

A New Species of *Pennatulicola* Humes and Stock (Copepoda: Cyclopoida: Rhynchomolgidae) Associated with a Pennatulacean from Tokyo Bay, Japan

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(Received 14 October 2014; Accepted 3 December 2014)

A new species of poecilostome cyclopoid copepod, *Pennatulicola piscatorius* n. sp., is described as an associate of the pennatulacean genus *Pteroeides* from Tokyo Bay, Japan. The new species is distinguishable from its congeners by the following combination of features: exopod of leg 5 with conical inner process arising 38% of way distally, maxillule with three apical setae, and basis of legs 1–4 with a simple outer seta. This is the first record of the genus *Pennatulicola* in East Asia.

Key Words: *Pennatulicola piscatorius* n. sp., associated fauna, *Pteroeides*, sea pen.

Introduction

Sea pens (pennatulaceans) belong to the order Pennatulacea in the phylum Cnidaria and are known to host associated copepods of the families Lamippidae and Rhynchomolgidae. Humes (1985) counted 15 species in six genera of poecilostome cyclopoid copepods associated with 14 species in eight genera of pennatulaceans. Those copepods include eight species from the Lamippidae: *Enalcyonium albidum* (Zulueta, 1908), *E. concinnum* (Humes, 1957), *Lamippe bouligandi* Laubier, 1972, *L. pteroidis* Zulueta 1910, *L. rubra* Bruzelius, 1858, *Lamippella delamarei* Bouligand, 1965, *Lamippula chattoni* (Zulueta, 1908), and *L. pallida* (Zulueta, 1908); and seven species from the Rhynchomolgidae: *Pennatulicola pteroidis* (Della Valle, 1880), *P. pterophilus* (Stock, 1962), *P. serratipes* (Ummerkutty, 1961), *Critomolgus pteropadus* (Humes, 1978), *C. ptilosarci* (Humes and Stock, 1973), *C. trispinosus* (Stock, 1959), and *C. virgulariae* (Humes, 1978).

Since then, two additional species of copepod have been described from pennatulaceans: *Critomolgus nudus* Kim, 2000 from *Virgularia gustaviana* (Herklots, 1863) and *Zamolagus cavernularius* Kim, 2000 from *Cavernularia obesa* Valenciennes in Milne Edwards and Haime, 1850. Both of these belong to the family Rhynchomolgidae and were discovered in the Yellow Sea (Kim 2000a, b). Therefore, in total, 17 species in seven genera of cyclopoid copepods have been recorded as associates of pennatulaceans.

The genus *Pennatulicola* consists of four known species, viz., *P. corallophilus* Nair and Pillai, 1986 from a scleractinian coral and *P. pteroidis* (Della Valle, 1880), *P. pterophilus* (Stock, 1962), and *P. serratipes* (Ummerkutty, 1962) from pennatulaceans. In the present paper a new species of *Pen-*

natulicola associated with the pennatulacean genus *Pteroeides* is described from Tokyo Bay, Japan.

Materials and Methods

The copepods were collected from external washings of one pennatulacean of the genus *Pteroeides* taken accidentally with a fishhook in Tokyo Bay. The copepods were preserved in 80% ethanol. For microscopic observation, some of specimens were dissected and observed using the reverse slide method (Humes and Gooding 1964). The description was done mainly on the basis of dissected paratypes. In the description, the body length does not include the setae on the caudal rami. In the armature formula for the antennule and legs 1–4, Roman and Arabic numerals represent spines and setae, respectively. All figures were drawn with the aid of a drawing tube attached to the microscope. Type specimens have been deposited in the National Museum of Nature and Science, Tsukuba. Terminology follows Huys and Boxshall (1991) and Humes and Boxshall (1996).

Order **Cyclopoida** Burmeister, 1835

Family **Rhynchomolgidae** Humes and Stock, 1972

Genus ***Pennatulicola*** Humes and Stock, 1972

Pennatulicola piscatorius n. sp.

(Figs 1–3; Table 1)

Material examined. 25♀♀, 4♂♂ from external washings of one pennatulacean of the genus *Pteroeides* (cf. *Pteroeides sparmanni* Kölliker, 1869) taken with a fishhook in Tokyo Bay, Japan (35°16'00"N, 139°43'40"E), depth about