

Record of *Ipnops* sp. (Ipnopidae: Aulopiformes) from northern Japan

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During a dive of the submersible *Shinkai 6500* (run by the Japan Agency for Marine-Earth Science and Technology, JAMSTEC, formerly the Japan Marine Science and Technology Center) in the Japan Trench, off Cape Erimo, northern Japan, the second author succeeded in taking a photograph of an ipnopid fish on the bottom at about 3,500 m (Fig. 1). Locality data are as follows: Okamura (Cadet) Seamount (41°15.96'N, 144°34.56'E), water temperature 1.8°C, at the apex of the seamount, KY07-14, mother ship *Yokosuka*, 1 October 2007. This specimen was readily referred to the genus *Ipnops* based on its general morphology and the distinctive reflection of light from its unique plate-like eyes, as finely demonstrated in the robotic-camera photograph of Roper and Brundage (1972). This record represents an unexpected northern extension of the geographical ranges of the genus, including its first appearance in Japanese waters.

Currently two species of *Ipnops* are known from lower bathyal and abyssal depths in the Indo-Pacific Ocean, i.e., *Ipnops agassizi* and *Ipnops meadi*. The two species can usually be separated by their depth of capture, with *I. agassizi* found at shallower depths than *I. meadi* at the same latitude (Fig. 2). *Ipnops agassizi* is concentrated in the lower bathyal zone (<3,000 m) north of around 20°S, whereas *I. meadi* occupies a deeper habitat and extends its depth range to the abyssal zone (down to 5,400 m; Shcherbachev 1981) further south, in the absence of *I. meadi*. In contrast, *I. meadi* is restricted to the abyssal zone (3,310–4,940 m) throughout its range. From these data, the present specimen is most probably referable to *I. meadi*, and represents an extension of its northern range limit from ca. 29°N to ca. 41°N.

The size of this specimen is estimated to be about 150 mm in TL from the photograph taken from the submersible, which was more than 5 m from the target fish. Since recorded demersal specimens of *I. meadi* are 50–121 mm SL (Nielsen 1966), this fish may be a fully grown adult. Judging from the photograph, this true benthic fish inhabits a slightly disturbed muddy flat bottom (also confirmed on the core sample near the present photo site) dominated by certain ophiuroids. Although little is known about the biology of *I. meadi*, the putative early life history of *I. agassizi*, including extensive ontogenetic vertical migration terminating at around 55 mm SL (Okiyama 1986, 1988), may be shared by *I. meadi*. In the present case, therefore, there is the possibility of northward transport during a long larval stage by the prevailing Kuroshio Current from its typical adult habitat in the subtropical/tropical western Pacific.

Without the specimen to hand, it is also possible that an undescribed species is represented in the photograph.

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Fig. 1 Photograph of *Ipnops* sp. taken from the submersible *Shinkai 6500* on the bottom at about 3,500 m depth in the Japan Trench, off Cape Erimo, northern Japan

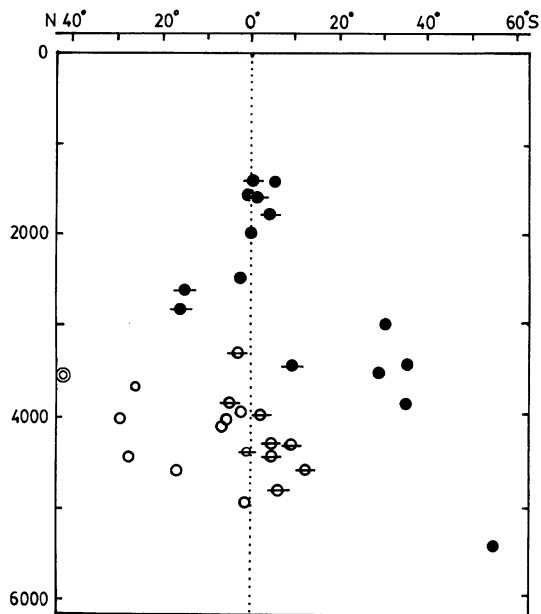
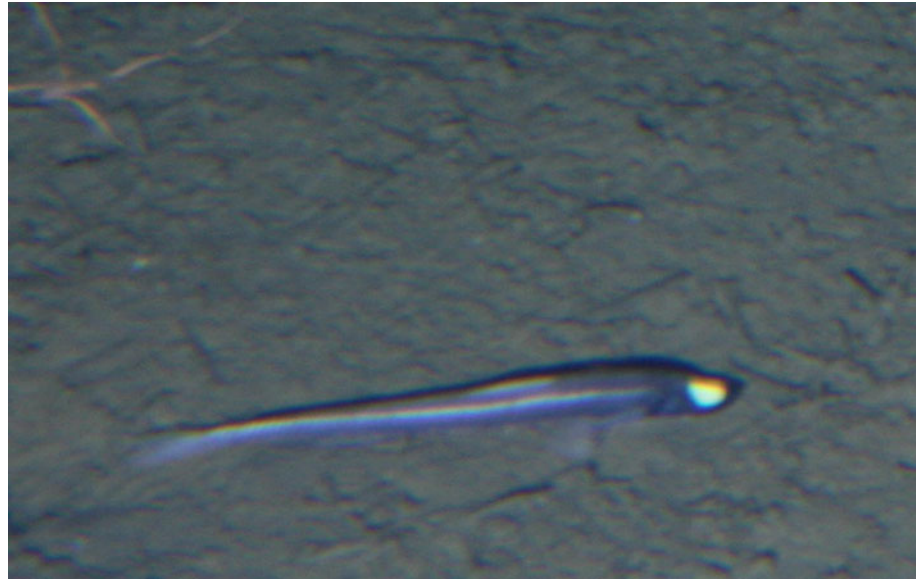


Fig. 2 Vertical distributions of two species of *Ipnops* from the Indo-Pacific Oceans by latitude. Open circles, *Ipnops meadi*; closed circles, *Ipnops agassizi*. Circles with a horizontal bar indicate records from the Indian sector. The present record is indicated by the double circle (slightly modified from Okiyama 1986)

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