TWO NEW RECORDS OF FRESHWATER GOBIES FROM SOUTHERN TAIWAN

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This paper briefly reports two new records of freshwater gobies from Southern Taiwan. They are Pseudogobius javanicus (Bleeker, 1856) and Sicyopus zostophorum (Bleeker, 1857). The specimens of P. javanicus are collected from Tzeng-Wen Stream, Tainan and S. zostophorum are collected from Fong-Kang Stream, Pingtung. These two genera and species are firstly recorded in Taiwan. Diagnostic characters, distribution, remark, and color photos of each species are given in this paper.

Key words: Goby, new records, fish fauna, fish taxonomy, Taiwan.

The family of Gobiidae is the largest family in the marine fishes. In the freshwaters, the populations of gobies are also abundant in Taiwan, such as the species of genus Rhinogobius and Sicyopterus. But only fifteen species of freshwater gobies were reported in Taiwan previously in which most are diadromous (Tzeng, 1986; Shao et al., 1992). This paper reports additional two new records of gobies which were collected from the streams of southern Taiwan in the past two years. They are Pseudogobius javanicus (Bleeker, 1856) and Sicyopus zostophorum (Bleeker, 1857). These two genera and species of gobies are newly recorded in fish fauna of Taiwan.

MATERIAL AND METHODS

The specimens of Pseudogobius javanicus were obtained from fishermen by net along downstream drainage of Tzeng-Wen Stream, Tainan Country. The specimens of Sicyopus zostophorum were caught by using handnet (15x10 cm) during snorkeling in the midstream of Fong-Kang Stream, Pingtung Country. All counts and measurements were made from preserved specimens by following the methods of Hubbs and Lagler (1958). Vertebrate number was counted from X-ray radiographs. The specimens are now deposited at the Institute of Zoology, Academia Sinica (ASIZP) or the National Marine Scientific Museum (NMSMP).
Pseudogobius javanicus (Bleeker, 1856)

Fig. 1 Pseudogobius javanicus, 26.8 mm SL.

Gobius javanicus  Bleeker, 1856: 88 (Java, Indonesia).

Material:

Diagnosis:
D1. VI; D2. I,7; A. I,7-8; P1. 14-15; P2. I,5; L.R. 27-28; T.R. 7; Pred. S. 6-7; V. 10+16=26. Head length 3.55-3.58; body depth 4.08-4.88; predorsal length 2.46-2.48; snout to second dorsal origin 1.65-1.71; snout to anal origin 1.63-1.67; caudal peduncle depth 6.33-6.63 all in SL. Eye diameter 3.3-3.77; interorbital width 3.77-3.92; snout 3.13-3.22 all in HL.

Maxillary extends to the vertical of anterial half of eye, upper jaw prominent. Lips thin. Snout obtuse, overhanging the upper lips. Head scaled above behind eye and opercle. Scales on head, breast and belly cycloid, on lateral side of body ctenoid. Middle spines of first dorsal are the longest. Second dorsal and anal higher than first dorsal. Pectoral and ventral about as long as head. Color in live greenish and somewhat transparent. Head with dark band from eye to maxillary. Body with numerous minute spots and laterally 2-3 longitudinal rows, each alternate about 5 blotches. First dorsal with a black blotch. Second dorsal and caudal with several rows of tiny spots. Caudal fin base with 2 vertically black spots.

Distribution:
Tropical West Pacific, Taiwan, and Okinawa.

Remark:
Although this species were collected from downstream drainage of Tzeng-Wen Stream, they also inhabit in the estuary and marine enviroment (Koumans in Weber and De Beaufort, 1953; Akihito and Muguro, 1975). Thus, it should belong to the diadromous type of gobies. In Japan, there exists another similar species, P. masago (Tomiyama, 1936); but they can be distinguished by (1) P. javanicus has a black blotch on the first dorsal, P. masago all whitish; (2) P. javanicus has 2 black spots on the caudal fin base, but in P. masago it is a wedge-shape blotch.
**Sicyopus zostophorum** (Bleeker, 1857)

![Image of Sicyopus zostophorum](image1)

Fig. 2. *Sicyopus zostophorum*, male, 47.6 mm SL.

![Image of Sicyopus zostophorum](image2)

Fig. 3. *Sicyopus zostophorum*, female, 42.9 mm SL.

*Sicydium zostophorum* Bleeker, 1857: 296 (Boleling, North Bali); Günther, 1861: 95.


**Material:**

Two specimens, ASIZP-056676, 38.2-47.6 mm in SL.; two specimens NMSMP-1008, 42.4-42.9 mm in SL., Oct. 21, 1990, Foun-ting Kang Stream, Pingtung.

**Diagnosis:**

D1. VI; D2. I, 9; A. I,10; P1. 15; P2. 1,5; L.R. 33-34; T.R. 11-12; Pred. S. 2-6; V. 10+16=26. Head length 3.49-3.80; body depth 5.92-6.31; predorsal length 2.51-2.64; snout to second dorsal 1.58-1.71; snout to anal origin 1.55-1.67; caudal peduncle depth 7.44-8.22 all in SL. Eye diameter 4.14-4.61; interorbital width 3.13-3.28; snout 2.13-2.69 all in HL.

Maxillary extends beyond midline of eye.
Upper jaw prominent, and lips fleshy. Gill-opening small, only from upper to lower margin of pectoral fin base. Head naked above behind eye. Scales on predorsal and behind pectoral cycloid; on other part of lateral body ctenoid, larger posteriorly. Spines of first dorsal about equal. Second dorsal and anal about as high as first dorsal. Pelvic formed a strong sucking disc. Color is sexual dimorphism in live. In male, color in body before insertion of anal dusky-violet, and from origin of anal to caudal fin base orange; dorsals on basal half violet, on upper margin orange, and other fins also orange. In female, color in body pale yellow and somewhat transparent; all fins whitish. Head with vertical band from eye to maxillary, and lateral side of body with 4-5 dark transverse bands in both sex.

**Distribution:**

Tropical West Pacific, Taiwan, and Okinawa.

**Remark:**

This species is also a typical member of diadromous gobies. This species is similar to the endemic species of Okinawa, *S. leprurus* Sakai et Nakamura, 1979; but they can be distinguished by *S. zosterophorum* has scales on lateral side of body, and *S. leprurus* only scaled on caudal peduncle.

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臺灣南部產淡水鰕虎魚類新記錄之二屬二種

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本文係報導筆者於1990年迄今在本省南部溪流，所採集到之本省兩新記錄屬及新記錄種鰕虎魚類。它們分別是爪哇擬鰕虎Pseudogobius javanicus（Bleeker，1856）；環帶黃瓜鰕虎Sicyopus zostericuru（Bleeker，1857）。前者係採自臺南縣曾文溪下游；後者採自屏東楓港溪中游。擬鰕虎Pseudogobius與黃瓜鰕虎Sicyopus兩屬皆為本省新記錄屬。文中除描述它們之形態特徵、地理分佈或附記外，並附以彩色標本照片。