

***Ostichthys brachygnathus*, a new Soldierfish (Beryciformes:
Holocentridae) from Guam**

JOHN E. RANDALL

Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96817

ROBERT F. MYERS

P.O. Box 21153, GMF, Guam 96921

Abstract—The holocentrid fish *Ostichthys brachygnathus* is described from a single specimen collected in 230 m off Guam, Mariana Islands. It is distinct in having XII,12 dorsal rays, the last spine shortest; 16 pectoral rays; 27 lateral-line scales; 2½ scales above lateral line; and a short upper jaw, the maxilla not reaching to below posterior edge of orbit; the color is red, the centers of scales lighter than edges.

Introduction

The beryciform family Holocentridae is divisible into two subfamilies, the Holocentrinae (squirrelfishes) and the Myripristinae (soldierfishes), principally on the structure of the swim bladder and auditory bullae. The species of Myripristinae are readily distinguished externally by the more ovate body shape, relatively short third anal spine, and lack of a single long stout spine at the corner of the preopercle (the monotypic Atlantic genus *Corniger* has two such spines). Five genera of Myripristinae are recognized: *Myripristis*, *Corniger*, *Ostichthys*, *Pristilepis*, and *Plectrypops*.

Randall et al. (1982) revised *Ostichthys*. They recognized seven species from the Indo-Pacific region and one from the western Atlantic. *Pristilepis* was established for the species *oligolepis* Whitley which had previously been classified in *Ostichthys*. Randall & Wrobel (1988) described a ninth species of the genus, *O. ovaloculus*, from Tahiti, and Chen et al. (1990) a tenth species, *O. sheni*, from Taiwan.

Ostichthys is characterized by usually having XI or XII dorsal spines, the dorsal fin continuous, though deeply notched between spinous and soft portions; coarsely ctenoid scales; and the premaxillary groove in a broad V-shape. The species are generally found on rocky substrata at depths greater than 100 m. Maximum depth recorded for any species, 640 m.

In February 1992 a specimen of *Ostichthys* was caught by hook and line in about 230 m off Orote Peninsula, Guam. It was recognized by the junior author as a probable undescribed species. A color photograph was taken, and the fish

was preserved and sent to the Bernice P. Bishop Museum, Honolulu (BPBM). The purpose of the present paper is to describe this new soldierfish.

The methods of counting and measuring follow Randall et al. (1982).

***Ostichthys brachygnathus*, n. sp.**

Fig. 1, Table 1

HOLOTYPE: BPBM 35052, female, 156 mm SL, Mariana Islands, Guam, off Orote Peninsula, about 230 m, hook and line, Benjamin Acfalle, 11 February 1992.

DIAGNOSIS: Dorsal rays XII,12, the last spine shortest; anal rays V,9 (appears aberrant in having a fifth anal spine); pectoral rays 16; lateral-line scales 27; 2½ scales above lateral-line; upper procurent spiniform caudal rays 5, the lower rays 4; maxilla not reaching a vertical at posterior margin of orbit; color in life solid red, the centers of scales lighter red than edges.

DESCRIPTION: Dorsal rays XII,12; anal rays V,9 (fifth anal spine appears aberrant; the normal anal-ray count is probably IV,10); all dorsal and anal soft rays branched, the last to base; pectoral rays 16, the upper two and lowermost unbranched; pelvic rays I,7; principal caudal rays 19, the upper and lower unbranched; upper spiniform procurent caudal rays 5; lower spiniform procurent caudal rays 4; lateral-line scales 27; no half scale anterior to upper half of first

