

The Melitidae of Lizard Island and Adjacent Reefs, The Great Barrier Reef, Australia (Crustacea: Amphipoda)

PENELOPE B. BERENTS

School of Biological Science, University of Sydney, N.S.W. 2006, Australia

ABSTRACT. This paper is the first study of melitid amphipods from tropical Australia. Seventeen species of Melitidae in the genera *Ceradocus*, *Dulichella*, *Elasmopus*, *Maera*, *Mallacoota* and *Pareiasmopus* are recorded from Lizard Island and adjacent reefs. In addition *Ceradocus hawaiiensis* Barnard is recorded from Heron Island. Seven new species are described: *Ceradocus oxyodus*, *C. wooree*, *C. yandala*, *Elasmopus crenulatus*, *E. spinicarpus*, *Maera griffini* and *Mallacoota balara*. A lectotype is established and described for *Pareiasmopus suensis*. The diagnosis for the genus *Mallacoota* is expanded and a key to the known species included.

None of the Melitidae from Lizard Island and adjacent reefs has been recorded from southern or south-eastern Australia. Madagascar and Mauritius have the highest number of melitid species in common with the Lizard Island area.

BERENTS, P.B., 1983. The Melitidae of Lizard Island and adjacent reefs, the Great Barrier Reef, Australia (Crustacea:Amphipoda). Records of the Australian Museum 35(3): 101-143.

The Gammaridea of the Great Barrier Reef have not been previously studied. The only published work is that of K.H. Barnard (1931) who reported on the Amphipoda collected by the Great Barrier Reef Expedition conducted by the British Museum in 1928-29. He reported briefly on 14 species from 11 families and the only Melitidae were identified as *Ceradocus rubromaculatus* and *Maera* sp. J.L. Barnard (1976) stressed that little is known of tropical Amphipoda, especially when compared with studies of the group in cold temperate waters.

Recently major collecting programmes with the emphasis on small invertebrates have been carried out by the Australian Museum in the Lizard Island area on the northern Great Barrier Reef. Dr P.A. Hutchings and P.B. Berents sampled reef rock communities (Hutchings and Weate, 1977, 1979). An expedition to sample algal and soft bottom communities was conducted by Dr J.K. Lowry and Dr A.R. Jones. These collections are the basis of this study.

The aim of this study is to record the species of melitid amphipods from Lizard Island and adjacent reefs. New species are described, and for those species already known, the morphology of populations from Lizard Island is compared with other populations described in the literature. The distributions of the species among different habitats and localities in the Lizard Island area are compared. The Melitidae of Lizard Island are

compared with melitid faunas from southern Australia and the Indo-Pacific.

Sampling was carried out at Lizard Island and adjacent reefs, which allowed sampling of the fringing reefs of a high island, a coral cay and outer barrier reefs (Fig.1).

Lizard Island (14°40'S, 145°28'E) lies 18 nautical miles north-east of Cape Flattery on the Queensland coast. It is a high rocky island surrounded by fringing reefs that enclose and protect a shallow lagoon from the prevailing south-east trade winds which blow from March to November. The north-west monsoon affects the region from December to March.

Yonge Reef (14°36'S, 145°38'E) lies 10 nautical miles north-east of Lizard Island. It is part of the chain of shelf edge reefs that follows the continental shelf from the Murray islands (9°58'S) south to approximately 16°S (Orme, 1978). It is a cusped ribbon reef with a backward growth of reef formed by strong currents (Veron, 1978). Behind the reef is a sheltered lagoon-like area with a sandy bottom and scattered bommies known as the reef back. The outer slope at Yonge Reef drops to 40 metres with sand and rubble at the bottom of the slope.

Eagle Islet (14°42'S, 145°23'E) is a coral cay 5 nautical miles south-east of Lizard Island. The reef surrounding Eagle Islet is 2 nautical miles long and 1.5 nautical miles wide.

*Present address: Zoology Department, Australian National University, Canberra, ACT 2600, Australia