



Establishment of the Vultocinidae, a new family for an unusual new genus and new species of Indo-West Pacific crab (Crustacea: Decapoda: Brachyura: Goneplacoidea), with comments on the taxonomy of the Goneplacidae

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Abstract

A new family, Vultocinidae, is established for an unusual new genus and new species of crab (Crustacea: Brachyura: Goneplacoidea) here described from relatively deep waters in the central Philippines and Vanuatu. Although *Vultocinus anfractus*, new genus, new species, superficially resembles pilumnid genera like *Lophoplax* and pseudoziid genera like *Planopilumnus* in its deeply sculptured carapace and leg surfaces, its male abdomen and gonopods appear to affiliate it with the Goneplacidae *sensu lato* instead. However, its suite of many unusual characters requires the recognition of a new family for *Vultocinus*. Comparisons of the Vultocinidae with the Goneplacidae *sensu stricto* suggests that the subfamily Mathildellinae, presently regarded as a subfamily, should be recognised as a full family; and two other problematic constituent genera, *Progeryon* and *Conleyus*, are also referred to their respective families in the Goneplacoidea. The genus *Paragalene* is also referred to the Progeryonidae. The extent of the sterno-abdominal cavity along the thoracic sternites, structure of the posterior thoracic sternites, position of the press button of the male abdominal locking mechanism and form of the first four male abdominal segment as characters in the taxonomy of the Goneplacoidea is also discussed.

Key words: Crustacea, Decapoda, Brachyura, Goneplacoidea, Goneplacidae, new family, new genus, new species, Philippine Islands, Vanuatu

Introduction

Among the collections of the recent PANGLAO 2004 and 2005 Expeditions to the Philippine Islands was a very unusual crab obtained on sunken wood. One specimen was also collected from the recent SANTO Expedition to Vanuatu in 2006. The crab, while superficially resembling *Lophoplax* Tesch, 1918 (family Pilumnidae Samouelle, 1819) and *Planopilumnus* Balss, 1933 (family Pseudoziidae Alcock, 1898), nevertheless differs markedly from these genera and families in having the second and third male abdominal somites immovable, as well as long male first and second gonopods. These and other characters suggest a relationship within the Goneplacoidea. Comparisons with other goneplacoid families suggest that it is in fact, a new genus and new species, in its own family as well.

The following abbreviations are used: cl = carapace length, cw = carapace width, P2–P5 = first to fourth ambulatory legs respectively, G1 = male first gonopod, and G2 = male second gonopod. The suture between the thoracic sternites is denoted by a “/”, e.g. suture 4/5 = suture between sternites 4 and 5. The carapace terminology used follows Serène (1984), adapted from Dana (1852). The terms anterior and posterior are oriented with regard to the specimen’s front, i.e. anterior being closer to the front. The term “penis” is used for