



New species and records of Apseudomorpha (Crustacea: Tanaidacea) from Taiwan

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Abstract

The present study reports the first record of Apseudomorpha from Taiwan and includes descriptions of three new species and one new species record. *Paradoxapseudes pangcahi* **sp. nov.** differs from the most similar congener, *Paradoxapseudes littoralis*, by having one segment less in the antennal flagellum and fewer segments in the uropod endopod. *Pseudoapseudomorpha tagopilosus* **sp. nov.** is distinguished from its most similar congener, *Pseudoapseudomorpha ornata*, by having one long lateral seta on pleonite 4, a four-segmented antennular outer flagellum, and a male with smaller and thinner ‘small’ cheliped than that of the female and with vestigial pleopods on pleonite 3. *Indoapseudes multituberculata* **sp. nov.** stands out from its congeners by having pleopods only on the last two pleonites in females, many small tubercles terminally on the pleotelson, and mandibular palp article 1 with noticeable distal teeth. The *Synapseudes* species recorded in the present study morphologically agrees with *Synapseudes hansmuelleri* that was originally described from the Tioman Archipelago, Malaysia, South China Sea. Morphological comparisons between each of the three newly described species and its congeners are tabulated.

Key words: Taiwan, *Paradoxapseudes*, *Pseudoapseudomorpha*, *Indoapseudes*, *Synapseudes*

Introduction

Investigation on tanaidaceans on rocky shores of eastern Taiwan has been carried out since the Fall of 2009. A previous outcome of this investigation led to the description of two new species, *Aparatanais lenoprimum* Tzeng & Hsueh, 2014 (family Paratanaidae) and *Tanais nuwalianensis* Tzeng & Hsueh, 2014 (family Tanaididae; see Bamber 2014) of the suborder Tanaidomorpha. In the same investigation, four species which belong to the suborder Apseudomorpha and superfamily Apseudoidea Leach, 1813 have also been recognised as members of four genera, namely *Paradoxapseudes* Guțu, 1991, *Pseudoapseudomorpha* Guțu, 1991, *Synapseudes* Miller, 1940, and *Indoapseudes* Băcescu, 1976.

With exception of *Synapseudes hansmuelleri* Guțu, 2006, the three other species examined in the present study are morphologically different from their congeners and considered new to science. Thus, the present study describes three new species and reports one new species record of apseudomorphan tanaidaceans from Taiwan.

Material and methods

Specimens were collected from macroalgae, eunicid worm tubes, and sandy bottom at intertidal rocky habitats on the eastern coast of Taiwan from October 2009 to July 2013. These specimens were then sorted from washings of those materials and preserved in 70% alcohol. Some specimens were dissected for species identification. Drawings were prepared by tracing outlines of examined body parts from digitised images using CoreIDRAW® GRAPHIC SUITE X5. Morphological terminology used in the present study mainly followed Larsen (2003), with exception of setal terms. We use ‘plumose setae’ for the generally long and flexible setae that have relatively large side setules,

Remarks. The present species, *Indoapseudes multituberculata* sp. nov., is undoubtedly morphologically different from its currently known congeners. Table 3 shows that *I. multituberculata* has only few morphological characters that are similar to any other *Indoapseudes* species (Table 3). Moreover, it has three unique morphological characters which are not seen in the other species: 1) females having two pairs of pleopods (on pleonites 4–5), 2) the pleotelson with many apical tubercles, 3) mandible palp article 1 with noticeable distal teeth (Fig. 9D–E; Table 3).

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