

Descriptions of Three New Species of Fishes from off Oki Island in the Southern Japan Sea

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Upon careful examination of many specimens of fishes from off-coast of Isl. Oki, taken by motor trawlers, I found 2 new cottid fishes and a new liparid fish. These type specimens are preserved in the Zoological Laboratory, Hyogo University of Agriculture. I wish to express my gratitude to Dr. Kiyomatsu MATSUBARA, Prof. of Fisheries of Kyoto University, for his kindnesses shown to me in various ways. I am also greatly indebted to Mr. Misao SOGURI, director of Tottori Prefectural Fisheries Experimental Station, and Mr. Gentaro MORIYAMA, chief of Kasumi Fisheries Cooperative Association, for their favour of the valuable specimens. Lastly I take this opportunity of thanking Miss. Hata OKAMURA, teacher of biology of Hyogo High School, for her great aid in preparing the figures.

Alcichthys okiensis sp. nov.

(new Japanese name : Oki-kazika)

D.IX, 15 ; A. 13 ; P. 16 ; V. I, 2 ; C. 11 ; lateral line 38. Gill-rakers on first arch tubercular, with numerous fine spines, 3+8.

Head 2.9 in body length, depth 4.4. Eye 6.0 in head ; interorbital width 9.0 ; snout 3.2 ; maxillary 2.1 ; length of caudal peduncle 5.2 ; first dorsal spine 2.9 ; fourth longest dorsal spine 2.1 ; longest anal ray 2.5.

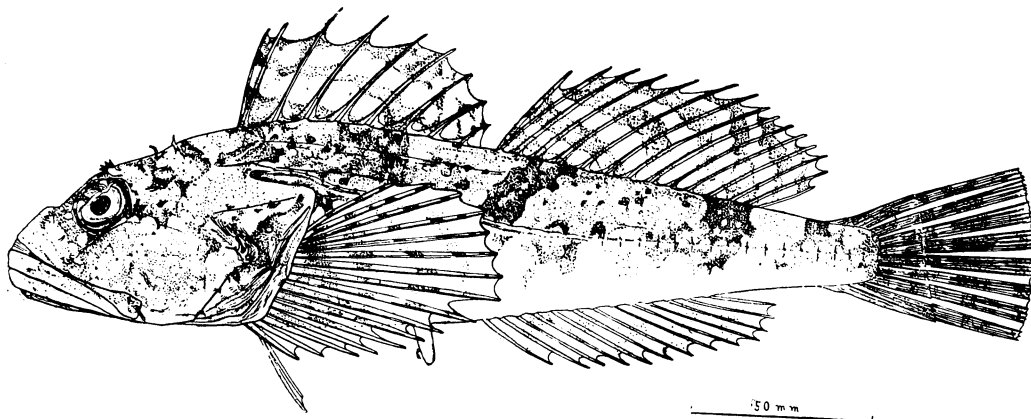


Fig. 1. *Alcichthys okiensis* sp. nov.

Body elongate, compressed ; head depressed, height 1.25 in width. Mouth large, jaws subequal, maxillary reaching to below posterior margin of eye. Small sharp conical teeth on jaws, vomer and palatines ; the palatine patch narrower than that on

saw. Interorbital space rather flat. Processes from premaxillary strongly produced ; nasal spines sharp. Preopercle spine spreading out flat and wide, and divided into 4 diverging points directed upward ; below it are 3 spines, all directed downward. Posterior margin of opercle concave and lower end angulated. A wide multifid flap over posterior part of eye, a simple tentacle on middle of ridge on occiput, and a trifid one at end of its ridge. A simple long tentacle on mouth angle.

Two dorsals well separated ; dorsal spines protruding from fin membrane, nearly reaching to base of second dorsal when depressed posteriorly ; anal opposite second dorsal, but the former base shorter than the latter. Tip of pectoral reaching a little beyond front of anal. Ventral short, reaching half the distance from their base to anal papilla. Lateral line with small imbedded plates ; a few scattered tentacles on posterior edges of pores. Behind pectoral axillary there are a few scattered plates. Skin otherwise naked and smooth.