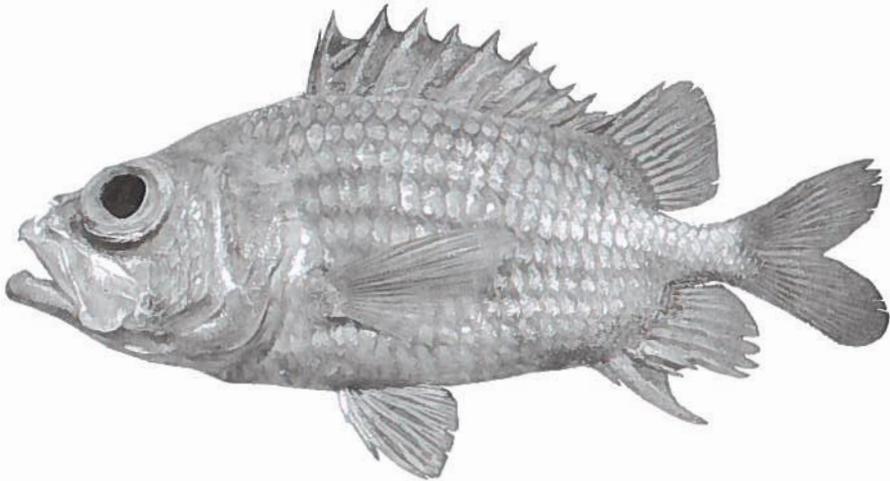


Fig. 1. Holotype of *Ostichthys brachygnathus*, BPBM 35052, 156 mm SL, Guam, 230 m (Robert F. Myers).

Table 1. Proportional Measurements of the Holotype of *Ostichthys brachygnathus* Expressed as a Percentage of the Standard Length

Standard length (mm)	156.0
Body depth	42.5
Body width	20.5
Head length	41.0
Snout length	9.2
Orbit diameter	13.6
Bony interorbital width	5.6
Upper jaw length	21.0
Caudal peduncle depth	8.1
Caudal peduncle length	9.1
Predorsal length	41.4
Preanal length	79.4
Prepelvic length	46.8
Dorsal fin base	55.0
First dorsal spine	11.3
Second dorsal spine	13.0
Longest dorsal spine	15.7
Penultimate dorsal spine	7.3
Last dorsal spine	6.1
Longest dorsal ray	15.9
Anal fin base	17.4
First anal spine	3.2
Second anal spine	6.4
Third anal spine	18.5
Fourth anal spine	11.7
Longest anal ray	18.1
Caudal fin length	22.2
Caudal concavity	9.6
Pectoral fin length	28.8
Pelvic spine length	14.4
Pelvic fin length	23.0

scale of lateral line; scales above lateral line to origin of dorsal fin 3, to base of remaining dorsal spines 2½; scales below lateral line to origin of anal fin 7; median predorsal scales 5; median prepelvic scales 9; diagonal rows of scales on cheek 4; a single vertical row of scales basally on opercle; circumpeduncular scales 12; gill rakers 8 + 15; pseudobranchial filaments 27; branchiostegal rays 8; vertebrae 11 + 16.

Body moderately deep, the depth 2.35 in SL, and compressed, the width 2.1 in depth; head length 2.45 in SL; dorsal profile of head nearly straight, becoming slightly convex on nape; snout length 4.45 in head; eye large, the orbit diameter 3.0 in head; interorbital space flat (except for longitudinal ridges), the least bony width 7.3 in head; caudal peduncle very slender, the least depth 5.05 in head; caudal peduncle length 4.5 in head.

Mouth not very large, the maxilla ending in front of a vertical at posterior edge of orbit, the upper jaw length 2.0 in head; mouth oblique, the gape forming

an angle of about 25° to horizontal axis of body; lower jaw projecting when mouth fully closed; maxilla broad posteriorly, the combined height of maxilla and supramaxilla (measured obliquely) 3.9 in head; maxilla and supramaxilla truncate posteriorly, the upper corner forming a right angle, the lower corner very broadly rounded; teeth in villiform bands in jaws, broader anteriorly, the band in upper jaw outside gape; band of teeth in lower jaw elevated into a knob-like mass on each side of symphysis; thickened anterior end of lower jaw fitting into broad toothless gap at symphysis of upper jaw when mouth closed, the anterior part of the thickened mass of teeth on each side visible externally; villiform teeth on vomer in a V-shaped patch, the anterior edges of the V concave; palatines with a band of villiform teeth which curves medially at anterior end. Tongue rounded, edentate. Nasal fossa subtriangular, centered slightly below middle of eye, its length 3.85 in diameter of orbit. Longest gill raker on lower limb of first gill arch adjacent to one at angle, 2.25 in orbit diameter.

