

A New Record of the Flathead Fish, *Inegocia guttata* (Platycephalidae) from Korea

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A flathead fish, collected from the water off Cheju Island is tentatively identified as *Inegocia guttata* of the family Platycephalidae for the first time from Korea. *Inegocia guttata* is similar to *Cymbacephalus beauforti* in morphological characters, but differs from *C. beauforti* in lacking dermal flaps on eyes and having pored scales much fewer than oblique scales slanting backward and downward above the lateral line, single and tongue – like interopercular flap, nasal spines and circled blackish spots in the pectoral and ventral fins. A new Korean name, “Akoyangtae”, is proposed for the *I. guttata*.

Introduction

Family Platycephalidae, belonging to the order Scorpaeniformes, is widely distributed in the world and has about 18 genera with about 60 species in the Indo – Pacific region (Nelson, 1994). It also occurs commonly in Korean waters, some of which are valuable and popular food fishes for the Koreans. *Platycephalus indicus* and *Thysanophrys crocodilus* from Korea were initially reported by Jordan and Metz(1913), since then 7 genera with 7 species were listed by Mori(1952), Chyung(1977), Jeon(1992), and Lee and Joo(1994).

They have distinct exomorphological features ; head is much depressed, armed with strong spines, and body is elongated and mostly covered with ctenoid scales.

In this study, one specimen which collected at Hallim – up, Cheju – do on July, 1994 was

described as a new record of *Inegocia guttata* from Korea. Counts and measurements of the specimen were made according to the methods of Matsubara and Ochiai (1955).

Material examined in this study was deposited at the Department of Biology, Kunsan National University (BKNU).

Genus *Inegocia* Jordan et Thompson

(Korean name : Jumyangtae sog)

Inegocia Jordan and Thompson, 1913, P.70 (type by original designation *Platycephalus japonicus* Tilesis).

Ocular cirrus absent. Anterior nostril with a dermal flap posteriorly. Interopercular flap well developed. Rectangular and spined scales in lateral line. Teeth either villiform or granular, in broad band on jaws, vomer, palatines and pharyngeals.

***Inegocia guttata* (Cuvier), 1829**

(New Korean name : Akoyangtae) (Fig. 1)

Platycephalus guttata Cuvier, 1829, Proc. Biol. Soc. Wash. 105(2) : 389 - 392(original description).

Inegocia guttata Matsubara and Ochiai, 1955. Mem. coll. Agr., Kyoto Univ., No. 68, p. 82 - Cheng and Zheng, 1987. Sci. Press, Beijing, China P.481 - Masuda, Amaoka, Araga, Uyeno and Yoshino, 1988. Tokai Univ. Press, p.322 - Nakabo, 1993. Tokai Univ. Press, P. 537.

Material examined : BKNU 4006, one specimen, 416.0mm SL, Hallim - up, Pukcheju - gun, Cheju - do, Korea, July 6, 1994.

Description : Dorsal fin rays I - VIII - 11 ; anal fin rays 11 ; pectoral fin rays 21 ; ventral fin rays I , 5 ; gill rakers 1+5 ; preopercular spine 2 ; pored scales in lateral line 51 ; branched caudal fin rays 11 ; spinous scales in lateral line 2.

The percentages in the standard length, body depth 16.6% ; head length 38.3 ; caudal peduncle length 8.9 ; caudal peduncle depth 4.4 ; predorsal length 39.7 ; prepectoral length 30.9 ; preanal length 64.2 ; distance between pectoral and ventral fin 10.5 ; distance between ventral and anal fin 23.3. The percentages in the head length, snout length 35.5 % ; eye diameter 14.5 ; interorbital width 9.5.

Comparisons of their propotional measurements and meristic and morphological characters among the present specimen, *I. guttata*, *I. japonica* and *Cymbacephalus beauforti* are shown in Table 1 and Table 2.

Head broad, large and flat, more than twice as broad as high at base of uppermost preopercular spine and longer than one - third the length of body without caudal. Top and sides of head roughened with spines and sculptured with fine smooth ridges, each armed with 5 stout backward - directed spines on posterior one - third of eye ; a sharp and stout backward - directed preopercular spin in front of eye ; a row of 5 similar spines from posterior part of eye to origin of lateral line, the last 2 of them on scapular ridge. Parietoccipital region with a single spine at the middle part. Infraorbital ridge armed with 3 stout backward - directed spines, the anteriormost one below front edge of pupil, the middle one below hind edge of orbit, and the last one, which is very small, immediately in front of uppermost preopercular spine. A pair of small nasal spine on middle part of snout. Preopercular spines 2, the upper one larger than the lower, but never specially enlarged. Opercular spines 2, sharp, each preceded by a smooth lowkeel.

