

## The Second Specimen of the Alepocephalid Fish, *Rouleina tanakae*, Collected off Kyushu, Japan

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Among deepsea fishes, there are a number of species which were described on the basis of a single specimen, and no other specimens have been collected since then. In such cases, there are always some possibilities that the single "holotype" may be an aberrant one of a previously described species. Until the second specimen is caught, the range of variation is left unknown, and the validity of the species remains questionable to some extent.

In the case of *Rouleina tanakae* Parr, 1951, the holotype (Department of Zoology, University Museum, University of Tokyo, ZUMT 2148) was the paratype of *R. watasei* (Tanaka, 1909), but no other specimen of this species has been reported until now. Both holotypes of the above two species were collected at a depth of about 1300m at Sotookinose off Misaki, Kanagawa Prefecture (35°04'N, 139°40'E), by Kumakichi Aoki, in February, 1908 (Tanaka, 1909).

Recently we found second specimen of *R. tanakae* in the collection of a survey made by the government research vessel Kaiyomaru, off the western coast of Kyushu, Japan (Fig. 1). It was collected on February 13, 1975, in net no. 11 (or T 111) at 31°38'N, 128°40'~41'E, and at a depth of 660m. Water temperature and salt concentration at depth were 6.18°C and 42‰. More details on the collection are described elsewhere

(Uyeno and Kishida, 1977; Kitajima and others, 1977).

Since the original description of *R. tanakae* is brief, without figures or photographs, and includes only 3 lines of description besides counts and measurements, we here redescribe the species presenting drawings and photographs.

Measurements in millimeter followed by the percentage of the standard length in parenthesis: standard length 208 mm; head length 59 (28.4); body depth 43.4 (20.9); orbit diameter 13.1 (6.3); snout length 13.0 (6.3); interorbital width 11.3 (5.4); length of upper jaw 26.0 (12.5); postorbital length of head 33 (15.9); predorsal length 142 (68.3); preanal length 147 (70.7); prepelvic length 115 (55.3); distance from pectoral fin base to pelvic fin base 67 (32.2); depth of caudal peduncle 14.1 (6.8); head width 22 (10.5); length of pectoral fin 19 (9.1); length of pelvic fin 21 (10.1); length of dorsal fin base 38.6 (18.6); length of anal fin base 32.6 (15.7).

Counts: dorsal fin rays 8 unbranched+11 branched=19; anal fin rays 6 unbranched+11 branched=17; pectoral fin rays 7~8; pelvic fin rays 8; lateral line pores 57 (+4 on caudal fin); branchiostegal rays 6; gill rakers 7+1+16=24; pseudobranchial filaments are 10 (left) and 11 (right) and well developed.

The body form and the positions of fins are illustrated in Fig. 1. The body is not covered with scales. The head is covered with a transparent membrane with scattered micropapillae. In addition to openings of the cephalic lateral line canal system, some photophore-like dark tubercles are sparsely present (Fig. 2). The outer thin transparent,

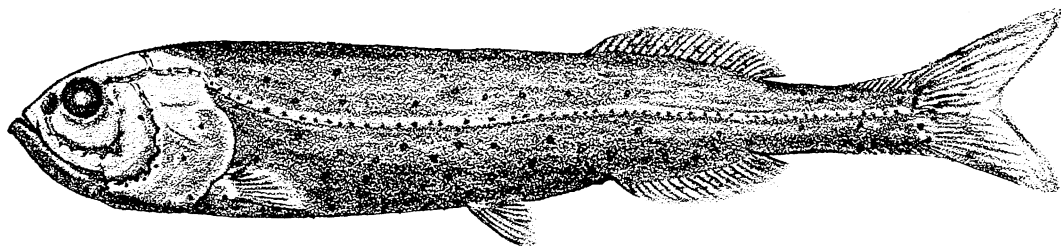


Fig. 1. A drawing of *Rouleina tanakae* Parr, based on the specimen from off Kyushu (Far Seas Fisheries Research Laboratory, L 938).

