

stages of contraction, and thus neither of those authors was in favour of maintaining these doubtful varieties. Heding (1940, 1942), however, regarded the var. *quadrilineata* as worthy of specific rank, and elevated it to that level. His evidence for doing so seems unconvincing to the writer, and it is felt best that *B. quadrilineata* should be reduced to complete synonymy with *B. rosea*.

DISTRIBUTION. Mortensen (1927) notes that this species is known from off south-west Ireland from 1,200–1,765 metres, the Bay of Biscay, off the Azores, and the African coast to the Cape Verde Islands in 1,000–2,320 metres. Heding (1940) records *B. quadrilineata* from near the Cape Verde Islands in depths of 2,480 metres ("Valdivia" Stn. 33) and 1,694 metres, and *B. rosea* from "Valdivia" Stn. 33. Later, Heding (1942) reported *B. quadrilineata* from west of Ireland at a depth of 1,330–1,440 metres. Its occurrence north of New Zealand is therefore unexpected, but the depth tolerance of the species would facilitate its wide distribution, and it is likely that *B. rosea* is widespread in the Pacific Ocean as well as in the Atlantic.

DISCUSSION

The distribution of each species has been considered in detail in the systematic section, but some general remarks about the fauna of the area sampled may be made. Stations 3, 9, 53 and 56 were occupied close to the New Zealand mainland, yielding seven species, of which three, *Salenocidaris hastigera*, *Coelopleurus* sp. and *Scotoplanes gilpinbrowni* are new additions to the known New Zealand fauna. As these species were collected from relatively deep water (252–1,782 metres), they are expected to occur further south at similar depths.

New records for the broad area bounded by New Zealand, Norfolk Island and the Kermadec Islands are as follows:

Prionocidaris australis
Stereocidaris sceptriferoides
Salenocidaris hastigera
Coelopleurus sp.
Oligopodia epigonus
Scotoplanes gilpinbrowni
Benthogone rosea
Amperima tui

Benthogone rosea was hitherto known only from the north Atlantic Ocean, while *Amperima tui* and *Scotoplanes gilpinbrowni* are described as new species. The remainder of the species listed above are widely distributed in the Indo-west-Pacific, and *Coelopleurus* is a genus well represented in the Indo-west-Pacific.

Fell (1953) analysed the generic content of the Tertiary and Recent echinoderm faunas of Australia and New Zealand, concluding that New Zealand and Australia have apparently derived many faunal elements from the northern Indo-Pacific region, and consequently have many elements in common at the generic level.

Previously, Fell (1949) had recorded the occurrence of Australian echinoids in New Zealand waters, and in view of the additional knowledge afforded by the present collections, it must be supposed that a substantial number of Australian or Indo-west-Pacific echinoids and holothurians are yet to be discovered north of New Zealand. There may in fact be a continuity between the deep-water faunas of Australia and New Zealand, such a continuity being established and maintained by trans-Tasman drift of larval stages and benthic migration across the Lord Howe Rise and the Norfolk Island Ridge.