Color in formalin reddish brown on back, shading lighter below to gray on lower parts, with 5 broad dark brown oblique bands. Spinous dorsal with 3 broad irregular dusky cross-bands ; second dorsal and anal with 8 pale brown cross-bands ; pectoral with 6 pale brown cross-bands and caudal with the same 4 bands.

This species closely resembles *Alcichthys alcicornis* (HERZENSTEIN), but differs from it in having depressed head, two dorsals well separated, dorsal spines protruding from fin membrane, and the different coloration.

Type is a single male specimen 288 mm long.

***Dasycottus longipinnis*. sp. nov.**

(new Japanese name : Hirenaga-ganko)

D. VIII, 14 ; A. 14 ; P. 26 ; V.I, 3 ; C. 14 ; gill-rakers on first arch short and tubercular, 4+11.

Head 2.6 in body length ; depth 4.7. Eye 6.0 in head ; interorbital width 4.3 ; snout 3.7 ; width of mouth angle 1.8 ; width of caudal peduncle 2.0 in its height.

Body elongate and compressed, head large, rather depressed. Eye high and lateral, its diameter shorter than snout length, interorbital space flattish, ridged at middle

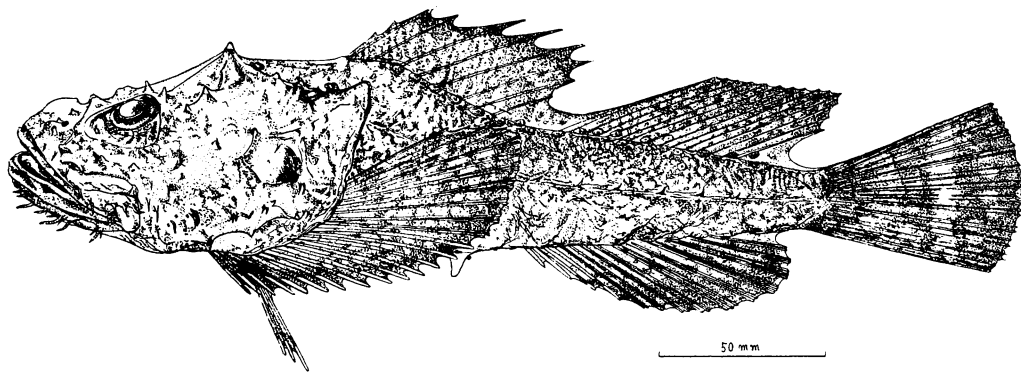


Fig. 2. *Dasycottus longipinnis* sp. nov.

and above orbit. Mouth large, maxillary expanded distally, extending beyond middle of eye; lower jaw projecting; teeth in jaws villiform, vomer with 2 patches of villiform teeth separated from each other by naked interspace, palatine toothless; preopercle with 4 spines at margin, upper 2 being the largest, the 2 other spines in front of edge of preopercle near origin of 2 middle preopercular spines; opercle with 2 spines converging towards edge of opercular flap, which is produced and pointed. Tubercles on head definitely placed; 1 in front of eye; 4 above eye; the posterior 2 the largest; a pair on middle of suborbital stay, with a smaller one above them; 1 on temporal region, and 1 on shoulder; by far the largest pair on occiput, where they are high, compressed spines, directed vertically upward, as long as diameter of pupil; nasal spines obsolete. Gill membranes united, free from isthmus; gills $3\frac{1}{2}$, no slit behind the last; pseudobranchiae developed.

Two dorsals scarcely separated from each other, more or less connected with lax skin; first dorsal spines protruding from skin, fifth spine highest 2.25 in head, the rays of second dorsal longer than dorsal spines, eleventh ray longest, 1.6 in head, reaching a little beyond base of caudal when depressed posteriorly; anal opposite second dorsal, posterior longest ray 2.5 in head; pectorals low down, procurent below but not united to each other; ventrals rather close together, extending to one-third distance to origin of anal. Caudal broadly rounded. Skin lax and naked; a few small tubercles on sides of nape and a row of smaller tubercles along base of two dorsals, rows of much smaller tubercles on dorsal spines and rays. Head profusely scattered with mucous pores; barbels present on maxillary and mandible. Anal papilla short and rounded.