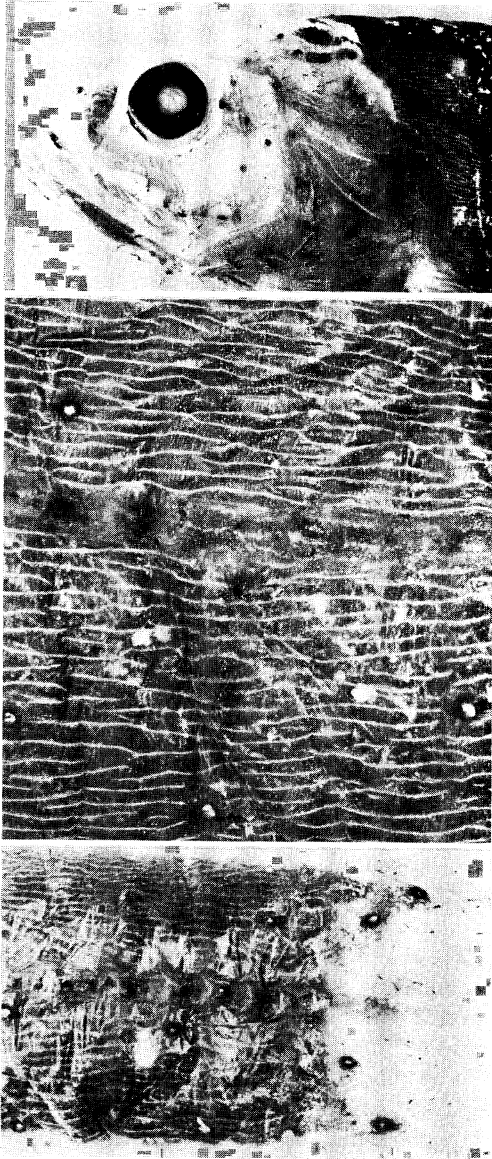


Fig. 2. Photographs of the specimen of *Rouleina tanakae* from off Kyushu. Top, head region. Middle, anterior part of the trunk. Bottom, caudal region.

apparently acellular, layer of the skin surrounding the trunk is held to the underlying black pigmented skin, with numerous longitudinal septa which look like light-colored striations (Fig. 2). Photophore-like tubercles are scattered on the body (Fig. 2). It is still uncertain that these tubercles produce light or just reflect light (personal communication

from Dr. Yata Haneda). Orbits and pupils are almost round. Preopercles have narrow free margin posteriorly and ventrally. Gill membranes are free from the isthmus, and the membrane of the left side is ventral to the one of the right side. Two pairs of supramaxillaries are present. The lower jaw is slightly protruded with an anteroventral projection at the symphysis.

Minute and pointed teeth, which are somewhat curved inwardly and in a single row, are present on premaxillaries, and dentaries. Palatines have no teeth. Small, tooth-like, soft villi are observed on ridges of the skin covering the roof of the mouth cavity and the tongue.

#### Acknowledgments

We express our sincere appreciation to Dr. Tetsuya Sato of the Far Seas Fisheries Research Laboratory, and Dr. Yoshiaki Tominaga of The University of Tokyo for the loan of the specimen. We are also thankful to members of Seikai-ku Fisheries Research Laboratory for many valuable assistance in collecting the specimen. Dr. Yata Haneda kindly gave us useful informations on photophores of alepocephalid fishes. We are grateful to Dr. Tomio Iwamoto of California Academy of Sciences, and Dr. Basil G. Nafkaktitis of University of Southern California for reviewing the manuscript.

#### Postscript

After the manuscript was submitted, two more specimens of *Rouleina tanakae* were found in the fish collection of Department of Zoology, The University Museum, University of Tokyo. Both specimens were collected by Kumakichi Aoki off Misaki, Kanagawa Prefecture. Dates collected are unknown. One of them (ZUMT 5785), which was catalogued as *Aleposomus watasei*, is 236 mm in standard length with 23 gill rakers and 64 lateral line pores. The other specimen (ZUMT 33627), which was catalogued as *Alepocephalus liviodus*, is 232 mm in standard length with 25 gill rakers and 65 lateral line pores. Other meristic counts and proportional

ratios of these specimens do not differ significantly from the specimens from off Kyushu.

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figs. 1~2.

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#### タナカセキトリの二番目の標本

上野 輝弥・岸田 周三

Parr (1951年) はセキトリイワシの副模式標本が完模式標本と別種であることを認め、これを *Rouleina tanakae* と命名した。しかしこの種はその後現在に至るまで採集されたという報告がない。筆者らは水産庁調査船開洋丸が1975年2月13日九州西方海域で採集した深海性魚類の中にタナカセキトリの第二番目の標本を発見した。タナカセキトリの原記載は測定値の外に3行ほどのごく簡単なもので、図も写真もないので、ここに図と写真と共に観察結果を報告する。

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