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NOTES ON SOME AUSTRALIAN CASSIS.

BY

CHARLES HEDLEY.

(Plate viii.)

On their recent visit to Western Australia the Museum representatives received from Mr. J. Stow a specimen of *Cassis bicarinata* from Middle Island, Recherche Archipelago. Mr. A. S. Faulkner kindly presented a specimen of *Cassis fimbriata* from King George Sound. This localised and contrasted material, supported by other in the Museum collection, indicate that *C. bicarinata*, instead of being regarded as synonymous with *C. fimbriata* as it usually is, should be held apart.

The history of *C. fimbriata* is rather obscure. Doctors Quoy and Gaimard forgot the locality of the two specimens they had collected during the voyage of the "Astrolabe," but supposed that it was either the Marianne or the Caroline Group.¹

They remarked that specimens labelled "frangé" were already in the Paris Museum from the expedition commanded by Capt. Baudin. Baudin's ships visited the area inhabited by *C. bicarinata*, but the "Astrolabe" did not do so. Specimens before me from Albany, Western Australia (a collecting station of both French expeditions) correspond closely to the "Astrolabe" figures, and indicate that Western Australia, and not the Carolines or the Mariannes, is the home of *C. fimbriata*. Regarding as typical the shells that match the drawings, an immature stage of a length of 60 mm. has four and a half whorls plus the protoconch. Between the last two varices and along the angle of the shoulder is a row of fourteen projections set like the teeth of a cog wheel. Anterior to this is a second row with the tubercles fewer and farther apart; these are not united in a common base, as in the figure. As shown in profile by the "Astrolabe" figure,² there is a third row, of incipient tubercles arranged at a distance equal to the space between the other rows. The whole dorsal surface is plicated by about thirty-five longitudinal folds. On the anterior half of the last and on the summits of all whorls, these folds are traversed by fine spiral grooves. A narrow broken thread of amber-brown runs along the summit of each row of tubercles, two such run between the rows, and three or four on the anterior region. The ventral surface is overlaid by a dense sheet of callus, through which appear the brown spirals of the previous whorl. At the exterior base of the columella are from three to five short transverse ridges. The

¹ Quoy et Gaimard—Voy. Astrolabe Zool. ii, 1833, p. 596, pl. xliii, fig. 7, 8. Kuster, Conch. Cab., 1857, p. 28, pl. xlvii, figs. 1-2. Hidalgo (Cat. Moll. Test Filip. and Marianas, 1905, p. 156) definitely rejects the Marianne habitat.

² Quoy et Gaimard—loc. cit., pl. xliii, fig. 7.

inner lip is smooth. The proportion of length to breadth given in the text agrees neither with their figure nor with my specimens. Such immature shells as described here lead to adults of five and a half whorls, plus protoconch, in a length of 83 mm. In the mature shells both the lip and columella carry a few weak folds.

The original locality given by Jonas for his *Cassis bicarinata* was China, but his excellent illustration enables the reader to accurately identify his species as Australian. Though a thinner and lighter shell, *C. bicarinata* attains the larger size, a specimen from Lacépède Bay reaching a length of 125 mm., thus exceeding *C. fimbriata* by a third; the shoulder tubercles of *C. bicarinata* are more subdued than those of *C. fimbriata*, and the spirals which persist on the summits of all whorls in *C. fimbriata* are restricted to the earlier whorls of *C. bicarinata*. The irregular colour stripes of *C. bicarinata* are walnut brown, but those of *C. fimbriata* are ochraceous-orange. The callus on the body whorl of *C. bicarinata* is reduced to a mere glaze.

By these identifications, *C. fimbriata* ranges from King George Sound (A. U. Henn and A. S. Faulkner) west and north to Vansittart Bay (Capt. W. Burrows), while *C. bicarinata* extends east from the Recherche Archipelago (W. J. Stow) to Lacépède Bay, Kangaroo Island (Australian Museum Collection), and St. Vincent Gulf (Angas) to Portland, Victoria (Pritchard and Gatliff).

A smaller, closely wrinkled, low spired form, figured by Kiener, appears to be the Kangaroo Island variety. For this, in reference to the habitat, I now propose the varietal name of *Cassis bicarinata* var. *decrensensis*.

The references to *C. fimbriata*, as now restricted, are those already quoted in the preceding footnote. Literary references to *C. bicarinata* are as follows:—

Cassis bicarinata Jonas, Archiv. Naturg., 1839 (1), p. 343, pl. x, fig. 2. *Cassis fimbriata* Kiener, Coq. viv., 1835, p. 12, pl. iv, fig. 6. *Id.*, Reeve, Conch. Icon., v, 1848, pl. vii, fig. 17. *Id.*, Angas, Proc. Zool. Soc., 1865, p. 168. *Id.*, Verco, Trans. Roy. Soc. S.A., xxxvi, 1912, p. 216.

