

Pycnogonida Collected from the Pacific Coast of Northern Honshu, Japan

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Abstract: Pycnogonida in the “Study on Deep-Sea Fauna and Conservation of Deep-Sea Ecosystem” were recorded. Fifty-nine specimens of 9 species, belonging to 6 genera, 5 families were collected totally from 26 stations. *Ascorhynchus japonicum* Ives, 1891, was the largest group in number.

Key words: Pycnogonida, *Achelia*, *Ascorhynchus*, *Nymphon*, *Phoxichilidium*, *Bathypallenopsis*, *Colossendeis*

Introduction

Pycnogonida from the adjacent waters of Japan were described by Utinomi (1971) and by Nakamura and Child (1991). However, there is no report on the Pycnogonida fauna restricted to the waters of Pacific coast of Tohoku District, northern Honshu, Japan. This study is focused to this area investigated in “Research on Deep-sea Fauna and Pollutants off Pacific Coast of Northern Japan” and pycnogonids found in this project were recorded.

Materials and Methods

Pycnogonids were collected by R/V *Wakataka-maru* of the Fisheries Research Agency (FRA) in 2005 and 2006 and by R/V *Soyo-maru* of the Fisheries Research Agency in July 2006, by using bottom trawls. Fifty-nine specimens from 26 stations were identified. All the specimens examined are deposited in the collection of the National Museum of Nature and Science, Tokyo, and catalogued with the numbering system of the former National Science Museum, Tokyo (NSMT).

Systematics

Family Ammotheidae

Achelia bituberculata Hedgpeth, 1949

Achelia bituberculata Hedgpeth, 1949: 287-289, fig. 41a-g.; Nakamura and Child, 1991: 3 [literature].

Material examined. WA-06-A450 (1♀); WA- 9302 (1♀).

Distribution. This species was found from off northern Hokkaido to the coast of Honshu and around the coast of South Korea in depths from the littoral to 75 m. These specimens extend in depth to 560 m.

Remarks. Like most species of *Achelia*, this species has much variation among the many known specimens. The dorsal tubercles and spines of the trunk and appendages are various: absent or present, and, if present, small or large. Two specimens recorded in this study are larger than the specimens previously collected from shallow waters, but the morphological differences were as

little as in variation within a species.

Ascorhynchus japonicum Ives, 1891

Ascorhynchus japonicus Ives, 1891: 218-223, pl. 12.

Ascorhynchus japonicum: Nakamura and Child, 1991: 8 [literature]

Material examined. WA-05-F510 (2♀♀); WA-05-F550 (1♀); WA-05-F650 (1♂); WA-05-G750 (2♂♂, 4♀♀); WA-05-F1200 (2♂♂); WA-06-A310 (1 juv.); WA-06-B650 (1♀); WA-06-B900 (1♂); WA-06-B900-LP (1♂); WA-06-C900 (1♀); WA-06-E480 (1♀); WA-06-F1500 (2♂♂); WA-06-GH510 (1♂); WA-06-H310 (1♂).

Distribution. This species is known from many localities around the rim of the North Pacific from Shikoku to the Oregon coast of America, in depth of 53 to over 1700 m.

Remarks. This is the largest species known of this genus around the Japanese Islands, with a leg span sometimes reaching 15-16 cm. It has 2-segmented scapes, which are extremely short in relation to the very long palp and bulbous long proboscis.

Family Nymphonidae

Nymphon gunteri Hedgpeth, 1949

Nymphon gunteri Hedgpeth, 1949: 257-259, fig. 26; Nakamura, 1987: 4-5; Nakamura and Child, 1991: 49.

Material examined. WA-06-A450 (1♀).

Distribution. This species was described from northern Honshu to south off Kii Peninsula, in depth from 100 to 2000 m. The new record does not extend the known range of the species.

Remarks. The recognition characters for this species are two large spines almost at midsole length, a propodus subequal to the tarsus, a very short fourth segment of palp, slightly over half length of the fifth, and strigilis spines with two lateral serrations per side and many tiny distal serrations. The chela fingers are long, as long as the palm, and bear 10-15 large teeth.

