



Two new species of *Apodopsyllus* (Copepoda, Harpacticoida) from Jeju Island, Korea*

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Abstract

A study of harpacticoid copepods from the intertidal zone of Jeju Island in the South Sea of Korea resulted in the discovery of two new paramesochrid species. They are placed in the genus *Apodopsyllus* Huys, 2009 on account of the following combination of characters: the absence of P2–P4 endopods, the poorly defined body segmentation, the two-segmented P1 endopod and exopod, and the fusion of the P2–P4 coxae with the respective body somites. *Apodopsyllus gwakjiensis* **sp. nov.** is most closely related to *A. bermudensis* (Coull & Hogue, 1978), but clearly distinguishable from it by the following characters: the concave shape of the baseoendopod with two bare setae, P4 basis without endopodal seta, and certain detailed characteristics of the mouthparts. *Apodopsyllus unisetosus* **sp. nov.** is easily distinguished from its congeners by the antennary exopod, which is armed with a single apical seta. In addition, *A. unisetosus* has the baseoendopod of P5 fused with somite, the P1 armed with one inner and one outer basal seta, and the unique shape of the male P6. Keys to genera of the family Paramesochridae Lang, 1944, as well as to species of the genus *Apodopsyllus* Huys, 2009 are provided.

Key words: Paramesochridae, new taxa, taxonomy, copepods, harpacticoids, South Korea

Introduction

The family Paramesochridae currently contains 13 valid genera (Wells 2007; Huys 2009). They have successfully colonized subtidal and intertidal sandy substrates by way of miniaturization, or by adopting a vermiform body shape. Kunz (1962) proposed the generic name *Apodopsyllus* and allocated four species to it (*Leptopsyllus littoralis* Nicholls, 1939; *L. spinipes* Nicholls, 1939; *L. arenicola* Chappuis, 1954; and *L. reductus* Petkovski, 1955). However, he did not designate a type species for the genus. As a consequence, the generic name *Apodopsyllus* Kunz, 1962 [*nomen nudum*] remained unavailable until Huys' (2009) reinstatement of *Apodopsyllus* Huys, 2009 and the designation of the type species, *Apodopsyllus panamensis* (Mielke, 1984), which was originally described from Panama (Mielke 1984). To date, 26 species have been described within this genus and they have been reported from all over the world. Synapomorphies for the genus include the following: (1) body somites are poorly demarcated from each other, (2) P2–P4 endopods are absent, and (3) exopods of P2–P4 are three-segmented. In addition, Seifried (2003) mentioned the ground pattern, including the mouthparts of Paramesochridae.

Coull & Hogue (1978) proposed two species groups, the '*madrasensis*-group' (which included *A. madrasensis* (Krishnaswamy, 1951) and *A. unguiformis* (Coull & Hogue, 1978)) and the '*littoralis*-group' (which included 10 species: *A. adaptatus* (Krishnaswamy, 1957), *A. africanus* (Kunz, 1962), *A. arenicolus* (Chappuis, 1954), *A. bermudensis* (Coull & Hogue, 1978), *A. camptus* (Wells, 1971), *A. depressus* (Krishnaswamy, 1957), *A. littoralis littoralis* (Nicholls, 1939), *A. schulzi* (Noodt, 1964), *A. spinipes* (Nicholls, 1939), and *A. vermiculiformis* (Lang, 1965)), based on two characteristics of P1, 1) length ratio between endopod and exopod, and 2) last segment of endopod armed with two claw-like setae or long non-claw-like setae. Gómez (2002) discussed three species, *A. arcuatus* (Mielke, 1984), *A. chilensis* (Mielke, 1987), and *A. cubensis* (Mielke, 1988), within a lineage based on the presence of well-defined plate-structures on the body somites. In addition, he mentioned the Neotropics lineage