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The First Record of the Scombropid Fish *Neoscombrops annectens* from Japan

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Abstract Specimens of a scombropid fish which is new to Japan were caught near Aoga-shima I., Japan, using vertical long lines. These specimens closely resemble *Neoscombrops annectens* from South Africa and are tentatively identified with that species. These specimens from Japan are presumably carnivorous, and the condition of the ovary suggests that the spawning season is winter.

Introduction

In the course of study of *Scombrops boops* (Houttuyn) and *S. gilberti* (Jordan and Snyder), the author found three specimens of the scombropid fish, which have not been recorded from Japan, were caught together with *Ocyrius japonicus* (Döderlein) and *S. boops* from Aoga-shima Island, Japan, using vertical long lines. These specimens resemble *S. boops* and *S. gilberti*, but differ from them in several characters. This scombropid fish belongs to the genus *Neoscombrops*, and is tentatively identified with *N. annectens* Gilchrist, 1922, which was originally described from South Africa. It is necessary, however, to compare the present specimens with specimens of *N. annectens* from South Africa in order to reach a final conclusion. Another species from Japan referred to the genus *Neoscombrops*, *N. analis* Katayama, 1957, is quite different from the present specimens.

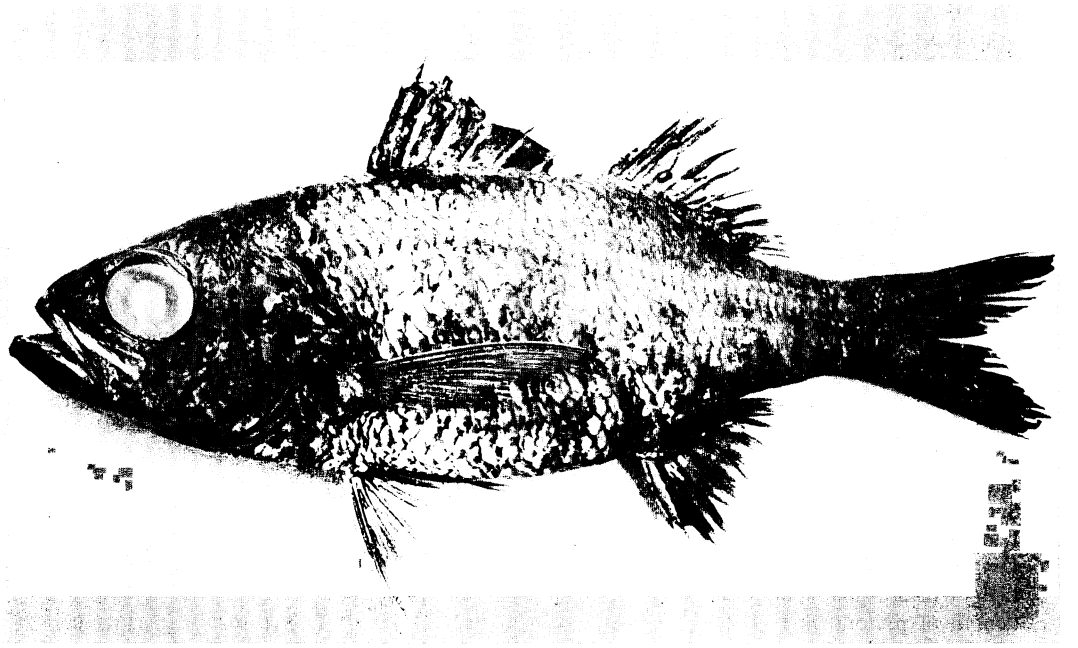

Fig. 1. *Neoscombrops annectens* from Aoga-shima I., Japan, Cat. No. ZUMT 52879, 312 mm in standard length.

Materials

ZUMT (Zoology Section, University Museum, University of Tokyo) 52879, 312 mm (in standard length); ZUMT 52880, 313 mm; ZUMT 52881, 339 mm (female). All specimens were collected around Aoga-shima I. (about 32°25′N., 139°47′E.) at depth between 300 and 350 meters, using vertical long lines and pieces of squid as a bait, on 17 December, 1972.

