

Caprellidae (Crustacea: Amphipoda) from the Great Barrier Reef and Adjacent Localities

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ABSTRACT. The caprellid fauna of the Great Barrier Reef region is investigated. The study reports 22 species in 17 genera. Three new genera and seven new species are described (*Hircella berentsae* n.sp., *Jigurru vailhoggett* n.gen., n.sp., *Mayericaprella arimotoi* n.gen., n.sp., *Orthoprotella pearce* n.sp., *Perotripus keablei* n.sp., *Pseudoprellicana johnsoni* n.gen., n.sp. and *Quadrisegmentum lowryi* n.sp.). All species are figured and a key to the species is provided. An ecological study conducted at Lizard Island, northern Great Barrier Reef, showed that *Metaprotella sandalensis* Mayer, 1898 and *Quadrisegmentum triangulum* Hirayama, 1988, were the most common species in the coral reef system. Although the caprellids were present at most sites around the Island, they were abundant only on hydroid and sediment substrates.

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Caprellid amphipods are small peracaridan crustaceans important as secondary and tertiary producers in marine ecosystems. They are common on algae, hydroids, bryozoans, sponges and seagrasses (McCain, 1968), and are important prey for many coastal fish species (Caine, 1987, 1989, 1991). Recently, caprellids have been found to be useful bioindicators of marine pollution and environmental stress (Guerra-García & García-Gómez, 2001; Takeuchi *et al.*, 2001) adding impetus to understand the taxonomy and systematics of this group of crustaceans.

The Caprellidae of the Great Barrier Reef have not been previously studied. The scarce work existing on the Amphipoda of this area has focused on the Gammaridea; K.H. Barnard (1931) reported 14 species of gammaridean amphipods collected by the 1928–1929 Great Barrier Reef Expedition, and Berents (1983) conducted the first study of the melitid gammarideans from tropical Australia. McCain & Steinberg (1970) listed 27 caprellid species from Australian waters, 14 in New South Wales, seven in Western

Australia, three in Victoria and nine in Tasmania, but none from Queensland. Apart from the revision of McCain & Steinberg (1970), no taxonomic studies on the Caprellidae have been conducted along the Great Barrier Reef, and the only recorded species are those listed in ecological papers on benthic communities. In a list of the Crustacean species inhabiting the soft bottoms communities from Lizard Island, Queensland, Jones (1984) reported two caprellid species: *Metaprotella* sp. and *Phtisica marina* Slabber, 1769. Jones' (1984) specimens, deposited in the collections of the Australian Museum, are referable to *Metaprotella sandalensis* Mayer, 1898 and *Metaprotella novaehollandiae* (Haswell, 1880) respectively.

The present study reports on the Caprellidae of the Great Barrier Reef and adjacent localities based primarily on museum collections. Additionally, a field study was conducted at Lizard Island in October 2001 to collect abundant material and to study habitat use by caprellids in a coral reef system.