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NOTES ON NEOZELANIC DEEPWATER MARINE MOLLUSCA.

By

TOM IREDALE,
Conchologist, The Australian Museum.

(Plate xvii.)

CAPTAIN C. W. OSTENFELD, of the U.S.S. "Kalingo", regularly visiting the West Coast of the South Island of New Zealand, has brought to this Museum many interesting objects of natural history. The marine Mollusca are of value, as so little comparatively is known from that locality. However, when he observed that trawling was being carried out, twelve miles off Greymouth, on a bank of shallow depth (about 18 fathoms), the importance of the Mollusca from such a location was impressed upon him. Captain Ostensfeld has secured specimens, and it is with great gratitude that these notes are offered, as comparison may later be more completely made, with better material, with the known fauna of the East Australian Continental Shelf. Trawling has been carried on spasmodically for some forty years in the latter locality, regularly more recently, but still there is much to learn about the Mollusca. The trawling crew members are too busy commercially with fish to pay much attention to Mollusca, and therefore only the very prominent shells are commonly secured. A few trawling captains, such as Smith, Howell, and Möller, have collected smaller shells with very gratifying results.

For the past twenty odd years trawling has been carried out on the East Coast of New Zealand, and many large molluscs have been reported upon by Finlay, Powell, Marwick, and Bucknill. These have been of a similar facies to those of East Australia, with, however, notable distinctions.

Thus, broadly speaking, from East Australia huge Tun shells, massive volutids, false-Helmets, Australwhelks and Carrier shells are commonly secured, and all these have been recorded from Neozelanic waters; but in the case of the volutids a different series is represented. Then, of course, in the latter case the local Struthiolarioids occur, as well as the large Calliostomoid forms, the latter being equalled by *Astete* in East Australia. Again the notable Australian umbilicate cowry, *Umbilia*, is still unknown in New Zealand. A pleatless volute, *Iredalina*, has been recorded from New Zealand, and this is unparalleled in Australian waters up to date. Captain Ostensfeld, however, brought in a huge *Ranella*, a form quite unknown here, but which had been recorded previously from eastern New Zealand. This incited the present note, as it is very similar in general appearance to the well-known Mediterranean shell, known as *Ranella gigantea* Lamarck. I here describe the West Coast shell as

Ranella ostenfeldi, sp. nov.

(Plate xvii, fig. 1.)

Shell large, whorls eight, protoconch missing, varicose, whorls rounded, nodulose, spire long, mouth round, anterior canal long for this family.

Coloration brown, mottled with white, periostracum destroyed by extraneous growth, but a few small patches show it to have been brown, very finely setose throughout. Varices irregularly alternate, about two to a whorl and a quarter; rather narrow and upstanding. Sculpture beginning with about three rows of prominent nodules, but the one above the periphery becomes dominant, the others disappearing, and on the last half whorl this also vanishes. A fine concentric ridging continues throughout the shell; on the last half whorl five to ten are more prominent than the others, which number four or five between each notable one, the basal ones generally more marked. The mouth is much more rounded than in any other member of the family, the outer lip strongly straightly expanded, showing on its inner edge a series of marked small nodules. The interior of the mouth is smooth. The columella is a little curved, at its anterior extremity, bearing a ridge which is succeeded by four or five others along the entrance to the anterior canal. The inner lip is strongly reflected as a thick glaze, which stands off the body whorl and continues half-way down the anterior canal. Posteriorly it meets the outer lip and at the junction there is a strong parietal nodule opposed to the inner ending of the outer lip. The canal is long, little curved. The operculum is thick, horny, suboval, nucleus at the lower right edge, *i.e.*, subterminal.

Length, 175 mm.; breadth, 90 mm.

Note.—Bucknill¹ described *Mayena multinodosa* from near Whangaroa, North Island, shell taken from crayfish pots set in 25 fathoms. This was transferred by Finlay to *Fusitriton*, but Powell² recognized its affinity correctly, and placed it under *Ranella* s. str. (type *gigantea* Lam. = *olearia* Linné), giving figures of the radula.

The species here described differs at sight in the suppression of the nodulous sculpture seen in Bucknill's species and the development of a strong supra-peripheral row of pointed nodules on the early part of the last whorl.

Genus Alcithoe.

1853. *Alcithoe* H. and A. Adams, Gen. Rec. Moll., Vol. i, p. 164, Nov. Logotype, Suter, Man. N.Z. Moll., p. 444, 1913, *Voluta pacifica* Solander = *arabica* Gmelin.

