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First Records of Two Flatheads, *Rogadius patriciae* and  
*Cymbacephalus beauforti* (Pisces: Platycephalidae)  
from the Ryukyu Islands

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**Abstract**

Two species of flatheads, *Rogadius patriciae* and *Cymbacephalus beauforti*, were collected from the Ryukyu Islands. The former species has been known only from Western Australia and the latter from the Philippines to New Caledonia. These two species are described here for the first time from the Japanese waters.

Since the review of Japanese 10 species of flatheads by Matsubara and Ochiai (1955), two species, *Thysanophrys arenicola* Schultz and *T. chiltonae* Schultz, were added to Japanese fish fauna by Masuda *et al.* (1975) and Ida and Yunokawa (1980). During the course of our study on flatheads, we obtained nine specimens of *Rogadius patriciae* Knapp and eight specimens of *Cymbacephalus beauforti* (Knapp) from the Ryukyu Islands. *R. patriciae* has been known only from the type specimens collected from off Western Australia. *C. beauforti* is distributed in tropical regions in the western Pacific (*e. g.*, Yap, Palau, the Philippines and Papua-New Guinea). The northern limit of its distribution has so far laid on the Philippines. Thus, these two species are recorded here for the first time from Japan. In this paper these two species are described and figured.

Counting and measuring methods mainly follow Hubbs and Lagler (1947) except for spine lengths which follow Knapp (1973). Names of head spines and ridges follow Eschmeyer (1969). All the specimens examined here are deposited at the Department of Marine Sciences, University of the Ryukyus (URM-P).

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*Rogadius patriciae* Knapp, 1987

(New Japanese name: Sasanoha-gochi)

Fig. 1 A-B.

*Suggrundus* sp. 2 Gloerfelt-Tarp & Kailola, 1984: 125, color figure on p. 124, Sainsbury *et al.*, 1985: 120, color figure on p. 121.

*Rogadius patriciae* Knapp, 1987: 54-55 (type locality, Northwest Shelf, Western Australia).

**Materials examined.** Total 9 specimens: URM-P 15114, 1 specimen, 169mm in SL, Chinen Fish Market, Okinawa Island, Mar. 8, 1986, URM-P20049-20052, 4 specimens, 159-197mm, Chinen Fish Market, Okinawa Island, Nov. 16, 1988.

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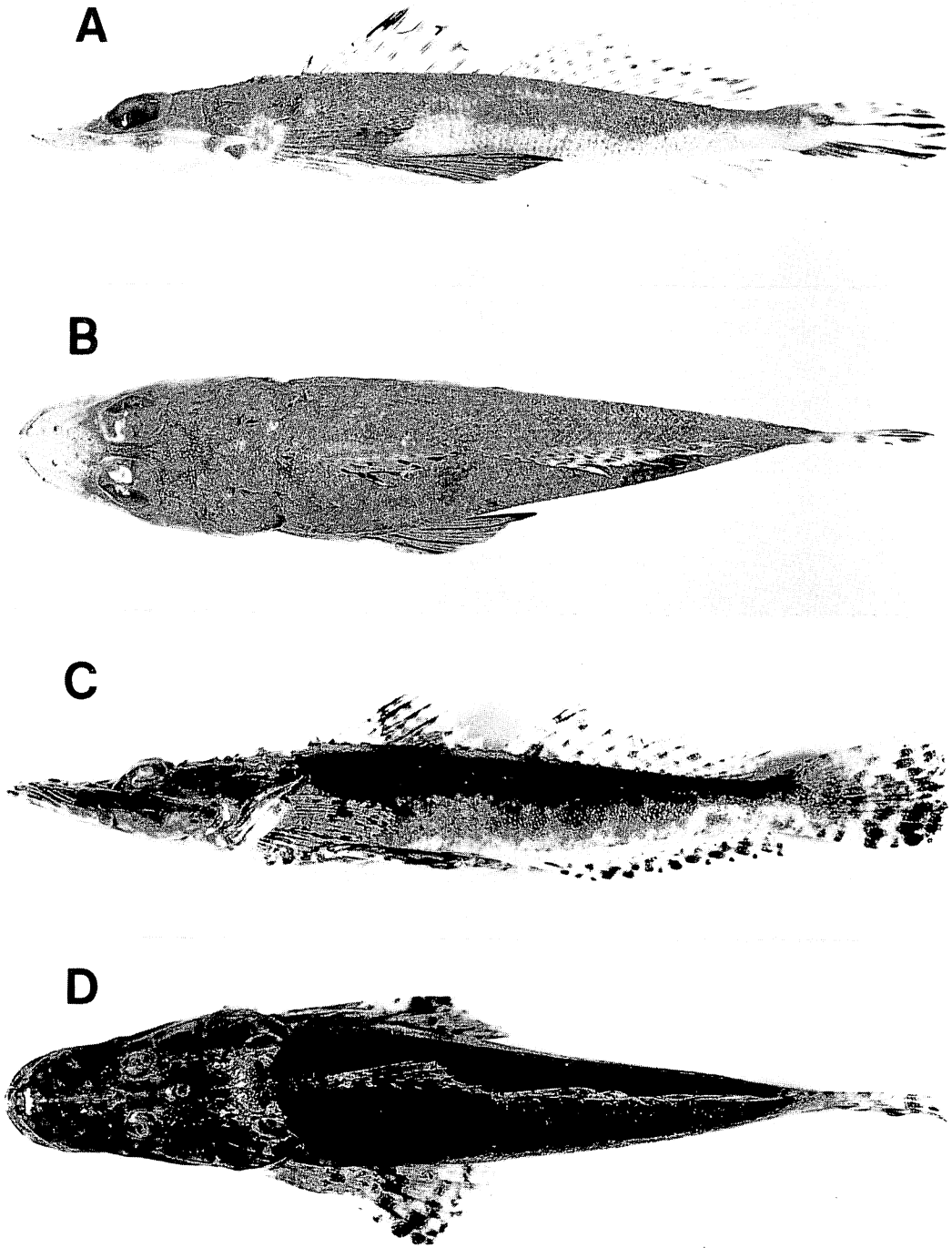


