

**First Record of an Evermannellid Fish,
Coccorella atrata, from Japan**

Seishi Kimura¹ and Kiyoshi Suzuki²

¹ Fisheries Research Laboratory, Mie University,
P. O. Box 11, Wagu, Shima, Mie 517-07, Japan

² Toba Aquarium, 3-3-1 Toba, Mie 517, Japan

The evermannellid fish genus *Coccorella* is represented by two species: *C. atlantica* (Parr, 1928) and *C. atrata* (Alcock, 1893). The former species is distributed in tropical and temperate water areas of the Atlantic (5–40°N and 5–40°S), Indian (15–20°S), and Pacific (10–35°N and 5–40°S) oceans; whereas the latter has only been known from equatorial areas of the Indian (20°N–15°S) and Pacific (20°N–15°S) oceans (Johnson, 1982).

During our study on the deep-sea ichthyofauna off Mie Prefecture, Pacific coast of central Japan, we collected a single specimen of *C. atrata*. Since the species is new to Japan, we here describe the specimen. This is the northernmost record of this species.

Methods for counts, measurements, and description of the cephalic laterosensory pores follow those of Johnson (1982). Vertebral and vertical fin ray counts were taken from radiographs. The present specimen is deposited at the Fisheries Research Laboratory, Mie University (FRLM).

Coccorella atrata (Alcock, 1893)
(New Japanese name: Minami-yarieso)
(Fig. 1)

Material examined. FRLM 8621, 88.3 mm in standard

length (SL), 33°54.2' N, 136°21.0' E, southeast of Owase, Mie Prefecture, central Japan, 700 m depth, Issacs-Kidd Midwater Trawl operated by the T. V. Seisui Maru, 10 September 1983.

Description. Counts and proportional measurements are shown in Table 1.

Body moderately elongate, deep, strongly compressed. Anus posterior to a point midway between end of pelvic-fin base and anal-fin origin. Body and head naked. Skin smooth, delicate, easily torn. Head large and deep. Snout short; the contour truncate and sharply angular. Eyes semitubular, directed dorsolaterally. Aperture diameter of adipose eyelid slightly greater than lens of eye. Mouth large. Upper jaw extending nearly to anterior margin of preopercle, well beyond a vertical through posterior margin of eye. Lower jaw projecting anteriorly very slightly beyond snout. Dentary symphysis marked by a distinct vertical ridge and lacking any vertically elongate fossa. Branchiostegal membranes free from isthmus and united anteriorly by a small membrane.

Premaxillary teeth small, retrorse, uniserial, and numbering 27. Dentary with 12 or more unbarbed fangs arranged uniserially; a few teeth anteriorly near to symphysis probably being lost. Vomer with a small tooth on right side; its counterpart probably being lost. Anteriormost palatine tooth an enormous, unbarbed, saber-like fang; the replacement fangs embedded in oral roof. Posterior palatine teeth small, numbering five.

Dorsal-fin origin anterior to a vertical through anal-fin origin. Pectoral fin larger than pelvic fin in length; extending nearly to pelvic-fin origin.

Gill rakers absent but minute gill teeth present on the arch. Swim bladder absent. A single pyloric caecum present, extending anteriorly from ventro-



Fig. 1. *Coccorella atrata* from Japan, FRLM 8621, 88.3 mm SL.

anterior margin of intestine, passing between cleithra, ending beneath the first basibranchial. The caecum enclosed by black-pigment peritoneum, easily visible in floor of orobranchial cavity.

Cephalic laterosensory system and number of pores are shown in Fig. 2 and Table 2, respectively. Numerous sensory papillae distributed over occiput,

interorbital region, snout, cheeks, and anterior lower jaw.

Color in alcohol: Head and body almost uniformly dark brown with brassy green iridescence. Ventrolateral portion of trunk strongly pigmented. Bases of paired fins and ventral median anterior to pelvic-fin base less pigmented. Peritoneum dense black.

Table 1. Counts and proportional measurements of *Coccoarella atrata* and *C. atlantica*. Figures in parentheses indicate mean values.

