

**Record of *Benthallbella infans*  
(Myctophiformes: Scopelarchidae)  
from Suruga Bay, Japan**

Muneo Okiyama

(Received December 21, 1973)

*Benthallbella* is a genus of rare deep water fishes belonging to the family Scopelarchidae, Myctophiformes. Of seven known species of this genus, only *B. linguoides* has been found in the Japanese waters (Mead and Böhlke, 1953), whereas two other species, i.e., *B. diaphana* and *B. alatus*, have been described from the western or northwestern Pacific (Rass, 1955; Fourmanoir, 1970).

Recently, Merrett et al. (1973) studied the early life history of *B. infans* in considerable details on the basis of the abundant material from the eastern North Atlantic, and at the same time provided a short review on the meristic characters of this poorly known genus.

The specimen reported in this paper (30.5 mm in SL.) was collected from the shallower layer less than 200 m at the innermost part of Suruga Bay (35°-03.8'N, 138°-43.7'E) by the oblique haul of the larva net, on March 18th, 1969, during the KT-69-07 cruise of the R/V *Tansei-Maru* of the Tokyo University. It was

turned over to me for identification through the courtesy of Dr. Yuzo Komaki of our laboratory. Judging from the unique transparent body structure along with the position of the pelvic fin slightly in advance of the dorsal fin origin, it is apparently referable to the larval stage of *Benthallbella*. The specimen is then identified with *B. infans* on account of the general agreements of the meristic and morphometric characters as described below:

In the following lists of measurements (expressed as percent of the standard length), those of the Japanese specimen are followed by those of the postlarval stage B specimens (30.0~56.0 mm in SL.) given by Merrett et al. (1973) in parentheses. Counts in parentheses are the known ranges of *B. infans* compiled by Merrett et al. (1973). Head 19.5 (17.6~23.2), snout 8.5 (6.4~9.0), maxillary 14.3, interorbital 3.2 (1.8~7.0), lower jaw 16.1 (14.3~20.0), snout to dorsal 43.0 (36.7~46.0), snout to pectoral 20.2 (18.4~24.2), snout to pelvic 36.4 (31.6~41.0), snout to anal 65.2 (56.1~71.2), snout to anus 36.4 (34.4~50.0), dorsal fin base 4.85, anal fin base 18.5, upper caudal lobe 12.8 and lower caudal lobe 16.4. Dorsal rays 9 (9~10), anal 22 (17~22), pectoral ca. 24, pelvic 8 (7~9), caudal 5+10+9+7, and branchiostegal 8 (8).

Present specimen is thus identical in most

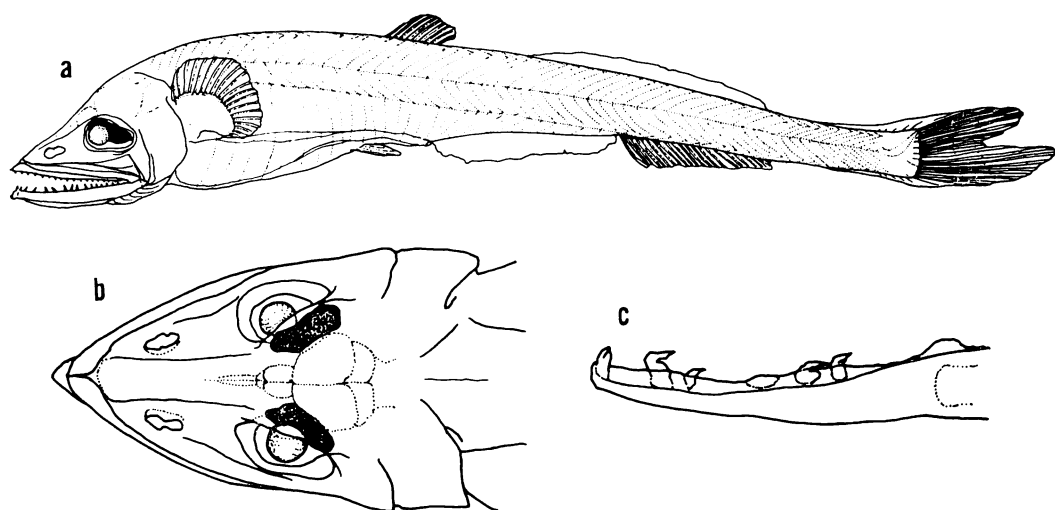


Fig. 1. *Benthallbella infans*, from Japan. 30.5 mm in SL. a, Lateral aspect of whole specimen ( $\times 4.0$ ); b, dorsal view of the head ( $\times 9.6$ ); c, arrangement of lingual teeth ( $\times 24$ ).