Description

The counts and proportional measurements are shown in Table 1.

The first spine of the first dorsal is short, and the third and fourth spines are longer than others. Even though the third and fourth spines are broken in these 3 specimens, they are over 1.28 to 1.79 times of the eye diameter. Distance between the last spine of the first

Table 1. Meristic and morphometric characters of *Neoscombrops annectens* from Aoga-Shima I., Japan.
(Measurements in mm. Value in parenthesis is ratio of standard length, or ratio of head length in cases marked with asterisk)

Character \ Cat. No.	ZUMT 52879	ZUMT 52880	ZUMT 52881
Dorsal fin	IX-I, 10	IX-I, 10	IX-I, 10
Anal fin	III, 7	III, 7	III, 7
Pectoral fin (left/right)	15/16	15/15	15/15
Pelvic fin	I, 5	I, 5	I, 5
Branched caudal fin rays	8+7	8+7	8+7
Lateral line scales	50	51	50
Scales alove and below lateral line	5/about 12	5/about 13	5/about 12
Gill raker (lower+middle+upper)	15+1+6	15+1+7	15+1+8
Vertebrae (urostylar vertebra counted as 1)	10+15	10+15	10+15
Predorsal bone	3	3	3
Branchiostegals	7	7	7
Canines on the side of lower jaw (left/right)	19/18	20/17	19/18
Standard length	312	313	339
Body depth	116 (2.69)	121 (2.59)	129 (2.63)
Body width	59 (5.29)	58 (5.40)	66 (5.14)
Head length	110 (2.84)	114 (2.75)	122 (2.78)
Snout length*	32 (3.44)	33 (3.45)	35 (3.49)
Eye diameter*	32 (3.44)	31 (3.68)	35 (3.49)
Interorbital width*	30 (3.67)	32 (3.56)	33 (3.70)
Upper jaw length*	51 (2.16)	55 (2.07)	57 (2.14)
Caudal peduncle depth (least)*	36 (3.06)	39 (2.92)	40 (3.05)
Snout to origin of dorsal fin base	128 (2.44)	128 (2.45)	135 (2.51)
Snout to end of dorsal fin base	250 (1.25)	254 (1.23)	276 (1.23)
Snout to origin of anal fin base	222 (1.41)	226 (1.38)	258 (1.31)
Snout to end of anal fin base	252 (1.24)	255 (1.23)	284 (1.19)
Snout to pectoral insertion	109 (2.86)	105 (2.98)	125 (2.71)
Snout to pelvic insertion	123 (2.54)	120 (2.61)	149 (2.28)
Snout to anus	211 (1.48)	215 (1.46)	246 (1.38)
Length of dorsal fin base	136 (2.29)	142 (2.20)	145 (2.34)
Length of anal fin base	41 (7.61)	40 (7.83)	40 (8.48)
Length of 3rd anal spine (longest)*	46 (2.39)	—	—
Length of pectoral fin*	97 (1.13)	98 (1.16)	112 (1.09)
Length of pelvic fin*	59 (1.86)	58 (1.97)	73 (1.67)
Length of pelvic spine*	40 (2.75)	41 (2.78)	50 (2.44)

dorsal and the first spine of the second dorsal is equal to length of the last spine of the first dorsal. The first dorsal is naked, and depressible in a groove. The base of the second dorsal is covered with two or three horizontal rows of scales. The first anal spine is very short. The third anal spine is longest (ZUMT 52879, 2.39 in head length and 1.44 times of the eye diameter). The base of the anal fin is covered with two or three horizontal rows of scales.