Nymphon heterospinum Hedgpeth, 1949

Nymphon heterospinum Hedgpeth, 1949: 259-260, fig. 27; Nakamura and Child, 1991: 49.

Material examined. WA-06-G480 (1♂).

Distribution. This species was found from east of Akkeshi Bay, Hokkaido and off Sanriku, in 102 to 563 m. This record is the same as previous records.

Remarks. This species is characterized by two or three large heel sines, chela fingers shorter than palm and armed with many small teeth, auxiliary claws almost half the main claw length, and strigilis spines with a large basal serration and tiny leaf-like distal serrations.

Nymphon quadriclavus Nakamura and Child, 1986

Nymphon quadriclavus Nakamura and Child, 1986: 893-895, figs. 1-2.

Material examined. WA-06-A450 (2 larv.♂, 2 ovig.♂, 4♂♂, 6♀♀, 4 juv.).

Distribution. This species has been known only from Sagami Bay, the type locality, but the distribution is extended to off Sanriku, Tohoku area, by the present study.

Remarks. This is most closely related to *Nymphon ortmanni* Helfer, 1932. The most conspicuous character is the cement glands of this species which are small, tube-like, and exist three on the femur and one on the tibia 1 of all legs, while the cement glands of *N. ortmanni* are 25-30

small pores in a line on the ventral side of each femur.

***Nymphon profundum* Hilton, 1942**

Nymphon profundum Hilton, 1942: 3; Nakamura and Child, 1991: 58 [literature].

Material examined. SO-06-M4-B (3♂♂, 2♀♀, 1 juv.).

Distribution. This species was known from off Alaska and the Aleutian Islands to off Sanriku, in 2869 to 4220 m. This record extend into additional 800 meters of depth. This is apparently one of those species brought south by the Oyashio Current.

Remarks. This species is characterised by lacking auxiliary claws and ocular tubercle, but some have an ocular tubercle space containing tiny conical tubercles in pairs.

Family Phoxichilidiidae

***Phoxichilidium ungelatum* Hedgpeth, 1949**

Phoxichilidium ungelatum Hedgpeth, 1949: 281-283, fig. 38; Stock, 1954: 71; Utinomi, 1955: 22; 1971: 325; Nakamura and Child, 1991: 34-35.

Material examined. WA-06-G510 (1♂).

Distribution. This species is widely distributed around Japan on both coasts with a depth range from 0 to 5 m in plankton tows to the 479 m. This record extends its depth to 508 m.

Remarks. This is very large species in relation to others of the genus and its legs are longer and more slender.

Family Pallenopsisidae

***Bathypallenopsis stylirostris* (Hedgpeth, 1949)**

Pallenopsis stylirostris Hedgpeth, 1949: 278-280, fig. 36a-e.

Pallenopsis (Bathypallenopsis) stylirostris: Stock, 1975: 1032 [text]; Nakamura and Child, 1991: 40.

Material examined. SO-06-M3-B2 (1 juv.).

Distribution. This species was found from off southern Honshu to off Sanriku, in 1000 to 1300 m. This record extends the range of depth to 4000 m.

Remarks. The tapering proboscis, long chelifore scapes (longer than proboscis) with small chelae, and large ocular tubercle with well-developed eyes serve to distinguish this species from others of genus in this water.

Family Colossendeidae

***Colossendeis angusta* Sars, 1877**

Colossendeis angusta Sars, 1877:268-269; Hedgpeth, 1949: 269-271, fig. 50a [literature]; Nakamura and Child, 1991: 62.

Material examined. WA-05-G510 (1♂); WA-05-G750 (1); WA-05-H750 (1); WA-05-H900 (2); WA-06-G480 (1); SO-06-M3-B2 (1).

Distribution. This species is apparently worldwide in distribution. It has been taken as shallow as 157 m to 4000 m in depth.

Remarks. This species is characterized by its very long propodal claws, as long as or sometimes longer than propodus, and its very short seventh palp segment, being hardly longer than wide.

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