

A New Species of *Aurila* (Crustacea: Ostracoda: Cytheroidea: Hemicytheridae) from the Pleistocene Omma Formation on the Coast of the Sea of Japan

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The ostracod genus *Aurila* is distributed worldwide in shallow marine areas, and fossils of this genus are commonly found in the Late Cenozoic strata of Japan. We describe a new species of *Aurila*, *A. tsukawakii*, from the coast of the Sea of Japan in the Lower Pleistocene Omma Formation, Toyama Prefecture, central Japan. Its geological and geographical occurrence suggests that this species originated in the Late Pliocene within the semi-closed Sea of Japan around 3Ma as an endemic species and likely went extinct by the Middle Pleistocene (ca. 0.4Ma) at the latest. Another related species of *Aurila*, *Aurila* sp., appeared in the Sea of Japan during the Late Pleistocene (ca. 0.1Ma) at the latest, and continues to inhabit the Sea of Japan along the Japanese coast today. We briefly discuss the ecology, biogeography, and distributional pattern of normal pores in the median area of the carapace of these two species.

Key Words: Ostracoda, *Aurila*, new species, Sea of Japan, Plio-Pleistocene, ecology, biogeography, pore pattern.

Introduction

The genus *Aurila* (Crustacea, Ostracoda, Podocopida, Hemicytheridae) contains more than 150 described species ranging from the Miocene to Recent, with extant species reported from shallow marine environments worldwide (e.g., Schornikov and Tsareva 1995). It has also been documented from the coasts of the Japanese Islands from the Miocene to Recent (e.g., Hanai *et al.* 1977). Approximately 20 living and fossil species of *Aurila* have been described from Japan and its adjacent areas (Ikeya *et al.* 2003), making this genus an important group among the podocopid ostracod fauna of Japan.

Fossils of *Aurila*, including undescribed species, are commonly found in Late Cenozoic shallow marine strata along the east side of the Sea of Japan (e.g., Kamiya *et al.* 2001), for instance, from the Lower Pleistocene Omma Formation in central Japan (Ozawa 1996; Ozawa and Kamiya 2005a). These fossil *Aurila* have not been previously examined in detail, nor described, due to the difficulty of accurately identifying species in this relatively diverse genus that has many species