Marwick³ published an excellent essay on the Tertiary and Recent Volutidae of New Zealand, and the shells of this group secured by Captain Ostenfeld have proved of great interest. Some specimens agreed generally with Marwick's plate 68, figs. 2 and 3, representing *jaculoides* Powell⁴ and *arabica* Martyn, but with a longer spire. The generic features are the strong sculpture, pleating of the pillar-lip, which is strongly reflexed, and the somewhat narrow elongate mouth strongly callused posteriorly. Other specimens agreed better with Marwick's pl. 63, fig. 4, *A. swainsoni* Marwick, and may be regarded as congeneric, though the sculpture is weaker. However, a series differs in each character, the sculpture being

¹ Bucknill.—*Trans. New Zeal. Inst.*, lviii, p. 312, pl. 35, fig. 2, Nov. 8-15, 1927.

² Powell.—*Trans. New Zeal. Inst.*, lxiii, p. 162, Feb. 28, 1933.

³ Marwick.—*Trans. New Zeal. Inst.*, lvi, pp. 259-303, pls. 61-70, March 13, 1926.

⁴ Powell.—*Proc. Mal. Soc.* (Lond.), xvi, p. 108, figs. 1-2, 1924.

suppressed, the spire narrower, the pleats fewer and stronger, the inner lip appearing only as a broader thin glaze, and the outer lip broadly roundly expanded, with no posterior callus. This is, superficially, genetically related to Marwick's pl. 63, fig. 6, *Alcithoe tarochei*, but is specifically separable in its longer spire and different form.

Marwick placed *Voluta lutea* Watson in the genus *Waihaeia*, subgenus *Pachymelon*, but all the other members of the genus were non-existent in the Pliocene, the type of the genus being an Eocene shell, and the type of the subgenus early Miocene, so that revision seemed necessary. Finlay⁵ thereupon introduced *Palomelon*, and this may be the deeper water representative, but unfortunately the type is unique in the British Museum, so autoptical reconsideration is impossible.

Swainson's *Voluta gracilis*⁶ appears to represent another group, the small size, form, pleating, mouth and sculpture differing, so that at least a distinct subgeneric name may be proposed, *Leporemax* nov. The specific name must be emended to *fuscus* Quoy and Gaimard,⁷ as Swainson's name dates only from 1835, not 1821 as Suter gave it, and it had been used by Dillwyn in 1823,⁸ and, moreover, Quoy and Gaimard's name was issued in 1833. Another subgeneric name is needed for *Fulguraria hedleyi* Murdoch and Suter,⁹ the small size, narrow shape, elongated spire and narrow compressed mouth being in discord with the previous form, the teeth being also weak; the new name *Carolluta* is introduced, *F. hedleyi* being named as type.

Genus *Gilvostia* nov.

Type *G. ostenfeldi* nov.

Shell large, spire lengthened, narrow, smooth, protoconch small, of two whorls, semi-keeled, four strong folds on columella, mouth wide open, outer lip well curved, with no medial depression, inner lip as broad glaze only, not reflected, no posterior apertural callus.

It has a deceptive resemblance to the Australian *Mesericusa sowerbyi*, the folds of which are only three and longer, while the protoconch in the latter is larger and not keeled, and thus of different origin. If the protoconch features were ignored, this might be regarded as a subgenus only, and Thiele,¹⁰ ignorant of the many complications in connection with Austro-Neozelanic volutes, actually made *Ericusa* (s.l.) a section only of *Alcithoe*.

Gilvostia ostenfeldi, sp. nov.

(Plate xvii, fig. 2.)

Shell large, thin, whorls six, body whorl comprising the bulk of the shell, breadth less than half its length. Spire thin, attenuate, about one-third the shell's length, spire angle about 30°.

Coloration obscured by dark red deposit, but apparently not strongly marked, as no markings appear under the glaze. Sculpture apparently only growth lines, no plications being seen on any specimen, protoconch agreeing with Marwick's

⁵ Finlay.—*Trans. New Zeal. Inst.*, lvii, p. 432, Dec. 23, 1926/Mch. 10, 1927.

⁶ Swainson.—*Exotic Conch.*, pt. vi, pl. 42, 1835; cf. Sherborn and Reynell, *Proc. Mal. Soc.* (Lond.), xi, p. 282, 1915.

⁷ Quoy and Gaimard.—*Voy. de l'Astrol. Zool.*, ii, p. 627, pl. 44, figs. 7, 8, 1833.

⁸ Dillwyn.—*Index Hist. Conch. Lister*, p. 37, 1823.

⁹ Murdoch and Suter.—*Trans. New Zeal. Inst.*, xxxviii, p. 288, pl. 23, figs. 20, 21, 1906.

¹⁰ Thiele.—*Handb. syst. Weicht.*, pt. i, p. 348, 1929.

fig. 1*b*. Adult whorls rather flattened, sutures not much impressed, last whorl swollen, moderately convex. Aperture large, open, outer lip well curved, with no medial sinuation, and posteriorly not heavily callused. The edge of the outer lip a little reflected and sometimes forming a thickened rim, but not a varix. Columella swollen posteriorly, almost straight anteriorly with four strong folds, the anterior one smallest, the posterior one about half-way up the aperture. Anterior canal broad and rather shallow. Inner lip seen as a broad glaze extending well over the body whorl, but never forming a ridge. No fasciole developed.