respects with *B. infans*, except for the caudal structure. As can be seen in Fig. 1, it has a heterocercal tail with distinctly longer lower caudal fin lobe. Merrett et al. (1973) presented no remarks in this regards, but scrutiny of the literature revealed that there are two types of tails in *B. infans*; the homocercal tail (ex. Zugmeyer, 1911; Murray and Hjort, 1912; Marshall, 1955) and the heterocercal tail (ex. Roule and Angel, 1930). It seems that such is due to the ontogenetical difference, since the heterocercal tail is mostly described for postlarvae of the smaller size. In respect to the degree of development, present material bears no significant differences from the Atlantic specimens.

Apparently, this is the first record of *B. infans* not only in the Japanese waters but in the western Pacific. Its occurrence in the eastern Pacific has already been recognized (Fitch and Lavenberg, 1968), so that this species may be ascribed to a cosmopolitan element unique in this family (Johnson, 1971).

New Japanese name, "Hikari-demeeso," (luminescent scopelarchid) is proposed for this fish.

I thank Dr. Yuzo Komaki of our laboratory for donating the interesting specimen to me. Dr. Julian Badcock, National Institute of Oceanography, England, Dr. Saburo Nishimura, Seto Marine Biological Station, Kyoto University and Dr. Hitoshi Ida, Kitazato University, assisted me in obtaining the literature.

#### Literature cited

- Fitch, J.E. and R.J. Lavenberg. 1968. Deep-water fishes of California. Univ. California Press, 155 pp., 74 figs.
- Fourmanoir, P. 1970. Notes ichthyologiques (I). Cah. Off. Rech. Sci. Tech. Outre-Mer (Oceanogr.). 8 (2): 19~33, figs. 1~10.
- Johnson, R.K. 1971. A revision of the alepisauroid family Scopelarchidae (Pisces: Myctophiformes) (Abstract of Ph. D. dissert.). Contr. SIO., 41: 18.
- Marshall, N.B. 1955. Studies of alepisauroid fishes. Discovery Rep., 27: 303~336, figs. 1~9, pl. 19.
- Mead, G.W. and J. Böhlke. 1953. *Scopelarchus linguoides*, a new bathypelagic fish from off Northern Japan. Japan. J. Ichthyol., 2 (6): 241~245, fig. 1.
- Merrett, N.R., J. Badcock, and P.J. Herring. 1973. The status of *Benthallbella infans* (Pisces: Myctophoidae), its development, bioluminescence, general biology and distribution in the eastern North Atlantic. J. Zool., Lond., 170: 1~48, figs. 1~18.
- Murray, J. and J. Hjort. 1912. The depth of the oceans. Macmillan, London, 812 pp., 525 figs.
- Rass, T.S. 1955. Deep sea fishes of the Krile-Kamchatka Trench. Trud. Inst. Okeanol., 12: 328~339, figs. 1~5. (In Russian).
- Roule, L. and F. Angel. 1930. Larves et alevins des poissons provenant des Croisières du Prince Albert 1er de Monaco. Résult. Camp. Sci. Prince Albert 1, 79: 1~148, pls. 1~6.
- Zugmeyer, E. 1911. Poissons provenant des campagnes du yacht "Prince Alice". Résult. Camp. Sci. Prince Albert 1, 35: 1~174.
- (Japan Sea Regional Fisheries Research Laboratory, Nishi-Funamicho, Niigata, 951, Japan).

#### 日本からはじめて採集されたヒカリデメエソ (新称)

冲山 宗雄

1969年3月18日駿河湾において採集された体長30.5mmのデメエソ属 *Benthallbella* の稚魚を既知の同属7種と比較した結果, *B. infans* と同定された。これは本種の北太平洋における初めての出現の記録であり, これによって本種の汎世界的な分布が確認された。本種が発光性を有することから, 新和名「ヒカリデメエソ」を提唱した。日本近海産デメエソ科魚類はこれで2種となった。

(951 新潟市西船見町浜浦 日本海区水産研究所)