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Partial revision of Japanese Pectinariidae (Annelida: Polychaeta), including redescriptions of poorly known species

EIJIROH NISHI[1], KANAKO MATSUO[1], MAKI KAZAMA-WAKABAYASHI[2], ATSUSHI MORI[3], SHINRI TOMIOKA[4], HIROSHI KAJIHARA[4], MASAMI HAMAGUCHI[5], NAOTO KAJIHARA[5] & PAT HUTCHINGS[6]

[1]*College of Education and Human Sciences, Yokohama National University, Hodogaya, Yokohama 240-8501, Japan. E-mail: enishi@ynu.ac.jp*
[2]*Institute of Environmental Ecology, IDEA Consultants, Inc. 1334-5 Riemon, Yaizu city, Shizuoka 421-0212, Japan*
[3]*Marine Biological Research Institute of Japan Co.,ltd, Osaka Branch, Toyotsu, Suita, Osaka 564-0051, Japan*
[4]*Graduate School of Natural History Science, Hokkaido University, Sapporo, Hokkaido 060-0810, Japan*
[5]*National Research Institute of Fisheries and Environment of Inland Sea, Fisheries Research Agency, 2-17-5 Maruishi, Hatsukaichi, Hiroshima 739-0452, Japan*
[6]*Australian Museum Research Institute, Australian Museum, 6 College St, Sydney, NSW 2010 Australia*

Abstract

Eight species of Pectinariidae de Quatrefages, 1866 were recorded from Japan and adjacent waters. We studied four species of the family and redescribe the poorly known species from the Seto Inland Sea and Ariake Sound, Kyushu based on recently collected material. The species covered in this study are *Amphictene japonica* (Nilsson, 1928), *Lagis bocki* (Hessle, 1917), *Pectinaria okudai* (Imajima & Hartman, 1964) and *Pectinaria hiuchiensis* Kitamori, 1965.

Key words: taxonomy, type material, *Amphictene*, *Pectinaria*, *Lagis*

Introduction

Pectinariids are tubicolous polychaetes, commonly known as “ice cream cone” or “trumpet” worms because of their unique cone-shaped tubes (Wolf 1984). They have a characteristic set of golden paleae surrounding the mouth which they use for digging in soft sediments (Hutchings 2000). They mainly occur in shallow marine sediments (Rouse & Pleijel 2001). The taxonomy of this family was summarized by Holthe (1986) and Hutchings & Peart (2002).

In Japanese and adjacent waters, the following eight species have been recorded: *Amphictene japonica* (Nilsson, 1928), *Cistenides hyperborea* Malmgren, 1866, *Lagis bocki* (Hessle, 1917), *Lagis koreni* Malmgren, 1866, *Pectinaria okudai* (Imajima & Hartman, 1964), *Pectinaria aegyptia sensu* Marenzeller (1879) (cf. Annenkova 1929), *Pectinaria belgica* (Pallas, 1766), *Pectinaria hiuchiensis* Kitamori 1965 (Marenzeller 1879, Moore 1903, Nilsson 1928, Imajima & Hartman 1965, Kitamori 1965). We studied four of these species and redescribe the poorly known species *P. hiuchiensis*. A fossil record of Pectinariidae has been reported from Japan (Katto 1976). However, the record, based only on a tube, is not considered here. Material used in this study includes newly collected specimens as well as extensive collection of pectinariid species studied by polychaetologist Dr. Okuda, kept at Hokkaido University Museum (Ishida *et al.* 2005).

Material and methods

We examined recently collected material from Shinjiko Lake and Nakaumi Lake, partly recorded by Nishi *et al.* (2012) and at Nakatsu tidal flat by Nishi *et al.* (2013). Some samples housed in the Natural History Museum and Institute, Chiba, and in Zoological Institute, Hokkaido University, were also examined.

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TABLE 1. Key to Japanese Pectinariidae (Polychaeta). Genus not recorded from Japan and adjacent waters is identified by the asterisk.

1	Cepahlic veil cirrate, schaphe distinctly separated from abdomen	2
-	Cepahlic veil smooth, scaphe indistinctly separated from abdomen	*Petta**
2	Dorsal opercular rim smooth	3
-	Dorsal opercular rim cirrate	(*Amphictene*) *A. japonica*
3	Cephalic veil free	4
-	Cephalic veil laterally attached	(*Lagis*) 5
4	Major teeth of uncini in 1 row	(*Cistenides*) *C. hyperborea*
-	Major teeth of uncini in 2, 3, or 4 rows	(*Pectinaria*) 6
5	Margins of anal flap with long fringes	*L. bocki*
-	Margins of anal flap without fringes	*L. koreni*
6	Twelve uncinigerous tori (biramous chaetigers)	*P. okudai*
-	Thirteen uncinigerous tori (biramous chaetigers)	7
7	Cepahlic veil with 17–28 cirri	*P. belgica*
-	Cepahlic veil with 30–38 cirri	*P. hiuchiensis*
-	Cephalic veil with ca. 65 cirri	*P. aegyptia*

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