

First Record of the Lizardfish *Synodus jaculum* from Japan

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The lizardfish *Synodus jaculum* Russell et Cressey, 1979 is a widespread species, ranging from South Africa east to the Marquesas Islands, and from southeastern Australia north to Taiwan. Its presence in Japanese waters was predictable. During the summer and autumn of 1984, we found the species to be rather common at Miyake-jima (34°05'N, 139°30'E), one of the Izu Islands of central Japan. Two specimens were collected, providing the first record of this species from the Japanese Archipelago.

Methods for counts and measurements follow Hubbs and Lagler (1958). Vertebrae and vertical fin rays were counted from X-ray photographs. Color description is from color transparencies of a fresh specimen.

Synodus jaculum Russell et Cressey, 1979
(New Japanese name: Oguro-eso)
(Fig. 1)

Synodus jaculum Russell and Cressey, 1979: 169, fig. 2 (type locality: Granite Bluff, Lizard Island, Great Barrier Reef); Cressey, 1981: 23, fig. 18.

Material examined. TMBS (Tatsuo Tanaka Memorial Biological Station, Miyake-jima, Japan) 840910-1, 135.5 mm in standard length (SL), Igaya Bay, Miyake-jima (34°05'N, 139°30'E), Izu Islands, at a depth of 17 m on sand and coral rubble, Sep. 10, 1984; NSMT-P (National Science Museum [Nat. Hist.], Tokyo) 23215, 96.2 mm in SL, at the same locality and depth as the first specimen, Sep. 26, 1984.

Description. Counts and proportional mea-

surements are shown in Table 1.

Body elongate, cylindrical; head somewhat depressed; caudal region slightly compressed. Snout sharply pointed, longer than interorbital space. Eye large, nearly equal to interorbital space; adipose eyelid narrow. Interorbital space concave. Mouth very large, terminal, somewhat oblique; both jaws subequal in length. Teeth in jaws in two or three irregular rows, those of inner row longest; teeth in upper jaw more or less visible when mouth is closed. Palatine teeth in a narrow, elongate band on each side, those in front largest and in a discrete group. Lingual teeth well developed, backwardly directed on anterior-half of tongue. Teeth in jaws, palatines and tongue canine-like, depressible. Nostrils close-set in front of eye, the anterior with a small, triangular flap posteriorly. Margins of opercular bones entire. Pseudobranchiae well developed. Gill rakers very small, villiform-like.

Origin of dorsal fin about halfway between tip of snout and origin of adipose fin; the third ray longest. Anal fin small, originating below before adipose fin; the third ray longest. Pectoral fin rounded, short, not reaching to origin of dorsal fin. Pelvic fin large, reaching below base of last dorsal ray; the outer ray unbranched, shortest; the sixth branched ray longest. Caudal fin forked. Posterior bony process of pelvic girdle broad.

Body scales cycloid. Head naked except for cheek, preopercle and upper part of opercle; cheek with about six rows of cycloid scales, postoral portion of cheek naked; a series of cycloid scales along posterior margin of preopercle. All fins naked except for caudal fin, covered with cycloid scales near its base. Lateral

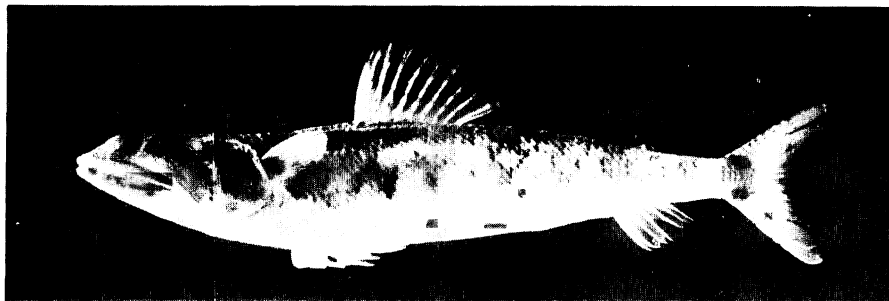


Fig. 1. *Synodus jaculum* from Miyake-jima, Japan, in alcohol, TMBS 840910-1, 135.5 mm SL.