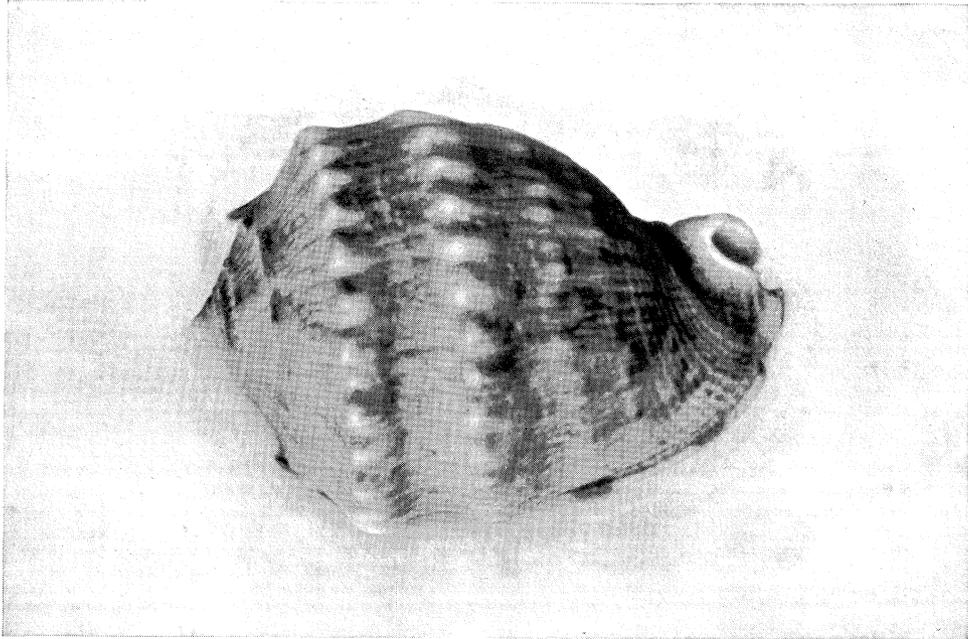
CASSIS RUMPFII, Gmelin.

This species has an intricate synonymy and a vague claim to be included in the Australian fauna. Deshayes, who examined the nomenclature, advocated the use of *Buccinum spinosum* of Gronovius as dating from 1781, but modern writers have discarded that author as non-binomial. In order of seniority the next name is *Buccinum fasciatum* of Bruguière, 1789, but this was preoccupied by O. F. Müller in 1774. Next Gmelin named it in 1791, first *Buccinum tessellatum*, then *Buccinum maculosum*, and thirdly *Buccinum rumpfi*. The first two of these names were preoccupied by Martyn, but the third, based on Rumphius, pl. 25, fig. 3, is legitimate. Afterwards the shell was called *Cassis coronata* by Bolten in 1798.

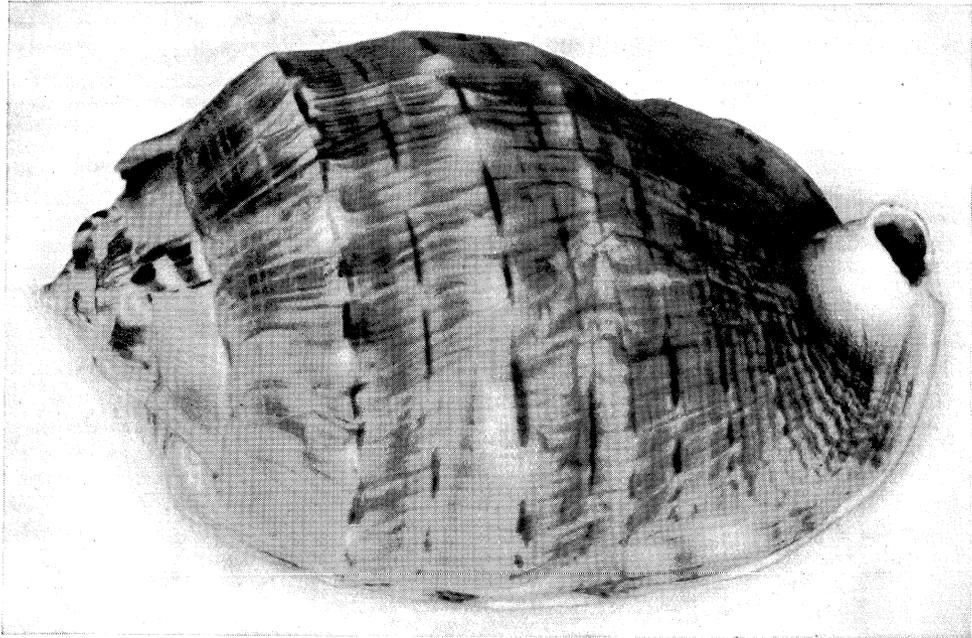
Following Martini, Lamarck in 1822 referred the species to the South Seas. But in the Geneva Museum I observed that his three specimens, which were possibly from Baudin's expedition, are now labelled "Australie." Reeve in 1848 seems to have been the first to publish Australia as a habitat. I have seen several specimens in museums labelled "Australia," but never with collector's name or precise locality. I have no good evidence that *Cassis rumpfi* crosses the Equator, but it is possible that it may extend from the Moluccas to North West Australia.

EXPLANATION OF PLATE VIII.

- Fig. 1. *Cassis bicarinata* Jonas from Lacépède Bay, S.A. Cox Collection.
- „ 2. *Cassis fimbriata* Quoy & Gaimard from North West Australia. Helms Collection.



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E. A. BRADFORD, photos.