Character	<i>C. atrata</i>		<i>C. atlantica</i>	
	FRLM 8621	Johnson (1982)	FAKU 102855	Johnson (1982)
Standard length (mm)	88.3	38.3–108.6	51.8	36.0–184.5
Counts				
Dorsal fin rays	12	10–13 (11.6)	12	11–13 (11.9)
Anal fin rays	27	27–29 (27.8)	29	26–30 (27.9)
Pectoral fin rays	12	11–12 (11.9)	12	12–13 (12.0)
Pelvic fin rays	9	9	9	9
Vertebrae	46	45–47 (46.1)	50	48–50 (48.8)
Branchiostegal rays	8	8	8	8
Proportional measurements (%SL)				
Head length	23.8	22.5–26.1 (24.2)	22.2	19.6–24.3 (22.2)
Postorbital head length	16.4	14.7–18.3 (16.6)	12.2	12.2–15.7 (14.2)
Dorsal-fin base length	12.7	10.7–13.1 (12.2)	12.4	9.9–13.2 (11.3)
Anal-fin base length	24.9	24.7–31.3 (26.8)	27.0	23.3–28.3 (25.6)
Predorsal length	41.9	39.2–44.5 (41.8)	41.5	41.4–45.9 (43.2)
Snout to adipose-fin origin	85.2	80.5–86.2 (82.7)	damaged	80.0–86.4 (83.9)
Snout to anal-fin origin	66.9	59.6–69.4 (66.1)	63.7	63.1–70.7 (66.5)
Snout to pectoral-fin origin	25.5	24.0–30.9 (27.5)	24.1	23.4–28.7 (25.8)
Snout to pelvic-fin origin	46.4	40.3–49.3 (45.0)	42.5	41.8–50.1 (45.1)
Snout to anus	55.0	55.6–65.5 (61.2)	57.9	55.8–67.3 (61.0)
End of dorsal-fin base to adipose-fin origin	32.3	30.9–35.8 (33.1)	damaged	30.6–36.5 (33.8)
End of dorsal-fin base to caudal-fin base	49.8	48.0–55.1 (51.3)	52.5	47.2–52.7 (50.1)
Pectoral-fin origin to pelvic-fin origin	20.4	15.1–23.0 (18.7)	18.5	16.4–24.7 (20.4)
Pelvic-fin origin to anal-fin origin	22.2	19.0–26.0 (21.8)	21.2	19.3–23.9 (21.7)
Anus to anal-fin origin	5.4	4.1–7.9 (5.7)	5.0	2.7–10.4 (6.3)
End of adipose-fin base to caudal-fin base	12.5	12.2–15.1 (13.4)	11.6	10.8–14.1 (12.2)
Caudal peduncle length	8.7	8.5–10.8 (9.6)	9.7	7.7–10.5 (9.4)
Body depth at dorsal-fin origin	21.5	17.1–21.0 (18.6)	17.4	—
Body depth at anal-fin origin	19.0	17.1–20.3 (18.0)	14.5	14.4–19.1 (16.3)
Caudal peduncle depth	7.9	7.6–9.9 (8.5)	6.2	6.0–8.7 (7.4)
Snout length	6.2	5.6–7.0 (6.2)	4.2	5.1–6.9 (5.9)
Eye diameter (horiz.)	5.7	4.7–6.5 (5.5)	5.4	4.0–6.5 (5.3)
Eye diameter (vert.)	6.2	5.4–7.0 (6.1)	damaged	4.2–7.6 (5.6)
Upper jaw length	16.8	16.4–19.3 (17.6)	16.6	15.7–18.4 (17.2)
Lower jaw length	18.1	16.3–18.5 (17.3)	15.8	15.1–18.8 (17.1)
Interorbital width	5.5	4.7–6.1 (5.4)	3.3	3.2–4.7 (3.8)
Length of longest palatine tooth	8.4	8.0–10.0 (9.0)	7.5	7.1–9.6 (8.4)
Length of longest dentary tooth	5.5	5.0–6.3 (5.7)	5.2	4.1–6.3 (5.2)

Remarks. Most characters of the present specimen agree well with those of *Coccorella atrata* described by Johnson (1982). Although *C. atrata* is closely related to the other congener *C. atlantica* in having semitubular eyes, unbarbed fang, and so on, the former is clearly distinguished from the latter by having fewer vertebrae and pores on frontal canal commissure and wider interorbital space (see Tables 1 and 2).