A medium-sized shell is selected as type, measuring 175 mm. in length, 70 mm. in breadth, spire about 50 mm. long. A larger shell measures 195 mm. by 85 mm., and a smaller one 135 mm. by 63 mm., the latter with a very strongly reflected lip. A broken specimen shows the four pleats very well marked the length of the shell, the anterior one being a little closer to the second than the others are to each other. All the true *Alcithoe (arabica)* have five or six pleats, which show a tendency to variation in size, two pleats sometimes almost coalescing.

Alcithoe calva Powell¹¹ agrees generally with this species, but the columella pleating is very different, Powell's species having "six comparatively weak plications", while there is no variation in the four strong folds of *G. ostenfeldi*.

Fusitriton laudandum Finlay.

1926-7. *Fusitriton laudandum* Finlay, Trans. New Zeal. Inst., Vol. lvii, p. 399, pl. 20, fig. 65, separate Dec. 23, 1926, volume March 10, 1927. Off Otago Heads in 40 fathoms, South Island of New Zealand.

A very fine specimen, agreeing with the above in its coarse sculpture, but of large size, measuring 146 mm. in length by 68 mm. in breadth. It is dead, but retains the remains of a fine straw-coloured flaky periostracum.

Charonia capax Finlay.

1926-7. *Charonia capax* Finlay, Trans. New Zeal. Inst., Vol. lvii, p. 397, pl. 20, fig. 67; subsp. *euclioides*, id., ib., p. 398, pl. 29, fig. 68, separate Dec. 23, 1926, volume March 10, 1927. Off Otago Heads in 20 fathoms; subsp. in 40 fathoms, South Island.

Two specimens agreeing better with the species than the variety, the spire about the length of the aperture, the nodulation becoming obsolete on the body whorl, the parietal pleat very pronounced, and obsolete ridging visible on the columella beneath the glaze. Length, 160 mm.; spire, 75 mm.; breadth, 86 mm. (larger specimen).

Austrofusus glans Bolten.

1798. *Drupa glans* Bolten, Mus. Bolten, pt. ii, p. 56, Sept., for Chemn. 10, t. 163, f. 1558. "New Zealand."

Three beautiful living specimens are clothed with a fine grey-brown periostracum, the nodulation showing through as white. These did not agree with the common shell as seen in this Museum, but Finlay¹² separated the northern and southern forms, giving figures. He regarded the Wellington shells (figs. 4, 5) as typical, and named Dunedin shells as a subspecies, *A. g. agrestior* (figs. 1, 3,

¹¹ Powell.—*Trans. New Zeal. Inst.*, lviii, p. 362, pl. 53, figs. 5, 6, Aug. 30-31, 1928.

¹² Finlay.—*Trans. New Zeal. Inst.*, lvii, p. 411, 486, pl. 24, figs. 1, 3, 4, 5; pl. 25, figs. 11, 12, March 10, 1927.

11, 12), being larger and more elongate, etc. Chemnitz's figure is, however, more like the latter than the former, but obviously it could not be identical. It may have been collected in Queen Charlotte Sound. Finlay¹³ has since named the Chatham Island form *A. chathamensis*, drawing attention to Lesson's *Buccinum triton*, which Hutton had first used and then rejected as Peruvian. This was correct, as Lesson himself corrected his mistake writing "excessively common at Callao".

The trawled shells have the double row of nodules persistent the whole length of the body whorl, and while generally agreeing with Finlay's figs. 4 and 5, may be separated on that account as *A. g. tragulatus*, subsp. nov., the measurements being 50 mm. in length by 30 mm. in breadth.

Verconella ormesi Powell.

1927. *Verconella ormesi* Powell, Trans. New Zeal. Inst., Vol. lvii, p. 555, pl. 29, figs. 15, 16, 17, separate Feb. 8, 1927, volume March 10, 1927. 50 to 60 fathoms off Cape Campbell, north-east of South Island.

A large dead shell, inhabited by a hermit crab, measured 155 mm. in length, and 68 mm. in breadth, the protoconch missing. It appears to be a little smoother, the whorls a little more rounded, and the longitudinal ribbing is almost completely obsolete, when compared with the typical series.

EXPLANATION OF PLATE XVII.

Fig. 1.—*Ranella ostenfeldi* Iredale.

Fig. 2.—*Gilvostia ostenfeldi* Iredale.

¹³ Finlay.—*Trans. New Zeal. Inst.*, lix, p. 253, pl. 42, figs. 60-63, August 31, 1928.



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G. C. CLUTTON, photo.