

## Algal-tube Dwelling Amphipods in the Genus *Cerapus* from Australia and Papua New Guinea (Crustacea: Amphipoda: Ischyroceridae)

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**ABSTRACT.** Three new species of ischyrocerid amphipods in the genus *Cerapus* (*C. bundegi*, *C. murrayae*, and *C. volucola*) are described from Australia and Papua New Guinea. Although these species have all of the morphological characteristics of *Cerapus*, they differ from other species in the genus in the construction of their tubes which are wrapped and parchment-like and sometimes elaborately covered with pieces of cut algae and seagrasses.

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Within Australia about 20 species (described and undescribed) occur in the *Cerapus* clade of Lowry & Berents, 1996 (*Bathypoma*, *Cerapus*, *Notopoma*, *Paracerapus* and *Runanga*). These species can be grouped by the type of tube they build. The most common tube type is made of minute sand grains and detritus held together with amphipod silk, known as detrital-tubes. The ends may be straight or fluted. In other species the females attach coarse sand grains to one end of the tube to form a holdfast that is buried in the substrate, known as anchor-tubes. The species described here make their tubes by wrapping algae into tubes, that may be simple or elaborately decorated with pieces of algae or seagrasses and these are known as algal-tubes. These species live on algae and the tubes are assumed to form an effective camouflage. Although the tubes are bizarre compared with those of other species of *Cerapus*, the morphology of the species in this group is similar to the type species *C. tubularis* Say, 1817 (Lowry & Berents, 1989), which build their tubes of minute sand grains. In this paper we describe three new species (*C. bundegi*, *C. murrayae*, and *C. volucola*) that build algal-tubes.

J.L. Barnard (1973) placed *Erichthonius* and related genera and *Cerapus* and related genera in the Ischyroceridae, but not *Siphonoecetes* and related genera, which he placed in the Corophiidae. Bousfield (1979; 1982) and Just (1983) maintained the classification of J.L. Barnard (1973). Lowry & Berents (1996) were able to demonstrate the monophyly of the combined *Erichthonius*, *Cerapus* and *Siphonoecetes* clades, but they were not able to link the group with a known family level taxon. Myers & Lowry (2003), in their revision of the corophiidean amphipods, confirmed that the siphonoecetin clade (including the above three clades) is a sister taxon to the ischyrocerin clade which makes up the subfamily Ischyrocerinae.

Diagnosis are generated with the aid of Intkey (Dallwitz *et al.*, 1993 onwards; Dallwitz *et al.*, 1998). Characters in bold face distinguish each taxon in at least two respects from every other taxon in the genus *Cerapus*. Material used in this study is lodged in the Australian Museum, Sydney (AM). The following abbreviations are used on the plates: *A*, antenna; *D*, dactylus; *G*, gnathopod; *P*, pereopod; *PL*, pleopod; *UR*, urosome.

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