Color in formalin dark brown, lighter below, side part of body with close-set grayish curved stripes which become more or less vermiculate by fusion; two dorsals and margin of anal blackish; pectoral grayish brown with a broad blackish brown band having pale vermiculate blotches; tips of all rays of anal, pectorals and ventrals grayish white; caudal dark brown with 4 broad blackish brown bands.

This species is distinguished from *Dasycottus setiger* BEAN and *D. japonicus* TANAKA by compressed body, longer dorsal spines and rays, posterior rays of second dorsal reaching a little beyond base of caudal when depressed posteriorly, and the different coloration.

Described from male specimen 308 mm long.

***Careproctus furcatus* sp. nov.**

(new Japanese name: Funao-bikunin)

D. 43; A. 38; P. 38; C. 16.

Head 3.5 in body length; depth 4.1; greatest width of head 5.0; greatest width of body 5.6. Eyes 6.5 in head; snout 3.0; interorbital width 3.3; diameter of disc 2.6.

Body elongate, moderately compressed, greatest depth under origin of dorsal. Head thick and blunt, nearly as wide as deep. Snout bluntly rounded, slightly protruding

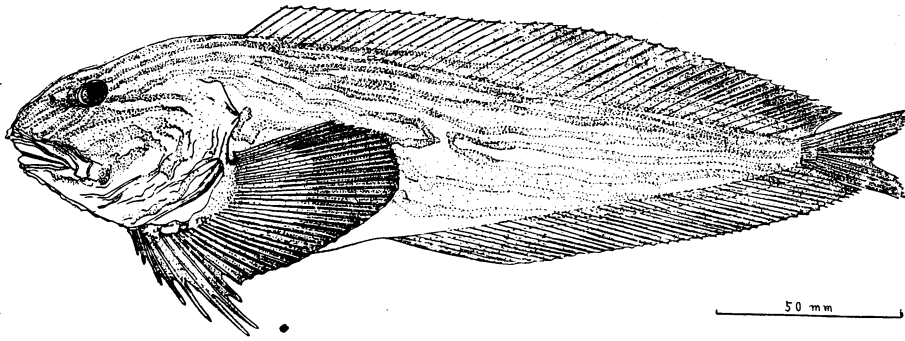


Fig. 3. *Careproctus furcatus* sp. nov.

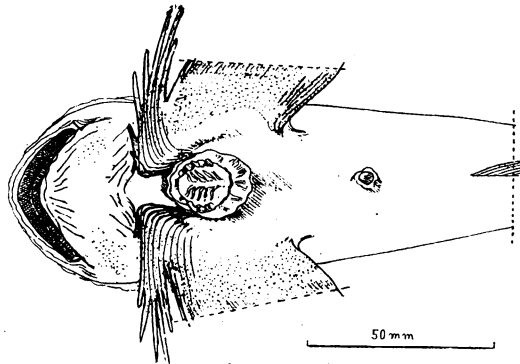


Fig. 4. Relative size and position of vent and disk of *Careproctus furcatus*. Ventral view.

beyond the premaxillaries ; eye small, round ; pupil rather large, nearly half diameter of eye ; mouth broad, maxillary not reaching vertical from anterior margin of eye ; lower jaw a little included ; teeth weakly trilobed, in broad bands, arranged in about 25 oblique rows in the half of each jaw, those of the anterior series minute. Nostril tube very low, before the orbit. Gill slit extending down in front of upper three or four pectoral rays.

Origin of dorsal slightly behind base of pectoral ; the rays increasing gradually in length posteriorly and hidden beneath the skin. Caudal deeply forked, with a dorsal notch, joined to anal at about its half length. Pectoral notched, lower lobe of 8 rays with free tips, not reaching to vent. Disc large, not deeply cupped, with a broad flap, widely separated from vent, distance from the anterior margin of disc to vent three times of distance from vent to front of anal.

Skin thin, loose and translucent, with pinkish brown longitudinal stripes ; everywhere very finely punctulate with brown ; body and abdomen pale ; vertical fins and margin of pectoral dark brown.

Resembling *Cateproctus cypselurus* (JORDAN and GILBERT) in shape of forked caudal, the species is distinguished from it in having deeper body, smaller eye and larger disc widely separated from vent.

Described from a male specimen 248 mm long.