



## Three new ameirid harpacticoids from Korea and first record of *Proameira simplex* (Crustacea: Copepoda: Ameiridae)\*

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### Abstract

Ameiridae Monard, 1927 was previously known from Korea only after one endemic and four cosmopolitan species of the genus *Nitokra* Boeck, 1865, and a single widely distributed species of the genus *Ameira* Boeck, 1865, all from brackish environments. After a survey of 22 sampling sites and close to 3,500 harpacticoid specimens from various marine environments, we report on two new endemic species of *Ameira*, *A. zahaae* **sp. nov.** and *A. kimchi* **sp. nov.**, from the West Sea and the South Sea respectively. They are both relatively closely related to the previously recorded cosmopolitan *A. parvula* (Claus, 1866), but show many novel morphological structures in the caudal rami shape and ornamentation. The identity of the cosmopolitan *A. parvula* in Korea is questioned, and an alternative hypothesis of a species-complex proposed. The fine ornamentation of body somites (especially the pores/sensilla pattern) is studied in detail, and proves to be a very useful new morphological tool in distinguishing closely related species in this genus. The genus *Pseudameira* Sars, 1911 is reported for the first time in Korea, after four females of *P. mago* **sp. nov.** from the South Sea. A single damaged female of *Proameira* cf. *simplex* (Norman & Scott, 1905) represents the first record of the genus *Proameira* Lang, 1944 in Korea, Asia, and anywhere in the Pacific. A key to Korean ameirids is also provided, and their apparent rarity in this part of the world noticed.

**Key words:** Harpacticoida, marine, taxonomy, endemism, sister species, microcharacters

### Introduction

With more than 300 valid species (Boxshall & Halsey 2004), Ameiridae is the third largest harpacticoid family, just after Canthocamptidae Sars, 1906 and Miraciidae Dana, 1846. They are currently classified into 46 valid genera (Walter & Boxshall 2011) and two subfamilies: Ameirinae Monard, 1927 and Stenocopiinae Lang, 1944. The sexually dimorphic basal spine on the male first swimming leg is the most important synapomorphy that unites all ameirids, and this character state has (probably) been secondarily lost in only a few species (Lee & Huys 2002; Karanovic 2006; Karanovic & Hancock 2009). The primary taxonomic subdivisions in this family have traditionally been based on the swimming legs segmentation (Lang 1948, 1965; Petkovski 1976), an approach characterised as overly simplistic by Conroy-Dalton & Huys (1997, 1998), Lee & Huys (2002), Reid *et al.* (2003), Boxshall & Halsey (2004), and Karanovic (2006). Recently, Karanovic & Hancock (2009) made the first attempt to revise a freshwater branch of this family with extremely reduced endopods of the swimming legs, based on a cladistic analysis of 57 morphological characters, and defined six new genera. Although primarily marine, ameirids have successfully radiated into freshwater habitats and can be found today from abyssal depths to freshwater caves (Boxshall & Halsey 2004), with especially rich and diverse fauna discovered recently in the calcrete aquifers of Western Australia (Karanovic 2004, 2006, 2010; Karanovic & Hancock 2009). A few species were also found in association with flatworms (Liddell 1912), medusae (Humes 1953), and malacostracan crustaceans (Chappuis 1926; Bowman 1988), but most ameirids are free-living benthic or interstitial marine animals.