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***Pseudoamphicteis sinensis* sp. nov., a new species of Ampharetidae (Polychaeta) from China**

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Abstract

A new species of the ampharetid genus *Pseudoamphicteis*, *P. sinensis* sp. nov., is described based on material deposited in the Marine Biological Museum of the Chinese Academy of Sciences (Qingdao). The new species is widely distributed from depths of 7–103 m in the Yellow Sea and the East China Sea. It is distinguished from the only other known species of this genus *Pseudoamphicteis papillosa* Hutchings, 1977 by its grooved branchiae. The genus has not previously been reported from China.

Key words: new species, *Pseudoamphicteis sinensis*, Ampharetidae, Polychaeta, systematics

Introduction

Ornamentation (smooth, papillose or pinnate surface) of the buccal tentacles is one of the characters used to distinguish between genera of the polychaete family Ampharetidae Malmgren, 1866 according to Day (1964, 1967). Hutchings (1977) erected the genus *Pseudoamphicteis* and the type species *Pseudoamphicteis papillosa* Hutchings, 1977 based on the ornamentation of the buccal tentacles. *Pseudoamphicteis* closely resembles the genus *Amphicteis*, in having glandular ridges on the prostomium, 14 uncinigerous segments, four pairs of smooth branchiae and notopodial cirri, but it differs from the latter in that the buccal tentacles are papillose rather than smooth as in *Amphicteis*. *Pseudoamphicteis* has been accepted by subsequent authors (Reuscher *et al.* 2009, Salazar-Vallejo and Hutchings 2012).

Some *Pseudoamphicteis* specimens were separated out when we were sorting material of the family Ampharetidae deposited in the Marine Biological Museum of the Chinese Academy of Sciences (MBMCAS). These specimens represent an undescribed species. The genus *Pseudoamphicteis* has not previously been recorded from China. The species is herewith described and illustrated as a new species to science.

Material and methods

Most of the samples were collected from Jiaozhou Bay (1964–1980), on the south coast of Shandong Peninsula, Yellow Sea, while other specimens were collected from the East China Sea and the Yellow Sea by the “National Comprehensive Oceanography Survey” (NCOS, 1958–1960) and the “Investigation of oil pollution in East China Sea” (1975–1976). All the material is deposited in the MBMCAS.

The specimens were examined with a Nikon AZ100 equipped with a camera and with a scanning electron microscope (SEM). Specimens examined by SEM were critical-point dried, coated in gold, and observed under a KYKY-2800B SEM with a secondary electron detector.

The following abbreviations are used in the text: ECS: East China Sea; YS: Yellow Sea; JZB: Jiaozhou Bay; MBM: Marine Biological Museum of Chinese Academy of Sciences; St: station.

The main distribution area is shown in Fig. 1.

segments, provided with rudimentary notopodia (Fig. 3E) and uncini (Fig. 2C). Thoracic torus 1 mm long, with about 85 uncini. Abdominal torus about 0.5 mm long, with about 75 uncini. All uncini similar (Fig. 3F), with single row of 5 teeth (Fig. 4A–B). Pygidium with pair of short cirri (Fig. 2D).

Variation. Length of paratypes and other material 1.2–2.8 mm, width without chaetae 2.2–3.8 mm. Paratypes with anterior inner pair of branchiae with obvious longitudinal groove, other pairs depressed. All branchiae lost in other specimens.

Etymology. The species is named because it was found in coastal areas of China.

Remarks. *Pseudoamphicteis sinensis* n. sp. differs from the only other known species of the genus, *Pseudoamphicteis papillosa* Hutchings, 1977, by having larger, medially expanded foliose branchiae, which look grooved after preservation and only one pair of anal cirri, while *P. papillosa* has simple, stout branchiae and two pairs of anal cirri. Further, these two species occur in different habitats and geographical areas; *P. sinensis* occurs in the Yellow Sea and the East China Sea, whereas *P. papillosa* is only known from Moreton Bay, Brisbane, Australia (depth 5–8 m). The presence of expanded branchiae in ampharetids is very rare. The best documented case was described by Moore (1906) for *Amphicteis scaphobranchiata*. However, in *A. scaphobranchiata* the expansion is only present along the subdistal branchial region, and only in one pair of branchiae, with the three other pairs being cylindrical, whereas for *P. sinensis* n. sp., branchiae are depressed and at least one pair is markedly expanded along most of its length. This modified branchiae has a special role as a faecal pellet ejector in *A. scaphobranchiata*. As shown by Nowell *et al.* (1984), we have no information regarding any specific function for the expanded branchiae of *P. sinensis* n. sp.

Distribution. Yellow Sea, East China Sea (7–103 m).

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