

**An Additional Record of the
Rare Cottid Fish *Ocyntes*
modestus from Aomori Pref., Japan**

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Ocyntes modestus was described by Snyder (1911) on the basis of two discolored specimens (size undescribed) collected from Same, Hachinohe City, Aomori Pref., Japan. Watanabe (1958) redescribed this species in his monograph on the basis of two discolored specimens (4.6 and 6.6 cm SL) collected from Kominato, Chiba Pref. and Fudejima I., Ohshima Is., Tokyo respectively. Recently, an additional specimen (5.6 cm SL, taken from southern Hokkaido) was shown in color by Yabe (1984). However, this photo seems to have been taken after the specimen was preserved and its color changed to dusky green.

From the coast of Aomori Pref., twenty specimens identified as *Ocyntes modestus* were newly collected. These specimens were mainly different from the original description made by Snyder (1911) regarding the coloration. In this paper, *Ocyntes modestus* was described on the basis of these fresh specimens. Counts and proportional measurements were made in accordance with Hubbs and Lagler (1947). Soft X-ray was used for counting vertebrae and vertical fin rays.

Ocyntes modestus Snyder, 1911
(Japanese name: Mutsu-kajika)

(Fig. 1)

Ocyntes modestus Snyder, 1911: 539 (type locality, Same, Hachinohe City, Aomori Pref.); Snyder, 1912: 432, pl. 56, fig. 1 (figure of holotype); Matsubara, 1955: 1157 (key); Watanabe, 1958: 374, pls. 36, 90; Yabe, 1984: 315 (Japanese text), 329 (English text), pl. 294, fig. K.

Materials examined. ACAP (Aquaculture Center of Aomori Prefecture) 5489–5508, 20 specimens, 32.7–62.6 mm SL, collected at Narukami (41°15'N, 140°22'E), Minmaya, near Tappi Point, northern tip of Tsugaru Pen., Aomori Pref., rocky shore, on Oct. 23, 1982.

Diagnosis. No dermal appendages on occipital

region. Maxillary not extending below anterior end of iris. Snout sharp. First dorsal fin high, length of the longest dorsal spine 1.9–3.1 in HL. Distance between the first and the second dorsal fins longer than one half of eye diameter.

Description. Measurements and counts of all specimens are shown in Table 1. The ranges of measurements in the following description are for five larger specimens (ACAP 5489–5492, 5507; 54.4–62.6 mm SL).

D VIII–IX–13–16; A 10–11; P₁ 13–14; P₂ I, 2; C 11; V 32–34 (9–10+23–24); lateral line scales 35–38.

Head small, 3.4–3.5 in SL; body slender, its depth 3.5–4.1; caudal peduncle low, its depth 9.6–10.7; anal origin a little before midpoint of body, distance from tip of snout to anal origin 1.7–1.9; spiny dorsal fin base length 3.5–4.7; soft dorsal fin base length 2.8–3.1; anal fin base length 3.9–4.4. Snout short and sharp, its length 3.5–4.5 in HL; eye diameter 5.1–5.2; caudal peduncle length 1.2–1.3; pectoral fin large, its length 0.8–0.9, its tip extending to above 2nd–3rd anal ray when depressed; pelvic fin short, 1.8–2.1; caudal fin length 1.2–1.3. Second spine of the first dorsal fin longest, and its length 1.9–3.1 in HL. Bony interorbital width narrow, its width 1.3–1.9 in eye diameter and 6.8–9.8 in HL. Interorbital space 5.2–5.8 in HL.

