



Two new species of *Halicyclops* (Copepoda, Cyclopoida) from the estuarine interstitial waters in South Korea*

CHEON YOUNG CHANG¹ & JIMIN LEE

Marine Ecosystem Research Division, Korea Institute of Ocean Science & Technology, Ansan 426-744, Korea

¹Corresponding author; Email: cychang@daegu.ac.kr

*In: Karanovic, T. & Lee, W. (Eds) (2012) Biodiversity of Invertebrates in Korea. *Zootaxa*, 3368, 1–304.

Abstract

Two new cyclopoid species belonging to the genus *Halicyclops* Norman, 1903 are described from brackish waters in South Korea: *H. lanceolatus* **sp. nov.** and *H. pumilus* **sp. nov.** *Halicyclops lanceolatus* was collected from two river mouths, both connected to caves. It belongs to the *thermophilus* group in showing 3,4,4,3 spine formula on legs 1-4 and lateral process on the genital double-somite. Among the members of the species group, it is closely allied with *H. thermophilus* Kiefer, 1929 and *H. uncus* Ueda and Nagai, 2009. However, it differs from them by a stout, lanceolate inner apical spine on leg 5 exopod, very short lateral process of the genital double-somite, short caudal rami, and shorter inner apical spine on the third endopodal segment of leg 4. *Halicyclops pumilus* was collected from interstitial waters of estuarine sandy beaches, and it is characteristic in having a single inner seta on the second endopodal segments of legs 2-3, and quadrate shape of leg 5 exopod with stumpy spines.

Key words: Brackish, copepods, Halicyclopinae, psammobiontic, taxonomy

Introduction

Taxonomic studies on genuine brackish cyclopids in Korea are still scanty. Yoo & Lim (1989) first reported a brackish cyclopoid species, *Halicyclops ryukyuensis* Ito, 1962 from the Yeongsan estuary dam, situated at the southwestern corner of the Korean Peninsula. Chang & Min (2005) recorded *Mesocyclops marinus* Guo, 2000 from Ganghwado Island, Incheon, and *Thermocyclops uenoi* Ito, 1952 from a coastal well, Yeosu, in the middle of the southern coast of Korea. Yoon & Chang (2008) reported two species from the southern coast, *Limnoithona sinensis* Burckhardt, 1913 and *Apocyclops borneoensis* Lindberg, 1953. Recently, Chang (2009) recorded nine brackish species of six genera in his monographic study, including four *Halicyclops* species.

Since May 2008 we have participated in the project of ‘Discovery of the Korean Indigenous Species’, sponsored by the National Institution of Biological Resources, Korea, and have carried out a comprehensive reexamination of the previous records as well as of new material obtained from various brackish waters in Korea during the research period, especially of the genus *Halicyclops*. As a result, we found two interstitial species from estuaries in Korea, both of which turn out to be new to science and are described below.

Material and methods

Material examined in the present study was collected from estuaries and a coastal well at five localities in Korea during the period from May 1988 to July 2010. Samplings were made by stirring up the top centimeters of littoral sediments and then scooping them using a dipnet of 64 µm aperture, or by decanting and sieving the sandy sediments after digging a sampling hole down to the groundwater level beside the water fringe in the river mouths. Copepods were fixed and stored in 4% buffered formalin.