

Acanthochondria uranoscopi (Copepoda), a parasite of the Japanese stargazer *Uranoscopus japonicus*, from the Seto Inland Sea and the western North Pacific off central Japan

Kazuya Nagasawa^{1*}, Tomoyasu Tamego² and Susumu Isozaki³

¹ Graduate School of Biosphere Science, Hiroshima University,
1-4-4 Kagamiyama, Higashi-Hiroshima, Hiroshima, 739-8528 Japan

² Hyogo Association for the Promotion of Productive Seas,
22-31 Minami-Futami, Futami, Akashi, Hyogo, 674-0093 Japan

³ 1-1810 Ematsu, Nakagawa, Nagoya, Aichi, 454-0954 Japan

Abstract. Ovigerous females of the chondracanthid copepod *Acanthochondria uranoscopi* Ho & Kim, 1995 were found on the floor of the oral cavity of the Japanese stargazer *Uranoscopus japonicus* Houttuyn, 1782 caught in the eastern Seto Inland Sea and the western North Pacific off central Honshu, Japan. These collections represent the second and third records of *A. uranoscopi*, which was originally described from the Sea of Japan, and expand its geographical distribution to the Pacific side of Japan.

Key words: *Acanthochondria uranoscopi*, *Uranoscopus japonicus*, fish parasite, new locality records

The Japanese stargazer *Uranoscopus japonicus* Houttuyn, 1782 (Perciformes: Uranoscopidae) is distributed in waters around Japan, Korea, Taiwan, and China (Yamada & Yanagishita, 2013). In Japan, due to its low abundance, only a few parasitological investigations so far have been conducted into the parasites of the species. Four nominal species and one unidentified species of metazoan parasites have been reported: three trematodes, *Isocoelium medioleithale* Ozaki, 1927, *Paraisocoelium exorchis* Ozaki, 1932 (both Cryptogonimidae), and *Bucephalus uranoscopi* Yamaguti, 1934 (Bucephalidae) (Ozaki, 1927, 1932; Yamaguti, 1934a); one cestode, *Echeneibothrium* sp. larvae (Phyllobothriidae) (Yamaguti, 1934b); and one copepod, *Acanthochondria uranoscopi* Ho & Kim, 1995 (Chondracanthidae) (Ho & Kim, 1995). During a study of parasites

of marine fishes in Japanese waters, we collected *A. uranoscopi* (Fig. 1) from *U. japonicus* caught in the eastern Seto Inland Sea and the western North Pacific. This copepod was originally described using specimens from the same host species in the Sea of

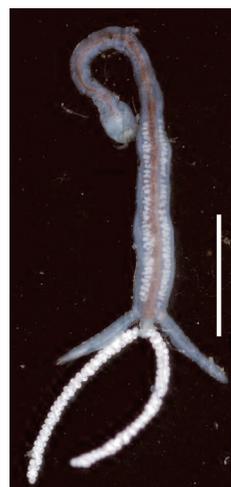


Fig. 1. *Acanthochondria uranoscopi*, ovigerous female (dorsal view), NSMT-Cr 22944, from *Uranoscopus japonicus* in the eastern Seto Inland Sea, Japan. Scale bar: 3 mm.

*Corresponding author: ornatus@hiroshima-u.ac.jp

Japan off Sado Island, Japan, and the present collections represent the second and third records of *A. uranoscopi* and expand its geographical distribution to the Pacific side of Japan (Fig. 2).

Three ovigerous females (each with an attached male) of *A. uranoscopi* were found on the floor of the oral cavity of one *U. japonicus* (175 mm in total length [TL]) caught in a trawl net on 23 December 2013 at 50–60 m in the eastern Seto Inland Sea off the south coast of Awaji Island, Hyogo Prefecture. Two ovigerous females (each with an attached male) of *A. uranoscopi* were also collected on 3 May 2013 from the same site of one *U. japonicus* (305 mm TL) captured in the western North Pacific using a set net installed off Kowa-ura, Minami-ise, Mie Prefecture, central Honshu. Copepods were fixed in 70% ethanol. One female from the latter locality was dissected for identification, and the remaining four females are deposited in the Crustacea (Cr) collection of the National Museum of Nature and Science, Tsukuba, Ibaraki Prefecture, Japan (NSMT-Cr 22944 [n=3, from the Seto Inland Sea]; NSMT-Cr 22945 [n=1, from the western North Pacific]).

As reported by Ho & Kim (1995), the adult female

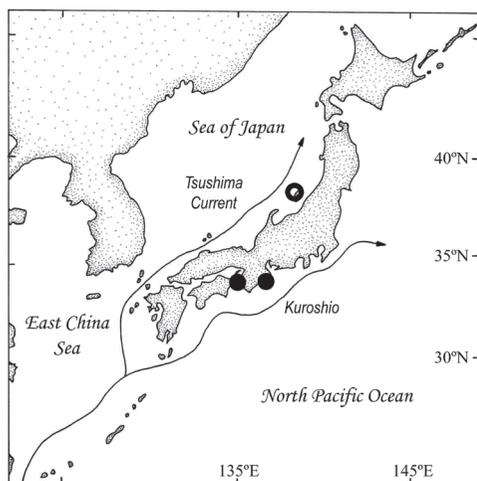


Fig. 2. A map of the Japanese Archipelago, showing the localities where *Acanthochondria uranoscopi* was collected in the previous (open circle; Ho & Kim, 1995) and present (closed circles) studies.

of *A. uranoscopi* is characterized by an elongate neck, a slender trunk, and a pair of long, posterolateral processes (Fig. 1). The body of the females collected is 11.2–17.0 mm long (n=4). Since *U. japonicus* is the only known host for *A. uranoscopi* (Ho & Kim, 1995; this study), this parasite is highly likely to be specific to *U. japonicus*. The three sampling localities of *A. uranoscopi* in Japan are included in temperate waters, affected by the warm-water current, Kuroshio, and its branch, Tsushima Current (Fig. 2). However, since the host species is known to occur in Korea, Taiwan, and China as well as in Japan (Yamada & Yanagishita, 2013), *A. uranoscopi* may be discovered in a wider area off these countries.

References

- Ho, J.-S. & Kim, I.-H., 1995. *Acanthochondria* (Copepoda: Chondracanthidae) parasitic on fishes of Sado Island in the Sea of Japan, with a preliminary review of the genus. *Rep. Sado Mar. Biol. Stat., Niigata Univ.*, (25): 45–67.
- Ozaki, Y., 1927. Two new genera of fish trematodes. *Japan. J. Zool.*, **1**: 157–164.
- Ozaki, Y., 1932. A new trematode worm of the family Acanthostomidae. *Proc. Imp. Acad. Japan*, **8**: 450–453.
- Yamada, U. & Yanagishita, N., 2013. Uranoscopidae. In Nakabo, T. (Ed), *Fishes of Japan with pictorial keys to the species. Third edition*: 1277–1278. Tokai Univ. Press, Hadano. (In Japanese).
- Yamaguti, S., 1934a. Studies on the helminth fauna of Japan. Part 2. Trematodes of fishes, I. *Japan. J. Zool.*, **5**: 249–541.
- Yamaguti, S., 1934b. Studies on the helminth fauna of Japan. Part 4. Cestodes of fishes, I. *Japan. J. Zool.*, **6**: 1–112.

(Received May 8, 2014; Accepted July 10, 2014)