

older, vegetative zones of the frond (Fig. 2). Such occlusions may effectively prevent breakage of the colony across the planes of weakness resulting from the arrangement of the orifices in transverse alignment. Significantly, oral laminae are always developed in the narrow, periancestrular region (Fig. 1); structurally the weakest part of the frond (Fig. 4). Oral occlusions were also noted by Brown (1954: 420-1) in his Pliocene material.

As Brown (1954, fig. 1) has shown, the brood chamber in *M. angustiloba* is a large structure which is overlapped by the two adjacent zooids distally. The conspicuous fenestrae perforating the frontal surface of the ovicell (Figs. 7, 9) are features which have not been observed previously in the fossil material.

Finally, the present deep-water affinities of this species strongly support Brown's (1954: 433) interpretation of the environments in which it occurs as fossil, particularly the basal member of the Whaingaroan Limestone of McDonald's Quarry, Oamaru, and the Waitotaran Limestone off the Three Kings Islands. On the basis of evidence afforded by other Bryozoa, Brown (1954: 433) considered that both of these horizons were deposited in "fairly deep sheltered waters".

MATERIAL EXAMINED

I. Cook Strait (Dominion Museum bottom samples).

B.S. 168, 40° 46.2' S, 174° 27' E; 75 fathoms. M.V. "Alert", 1/9/1951.

B.S. 170, 40° 42' S, 174° 10.6' E; 58 fathoms. M.V. "Alert", 2/9/1951.

B.S. 171, 40° 43' S, 174° 15' E; 68 fathoms. M.V. "Alert", 2/9/1951.

G. 577, 40° 44' S, 174° 34' E; 75 fathoms. "Galatea", 21/12/1951.

II. Papanui Canyon, ESE Taiaroa Heads, Otago Peninsula. (Portobello Marine Biological Station bottom samples).

67-60, 45° 52' S, 171° 3' E; 400 fathoms. R.V. "Munida", 22/5/1967.

67-109, 45° 53' S, 171° 5' E; 430 fathoms. R.V. "Munida", 26/9/1967.

67-110, 45° 52.5" S, 171° 4' E; 420 fathoms. R.V. "Munida", 26/9/1967.

Checklist of Recent species of *Melicerita*:

M. angustiloba Tenison-Woods, 1862: 73, fig. 4 (fossil, Mount Gambier, South Australia).

M. atlantica Busk, 1884: 96, pl. 141, fig. 1. South-west Atlantic, 600 fathoms.

M. obliqua (Thornley, 1924): 16, fig. 4. Commonwealth Bay, Antarctica, 110 fathoms.

M. strictoramae Canu and Bassler, 1927: 5, pl. 1, fig. 1. Borneo, 175-230 fathoms.

M. latilaminata Rogick, 1956: 248, pl. 10, figs. B-J; pl. 11, figs. A-F. Off Cape Royds, Antarctica, 58 fathoms.

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