Snout length twice as long as eye diameter. Eye moderately large, with a pit behind the

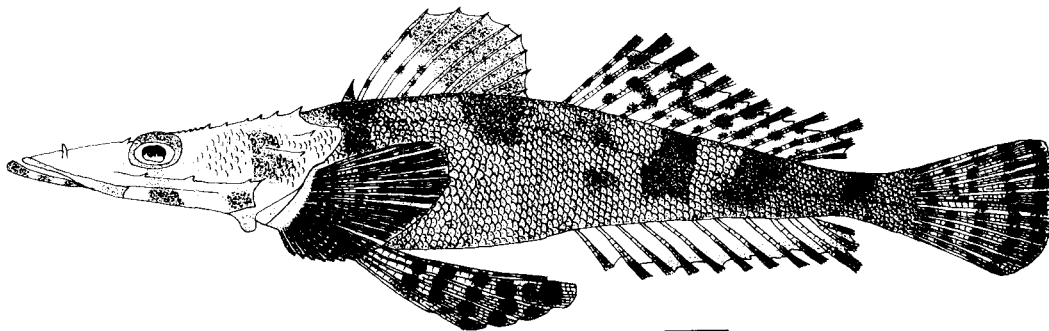


Fig. 1. *Inegocia guttata*, BKNU 4006, 416.0mm SL. Scale bar indicates 60mm.

Table 1. Comparison of meristic characters and their propotional measurments of the *Inegocia guttata* and *I. japonica*.

Characters	Present specimen	By Matsubara and Ochiai(1955)	
		<i>I. guttata</i>	<i>I. japonica</i>
Dorsal spines	I - VIII	I - VII ~ VIII	I - VIII
Dorsal soft rays	11	11	12
Anal fin rays	11	11	12
Pectoral fin rays	21	21~22	19~20
Pored scales in lateral line	51	50~52	51~55
Spinous scales in lateral line	2	1~3	6~8
Number of suborbital spines	2	2~3	2~3
Preopercular spines	2	2	3
In standard length			
Head length	2.61	2.53~2.93(2.76)	2.82~3.03(2.94)
Body depth	6.01	7.25~9.55(8.16)	5.23~8.60(7.42)
Caudal peduncle depth	22.52	18.45~20.90(20.05)	17.60~24.00(22.70)
In head length			
Snout length	2.82	2.87~3.13(3.00)	3.19~3.59(3.39)
Eye diameter	6.89	5.34~6.03(5.83)	4.00~4.84(4.45)
Interorbital width	10.53	10.58~13.70(11.67)	12.70~16.00(14.35)

Table 2. Comparison of morphological characters of the *Inegocia guttata* and *Cymbacephalus beauforti*.

Characters	Present specimen	By Nakabo(1993)	
		<i>I. guttata</i>	<i>C. beauforti</i>
Number of oblique scale rows slanting backward and above LL* *	more than pored scales	more than pored scales	almost approximate pored scales*
Nasal spines	present	present	absent
Interopercular flap	single and tongue - like	single and tongue - like	broad and wave - like
Dermal flaps on eye	absent	absent	present

* : from Knapp (1973), * * : lateral line

eye ; eye diameter one and half times as long as interorbital width ; iris lappet never bilobed, but cirrose, the cirri well developed, dichotomous, and rounded at their tip, some of them nearly reaching opposite margin of pupil. Anterior nostril with a falciform dermal flap posterioy (Figs. 2, A) ; posterior nostril fringed with entire cylindrical rim (Figs. 2, B). Maxillary scarcely reaching front edge of orbit, the upper margin hidden under suborbital bones. Lower jaw projecting far beyond the upper in closed mouth. Tongue very broad, fan - like in shape, the anterior margin broadly and shallowly concave, with a meadian inconspicuous

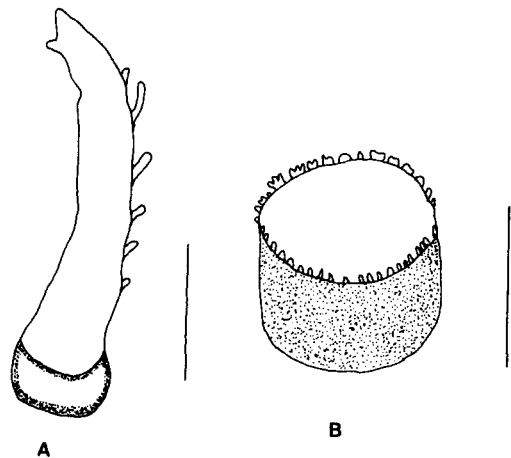


Fig. 2. The shapes of nostril. A : Anterior nostril, B : posterior nostril. Scale bars indicate 2.0 mm.

