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(Brachyura: Potamoidea: Potamonautidae, Platythelphusidae, Deckeniidae)

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Taxonomy and biogeography of the freshwater crabs of Tanzania, East Africa (Brachyura: Potamoidea: Potamonautidae, Platythelphusidae, Deckeniidae)

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ABSTRACT

The taxonomy of the freshwater crabs of Tanzania, East Africa is revised based on a large collection of previously unreported material. The crabs are treated here as a distinct regional subset of the African continental fauna. We recognize 25 species belonging to three genera (*Potamonautes* MacLeay, 1838, *Platythelphusa* A. Milne-Edwards, 1872, and *Deckenia* Hilgendorf, 1869a) and three families (the Potamonautidae Bott, 1970, the Platythelphusidae Colosi, 1920, and the Deckeniidae Ortmann, 1897). Tanzania is home to fourteen species of *Potamonautes* (including one new species), 9 species of *Platythelphusa* and 2 species of *Deckenia*. These estimates can be expected to change as the taxonomy of the freshwater crabs of this region becomes more refined. *Potamonautes unisulcatus* (Rathbun, 1933) is removed from synonymy and is recognized as a valid species; *P. platycentron* (Hilgendorf, 1897), originally a subspecies of *P. johnstoni* (Miers, 1885), is regarded

as a valid species; *P. ambiguus* (Rathbun, 1904) is treated here as a junior subjective synonym of *P. johnstoni* (Miers, 1885), and *P. johnstoni stappersi* (Balss, 1936) is treated as a junior subjective synonym of *P. loveridgei* (Rathbun, 1933). The present work adds another species of *Potamonautes*, *P. xiphoidus* **n. sp.** from Tanzania. A number of morphological characters (including the shape and size of the dorsal membrane of gonopod 1) are identified to help clarify the taxonomy of *Potamonautes* in Tanzania. A revised species list for Tanzania is provided, as well as updated identification keys to the families, genera and species of Tanzanian freshwater crabs. The distribution of each species is refined based on new localities. Three out of 25 species (12.5%) (*P. infravallatus, P. unisulcatus* and *P. xiphoidus*) are endemic to Tanzania, but this number rises to 13 out of 25 (52%) if the Lake Tanganyika endemic species which occur in other countries that border the lake are included. Only two of the 25 Tanzanian species of freshwater crabs (*P. lirrangensis* and *P. suprasulcatus*) occur outside of the East African region in the D. R. Congo and Malawi.

Key words: Crustacea, Brachyura, Potamoidea, Potamonautidae, *Potamonautes*, Platythelphusidae, *Platythelphusa*, Deckeniidae, *Deckenia*, freshwater crabs, taxonomy, Tanzania, Lake Tanganyika, East Africa

INTRODUCTION

The freshwater crab fauna of Africa as a whole comprises over 100 species that are currently assigned to 11 genera and four families (Cumberlidge 1999). The fauna of Tanzania is treated here as a distinct regional subset of the African continental fauna and recognizes 25 species in three genera and three families (Bott 1955; Williams 1968; Cumberlidge 1999). These estimates can be expected to change as exploration increases and the taxonomy of the freshwater crabs of this region becomes more refined.

Freshwater crabs are of great economic importance in Africa because these animals sometimes form a significant part of the diet of large numbers of people in rural areas, and because the crabs have been implicated in the transmission of disease-causing parasites in humans (Williams *et al*. 1964; Williams 1968; Voelker & Sachs 1977). Furthermore, the recent upsurge of interest in biodiversity inventories and conservation in Africa (an interest that is particularly strong in East Africa), has led to an increased need for biologists and conservation agencies to be able to identify the freshwater crabs of this region. The general neglect of African freshwater crabs over the years means that today their taxonomy is unstable and unreliable, species lists are inaccurate, distribution patterns are largely unknown, and little is known of the population levels or conservation status of most species in the region. Inadequate keys also make identification difficult for non-specialists.

Three genera (*Potamonautes* MacLeay, 1838, *Platythelphusa* A. Milne-Edwards, 1872, and *Deckenia* Hilgendorf, 1869) belonging to three families (Potamonautidae Bott, 1970, Platythelphusidae Colosi, 1920, and Deckeniidae Ortmann, 1897), have so far been recorded from Tanzania. Two of these genera have been the subject of recent taxonomic revisions: *Deckenia* by Ng *et al*. (1995) and *Platythelphusa* by Cumberlidge *et al.* (1999), with additions by Marijnissen *et al*. (2004). Less attention has been paid to the taxonomy

