

A new genus of Tainisopidae fam. nov. (Crustacea: Isopoda) from the Pilbara, Western Australia

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Abstract

Isopod crustaceans from deep bores in calcrete aquifers of the Fortescue River drainages in the Pilbara Region (Western Australia) are found to be closely related to *Tainisopus* Wilson and Ponder, 1992, but represent a distinct taxon, *Pygolabis humphreysi* **gen. nov., sp. nov.** The two taxa provide information for a diagnosis of a new family of Flabellifera sensu lato, the Tainisopidae. Although similar to *Tainisopus* in many details, *Pygolabis* **gen. nov.** has tong-like uropodal endopods and an elongate pleotelson, thus lacking the presumably primitive condition of *Tainisopus*. The pleotelson of *Pygolabis* **gen. nov.** contains powerful muscles that cause the uropods to rotate medially, bringing the tong-like endopods together. Similar structures in other unrelated hypogean crustaceans are noted. *Pygolabis* **gen. nov.** has a highly complex appendix masculina on the endopod of male pleopod II, unlike the simple appendix masculina seen in *Tainisopus*.

Key words: Isopoda, Flabellifera, Limnoriidea Poore, 2002, Tainisopidae **fam. nov.**, *Tainisopus* Wilson and Ponder, 1992, *Pygolabis* **gen. nov.**, hypogean animals, calcrete aquifers, new species, new genus, new family

Introduction

When *Tainisopus* Wilson and Ponder, 1992 was described, the family designation of this genus was left undecided. An unusual combination of possibly plesiomorphic and advanced features, which obscured the phylogenetic position of *Tainisopus*, precluded its immediate assignment to any existing family of isopods. Wilson and Ponder (1992), however, suggested that *Tainisopus* belonged in the more evolved clades of the Isopoda, based on character polarities discussed in Brusca and Wilson (1991). Despite a lack of higher-level classification, *Tainisopus* has been mentioned in recent publications (Wilson 1996; Botosaneanu 1998; Humphreys 2001; Wilson & Keable 2001, 2002; Jones & Morgan 2002; Poore & Lew Ton 2002).