The body is elongate, compressed, and covered with large, thin, cycloid scales. The head is entirely covered with scales. Teeth of the each premaxillary consist of one or two strong canines near the symphysis, which are surrounded by several small canines. The villiform teeth of the premaxillary form a broad band. Teeth of the each dentary consist of one or two strong, recurved canines near the symphysis, and a single row of small canines on the lateral side (17～20 in number). The anterior and posterior parts of the lower jaw have patches of villiform teeth. The vomer has a horseshoe-shaped patch of villiform teeth, which are slightly enlarged at the both ends. The palatine has very small teeth forming a narrow band. The maxillary reaches below the center of the eye. The supramaxillary is single. The subocular shelf is present. Posterior margin of the preopercle is thin, and the horizontal edge is serrated. The opercle has two flat spines. Pseudobranchiae are well developed.

The body color of fresh specimens is uniformly dark, purplish brown, and the tip of vertical fins darker.

The one specimen (ZUMT 52881, body weight 1370 g) is a female, and the ovary was well developed (about 121 g). This fact indicates that the spawning season of this fish is winter. The unidentifiable, digested fish weighed 23.5 g was found in the stomach.

Remarks

In general, these specimens agree well with descriptions of *N. annectens* from South Africa by Gilchrist (1922), but differ in following characters (characters reported on South African specimens in parentheses): (1) number of canines on each side of the lower jaw 17～20 (about 12); (2) the palatine with very small teeth forming a narrow band (forming a single series, not in band); (3) distance between the last spine of the first dorsal fin and the first spine of the second dorsal fin is equal to length of the last spine of the first dorsal (the second dorsal is separated from the first by a space about double the length of the last spine); (4) the third and fourth spines of the first dorsal are longer than others, and the third and fourth spines are over 1.28 to 1.79 times of the eye diameter (the second, third and fourth longest, about the diameter of the eye in length in a specimen of 170 mm); (5) the third spine of the anal fin of ZUMT 52879 is 1.44 times of the eye diameter (about equal diameter of eye); (6) pored scales in the lateral line are 50～51 (47; Barnard (1927) recorded 47 and Smith (1953) about 46).

According to Dr. Fraser, two specimens of *N. annectens* from South Africa have canines on the side of the dentary probably up to 17, and the palatine teeth are in 1～2 rows (personal communication, 18 July, 1973). So that individual variation among specimens of *N. annectens* from South Africa are considerably wide.

Considering above respects, the author tentatively identify these specimens from Japan as *N. annectens*.

These specimens differ from *N. analis* Katayama, 1957, from Japan in having 50～51 pored scales in lateral line (28 in *N. analis*), deeper body depth (2.59～2.69 in standard length instead of 3.35 in *N. analis*), 17～20 canines on each side of the lower jaw (about 5 in *N. analis*), 15 pectoral fin rays (18 in *N. analis*).

These specimens differ from *S. boops* and *S. gilberti* in the following characters (characters of *S. boops* and *S. gilberti* in bracket, Yasuda et al., 1971); no canines on the lateral side of upper jaw (more than 10 canines); 7 soft rays of anal fin (11～13 rays); vertical fin naked (covered with small scales); deeper body depth, 2.59～2.69 in standard length (2.86～4.03).

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わが国より初記録のバケムツ（新称）

望月　賢二

1972 年 12 月，青ヶ島近海の 300～350 m のところから，メダイの縦延縄漁にムツとともに混獲されたバケムツについて報告する．この魚は，ムツ・クロムツに形態・体色ともよく似るが，上顎側部に犬歯がない，臀鰭軟条数が 7，垂直鰭が鱗を被らないなどの点で異なる．この魚は，南アフリカから記載された *Neoscombrops annectens* に酷似している．したがって，ひとまず *N. annectens* と同定したが，若干の形質に相異が認められるので，この標本と南アフリカの標本を比較検討し，その異同を決定する必要がある．日本から *Neoscombrops* 属として報告されたバケスミクイ *N. analis* とは明らかに異なっている．このバケムツは，魚食性で，採集時に卵巣がよく発達していたことから産卵期は冬と推定される．

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