

Short Note

New Records of the Commensal Gobiid Genus, *Bryaninops* (Pisces: Gobiidae), from Southern Taiwan

I-Shiung Chen^{1,2,*}, Chiao-Chuan Han^{1,2} and Lee-Shing Fang^{1,2,*}

¹Institute of Marine Resources, National Sun Yat-sen University, Kaohsiung, Taiwan 804, R.O.C.

²Preparatory Office, National Museum of Marine Biology/Aquarium, Kaohsiung, Taiwan 800, R.O.C.

(Accepted August 17, 1995)

I-Shiung Chen, Chiao-Chuan Han and Lee-Shing Fang (1995) New records of the commensal gobiid genus, *Bryaninops* (Pisces: Gobiidae), from southern Taiwan. *Zoological Studies* 34(4): 284-286. This paper reports on two gobiids in the genus, *Bryaninops* from coral reef communities of southern Taiwan. These gobiids are usually commensal with gorgonians. The two species of the genus, *B. yongei* (Davis and Cohen, 1969) and *B. loki* Larson, 1985, are first records for Taiwan. Diagnostic characters, distribution, remarks, and color photos of these two species are given.

Key words: Coral reef fish, Fish taxonomy, Fish fauna.

Gobioids are dominant among the coral reef fish communities. Because of their small size and cryptic behavior, many species (especially Gobiidae) have not yet been recorded.

Gobiids with commensal relationships with corals or sponges were first recorded from the genus *Pleurosicya* (*P. micheli* Fourmanoir, 1971) by Larson, 1990 based on specimens provided by K.T. Shao from Taiwan. Later, another species, *P. mossambica* Smith, 1959, was recorded by Shao and Chen, 1993. In this report, we deal with another newly recorded genus of commensal gobiid, *Bryaninops*, collected from coral reef communities of southern Taiwan. The species are *B. yongei* (Davis and Cohen, 1969) and *B. loki* Larson, 1985. The diagnosis, distribution and remarks on the two new records are reported below.

Materials and Methods—The specimens were collected with a handnet while scuba diving in the Kenting National Park, southern Taiwan. All counts and measurements were made from specimens preserved in 10% formalin. Meristic characters and names of the cephalic sensory system follow the methods of Akihito in Masuda et al. (1984), except the transverse scale row was counted from the anal origin toward the soft dorsal base. Morphometric characters generally follow that of Hubbs and Lagler (1958). Abbreviations used for meristic characters include: D, dorsal fin; A, anal fin; P₁, pectoral fin; P₂, pelvic fin; LR, longitudinal scale rows; TR, transverse scale rows backward. Descriptions of body color were based on fresh specimens. All specimens are deposited at the Museum of the Institute of Zoology, Academia Sinica (ASIZP).

Genus *Bryaninops* Smith

Bryaninops Smith, 1959: 216 (type species *Bryaninops ridens* Smith, 1959); Larson, 1985: 59.

D VI, I,6-VI, I,9; A I,6-I,9; P₁ 12-17; P₂ I,5; LR usually 30-60; TR 1-17.

Body slender and elongate, with cup-like pelvic fin, frenum always folded to form an anteriorly facing pocket. The skin around pelvic spines thickened as lobes. Dorsal part of head with two separate interorbital lateral line canals, usually with interconnecting canals above posterior edge of eye. Head, pectoral base, breast and midline of belly naked, rest of body covered by minute ctenoid scales. Eye moderately large and located dorsolaterally.

Jaws with fine pointed teeth in inner part, large curved teeth in outer row, and at least one pair of conical teeth placed in midside of lower jaw. Tongue bilobed or trilobed. Gill-opening extends from upper pectoral base to below pectoral base or under the vertical of eye. This group of fishes is usually commensal with gorgonians.

Key to recorded species of *Bryaninops* from Taiwan:

- 1a. Gill-opening reaching ventrally to below pectoral base; LR about 40; caudal fin colorless *B. yongei*
- 1b. Gill-opening wide, reaching ventrally to vertical of posterior end of eye; LR about 47; caudal fin pink to red-brown in lower half *B. loki*

Bryaninops yongei (Davis and Cohen) (Fig. 1)

Cottogobius yongei Davis and Cohen, 1969: 749 (Tatagan Is., Darvel Bay, Borneo).