Fig. 1. Lateral and dorsal views of two flatheads. *Rogadius patriciae* Knapp, URM-P 20049, 169 mm SL (A and B); *Cymbacephalus beauforti* (Knapp), URM-P 20030, 411 mm SL (C and D).

Table 1. Proportional measurements as the percent of standard length in *Rogadius patriciae* and *Cymbacephalus beauforti*.

Species	<i>R. patriciae</i>		<i>C. beauforti</i>			
	Locality	Ryukyu Is.	Papua New Guinea	Palau Is.	Ryukyu Is. (young)	Ryukyu Is.
Number of specimens		9	1	1	1	7
Standard length (mm)		159 - 197	224	126	47.7	355 - 495
Total length (mm)		194 - 234	270	154	57.6	422 - 588
Depth of body		12.1-15.1	12.9	12.8	13.4	13.4-17.7
Width of body		18.1-19.9	19.2	15.4	13.6	17.5-21.3
Head length		36.7-38.9	37.7	38.1	39.2	36.0-37.2
Snout length		11.3-12.1	14.4	15.7	16.4	14.0-14.5
Post-orbital length		15.7-16.5	16.8	16.6	16.4	16.9-17.9
Eye diameter		9.4-11.1	6.2	5.3	6.3	4.5- 5.5
Interorbital width		1.5- 1.9	2.9	2.9	2.7	3.7- 4.2
Upper jaw length		14.0-15.5	14.3	15.2	14.7	14.1-14.7
1st dorsal spine length		4.6- 5.5	3.5	3.3	3.4	2.9- 4.3
2nd dorsal spine length		12.3-15.0	13.3	13.3	10.9	12.1-14.3
3rd dorsal spine length		13.7-16.4	13.7	14.0	12.4	12.8-14.9
1st dorsal ray length		9.9-13.3	12.0	11.9	13.6	11.9-13.5
2nd dorsal ray length		12.1-15.4	12.1	13.4	13.6	12.0-13.9
1st anal ray length		6.8- 8.6	6.9	6.3	6.0	6.2- 7.5
2nd anal ray length		8.3- 9.7	8.7	8.1	7.5	7.5- 9.2
Pectoral fin length		17.3-19.7	13.6	13.3	15.9	13.9-15.4
Pelvic fin length		26.1-29.8	24.8	22.9	20.3	24.0-25.9

**Description.** Dorsal fin I-VIII-12 (one specimen in this study I-IX-12), anal fin 11, pectoral fin 21-22, caudal fin 11-13, pored lateral line scales 52-54, gill rakers 1+6.

Proportional measurements as the percent of standard length are shown in Table 1. Body greatly depressed, body depth 1.30-1.61 in body width. Interorbital width narrow, 4.89-6.84 in horizontal eye diameter. Eye diameter 1.07-1.22 in snout length.

Pectoral fin broad, posterior margin slightly concave, the lower 6 to 9 rays simple and thickened, pelvic fin rounded, 5th ray slightly elongate, caudal fin truncate. Lateral line scales with two perforating ducts, anteriormost 6 to 10 scales bearing small spine. Vomerine teeth in 2 discrete patches. No pit behind eye. Preorbital spine lacking, 2 parallel rows of granular spines on the upper surface on supraethmoid. Supraorbital rim serrated, parietals, pterotic and nuchal armed with granular ridge. Lower anterior margin of preorbital not serrated, suborbital ridge with fine serration. Single stout preocular spine, 3 preopercular spines, uppermost one longest, antrorse lacking, 2 opercular spines, lower one longer. Iris lappet bilobed. Ocular and interopercular flap absent. Anterior nostril with elongate flap.