On head, two pairs of dermal appendages present; a simple flap on a prominent nasal spine, a flattened flap with about ten minute fringes on supraorbital. Anterior nostril with low rim; posterior nostril just behind nasal spine, its dermal tube broad and flattened with a slit-like opening. Between bases of nasal spines, a low fleshy ridge tapering posteriorly and disappearing in mid-interorbital. Mouth small, maxillary not exceed anterior edge of iris. Jaws oblique, lower jaw a little shorter than the upper. A preopercular spine long, simple, curved upward. Teeth on both jaws, palatines and vomer, small conicals arranged in 3–5 rows. Gill membranes united to each other and free from the isthmus. Gill rakers on 1st gill arch 5–7, very low lumps with minute spinelets. Pseudobranchiae present. Branchiostegals six. No scales on body except for lateral line scales. Lateral line complete, with 35–38 pored scales. Anterior 7–10 scales with dermal appendages, simple to quadrid.

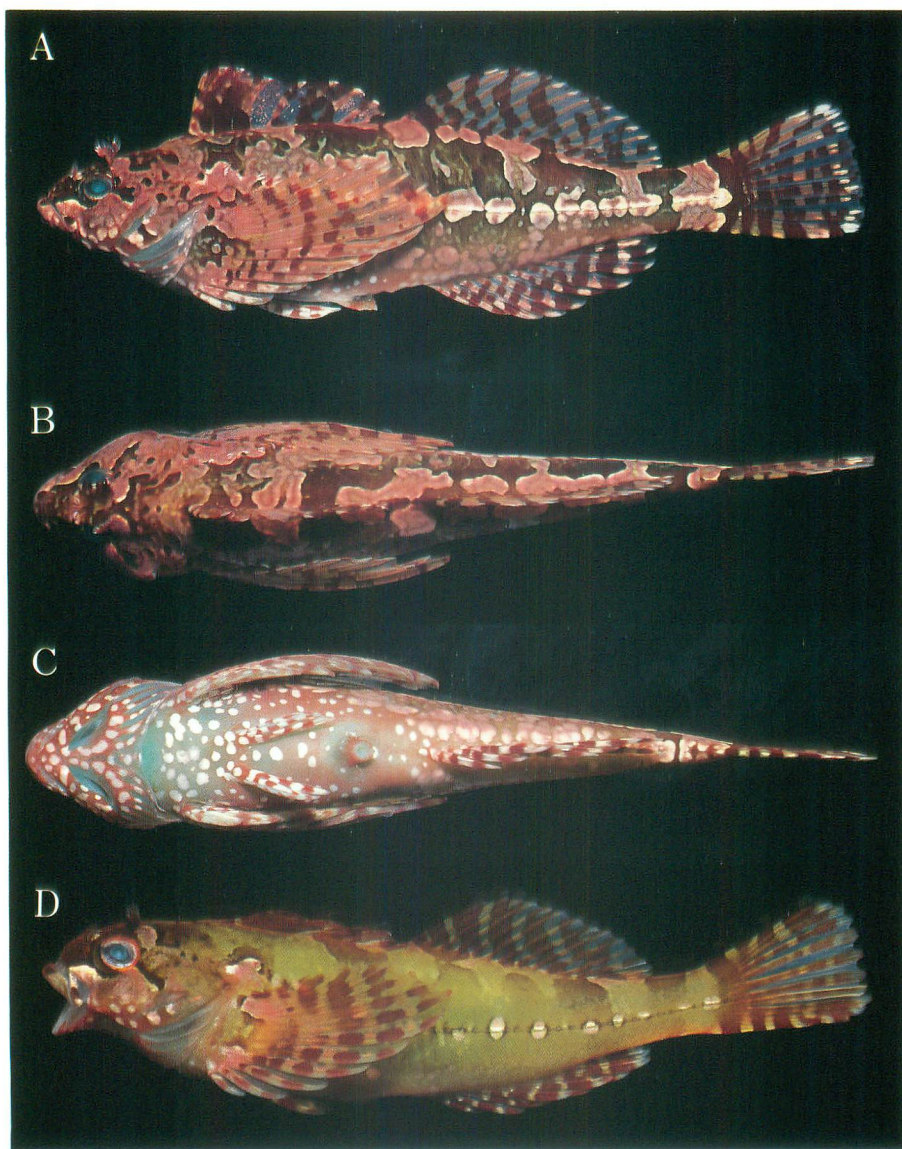


Fig. 1. *Ocyneustes modestus*, collected from Narukami, near Tappi Point, Tsugaru Pen., Aomori Pref., on Oct. 23, 1982. A, B, C, ACAP 5489, 59.0 mm SL, female; D, ACAP 5495, 42.0 mm SL, female.

