



A new family for *Sotoplax robertsi* Guinot, 1984, with a diagnosis and key to the Goneplacoidea Macleay, 1838 (Crustacea: Decapoda: Brachyura)

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Abstract

Sotoplacidae **nov. fam.** is described for *Sotoplax robertsi* Guinot, 1984, a goneplacoid crab from the western Atlantic that had been provisionally placed in the family Euryplacidae Stimpson, 1871. *Sotoplax* is characterised by a suite of characters, particularly related to the thoracic sternum, male abdomen, and to the protection of the penis, which places it as a taxon independent from the Euryplacidae and the other 10 families currently grouped in the superfamily Goneplacoidea MacLeay, 1838. A diagnosis of the Goneplacoidea, a detailed table of characters diagnostic to the 11 goneplacoid families, and a key to these families are also given.

Key words: Crustacea, Decapoda, Brachyura, Goneplacoidea, *Sotoplax*, Sotoplacidae, Acidopsidae, Chasmocarcinidae, Conleyidae, Euryplacidae, Goneplacidae, Litocheiridae, Mathildellidae, Progeryonidae, Scalopidiidae, Vultocinidae, new family

Introduction

In describing *Sotoplax robertsi* as a new genus and new species of goneplacoid crab from the Gulf of Mexico, Guinot (1984) was not completely sure that it should have been placed in the Euryplacidae Stimpson, 1871, but at that time it was the best option available. In their synthesis of the world brachyuran fauna, Ng *et al.* (2008: 79) commented that the family placement of *Sotoplax* Guinot, 1984 (type species *Sotoplax robertsi* Guinot, 1984) described from Mexico is problematic. It has features of both the Goneplacidae MacLeay, 1838, *sensu stricto* and the Euryplacidae, but Guinot (1984) provisionally referred it to the Euryplacidae. Even so, the G1 is unusual among known euryplacids in having the tip rounded and armed with several large spines. More recently, Almeida *et al.* (2008) reported the species (as a euryplacid) from Brazil (see also Coelho *et al.* 2008) and additional material was collected from the Gulf of Mexico (Thoma *et al.* 2009).

As part of a revision of the Euryplacidae (Castro & Ng in press), the first and third authors re-examined all taxa that have been assigned at one time or another to the family, including *Sotoplax*. Some genera have already been redefined, transferred out, or newly described (Ng & Castro 2007; Ng *et al.* 2008; Castro & Ng 2008). We are now of the opinion that *Sotoplax* cannot be retained in the Euryplacidae *sensu stricto*. Neither can be it accommodated in any of the other known families of Goneplacoidea as defined in Ng *et al.* (2008) (also see Castro 2007; Ng & Manuel-Santos 2007): Acidopsidae Števcíć, 2005, Chasmocarcinidae Serène, 1964, Conleyidae Števcíć, 2005, Goneplacidae MacLeay, 1838, Litocheiridae Števcíć, 2005, Mathildellidae Karasawa & Kato, 2003, Progeryonidae Števcíć, 2005, Scalopidiidae Števcíć, 2005, and Vultocinidae Ng & Manuel-Santos, 2007. The only option is to establish a new family within the Goneplacoidea for *Sotoplax*, even though we recognise that the Goneplacoidea may ultimately prove not to be a monophyletic group.