

**First Record of the Alepocephalid Fish, *Photostylus pycnopterus*, from Japan**

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The rare alepocephalid fish, *Photostylus pycnopterus*, was first described by Beebe (1933a) from a single specimen which was caught off Bermuda. Subsequently, a total of 29 specimens (39.9–113.0 mm SL) have been reported from the Atlantic, Pacific and Indian Oceans (Beebe, 1933b; Grey, 1958; Goodyear, 1969; Fourmanoir, 1970; Kashkin, 1975; Wisner, 1976; Parin et al., 1976; Paxton et al., 1990). During the cruise of R/V Hakuho-Marū (KH-88-4) of Ocean Research Institute, University of Tokyo, *P. pycnopterus* was collected in the water off Cape Muroto, Shikoku in the western North Pacific. This species is recorded for the first time from Japanese waters and described here.

The specimen was fixed in 10% buffered sea water formalin immediately after collection for a half day and then preserved in 70% ethyl alcohol. Vertebrae were counted by soft-X ray negatives. Measurements and counts followed the method described by Hubbs and Lagler (1958), except for the vertebrae which was counted according to Markle and Merrett (1980).

*Photostylus* Beebe, 1933

(New Japanese name: Ukeguchi-tsubu-iwashi-zoku)

*Photostylus pycnopterus* Beebe, 1933  
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(Figs. 1–4)

*Photostylus pycnopterus* Beebe, 1933a: 163, fig. 41 (type locality, 9 miles south-east of Nonsuch Island, Bermuda, 800 fms.); 1933b: 83, fig. 23 (after Beebe 1933a); Grey, 1958: 56; Goodyear, 1969: 398; Fourmanoir, 1970: 37, fig. 2; Kashkin, 1975: 911; Wisner, 1976: 153, fig. 1; Parin et al., 1976: 207.

**Material examined.** NSMT-P 34046, male, 109.2 mm SL, off Cape Muroto, Shikoku, Japan, 32°20.7'N, 135°09.5'E, R/V Hakuho-Marū cr. KH-88-4, st. 26, 840–871 m, 10-foot Isaacs-Kidd Midwater Trawl (IKMT) with Electric Multiple Plankton Sampler (EMPS), 21:02–23:58, 28 Oct. 1988.

**Description.** Dorsal rays 14; anal rays 18; pectoral rays 17; pelvic rays 6; caudal rays 10+9; gill rakers on first arch 3+1+9=13; anterior vertebral centra unossified 5; ossified vertebrae 20+18=38.

Proportion as % SL (109.2 mm): Head length 15.8; body depth 14.0; distance between origins of dorsal and anal fin 12.6; caudal peduncle length 7.2; caudal peduncle depth 4.8; pre-anus length 55.3; length of dorsal fin base 11.1; length of anal fin base 15.7; predorsal fin length 75.1; preanal fin length 75.0; prepelvic fin length 47.5; distance between anus and origin of anal fin 17.9. Proportion as % HL (17.3 mm): upper jaw length 54.9; snout length 38.2; eye diameter 20.1; interorbital width 17.3.

Body elongate and compressed (Fig. 1); head and eye small; nostril (especially posterior one) very large (Fig. 2); vomer toothless; premaxillary, maxillary, mandible and palatine with teeth; pseudobranch absent; body scaleless; acentrous vertebrae behind head with five neural spines (Fig. 3); the end of anal fin posterior to base of the dorsal ray. Head and body are covered with irregularly scattered small photophores elevated on stalks (Fig. 2).

Color in 70% ethanol: Body uniformly blackish brown; upper jaw, anterior margin of opercle, occi-

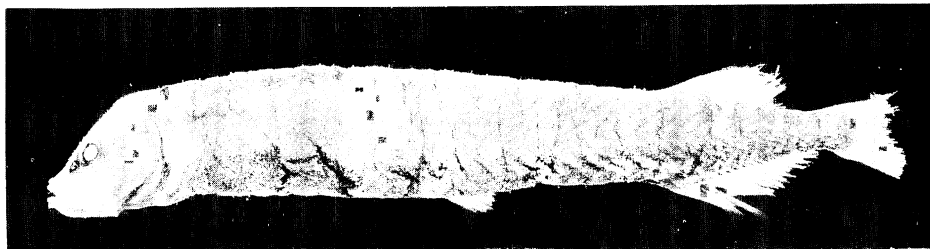


Fig. 1. *Photostylus pycnopterus*, NSMT-P 34046, 109.2 mm SL.

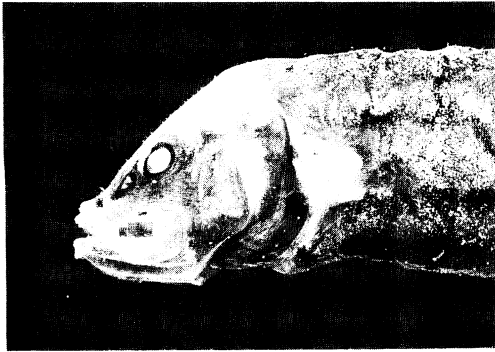


Fig. 2. Lateral view of head of *Photostylus pycnopterus*, NSMT-P 34046, 109.2 mm SL.

