



## Lepidepecreellidae fam. nov. (Crustacea: Amphipoda: Lysianassoidea) in Australian waters

H.E. STODDART<sup>1</sup> & J.K. LOWRY<sup>2</sup>

Crustacea Section, Australian Museum, 6 College Street, Sydney, New South Wales, 2010, Australia.

E-mail: <sup>1</sup>[helen.stoddart@austrmus.gov.au](mailto:helen.stoddart@austrmus.gov.au); <sup>2</sup>[jim.lowry@austrmus.gov.au](mailto:jim.lowry@austrmus.gov.au)

### Abstract

The new lysianassoid amphipod family Lepidepecreellidae is established and the genus *Lepidepecreella* is reported from Australian waters for the first time. The new species *Lepidepecreella nellae* **sp. nov.** is described.

**Key words:** Crustacea, Amphipoda, Lysianassoidea, Lepidepecreellidae, *Lepidepecreella*, Australia, taxonomy, new family, new species

### Introduction

The monotypic lepedepecreellids are a wide-spread group of 11 species. Only two species are known from the northern hemisphere: *Lepidepecreella cymba* (Goës, 1866) from the North Polar Sea and *L. charno* J.L. Barnard, 1966 from south-western North America. Five species are known from the Indo-West Pacific: *L. bidens* (K.H. Barnard, 1930) from northern New Zealand; *L. nellae* **sp. nov.** from eastern Australia; *L. sarcelle* Lowry & Stoddart, 1994 from southern New Caledonia; and two species from the south-western Indian Ocean: *L. pamanzi* Ledoyer, 1986 from Banc de Geysers and *L. tridactyla* Bellan-Santini, 1972 from the Prince Edward Islands (recorded by Branch *et al.* 1991). Five species are known from the Antarctic: *L. andeep* Berge, Vader & Lockhart, 2004; *L. ctenophora* Schellenberg, 1926; *L. emarginata* Nicholls, 1938; *L. ovalis* K.H. Barnard, 1932; and *L. tridactyla* Bellan-Santini, 1972. Species of *Lepidepecreella* are deep-sea amphipods, often living below 2000 m depth. The shallowest known species is *L. cymba* (Goës, 1866) from 10 to 380 m depth off Spitsbergen in the Barents Sea.

Berge *et al.* (2004) reviewed the association between amphipods and echinoids. Among these associations only the lepedepecreellid *Lepidepecreella andeep* and the uristid *Euonyx chelatus* Norman, 1867 have been known to feed directly on a living host. Both species have well-developed first gnathopods (simple in *L. andeep* and chelate in *E. chelatus*) which could facilitate breaking the epidermis of an echinoid. *Euonyx chelatus* has very reduced mouthparts but *L. andeep* has well-developed setal-teeth on maxilla 1 and Berge *et al.* (2004) described considerable damage around the peristome of the echinoid where the amphipods attach. In other species of *Lepidepecreella* the first gnathopod is slender and weak with a minutely serrate posterior margin along the dactylus which could be used as a rasp. None of these species has been reported as an associate of echinoids.

### Material and methods

The description was generated from a DELTA database (Dallwitz 2005) to the lepedepecreellid species of the world. **Bold** parts of the description are diagnostic characters. Material is lodged in Museum Victoria, Melbourne (MV). Standard abbreviations on the plates are: A, antenna; G, gnathopod; MD, mandible; MP, maxilliped; MX, maxilla; P, pereopod; T, telson; U, uropod.