Matsubara (1963) reported *Evermannella atrata* as new to Japan on the basis of a single specimen, FAKU (Faculty of Agriculture, Kyoto University) 102855, and proposed the Japanese name "yari-eso". Reexamining his specimen, it could be clearly identified with *C. atlantica* as shown in Tables 1 and 2. The present paper is, therefore, the first record of *C. atrata* from Japan. In addition, *C. atlantica* collected from Japanese waters was also described by Okamura (1984) and Fujii (1984).

Both species of *Coccorella* have a unique pyloric caecum which extends into the head. The structure and development of this organ was described in detail by Wassersug and Johnson (1976).

Comparative material examined. *C. atlantica*: FAKU 102855, 51.8 mm SL, 24° 19' N, 132° 06' E, east of Okinawa Is., 3,080 m depth, date unknown.

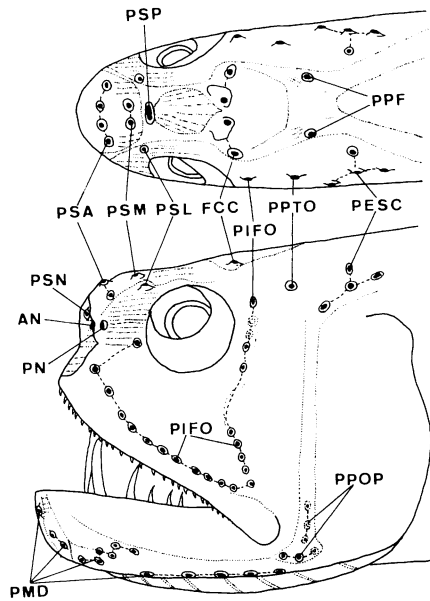


Fig. 2. Cephalic laterosensory system of *Coccorella atrata*, FRLM 8621. PSN, nasal pores; PSA, anterior snout-pad pores; PSM, medial snout-pad pores; PSP, posterior snout-pad pore; PSL, lateral snout-pad pores; PMD, mandibular series; PPOP, preopercular series; PPTO, pterotic pore; PESC, extrascapular pores; PPF, postero-frontal pore; FCC, frontal canal commissure; PIFO, infraorbital series. AN, anterior nostril; PN, posterior nostril.

Table 2. Number of pores in six series of the cephalic laterosensory system in *Coccorella atrata* and *C. atlantica*. See Fig. 2 for the abbreviations.

Pore series	<i>C. atrata</i>		<i>C. atlantica</i>	
	FRLM 8621	Johnson (1982)	FAKU 102855	Johnson (1982)
Snout-pad series				
PSN	2	2	2	2
PSA	4	4	4	4
PSM	2	2	2	2
PSP	1	1	1	1
PSL	2	2	2	2
Mandibular series				
PMD	5+6+2+1	5+6+2+1	5+6+2+1	5+6+2+1
Preopercular series				
PPOP	damaged	3+3	damaged	?3+3
Temporal series				
PPTO	1	1	damaged	1
PESC	4	4	damaged	4
Frontal series				
PPF	1	1	1	1
FCC	2+2	2+2	3+3	3+3
Infraorbital series				
PIFO	damaged	13-14+9-10	damaged	13-14+9

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- 日本初記録のヤリエソ科魚類ミナミヤリエソ (新称)
木村清志・鈴木 清
- 三重県尾鷲沖の熊野灘からヤリエソ科魚類の一種ミナミヤリエソ (新称) *Coccorella atrata* 1 個体を採集した。本種はこれまでインド洋と太平洋の熱帯水域のみに分布するとされ、本邦周辺海域では初記録である。本種は眼が半管状であること、下顎や口蓋骨の牙状犬歯に逆鉤がないこと、下顎縫合部が開口していないこと、脊椎骨数が 45-47 であること、前頭骨上の感覚孔が通常 3+3 であることなどによって、同科他種と容易に区別される。なお、和名ヤリエソが提唱された標本を再検査した結果、この標本は明らかに *C. atlantica* と査定された。
- (木村: 517-07 三重県志摩郡志摩町和具 三重大学生物資源学部附属水産実験所; 鈴木: 517 鳥羽市鳥羽 3-3-1 鳥羽水族館)