Table 1. Counts and proportional measurements of *Synodus jaculum* from Miyake-jima, Japan.

Characters	TMBS 840910-1	NSMT-P 23215
Standard length (mm)	135.5	96.2
Counts		
Dorsal fin rays	11	12
Anal fin rays	9	8
Pectoral fin rays	13	14
Pelvic fin rays	8	8
Total branched caudal fin rays	17	17
Pored lateral-line scales	60	61
Transverse scales (above/below)	5.5/broken	5.5/broken
Predorsal scales	21	22
Total vertebrae	59	60
Proportional measurements (% SL)		
Head length	30.7	31.5
Body depth	18.2	15.8
Snout length	7.2	7.1
Eye diameter	3.6	4.2
Interorbital space	3.9	4.2
Upper jaw length	20.6	19.3
Caudal peduncle length	11.7	12.8
Caudal peduncle depth	5.8	5.7
Length of dorsal fin base	15.2	15.6
Length of anal fin base	9.2	8.3
Snout to origin of dorsal fin base	41.3	42.1
Snout to origin of adipose fin	83.2	81.8
Snout to origin of anal fin base	79.9	80.1
Snout to pectoral insertion	28.3	28.9
Snout to pelvic insertion	34.3	35.8
Length of pectoral fin	11.0	11.4
Length of pelvic fin	22.6	25.3
Length of third dorsal ray	13.3	14.8
Length of third anal ray	8.5	8.5

line nearly straight from behind head to caudal fin base.

Color in life as in Russell and Cressey (1979).

Color in alcohol: See Fig. 1. Head and body grayish-brown dorsally, whitish-yellow ventrally. Body with a series of about eight dark brown saddle-like bands, extending below lateral line.

Caudal peduncle and caudal fin base black. Dorsal and caudal fins barred, other fins transparent.

Distribution. This species is widespread in the Indo-West Pacific region from as far west as South Africa to the Marquesas Islands in the central Pacific Ocean. Our two specimens extend the species' geographical range northward to central Japan.

Remarks. *Synodus jaculum* is distinguishable from all other known species of *Synodus* by the conspicuous black blotch on the caudal peduncle (Russell and Cressey, 1979). Most characters of the present specimens agree well with the original description and figure of this species except for the pectoral fin ray count: one specimen (NSMT-P 23215) has 14 rays instead of 12 or 13. We regard this difference as intra-specific variation.

At Miyake-jima *S. jaculum* appears to be restricted to a substratum of mixed volcanic and coral sand and rubble at depths between 15–26 m. At least eight individuals were known to inhabit a 110 m strip of such a habitat at Igaya Bay, where they co-occurred with *Synodus ulae* Schultz, 1953. The latter species, however, is not confined to a sandy habitat, occurring commonly on rocky reefs and in shallow water. Apparent courtship behavior of *S. jaculum* was observed (see Zaiser and Moyer, 1981). As pointed out by Russell and Cressey (1979), *S. jaculum* exhibits an unusual swimming behavior, rising high above the substratum and swimming relatively slowly for distances of greater than 10 m when fleeing from the observer. In contrast, *S. ulae* flees rapidly, close to the substratum over short distances (2–5 m). The characteristic swimming pattern of *S. jaculum* and the black peduncular blotch are unmistakable field characters.

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日本初記録のエソ科魚類オグロエソ (新称)

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伊豆諸島三宅島の伊ヶ谷湾沖、水深 17 m の砂地からエソ科魚類の一種、オグロエソ (新称) *Synodus jaculum* を 2 個体採集した。本種の主な特徴は、尾柄に明瞭な黒色斑紋を持つことであり、これによってアカエソ属の他種と容易に区別することができる。本種は南アフリカからマルケサス諸島までのインド・太平洋に広く分布しているが、その北限は台湾南部までとされていた。したがって、本種は日本からの初記録となる。

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