islands.

Kiaoensis (Garr.).

= *Kiraensis*, Garr. (err. typ.).

= *Kivaensis*, Tryon.

Stearnsiana (Garr.).

Taviuniensis, Garr.

unisulcata (Mouss.). Also found in the Samoa Islands.

= *laqueata* (Baird).

Genus FRETUM, Sykes.

casca (Gould).

= *calva* (Gould, non Lowe).

= *Vitiensis* (Pfr., non Mouss.).

¹ The last paper is by Garrett, Proc. Zool. Soc., 1887, p. 164.

- similis* (Semp.).
tenellum (Garr.).
nodulatum (Mouss.).
placitum, Gude. Ngau; H.
lepidum, Gude. Ngau; H.
Ramsayi (Liardet).
vitrininum (Liardet). Taviuni; L.
Schmeltzianum (Garr.). Pl. XIV, Figs. 5a-c.
Richardi, Gude. Viti Levu; H.
 var. *atrofusca*, Gude. Suva; R.P.
Assavaense (Garr.).
fragillimum (Mouss.). Viti Levu, Ovalau, Ngau; H. Viti Levu; R.P.
Hoyti (Garr.). Viti Levu, Ovalau; H.
Godeffroyanum (Garr.).

Genus ORPIELLA, Gray.

- scorpio* (Gould).

Genus IRENELLA, Gude.

- Nouleti* (Le G.). R.P.
 = *rubricata* (Gould).
polita (Mouss.).
Pfeifferi (Phil.).
 = *lurida* (Gould).
Otareæ (Garr.). Vanna Levu, Viti Levu; H.

Genus FIJIA, Gude.

- plicostriata* (Mouss.). Viti Levu; H.
Macgillivrayi, Gude. Matuku; H.

Genus TROCHOMORPHA, Albers.

- abrochroa* (Crosse). Viti Levu; H. Island in Suva Harbour; R.P.
 var. *pseudoplanorbis*, Mouss.
accurata, Mouss.
corallina, Mouss.
fessionia (Angas).
Kantavuensis, Garr.
latimarginata (Smith).
Lüdersi (Pfr.). Ngau; H. Also found in the Society and Friendly Islands.
Merzianoides (Garr.).
planoconus (Mouss.), Garr.
subtrochiformis, Mouss. Also found in the Samoa Islands.
Swainsoni (Pfr.). Also found in the Society Islands.
Taviuniensis (Garr.).
themis, Garr.
transarata (Mouss.).
 var. *depressostrata*, Mouss.
tumulus (Gould).

Genus ENDODONTA, Albers.

Section *Thaumatodon*, Pilsbry.

Maupiensis (Garr.). Also found in the Society Islands.
 = *Maupitiensis*, Pfr.
subdædalea (Mouss.).

Genus CHAROPA, Albers.

adposita (Mouss.).
inermis (Mouss.). Vatou; H.
monstrosa (Ancey). Pl. XIV, Figs. 6a-c.
 = *irregularis* (Mouss., non Semp.).
Princei (Liardet). Taviuni; L.

INTRODUCED SPECIES.

Hemiplecta striata (Gray). Suva; R.P.
Eulota similis (Fér.). R.P.

DOUBTFUL OR SPURIOUS RECORDS.

Trochomorpha planorbis (Less.), var.
Planispira (*Trachiopsis*) *leucolena* (Crosse).
 = *Delessertiana*, var.
Cochlostyla (*Callicochlias*) *semirufa* (Albers).

