

# A New Record of *Kelloggella cardinalis* (Family Gobiidae) from Taiwan

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*Kelloggella* is a group of small-sized gobiid fishes comprising four species. They are characterized by a naked, elongated body and tricuspid teeth. Their distribution extends rather widely over the tropical and subtropical Pacific Ocean. However, records of these species are scarce and sparse (Hoese, 1975; Sawada, 1977).

Recently, I collected two specimens of *Kelloggella cardinalis* from a tide-pool on the east coast of Taiwan. These specimens represent a new record of the genus *Kelloggella* from

Taiwan. Some external features of the specimens are presented to supplement the morphological information on *Kelloggella cardinalis*.

*Kelloggella cardinalis* Jordan et Seale  
(Fig. 1)

*Kelloggella cardinalis* Jordan and Seale, 1906: 409, pl. 53, fig. 1 (type locality: Pago Pago, Samoa)

**Material.** Two specimens; a male, MTUF (Museum of Tokyo Univ. of Fisheries) 24286, 31.4 mm TL, 25.6 mm SL, and a female, MTUF 24287, 22.7 mm TL, 18.6 mm SL, both collected in a small tide-pool at Chen Kung Cheng (23°06'N, 121°23'E), Taitung, Taiwan, on May 27, 1979.

**Diagnosis.** *Kelloggella cardinalis* is distinguished from other species of this genus by

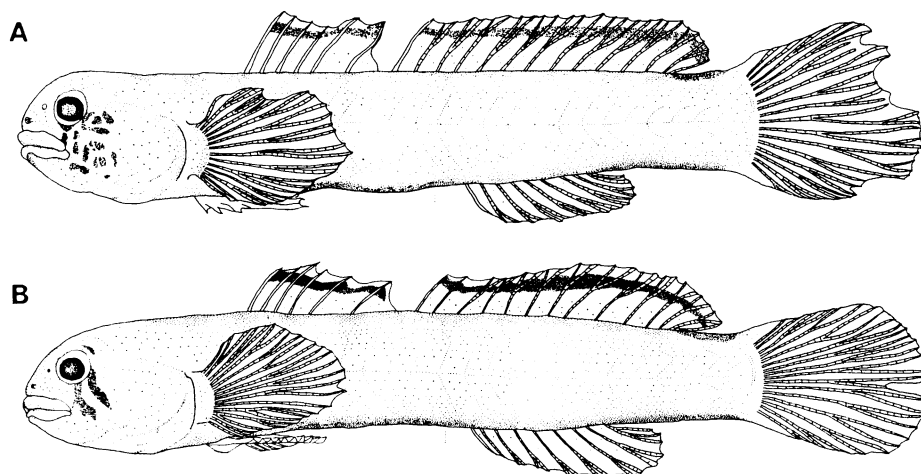


Fig. 1. *Kelloggella cardinalis* from Taiwan. A: Male, MTUF 24286, 25.6 mm SL. B: Female, MTUF 24287, 18.6 mm SL.

Table 1. Proportional measurements, expressed in hundredths of standard length or head length, of *Kelloggella cardinalis*.

	MTUF 24286 male	MTUF 24287 female	Holotype*
HL/SL	22.3	22.0	22.2
Body depth/SL	16.4	15.6	16.7
Snout length/HL	20.8	19.6	25.0
Eye diameter/HL	20.8	21.7	25.0
Upper jaw length/HL	31.3	29.4	not given
Interorbital length/HL	22.7	14.7	12.5

\* calculated after Jordan and Seale (1906).

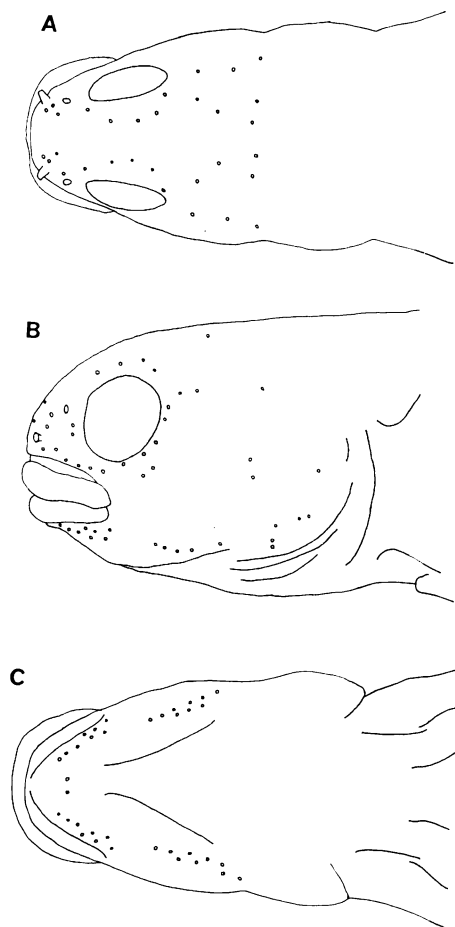


Fig. 2. Pit-lines on head of *Kelloggella cardinalis*. A: Dorsal view. B: Lateral view. C: Ventral view.

the following characters: body without transverse bands or distinct markings; four or five inner rows of tricuspid teeth in both jaws; second dorsal fin rays I, 12, anal fin rays I, 8, pectoral rays modally 14.

