



## Odiomarinae nov. subfam., a new subfamily for two primitive genera of Hymenosomatidae MacLeay, 1838, with preliminary remarks on the family (Crustacea, Decapoda, Brachyura)

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### Abstract

A new subfamily Odiomarinae **nov. subfam.** is erected to receive two primitive genera of the eubrachyuran family Hymenosomatidae MacLeay, 1838: *Odiomaris* Ng & Richer de Forges, 1996, and *Amarinus* Lucas, 1980, mostly from fresh and estuarine waters of the Indo-West Pacific region. The new subfamily is characterised by the presence of “intercalated platelets” on the male abdomen, either articulated and moveable or relatively less well demarcated. The hymenosomatid platelets are actually vestigial uropods that are similar to those, also showing as dorsal plates, of the podotreme Dynomenidae Ortmann, 1892, and Dromiidae De Haan, 1833. The hymenosomatid uropod differs from the podotreme ones by the deep socket that is excavated at its ventral side and thus corresponds to the typical eubrachyuran press-button system. The odiomarine socket is particularly interesting because it provides morphological and phylogenetic criteria for identifying podotreme uropods and eubrachyuran sockets as homologues. In addition to several other plesiomorphic characters, the retention of dorsal uropods in the Hymenosomatidae, a unique known case in the Eubrachyura Saint Laurent, 1980, and evidence of an ancient lineage, allows re-defining and preliminarily interpreting the exclusive combination of characters of the family and to reconsider its status within the Eubrachyura.

**Key words:** Crustacea, Decapoda, Brachyura, Eubrachyura Hymenosomatidae, Odiomarinae **nov. subfam.**, *Odiomaris*, *Amarinus*, Dorippidae, Inachoididae, uropod, pleotelson, socket, abdominal-locking mechanism, phylogeny

### Introduction

The Hymenosomatidae MacLeay, 1838, which includes 118 species in 19 genera (updated from Ng *et al.* 2008: 108), recently removed from the Majoidea Samouelle, 1819, and elevated to a suprafamilial level, Hymenosomatoidea MacLeay, 1838 (Martin & Davis 2001: 74; Chen & Sun 2002: 34; Poore 2004: 390; Števcíć 2005: 101), has surprisingly not been credited with any subfamilies despite its many members and heterogeneous organisation. The large morphological variations of the rostrum, epistome, mouthparts, male and female abdomens, gonopods, and vulvae (Melrose 1975; Lucas 1980; Ng 1991; Ng & Chuang 1996; Guinot & Richer de Forges 1997; Davie 2002; Poore 2004; Naruse & Ng 2007a, 2007b; Naruse, Mendoza & Ng 2008; Naruse, Ng & Guinot 2008) nevertheless provide evidence for the presence of several distinct lineages in the Hymenosomatidae. The family presents actually a unique combination of characters within the Brachyura, some being plesiomorphic and others seemingly derived, the result of a strong carcinisation.

The distinctiveness of the Hymenosomatidae caught our attention for a long time (Guinot 1979: 110, 149, 215, 250), in particular the dorsal intercalated platelets on each side of the sixth somite of the male abdomen in genera such as *Odiomaris* Ng & Richer de Forges, 1996, and *Amarinus* Lucas, 1980 (Guinot & Richer de Forges 1997: 470, fig. 6A–E). The presence of several other plesiomorphic characters exhibited by these two genera justifies the establishment of a separate subfamily for them. The new subfamily, Odiomarinae **nov. subfam.**, is erected here to receive these primitive hymenosomatid representatives, as a prelude to a revision in progress of the eubrachyuran family Hymenosomatidae. It is likely that other taxa will be added to this subfamily in the future.