Pectoral fin large, its anteriormost base extending anteriorly to a vertical through dorsal fin origin. All rays of pectoral fin unbranched; the eighth ray from upper longest; lower six rays broad, thickened and deeply incised. Margin of first dorsal fin slightly concave at median; 2nd or 3rd spine longest; anterior two spines closely accessed. The first and the second dorsal fins separated in a distance of more than half of eye diameter. Second dorsal fin higher than first dorsal fin, its length

about one half of head length, last ray adhered to caudal peduncle by membrane. Anal fin base shorter than the second dorsal fin base. All rays of anal fin thickened and deeply incised. Caudal fin truncated but rounded at both tips, with nine branched rays. Pelvic fin, shallowly branched at tip, with two rays, its end reaching to just in front of anal opening. Urogenital papilla pointed distally, its tip extending to second anal ray, but broad at base, its width greater than twice of

Table 1. Measurements and counts of *Ocynectes modestus*. * after Snyder (1911), ** after Watanabe (1958), *** calculated from the figure of holotype (Snyder, 1912). Dashes are data unknown.

Catalogue number Sex TL (SL) in mm	ACAP 5507 ♀ 78.0 (62.6)	ACAP 5489 ♀ 74.2 (59.0)	ACAP 5491 ♀ 70.4 (57.2)	ACAP 5490 ♂ 72.2 (55.9)	ACAP 5492 ♂ 67.8 (54.4)	ACAP 5493- 5506, 5508 (n=15) 40.3-56.2 (32.7-46.6)	Holotype* USNM 68240 66***	W-31196** ♂ 56 (46)- 76 (66)
Measurements:								
In SL								
Head length	3.5	3.5	3.4	3.4	3.4	3.2- 3.7	3.4	4.5
Body depth	4.1	3.5	4.0	3.9	4.0	3.8- 4.5	3.9	5.1
Caudal peduncle depth	10.6	10.4	10.2	9.6	10.7	10.2-11.1	9	12.6
Distance from tip of snout to anal origin	1.9	1.8	1.8	1.7	1.8	1.7- 1.8	—	2.4
Spiny dorsal fin base length	3.5	3.8	4.0	3.7	4.7	3.9- 5.4	—	—
Soft dorsal fin base length	3.1	3.0	2.9	2.8	2.9	3.0- 3.4	—	—
Anal fin base length	4.4	4.0	4.1	3.9	3.9	4.1- 4.6	—	—
In HL								
Eye diameter	5.1	5.2	5.2	5.2	5.2	4.1- 5.2	5	5.7
Snout length	4.5	4.0	3.5	3.6	3.5	3.8- 4.4	3.5	4.3
Caudal peduncle length	1.3	1.2	1.2	1.3	1.2	1.2- 1.5	—	2.4
Pectoral fin length	0.8	0.8	0.8	0.8	0.9	0.8- 1.0	—	0.9
Pelvic fin length	1.8	1.9	2.0	1.9	2.1	1.9- 2.4	2	2.4
Caudal fin length	1.3	1.2	1.2	1.2	1.3	1.2- 1.4	1.4	1.5
Longest dorsal spine length	1.9	2.4	2.7	2.5	3.1	2.6- 3.0	2.3	2.8
Bony interorbital width	6.8	7.6	8.5	7.9	9.8	7.9-10.3	—	8.5
Interorbital space	5.4	5.8	5.2	5.7	5.2	5.4- 6.1	4.7	—
Counts:								
Dorsal fin rays	VIII-14	IX-15	IX-15	VIII-15	VIII-15	VIII-IX- 13-16	IX-14	IX-X-14-15
Anal fin rays	11	11	11	11	11	10-11	11	10-11
Pectoral fin rays	13, 14	14	14	14	14	14	14	14-15
Pelvic fin rays	I, 2	I, 2	I, 2	I, 2	I, 2	I, 2	—	I, 2
Caudal fin rays	11	11	11	11	11	11	—	—
Vertebrae	10+23=33	9+23=32	10+24=34	10+23=33	9+24=33	10+23-24= 33-34	—	—
Lateral line scales	36	38	37	37	37	35-37	35	38-40
Lateral line scales with dermal fringes	7	10	8	9	9	8-10	9	—
Gill rakers on 1st gill arch	7	7	7	5	5	—	—	7
Pyloric caeca	7	7	7	7	7	—	—	6

