

First Record of an Arrow Eel *Cyema atrum* (Cyematidae: Saccopharyngiformes) from Japan

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During a survey of the mid-water fauna around Japan by R/V Tansei Maru (KT-91-16), Ocean Research Institute, University of Tokyo, a unique, eel-like specimen was caught from off southeastern Kyushu. Although the specimen was considerably damaged, it was positively identified as *Cyema atrum* Günther, 1878. This is the first confirmed record of a known species of the Cyematidae from Japan, though the larvae of unidentified cyematids have been collected from off the Okinawa Islands (Tabeta, 1988).

Methods for counts and measurements followed Smith (1989). Vertebrae were counted from a soft X-ray negative.

Cyema Günther, 1878
(New Japanese name: Yabane-unagi-zoku)

Cyema atrum Günther, 1878
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(Figs. 1-3)

Cyema atrum Günther, 1878, Ann. Mag. Nat. Hist., (5)2: 251, original description (type locality: South Pacific); Günther, 1887: 265, pl. 54, fig. d; Vaillant, 1888: 91, pl. 7, fig. 4; Brauer, 1906: 131, pl. 8, fig. 3; Zugmayer, 1911: 85, pl. 4, fig. 2; Bertin, 1937: 11, figs. 9, 11; Grey, 1956: 151;

Parin et al., 1977: 138; Castle, 1986: 192; Smith, 1989: 634.

Material examined. NSMT-P (National Science Museum, Tokyo) 34047, 99.6+ mm TL, 30°42.8'N, 132°16.3'E-30°52.2'N, 132°09.0'E, off southeastern Kyushu, Japan, R/V Tansei Maru cruise KT-91-16, St. 5, 10-foot Isaacs-Kidd Midwater Trawl (IKMT), wire length 5062 m, 8 Dec. 1991.

Description. Body considerably damaged, particularly anterior portion of head and abdomen. Posterior tip of tail missing. Dorsal and anal fins incomplete, with broken rays. Tips of both jaws are broken.

Total vertebrae 64+; predorsal vertebrae 36; pre-caudal vertebrae 49. Pectoral fin rays 13; dorsal fin rays 56+; anal fin rays 23+.

Measurements in mm: posterior margin of eye to origin of dorsal fin 50.6, to base of pectoral fin 16.1. Eye to rictus 7.0, eye 0.8, pectoral fin 4.2.

Body black (in 70% ethyl alcohol).

All pectoral fin rays unsegmented, unbranched. Cleithrum large, crescentic.

Both jaws prolonged into a slender beak, not occlusible.

Two nostrils located in front of eye; the anterior nostril with a short tube expanded posteriorly; and posterior one a simple opening.

Teeth in oblique rows, small, pointed and recurved. Intermaxillary portion of ethmovomer elongated anteriorly, with a patch of teeth. Teeth on maxilla and mandible in multiple, oblique rows. Posterior end of maxilla with a ball-like patch of teeth (Fig. 3, arrow). Remaining teeth features as those in Smith (1989: 634, fig. 686).

Gill arches consist of four ceratobranchials, the epibranchial of the fourth arch, and a single upper

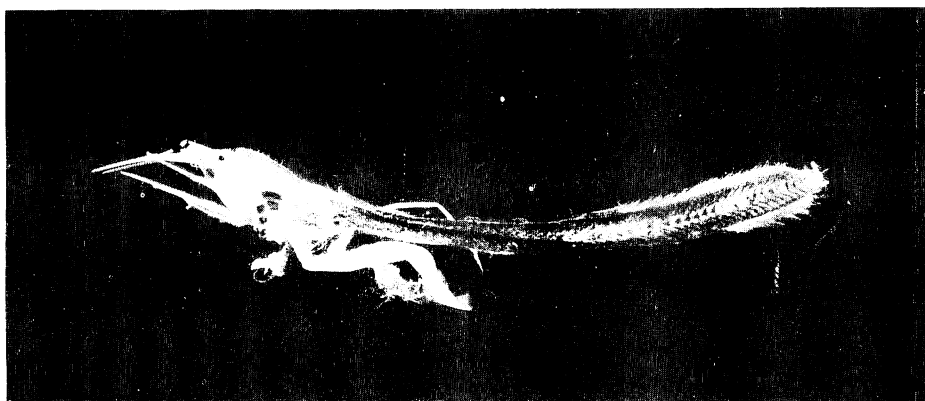


Fig. 1. *Cyema atrum* from off southeastern Kyushu, Japan, NSMT-P 34047, 99.6+ mm TL.

