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Two New Shallow-water Species of *Agathotanais* (Crustacea: Tanaidacea) from Japan

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We describe two shallow-water species of *Agathotanais*, *A. misakiensis* sp. nov. and *A. toyoshioae* sp. nov., from Japan. *Agathotanais misakiensis* was collected from 211–493 m depth in the Sagami Sea, North Pacific Ocean. It closely resembles *A. ghilarovi* Kudinova-Pasternak, 1989, but differs in having shorter pereonites 3 and 4, all pleonites narrower than pereonite 6, and a shorter article 3 in the antennule. *Agathotanais toyoshioae*, collected from 95 m depth in the Genkai Sea, Sea of Japan, is very similar to *A. spinipoda* Larsen, 1999. The former can be distinguished from the latter by its narrower pleonites, the presence of a ventral keel on pleonites 1 and 2, and the presence on the basis and absence on the carpus and propodus of small spines on pereopods 4–6.

Key Words: Tanaidacea, Agathotanaidae, *Agathotanais*, new species, Japan, key.

Introduction

The tanaidacean family Agathotanaidae consists of six genera (Błażewicz-Paszkowycz and Bamber 2012; Jóźwiak and Jakiel 2012), one of which is *Agathotanais* Hansen, 1913. *Agathotanais* differs from the other five genera in having one or two articles in the antenna, and fine setae covering the body and appendages. It seems to be a bathyal and abyssal taxon; as all previous studies have reported *Agathotanais* from deeper than 400 m depth, except for a single specimen of *Agathotanais ingolfi* Hansen, 1913 reported by Holdich and Jones (1983) from shallower than 200 m (Fig. 1, asterisk). Three species have been reported from around Japan, collected from the Kurile-Kamchatka and Japan Trenches: *A. hadalis* Larsen, 2007 from 5473–5484 m depth; *A. ingolfi* from 4895–5240 m depth; and *A. splendidus* Kudinova-Pasternak, 1970 from 5441 m depth (Kudinova-Pasternak 1970; Larsen 2007) (Fig. 1).

During faunal surveys in the Sagami Sea (Pacific Ocean) and the Genkai Sea (Sea of Japan), specimens of *Agathotanais* collected from comparatively shallow waters, at a minimum depth of 95 m, proved to belong to two undescribed species. In this paper we describe these species and present a key to the species of *Agathotanais*.

Materials and Methods

The animals from the Sagami Sea were collected in 2012 and 2014 by RV *Rinkai-maru* (Misaki Biological Marine Station, University of Tokyo) by means of a biological dredge at depths of 211–493 m; the specimen from the Genkai Sea was obtained in 2014 by TRV *Toyoshio-maru* (Hiroshima University) with a biological dredge from 95 m depth. Type specimens fixed in 70–99% ethanol and preserved in 99% ethanol were deposited in the Zoological Institute, Faculty of Science, Hokkaido University, Sapporo, Japan (ZIHU). Methods of dissection, specimen preparation, light microscopy, scanning electron microscopy (SEM), and drawing were as described in Kakui and Angsupanich (2012). Orientation and morphological terminology here follow Larsen (2003), except that the term "plumose sensory seta(e)" (PSS; Bird 2011) is used instead of "broom seta(e)". Body length (BL) and cephalothorax length were measured from the base of the antennules to, respectively, the tip of the pleotelson and the posterior edge of the carapace; body width was measured at the widest portion of the carapace (*i.e.*, =carapace width: CW); pereonite width was measured across the "pereopod shoulders" (Larsen 1999b), which are lateral projections on the pereonites where the pereopods attach. Measurements were made axially: dorsally on the body, antennules, antennae, and uropods; laterally on the pereopods and pleopods. All measurements in the text are in millimeters, unless noted otherwise. Length and width in congeners were measured from original illustrations, except for the illustrations in Bird and Holdich (1988) for *A. ingolfi*. The suffixes in the newly proposed Japanese names, *viz.*, '-ka', and '-zoku', represent the taxonomic ranks family and genus, respectively, in the Japanese language.