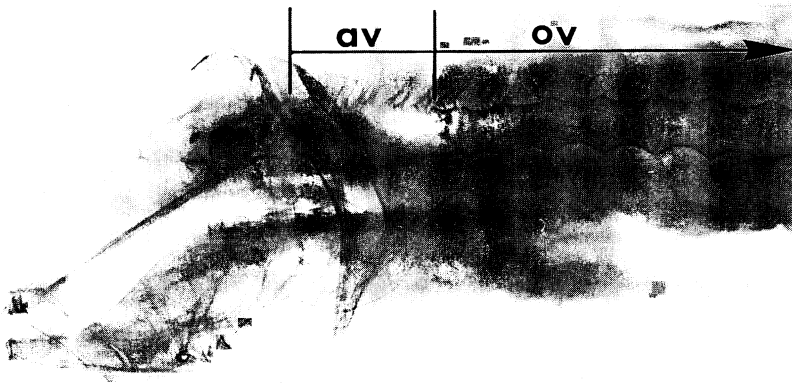


Fig. 3. X-ray photograph of *Photostylus pycnopterus*, NSMT-P 34046. av: acentrous vertebrae; ov: ossified vertebrae.

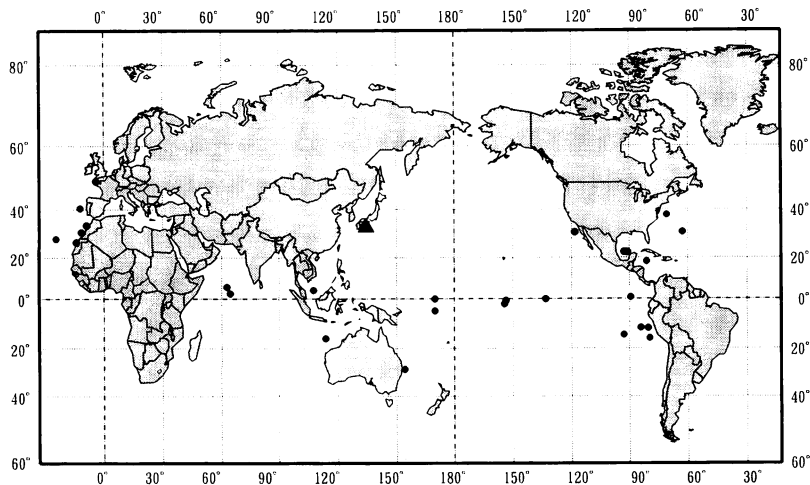


Fig. 4. Capture localities for *Photostylus pycnopterus*. Solid circles indicate previously known localities; solid triangle present locality.

put and nape light brown; pelvic fin base transparent; all fins light brown; mouth and gill cavities brown.

**Remarks.** *Photostylus pycnopterus* is easily distinguishable from all other alepocephalids by presence of photophores on raised stalks, obtuse ventral outline of upper jaw and absence of pseudobranch (Beebe, 1933 a, b; Markle, 1976). Morphological characters of the present specimen corresponded well with the previous descriptions (Table 1). This specimen is male with moderately developed testes.

*P. pycnopterus* is widely distributed in the Atlantic, Pacific and Indian Oceans, but seems sparsely populated (Fig. 4). Almost all captures were made within distinctly warm-water regions near the outer limit of the continental slope, and were from areas of rather high productivity (Kashkin, 1975; Wisner, 1976). The present locality was just in the area of Kuroshio Current on Nankai Trough near continental slope (ca. 4,700 m depth), an area of rather low productivity (Koblentz-Mishke et al., 1970). However, it remains unknown from the examination of the present specimen whether this species reproduces around Japanese water or drifts from other waters.

#### Acknowledgments

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Table 1. Comparison of counts and proportional measurements between the present and the known specimens of *Photostylus pycnopterus*

	Present specimen	Known specimens*
Number of specimens	1	23
Standard length (mm)	109.2	39.9–113.0
Counts		
Dorsal fin rays	14	12–15
Anal fin rays	18	17–19
Pectral fin rays	17	17–20
Gill rakers	13	12–15
Vertebrae	43	41–44
Measurements in % of SL		
Predorsal fin length	75.1	74.2–79.9
Preanal fin length	75.0	71.1–78.1
Prepelvic fin length	47.5	47.5–54.2
Peanus length	55.3	56.6–63.4
Body depth	14.0	12.0–14.8
Head length	15.8	14.5–18.9
Snout length	6.0	5.1– 6.7
Upper jaw length	8.7	8.0–10.3
Interorbital width	2.7	2.5– 4.6
Caudal peduncle depth	4.8	3.9– 6.1

\* Cited from Beebe (1933b), Grey (1958), Goodyear (1969), Kotthaus (1972), Kashkin (1975), Parin et al. (1976) and Wisner (1976).

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#### 日本初記録のウケグチツブイワシ (新称)

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室戸岬沖からウケグチツブイワシ (新称) *Photostylus pycnopterus* Beebe が採集された。本種は1属 (ウケグチツブイワシ属, 新称) 1種の中・深層性魚類で過去に世界中で29個体の採集報告があるが、日本近海からは今回が初記録である。本種は先端に発光器を有した芽状器官が体表面に不規則に散在する事から容易に他種と区別される。今回採集された個体 (標準体長 109.2 mm) は発達した精巢を有していた。

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