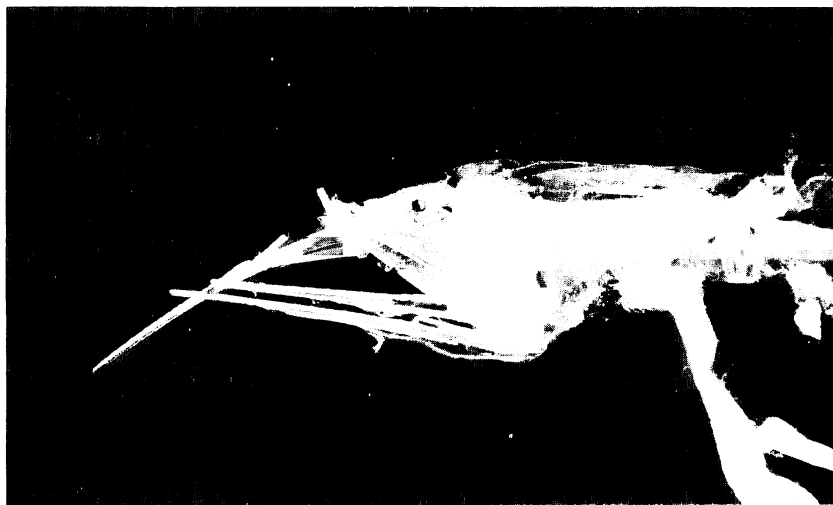


Fig. 2. Lateral view of head of *Cyema atrum*, NSMT-P 34047, 99.6+ mm TL.

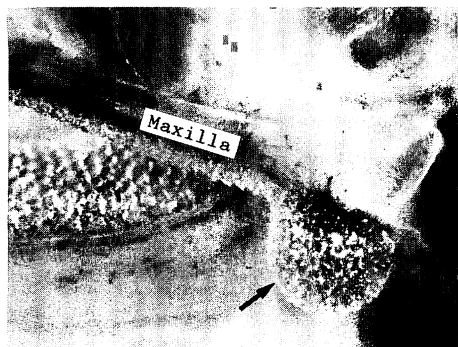


Fig. 3. Posterior end of maxilla of *Cyema atrum*. NSMT-P 34047, 99.6+ mm TL. Arrow, ball-like patch of teeth.

and lower pharyngeal tooth plate. Gill rakers were not found.

Sensory papillae present along lateral line and on head; distribution patterns observed as those in Bertin (1937, figs. 9, 11).

Eight pores surrounding eye; supraorbital pores broken and uncountable.

Remarks. Most features of the present specimen agreed closely with the original description by Günther (1878) and subsequent descriptions (Günther, 1887; Castle, 1986; Smith, 1989), though the caudal fin, which usually possesses a distinctive character (Smith, 1989), was missing.

The species is distributed in all oceans at depths of 330–5100 m (Bertin, 1937; Grey, 1956; Smith, 1989). Previously, a single report on two types of larvae of

unidentified cyematids from off the Okinawa Islands (Tabeta, 1988: 29), constituted the sole record of the family from Japan.

Judging from the body pigmentation (Smith, 1989), the present specimen is considered adult. Taken from off southeastern Kyushu, it represents the first record of an identified species and the first confirmed record of an adult specimen of the Cyematidae from Japan.

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- 九州南東海域より採集された日本初記録のヤバネウナギ (新称)
- 藍澤正宏・坂本一男
- 九州南東海域 (30°52.2'N, 132°09.0'E) の中・深層から採集されたセムシウナギ科魚類の標本は、頭部、腹部および尾部が破損していたにもかかわらず、両顎が延長する、歯は絨毛状歯で歯帯をなす、主上顎骨後端に球状歯帯がある、頭部に感覚突起がある、体色が黒色などの特徴から *Cyema atrum* Günther と同定された。
- 本種は三大洋に広く分布するが、西部北太平洋の極東海域からの報告はなく、本報が本種の日本初記録である。
- 体形や鰭の特徴から本種に対して新和名ヤバネウナギを提唱する。
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