



## ***Hydrothelphusa vencesi*, a new species of freshwater crab (Brachyura: Potamoidea: Potamonautidae) from southeastern Madagascar.**

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### **Abstract**

A new species of freshwater crab of the genus *Hydrothelphusa* A Milne-Edwards, 1872, is described based on specimens collected from a forested region of southeastern Madagascar. *Hydrothelphusa vencesi* n. sp. is clearly distinguished from its congeners by its distinctive first gonopod (G1) with a terminal article that is in the form of a long straight-sided cone, and by a dorsal membrane at the segment junction of G1 that is broad and diamond-shaped. A key is provided to separate the five species of *Hydrothelphusa*.

**Key words:** Crustacea, Brachyura, Potamoidea, Potamonautidae, *Hydrothelphusa*, freshwater crab, taxonomy, new species, Madagascar

### **Introduction**

The present work was prompted by the examination of freshwater crabs from a forested area in the mountains of southeastern Madagascar that were collected by Prof. Dr. Miguel Vences and his colleagues and sent to the authors for identification. The specimens were collected from the Vevembe Forest, over 60 km inland from Farafangana in Fianarantsoa Province. The new material included specimens of a taxon that is described here as a new species and assigned to the genus *Hydrothelphusa* A. Milne-Edwards, 1872, based on both morphological evidence and on a molecular study of this Malagasy genus by Thompson (2005).

There are currently 13 species of freshwater crabs in Madagascar assigned to 7 genera (Cumberlidge & Sternberg 2002; Reed & Cumberlidge 2006). The addition of *Hydrothelphusa vencesi* n. sp. brings the number of species of Malagasy freshwater crabs to 14, all of which are endemic to the island. The genus *Hydrothelphusa* now includes five species — *H. agilis* A. Milne-Edwards, 1872, *H. madagascariensis* (A. Milne-Edwards, 1872), *H. bombetokensis* Rathbun, 1904, *H. goudoti* (H. Milne Edwards, 1853), and *H. vencesi* n. sp. (Bott 1965) (see Cumberlidge & Sternberg 2002; Cumberlidge *et al.* 2004; Cumberlidge *et al.* 2005; Reed & Cumberlidge 2006).

Bott (1965) assigned Malagasy freshwater crabs to two different families, the-then Potamonidae Ortman, 1897, and the Gecarcinucidae Rathbun, 1904. In contrast, the revision by Cumberlidge and Sternberg (2002) included all of the Malagasy freshwater crab genera in the African family Potamonautidae Bott, 1970, based on shared character states of the mandibular palp, abdomen, and first gonopod, and treated these taxa as a monophyletic group. Recent molecular studies have provided evidence that the Malagasy freshwater crab genera indeed form a monophyletic clade (Thompson 2005; Daniels *et al.* 2006; Klaus *et al.* 2006). However,