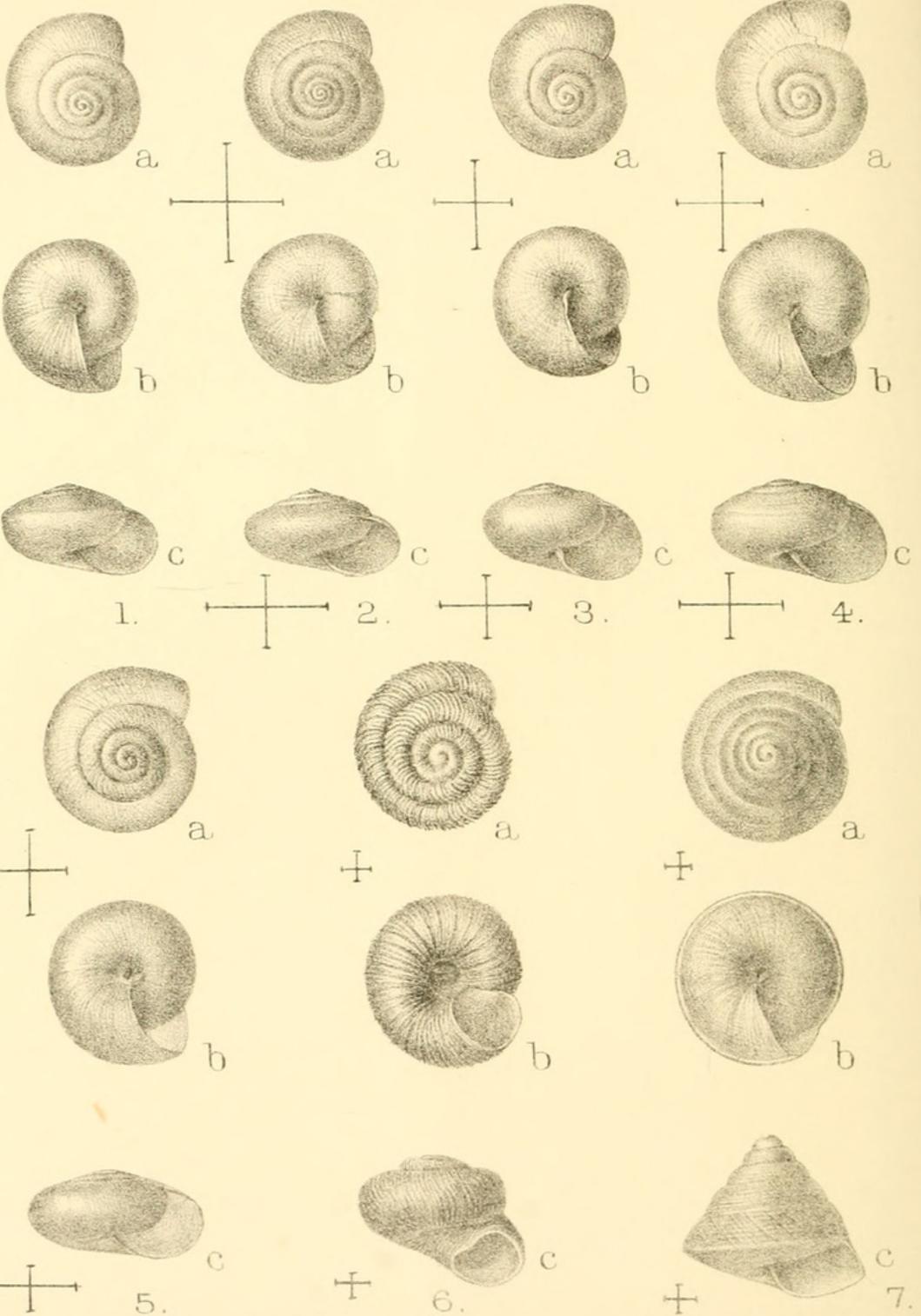
From the foregoing list it appears that the total number of Helicoids known from Fiji amounts to fifty-eight, by far the greatest number being confined to those islands, since only ten of them have been recorded from other groups, of which seven occur in the three immediately surrounding archipelagoes, viz. the Samoa or Navigator Islands, the Tonga or Friendly Islands, and the New Hebrides, while four are shared with the farther outlying groups (the Society Islands and the Cook or Hervey Islands). As regards the genera, four are as far as can at present be ascertained endemic (*Liardetia*, *Orpiella*, *Irenella*, and *Fijia*), the others being generally distributed over all the Pacific Island groups, some of them, viz. *Sitala*, *Lamprocystis*, and *Trochomorpha*, having in fact a much wider distribution, occurring on the continent and most of the islands of Asia, while *Endodonta* even reaches South Africa and St. Helena, and *Charopa* extends to Australasia.

Two previously described species, viz. *Sitala sansita* (Cox) and *Fretum Schmeltzianum* (Garr.), the latter from my own collection, are now figured for the first time.

EXPLANATION OF PLATE XIV.

FIGS.

- 1a-c. *Fretum Richardi*, n.sp.
 2a-c. *Fijia Macgillivrayi*, n.sp.
 3a-c. *Fretum lepidum*, n.sp.
 4a-c. *F. placitum*, n.sp.
 5a-c. *F. Schmeltzianum* (Garr.).
 6a-c. *Charopa monstrosa* (Ancey).
 7a-c. *Sitala sansita* (Cox).



A.H. Searle del. et lith.

Huth imp

LAND SHELLS FROM FIJI ISLANDS.



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