Color in formalin. Dorsal body grayish brown and abdomen white, back crossed with about 6 obscure dark bands. Brown band below eye. Lower lip crossed with narrow bars. Outer half of spinous dorsal fin black, soft dorsal fin with oblique 4 to 6 series of black checks, pectoral fin with many small brown dots on upper half, lower

half pale brown, pelvic fin blackish except for white base and margin, anal fin white with blackish band medially becoming darker posteriorly, caudal fin white with blotches and 2 longitudinal black bands, the bands sometimes pale or lacking.

**Remarks.** *R. asper* (Cuvier) is another species assigned to this genus in Japanese waters. *R. patriciae* is distinguished from *R. asper* by lacking an antrorse preopercular spine and serration on lower anterior margin of preorbital. This species has been known only from Western Australia. Although Matsubara and Ochiai (1955) regarded the antrorse preopercular spine as one of the important generic characters of *Rogadius*, we follow Knapp (1987) and think lack of this character does not warrant to separate genus. Our specimens agree well with the figures of Sainsbury *et al.* (1985) and Gloerfelt-Tarp and Kailora (1984), and the original description by Knapp (1987).

*Cymbacephalus beauforti* (Knapp, 1973)

(New Japanese name: Enma-gochi)

Fig. 1 C-D.

*Platycephalus tentaculatus* (not of Rüppell): Günther, 1876: 166, pl. 107, figs. A & B (Pelew).

*Platycephalus* (*Cymbacephalus*) *beauforti* Knapp, 1973: 117-125, figs. 1-4 (type locality, Palau Is.).

*Inegocia guttata* (not of Cuvier): Yoshino & Nishijima, 1981: 63 (Sesoko I., Okinawa)

*Cymbacephalus beauforti*: Myers, 1988: 91, pl. 21 A (Belau).

**Materials examined.** Total 10 specimens: URM-P 17937, 1 specimen, 126mm in SL, Palau Islands, Apr. 1979, URM-P20652, 1 specimen, 224mm, Papua-New Guinea, Feb. 6, 1988, URM-P 17938, 1 specimen, 47.3 mm, Kabira Bay, Ishigaki Island, Oct. 10, 1981, URM-P 20030-20031, 20046, 20326-20328, 6 specimens, 391-495 mm, Naha Fish Market, Okinawa Island, Nov. 8-26, 1988, URM-uncatalog., 1 specimen, 355mm, Naha Fish Market, Okinawa Island, Feb. 1, 1989.

**Description.** Dorsal fin I-VIII-11, anal fin 11, pectoral fin 19-20, caudal fin 12, pored lateral line scales 51-53, gill rakers 1+5.

Proportional measurements as the percent of standard length are shown in Table 1. Body depressed, body depth 1.01-1.58 in body width. Interorbital width, 1.21-2.30 in horizontal eye diameter. Eye diameter 2.33-3.09 in snout length. Snout and head lengths in SL became shorter with growth. Upper jaw not reached under eye.

Pectoral, pelvic and caudal fins rounded. Lateral line scales with one perforating duct directed upward, anteriormost 2 scales bearing spine. Vomerine teeth in 2 discrete patches. Upper and lower jaws, palatine and pharyngeal with villiform or granular teeth. Posterior inner lobe of lower pharyngeal slightly longer and broader than the outer. Shape of lower pharyngeal is similar to *Inegocia guttata* reported by Matsubara and Ochiai (1955). A distinct pit behind eye. Nasal and preorbital spines lacking, posterior supraorbital rim with 5 to 6 spines, postorbital, parietals, pterotic and nuchal with single stout spine. Lower anterior margin of preorbital not serrated, suborbital ridge with 2 spines. Single stout preocular spine, 2 preopercular spines, upper one longer, 2 to 3 opercular spines. Iris lappet cirrose, ocular flaps on upper surface of eye, one or two simple flaps anteriorly, many simple flaps posteriorly and a long flap with branched tips on middle. Large and wide interopercular flap present. Anterior nostril with elongate posterior flap branched distally.

Color in formalin. Dorsal body blackish with 8 or 9 dark cross bands on upper 1/4 of body, one on caudal peduncle distinctive, abdomen white. Four brown bars on lower lip. Dark band across interorbital and cheeks, another on occiput and preopercles. All fins marbled, spinous dorsal fin sometimes with a large cloud-like black blotch.

**Remarks.** This species closely resembles *Inegocia guttata* (Cuvier) in Japan, but differs from it by having a pit behind each eye and flaps on the upper surface of eye. Yoshino and Nishijima's (1981) *I. guttata* is identified as this species. There is no actual record of *I. guttata* from the Ryukyu Islands. Our specimens agree well with the original description by Knapp (1973).

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