External bones of head ridged and spinous; a prominent spine posteriorly on opercle below and parallel to anterior part of lateral line, the spine length measured along its upper edge 2.4 in orbit diameter; no spine at corner of preopercle; free margins of suborbitals, postorbitals, double edge of opercle, subopercle, and double edge of preopercle with well-developed sharp spinules, those on opercle preceded by ridges; no forward-projecting spine anteriorly on nasal bone; suborbital series narrow, its depth below center of eye 5.5 in orbit diameter; postorbital series also narrow, its length behind center of eye 4.4 in orbit diameter.

Scales coarsely ctenoid, the number of ctenii varying from 6 posteriorly on caudal peduncle to 16 anterodorsally on body (except beneath, above, and below pectoral fins where ctenii are absent or greatly reduced); scale surfaces pitted, but without well-developed ridges; scales dorsally on head extending forward to above upper end of preopercular margin; spinous portion of dorsal fin naked, the soft part and anal fin with a basal sheath of small scales; very small scales on caudal fin extending about two-thirds distance to posterior margin; very small scales basally on pectoral fins; no scales in axil of pectoral fins; pelvic fins with a mid-ventral process of two strongly spinous scales, each overlapping a smaller scale on each side.

Origin of dorsal fin above second lateral-line scale; spines of fins finely striated longitudinally; first dorsal spine 3.6 in head; third dorsal spine longest, 2.6 in head; twelfth dorsal spine shortest, 6.7 in head, nearly adjacent to first dorsal soft ray; second and third dorsal soft rays longest, 2.6 in head; origin of anal fin below base of first dorsal soft ray; first anal spine short, 13.0 in head; second anal spine 6.4 in head; third anal spine longest, 2.2 in head; first and second anal soft rays longest, 2.25 in head; caudal fin small, 1.8 in head and forked, the caudal concavity 4.3 in head; caudal lobes rounded; fourth and fifth pectoral rays longest, 1.45 in head; second pelvic ray longest, 1.8 in head.

Color in alcohol pale yellowish, the fin membranes clear. Color when fresh bright red, the centers of scales a little lighter than edges; spinous portion of dorsal fin solid red; soft portion of dorsal fin and remaining fins with red rays and hyaline membranes.

REMARKS: This species is named *Ostichthys brachygnathus* from the Greek *brachy* for short and *gnathos* for jaw, in reference to the short upper jaw (2.0 in head length, compared to 1.7–1.95 for other species of the genus). It is also distinct from other species in having 12 dorsal soft rays (strongly modal 13 or 14 for other species—see Table 1 of Randall et al. 1982), and the most slender caudal peduncle, the least depth 5.05 in head length.

This soldierfish seems most closely related to *Ostichthys delta*, known only from the island of Réunion in the western Indian Ocean and Tutuila, American Samoa. These two species are the only ones with modally 10 anal soft rays and 27 lateral-line scales. Other features shared with *delta* but not all other species of the genus: 2½ scales above lateral line; no half scale anterior to first lateral-line scale; 5 upper and 4 lower procurent spiniform caudal rays; last dorsal spine shorter than penultimate spine; no spine anteriorly on nasal bone in the adult; and interorbital space flat. It differs from *delta* in having 12 instead of 11 dorsal spines, a V-shaped instead of near-triangular patch of teeth on vomer, longer head (head length 2.5–2.65 in *delta*), shorter dorsal spines (longest spine of *delta* 2.05–2.3 in head), and shorter third anal spine (1.8–2.05 in head of *delta*).

Ostichthys brachygnathus is presently known only from Guam; however, its range will probably be extended to other island groups of the Pacific. The species of *Ostichthys* are not often caught by fishermen (hence not well represented in museum collections) because of their occurrence in relatively deep water.

Literature Cited

- Chen, J.-P., K.-T. Shao & H.-K. Mok. 1990. A review of the myripristin fishes from Taiwan with description of a new species. *Bull. Inst. Zool. Acad. Sin.* 29(4): 249–264.
- Randall, J. E., T. Shimizu & T. Yamakawa. 1982. A revision of the holocentrid fish genus *Ostichthys*, with descriptions of four new species and a related new genus. *Japan. Jour. Ichth.* 29(1): 1–26.
- Randall, J. E. & L. Wrobel. 1988. A new species of soldierfish of the genus *Ostichthys* and records of *O. archiepiscopus* and *O. sandix* from Tahiti. *Japan. Jour. Ichth.* 35(3): 243–246.

Received 22 Oct 1992.