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**A revision of the tropical/temperate amphipod genus  
*Dulichella* Stout, 1912, and the description of a new Atlantic  
genus *Verdeia* gen. nov. (Crustacea: Amphipoda: Melitidae)**

J.K. LOWRY & R.T. SPRINGTHORPE



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## A revision of the tropical/temperate amphipod genus *Dulichiesta* Stout, 1912, and the description of a new Atlantic genus *Verdeia* gen. nov. (Crustacea: Amphipoda: Melitidae)

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## Abstract

The melitid amphipod genus *Dulichchiella* Stout, 1912, is revised. Based on examination of type material or new material from near type localities, we redescribe *D. anisochir* (Krøyer, 1845) from Brazil, *D. appendiculata* (Say, 1818) from the south-eastern United States, *D. australis* (Haswell, 1879) from eastern Australia, *D. cotesi* (Giles, 1890) from the Andaman Islands, *D. cuvettensis* Appadoo & Myers, 2005 from Mauritius, *D. fresnelii* (Audouin, 1826) from the Red Sea, *D. pacifica* Lowry & Springthorpe, 2005 from Australasia and *D. spinosa* Stout, 1912 from California. Based on published illustrations and new material we describe six new species: *D. guinea* **sp. nov.** from western Africa; *D. lecrovae* **sp. nov.** from the south-eastern United States; *D. oahu* **sp. nov.** from Hawaii; *D. terminos* **sp. nov.** from south-eastern Mexico; *D. tomioka* **sp. nov.** from Japan and *D. tular* **sp. nov.** from Madagascar. The new genus *Verdeia* is described for two established species, *Melita grandimana* Chevreux, 1908 from the Cape Verde Islands and *Melita subchelata* Schellenberg, 1925 from Namibia. We provide a key to the world species of these genera.

**Key words:** Amphipoda, Melitidae, *Dulichchiella*, *Verdeia*, new genera, new species, taxonomy

## Introduction

During the nineteenth century a number of amphipod species were described in what is currently known as the distinctive genus *Dulichchiella* Stout, 1912. Males of these species are among the most immediately recognisable amphipods in shallow warm-water seas, mainly because of the asymmetrical male second gnathopod which can be nearly as large as the body. Between 1818 and 1890 nine species were described: *Gammarus appendiculata* Say (1818) from Georgia in the south-eastern United States; *Gammarus fresnelii* Audouin (1826) from Egypt, almost certainly the Suez side; *Gammarus anisochir* Krøyer (1845) from Rio de Janeiro, Brazil; *Gammarus (Maera) validus* Dana (1852) from Singapore; *Gammarus (Maera) setipes* Dana (1852) and *Gammarus (Maera) pilosus* Dana (1852), both from Rio de Janeiro, Brazil; *Melita exilii* Müller (1864), from an unknown locality; *Melita australis* Haswell (1879) from Port Jackson, Australia and *Melita cotesi* Giles (1890) from the Andaman Islands in the north-eastern Indian Ocean. None of these species was well described or adequately illustrated and unfortunately Della Valle (1893) indiscriminately synonymised all of them, except *D. appendiculata*, with *D. fresnelii*. This synonymy was uncritically confirmed by Stebbing (1906) and, until Karaman & Barnard (1979), all species of *Dulichchiella* have been referred to one or the other of these two species, even though published illustrations might indicate otherwise. Ledoyer (1986) has given an excellent summary of the problems associated with available names for species of *Dulichchiella*.

### *Dulichchiella* as a functional genus

Stout (1912) described *Dulichchiella* for *D. spinosa*, a species from southern California. The genus was established based on the misconception that the third uropods were absent, and it was therefore considered to be a dulichiid amphipod. It was never considered to be part of the melitid amphipod group until Karaman & Barnard (1979) realised that species of *Melita* with one greatly enlarged male second gnathopod belonged in Stout's *Dulichchiella* and re-established the genus. They included five species: *D. appendiculata* (Say, 1818); *D. australis* (Haswell, 1879); *D. exilii* (Müller, 1864); *D. fresnelii* (Audouin, 1826) and *D. spinosa* Stout, 1912. LeCroy (2000) redescribed *D. appendiculata* (Say, 1818) based on new material from near the type locality and 182 years after it was first described, she published the first illustrations of the species. She illustrated a second species, which she referred to as *Dulichchiella* sp. A. From LeCroy's (2000) work it was obvious that the synonymical pretence could go on no longer.

However, the original published illustrations of the type species, *Dulichchiella spinosa* Stout, 1912, are quite different from those of other species attributed to the genus. These illustrations show no setae on the anteroventral corner of the head, no accessory spines on the dactylar ungues of the pereopods, and the propodus of male gnathopod 2 does not have the distinctive distolateral crown of spines so characteristic of other