



<http://dx.doi.org/10.11646/zootaxa.3895.3.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:44081058-1ACC-4DFE-AF20-096062256345>

Two new species of the genus *Wellsopsyllus* (Copepoda; Harpacticoida; Paramesochridae) from the Yellow Sea

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Abstract

A study of benthic harpacticoids from the intertidal zone of Gosapo Beach, on the west (Yellow Sea) coast of Korea, resulted in the discovery of two species of *Wellsopsyllus* Kunz, 1981. The first new species, *Wellsopsyllus* (*Wellsopsyllus*) *egregius* sp. nov., was allocated to the nominotypical subgenus by a combination of three characters: 1) a 3-segmented P4 exopod, 2) 1-segmented P2–P3 endopods, and 3) a P1 endopod-2 with one apical seta. However, it can be clearly distinguished from its congeners by the following characters: 1) a caudal rami with two blunt setae and the seta VII located subdistally, 2) a P2 and P3 endopod represented by a small blunt process, and 3) the semioval shape of P5. The second new species was placed in the subgenus *Scottopsyllus* Apostolov & Marinov, 1988 according to the 3-segmented exopod and 2-segmented endopod of P4. *Wellsopsyllus* (*S.*) *koreanus* sp. nov. exhibits a unique combination of characters: 1) a dimpled distal margin of the female P5 endopodal lobe armed with two subequal setae, 2) a caudal seta V consisting of a stout spine-like base with a long cylindrical seta-like portion arising subdistally, and 3) a distinct bundle of five long inner setules on the P1 basis. We present a summary of the characters of all species in the genus *Wellsopsyllus* and propose an updated key for their identification.

Key words: *Wellsopsyllus*, *Scottopsyllus*, interstitial, meiofauna, biodiversity, Korea

Introduction

More than 222,000 accepted eukaryotic marine species have been described worldwide (Appeltans et al. 2012; Costello 2013). According to a current review of marine biodiversity, Australia and Japan are the most speciose countries with respect to marine life (Costello et al. 2010). Interestingly, the most speciose region per unit area is South Korea (Costello et al. 2010). The National Marine Biodiversity Institute of Korea (MABIK) has invested significant effort in studying the marine biodiversity of Korean waters and runs an inventory project on marine organisms that includes registration of specimens in a national database. As a part of this project's ongoing effort to survey marine biodiversity, seven species belonging to the family Paramesochridae Lang, 1944 have been described in Korea. Six of these species have been found on sandy beaches while one was identified in brackish water (Back and Lee 2010; 2012; 2013; Back et al. 2011; Song et al. 2012). In the present study, two new species and six potential new species belonging to the family Paramesochridae were collected from coastal zones (Figure 1).

The family Paramesochridae harbors 13 genera (Wells 2007; Huys 2009). Huys (1987) mentioned that Paramesochridae consists of the subfamily Diarthrodellinae Huys, 1987 (*Diarthrodella* Klie, 1949, *Tisbisoma* Božić, 1964, and *Rossopsyllus* Soyer, 1975) and Paramesochrinae Lang, 1944 (*Wellsopsyllus*, *Paramesochra* groups and *Remanea* Klie, 1929). In Huys' (1987) phylogenetic tree, the *Wellsopsyllus* group was distinguished from the *Paramesochra* group by two apomorphies: 1) a 1-segmented P2–P3 endopod and 2) a reduction in setation of the distal segment in P2–P4.

Following the suggestion by Kunz (1962) to form the new genus *Scottopsyllus*, it was further divided into three subgenera (Kunz 1981) as follows: *Scottopsyllus* Kunz, 1981, *Intermediopsyllus* Kunz, 1962, and *Wellsopsyllus*

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