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***Dulichiesta celestun*, a new species of amphipod (Crustacea: Amphipoda: Melitidae) from the Gulf of Mexico, with a key and zoogeographic remarks for the genus in the western Atlantic**

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Abstract

The discovery of a new melitid amphipod in the Celestun Biosphere Reserve (northern Yucatan peninsula, SE Gulf of Mexico) is reported. *Dulichiesta celestun* **sp. nov.** differs from its congeners by a unique set of characteristics: truncated lateral cephalic lobe, mandibular palp article 1 having inner margin produced distally, carpus longer than the propodus of gnathopod 1, gnathopod 2 propodus distolateral crown with four spines, pereopods 3–7 dactylar unguis anterior margin with two accessory spines, and urosomite 3 bearing four dorsal spines. A key to species and zoogeographical affinities among members of the genus in the western Atlantic are also provided.

Key words: biogeography, coastal lagoons, Peracarida, species diversity, taxonomy, Yucatan

Introduction

Species of the genus *Dulichiesta* Stout, 1912 are found in tropical and warm temperate shallow-seas around the world as epibenthic amphipods, often associated with algae, ascidians, bryozoaries, and sponges; they also occur in high numbers on artificial substrata (Lowry & Springthorpe 2007).

A distinctive character apparently exclusive to males of the genus *Dulichiesta* is the distolateral crown of spines on the propodus of the asymmetrical male second gnathopod which itself can be nearly as large as the body (Lowry & Springthorpe 2007). So far, the genus is composed of 15 species (Lowry & Springthorpe 2007; Tomikawa & Komatsu 2012), four of which have been recorded in the western Atlantic; *Dulichiesta anisochir* (Krøyer, 1845), *Dulichiesta appendiculata* (Say, 1818), *Dulichiesta lecrovae* Lowry & Springthorpe, 2007, and *Dulichiesta terminos* Lowry & Springthorpe, 2007. A possible new species has been discovered in the Bermuda region by Gable *et al.* (2010), but no description has been yet provided.

Until the revision of the genus by Lowry and Springthorpe (2007), *D. appendiculata* was the only known species present in the Gulf of Mexico; but, these two authors also recorded and described two new species in the Gulf basin: *D. lecrovae* and *D. terminos*. Now in this paper, *Dulichiesta celestun* **sp. nov.** found in the Celestun Biosphere Reserve (northern Yucatan peninsula, SE Gulf of Mexico) is presented and described. Therefore, the diversity of the genus has increased to five members in the western Atlantic and to four in the Gulf basin.

Material and methods

The specimens were collected in the Celestun Biosphere Reserve, northern Yucatan peninsula, SE Gulf of Mexico. The sampling was part of a research project documenting the benthic diversity in the Reserve (Ardisson & Castillo-Fernández 1997). Samples were collected in the Celestun coastal lagoon by a Birge-Ekman box corer on muddy bottoms. The collected material was passed through a 0.5 mm sieve, fixed in 10% formalin buffered with seawater. Then, they were washed in freshwater, sorted and preserved in 70% ethanol. Specimens were dissected in glycerine

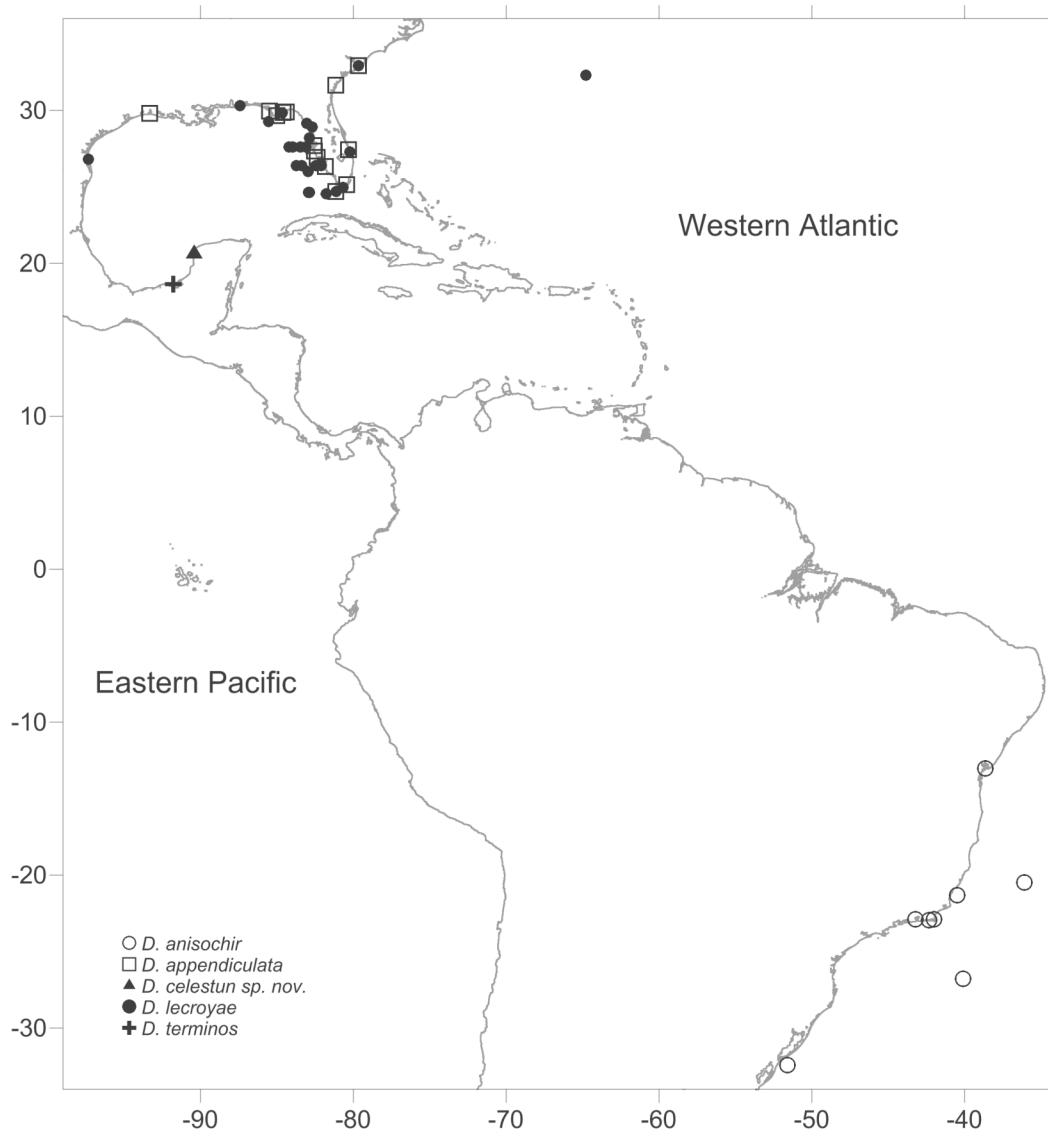


FIGURE 7. Distribution of *Dulichiella* in the western Atlantic.

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