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Taxonomic revision of the wide-front fiddler crabs of the *Uca lactea* group (Crustacea: Decapoda: Brachyura: Ocypodidae) in the Indo-West Pacific

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Abstract

The Indo-West Pacific broad-front fiddler crabs, formerly attributed to the "*lactea* species-group" are revised. The subgenus *Uca* (*Austruca*) Bott, 1973, is here revived for accommodating the informal "*lactea* species-group". *Uca* (*Austruca*) presently covers 7 species, partly with a restricted regional distribution, of which one (*Uca cryptica* **sp. nov.** from Indonesia) is new to science.

Key words: Taxonomy, Ocypodidae, fiddler crabs, *Uca*, *Austruca*, *lactea* species-group

Introduction

Fiddler crabs (*Uca*) are a well-known group of Ocypodid crabs. They are mostly small, highly social, and are a conspicuous brachyuran element in the muddy, muddy-sand or sandy-mud intertidal flats, especially near mangroves, throughout tropical and subtropical regions of the world (Zeil *et al*. 2006; Barnes 2010). The species of *Uca* play important functional roles in coastal ecosystems in tropical and subtropical regions, hence a large amount of ecological work exists on the group (see Litulo 2005; Mokhtari *et al*. 2008). They show a remarkable social behaviour, particularly during courtship, which has been the subject of many studies (see Alen & Levinton 2007; Dayson 2008; How *et al*. 2008; Lailwaux *et al*. 2008). Despite these numerous studies, their systematics is still under dispute. To date Crane (1975) is the only and most comprehensive taxonomic work covering the complete genus. She proposed numerous subgenera and subspecies, but missed an earlier paper by Bott (1973) in which he had already introduced names for some of Crane's subgenera and species (von Hagen 1976). The fundamental difference between both systems is that Bott used the morphology of the male pleopods as prime classification character while Crane mostly referred to cheliped and carapace morphology, and included species with very different male pleopods as subspecies under one and the same species.

Rosenberg (2001) published a cladistic analysis on the basis of 236 morphological characters but failed to propose a new comprehensive system (Beinlich & von Hagen 2006). Beinlich & von Hagen (2006) were the first modern authors to propose a comprehensive system on the basis of Crane's, Bott's and Rosenberg's findings, with a list of all sugnerea recognised by them and including a list of the species and a new subgenus, *Uca* (*Cranuca*) for *Uca inversa* (Hoffmann, 1874). In spite of their clear proposals, Beinlich & von Hagen (2006) placed an additional question mark on the classification of the subgenus *Paraleptuca* Bott, 1973. The synapomorphies for *Paraleptuca* that were listed are not convincing, because they do not apply to all species, neither do other characters besides the broad front, being, however, not at all of a homogeneous breadth in all species. Furthermore, the subgenus *Paraleptuca* Bott, 1973, proposed by Beinlich & von Hagen (2006), seems to be potentially paraphyletic, as already suspected by these authors. Ng *et al*. (2008), in their comprehensive catalogue of Brachyura, followed the subgeneric system proposed by Beinlich & von Hagen

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