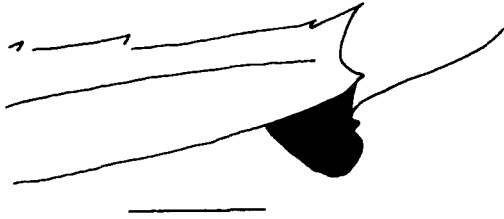


Fig. 3. The shape of interopercular flap. Scale bar indicates 20.0 mm.

convexity.

Teeth either villiform or granular, in broad band on jaws, vomer, palatines and pharyngeals. Interopercular flap very large, tongue-like in shape and bluntly pointed at the tip (Fig. 3). Gill-rakers on first arch long, stout and blunt at their tips, their inner surface thickly covered with sharp sinules.

Dorsal fin inserted before origin of pelvic fin. Anal fin begins below base of third dorsal soft ray. The upper part of caudal fin truncated, but the lower part of caudal fin rounded. Pectoral fin broad, rounded, the lower 8 rays simple and more or less thickened; it reaches below base of dorsal sixth spine. Pelvic fin much longer than pectoral fin, reaching origin of anal fin (Fig. 1).

Scales adhesive, rather small; pored scales in lateral line much fewer than transverse rows of scales running obliquely either backward and downward or forward and downward. Pored scales in lateral line rectangular in shape, the anterior 2 scales spined. Postorbital region of head, occipital region and operculum scaly, but other parts of head naked; fin naked except for scaled the basal part of caudal fin.

Body color : Color in formalin dark brown above, whitish below, the back and sides of body inclusive of head specked with darker and crossed with 8 well defined broad bands of darker; an obscure band below middle of first dorsal and similar one below origin of second dorsal. Premaxillary and lower lip crossed with bars of darker; maxillary with a dark longitu-

dinal bars along median line. Pectoral fin and ventral fin with round or oval darker patterns, the latter one more larger and darker; posterior two-thirds of first dorsal dark brown; second dorsal with large dark spots, forming 6 dark cross bars, which here and there breaking into recognizable roundish dark spots. Pectoral rays with spots of darker, forming obscure and irregular cross bars.

Distributions : Cheju Island of Korea, Japan, East and South China Sea.

Remarks : Matsubara and Ochiai (1955) have been researched the revision of the Japanese fishes of the family Platycephalidae and have been recognized 10 species with 8 genera. Among them, this species appeared to be resembled to *Inegocia japonica* in their general appearance (Table 1). However, *I. japonica* differs from this species in having higher number of spinous scales in lateral line, less number of pectoral fin rays and higher number of second and anal fin rays. On the other hand, Nakabo (1994) also mentioned that this species resembles *Cymbacephalus beauforti* in morphological characters. But *C. beauforti* differs from this species in lacking of nasal spines, and having number of pored scales closely approximating number of oblique scale rows slanting downward and backward above the lateral line, broad and wave-like interopercular flap and dermal flaps on eyes (Table 2).

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韓國産 *Inegocia*屬(양태科) 魚類 1 未記錄種 *Inegocia guttata*

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1994年 7月 6日 濟州道 翰林에서 採集된 양태科의 점양태屬 魚類 1개체를 調査한 結果 지금까지 우리나라에서는 報告된 적이 없는 *Inegocia guttata* (Cuvier)로 同定되었다. 본 種은 形態적으로 *Cymbacephalus beauforti*와 恰似하나 側線 有孔鱗數는 側線鱗 위쪽에 비스듬이 配列되어 있는 後下方 縱列鱗數 보다 매우 적으며 頭部에는 鼻棘이 있고 눈 위에 皮瓣이 없으며 간새개부의 皮瓣은 單一形이고 가슴지느러미와 배지느러미에는 圓形의 검은 斑點이 存在하는 것 등의 特徵이 *Cymbacephalus beauforti*와 잘 區別 되었다. 본 種의 韓國名으로는 “악어양태” 라고 잠정적으로 命名하였다.