eye diameter. Pyloric caeca well developed, seven.

Coloration. In fresh specimens larger than about 50 mm SL, ground color of body greenish brown with numerous coral pink blotches along dorsal fin base and on body median line. Dorsal blotches saddling, cloudy in shape. A broad band on caudal peduncle. Blotches along median line of body, silvery whitish. Darker broad bands on back; anterior two below first dorsal fin base, two below second dorsal fin base and one on caudal peduncle. Above anal fin base, small rounded pale coral pink spots numerous scattered. Numerous white rounded spots about the size of or smaller than iris, arranged on ventral side of head, abdomen, pelvic fins, lower rays of pectoral fins, pectoral fin bases and above anal fin base. Head coral pink, with a darker waving streak from snout to postorbital region through eye. Darker narrow streaks meandering on back of head and breast. Two dark blotches on first dorsal fin; oblique darker brown streaks on second dorsal and anal fins. Pectoral fin crossbarred. Pelvic fins dotted. Gill membrane and throat bluish green (Fig. 1A, B, C).

In smaller specimens less than 50 mm SL, body uniformly brownish green and plain. White spots on lower cheek, pectoral fin base and along median line of body. A distinct darker streak from snout to postorbital region through eye (Fig. 1D).

Remarks. Habitat is restricted to the shallow rocky shore which receives continuous wave actions where white bubbles are always foaming. The characteristic white spots on ventral side of the body may camouflage with white bubbles and the coral pink color pattern with calcareous algae, *Amphiroa* sp., Corallinoideae, covering over the rocks. Hitherto this species was collected from a single locality by me, although extensive collections were carried out near the locality. Together with this species, other sculpins were collected, i.e., *Ocyneustes maschalis* (2 specimens), *Bero elegans* (3) and *Furcina oshima* (13).

Measurements and counts of the holotype given by Snyder (1911) well agrees with those of the present specimens. But measurements given by Watanabe (1958) are much different from the values of the present materials in head length, body depth, distance from tip of snout to anal origin, caudal peduncle length and so on (Table 1). It may be caused by the different method of

measurements or by simple errors.

In the genus *Ocyneustes*, *O. maschalis* is related with the present species, but is clearly distinguishable by the presence of two pairs of dermal appendages on the occipital region.

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青森から得られたカジカ科の稀種ムツカジカ

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津軽海峡に面する津軽半島先端部の龍飛岬近くにある三厩村鳴神地先の岩礁海岸でムツカジカ *Ocynectes modestus* Snyder, 1911 の標本を 20 個体 (32.7–62.6 mm SL) 得て、形態の記載を行った。本種はこれまで青森県八戸市鮫で 2 個体 (Snyder, 1911)、千葉県小湊、東京都大島で、それぞれ 1 個体 (Watanabe, 1958)、

および北海道南部で 1 個体 (Yabe, 1984) の計 5 個体の採集例しかなく、極めて稀な種と考えられてきた。また、本種は著しい体斑紋をもたないのが特徴とされてきたが、50 mm SL 以上の大型個体では体斑紋は複雑であり、顕著な白色円斑が腹面に密布する。

(039-34 青森県東津軽郡平内町茂浦 青森県水産増殖センター)