**Description.** D. VI, I, 12; A. I, 8; P<sub>1</sub>. 14; P<sub>2</sub>. I, 5; segmented caudal rays 9+7=16, branched caudal rays 7+7=14; vertebrae including urostyle 11+15=26. Pterygiophore pattern of spinous dorsal fin 221101. Proportional measurements are shown and compared with those of the holotype (after Jordan and Seale, 1906) in Table 1.

Body elongate and compressed. Head less compressed than body; profile from interorbital region to the tip of snout steep

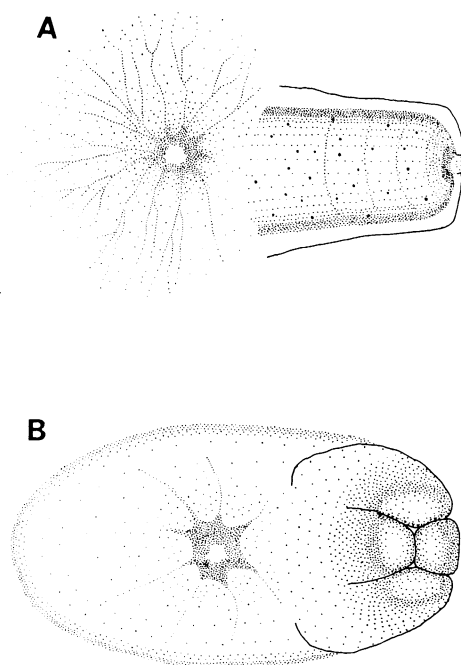


Fig. 3. Urogenital papilla of *Kelloggella cardinalis*. A: Male. B: Female.

in the male, blunt in the female. Fleshy interorbital crest (Herre, 1927; Hoese, 1975) absent. Interorbital length longer in the male than in the female. Snout short. Both lips thick; upper lip slightly longer than the lower. Mouth slightly oblique, rather large, reaching under the middle of eye. Teeth in each jaw tricuspid. Gill opening short, extending immediately before pectoral fin base between about the upper and lower ends of the fin base. Sensory canals and pores absent on head. Microscopic pit-organs forming pit-lines on the lower margin of operculum, below lower lip, above upper lip, between nostrils and around eye (Fig. 2). Head and body without scales. A pair of deep grooves on the underside of head. Pelvic fins united together to form a sucking disk. First and second dorsal and anal fin rays almost equal in height in the male. In the female, second and third fin rays in first dorsal fin, seventh and eighth soft rays in second dorsal fin, and fifth and sixth soft rays in anal fin longer than other rays in each fin. Number and arrangement of spinous dorsal pterygiophores invariable. First two pterygiophores inserted

between third and fourth neural spines; third and fourth pterygiophores between fourth and fifth neural spines; fifth pterygiophore between fifth and sixth neural spines; sixth pterygiophore between sixth and seventh neural spines; seventh pterygiophore between eighth and ninth neural spines.

Urogenital papilla large, distinct and cylindrical in the male, truncated and wrinkled around genital opening in the female (Fig. 3). Testis observed in the male and ovary in the female.

Color in formalin: Irregular-shaped dark spots under eye in the male. In the female, two oblique dark lines on head, one from the middle of eye and the other from the posterior edge of eye. Other part of head and body almost uniformly pale brown with scattered dark dots. A longitudinal dark line on the upper part of first and second dorsal fins.

**Distribution.** Guam (Hoese, 1975), the New Hebrides (Hoese, 1975), Tonga (Hoese, 1975), Samoa (Jordan and Seale, 1906), and Taiwan (present study).

**Remarks.** Herre (1927) described *Itbaya nuda*, a species close to *Kelloggella cardinalis* but differing from it by the presence of tricuspid teeth only in the lower jaw, based on a single specimen from Itbayat Island. Hoese (1975) listed *Itbaya nuda* under the synonym of *Kelloggella cardinalis* without examining the type of *Itbaya nuda*. Koumans (1940: 126, 192), after examining the types of both species, stated that the original description of each species agreed with each type. Since I have not examined the type of *Itbaya nuda* and do not know exact state of its jaw teeth, I am unable to determine whether the difference in jaw teeth represents a variation within the same species or a distinction of a species level. In this paper, the locality of *Itbaya nuda* is excluded from that of *Kelloggella cardinalis*.

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### 台湾初記録の *Kelloggella cardinalis* (ハゼ科)

倉持利明

台湾東海岸，台東県成功鎮のタイドプールから得られたハダカハゼ属の1種 *Kelloggella cardinalis* 雌雄各1個体について記載した。本種は台湾初記録であり，本報告は本種の分布域の最北記録である。

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