*To whom all correspondence and reprint requests should be addressed.

Tenacigobius yongei: Larson and Hoesel, 1980: 39.

Bryaninops yongei: Larson, 1985: 62.

Material: One specimen, ASIZP-057301, 17.7 mm SL, 28 m depth, April 19, 1995, Gu-dan-shi, Kenting, Pingtung County, Taiwan.

Diagnosis: D VI-I, 8; A I, 9; P₁ 16; P₂ I, 5; LR 42; TR 11. Head length 29.6%; body depth 17.0%; predorsal length 38.6%; snout to second dorsal origin 59.2%; snout to anal origin 62.6%; caudal peduncle depth 7.3%; and caudal peduncle length 16.7% (all in standard length). Eye diameter 27.0%; interorbital width 12.0%; snout length 33.1%; and head depth 53.0% (all in head length). Head pores located on interorbital canals as B', C, D (single), E, F and G'; and preopercular canals as M', O and N'. Cheek with a mainly horizontal line of sensory papillae.

Body compressed posteriorly and roughly triangular in cross section anteriorly. Anterior preopercular edge slightly scalloped, grooves present with sensory papillae. Gill-opening reaches ventrally to below pectoral base. Pelvic fin short, not reaching the anus. Head and body translucent, with light gold vertebral column and peritoneum. Three dark brown bands overlay peritoneum and three posterior brown blotches connect ventrally with a longitudinal stripe on ventral flank with the last one just before caudal base. The above six bands (or blotches) extend upwards to form distinct spots when viewed dorsally. Pectoral base covered with large brown blotch. Head with brownish blotches on operculum, and with a distinct red-gold stripe extending from eye to eye around snout and covering tip of upper lip. Both lips somewhat yellow-gold. Fins clear and translucent. Anal fin yellowish brown, pectoral fin yellowish.

Distribution: This species had been recorded from Indonesia eastward to Hawaii (including Japan and Taiwan); and Indian Ocean (Larson, 1985).

Remarks: *B. yongei* was found in association with the antipatharian sea whip, *Cirrhopathes anguina* (Dana) (Larson, 1985) or other *Cirrhopathes* sp. (Goren, 1983). However, this association with antipatharian species of *Cirrhopathes* still needs to be investigated in Taiwan.

***Bryaninops loki* Larson**

(Figs. 2, 3)

Bryaninops loki Larson, 1985: 66 (Lizard Island, Great Barrier Reef, Australia).



Fig. 1. ASIZP-057301, *Bryaninops yongei*, 17.7 mm SL.

Material: 3 specimens, ASIZP-057302, 25.7-28.9 mm SL, 25-35 m depth, April 19, 1995, Gu-dan-shi, Kenting, Pingtung County, Taiwan.

Diagnosis: D VI-I, 8; A I, 8; P₁ 15-16; P₂ I, 5; LR 45-50; TR 11-12. Head length 28.2-30.2%; body depth 12.9-14.6%; predorsal length 36.1-38.5%; snout to second dorsal origin 60.3-61.9%; snout to anal origin 61.7-62.2%; caudal peduncle depth 6.4-8.2%; and caudal peduncle length 15.7-18.9% (all in standard length). Eye diameter 24.7-26.8%; interorbital width 9.1-10.8%; snout length 28.2-35.7%; and head depth 40.6-42.2% (all in head length). Head pores same as in *B. yongei*. Head papillae also similar to *B. yongei*.

Body compressed and elongate. Head appears somewhat square in cross section. Eye large. Snout roughly triangular from dorsal view. Jaws terminal, slightly oblique and ending at a point below anterior half of eye. Gill-opening wide, reaching to below the vertical of posterior edge of eye. Scales on body extend to behind pectoral base. First dorsal triangular, second dorsal about equally high as first. Pelvic fin short and round, not reaching the anus. Pectoral usually not beyond the end of pelvic fin. Head and body transparent. Brain cover with pale gold pigment. Eyes golden with reddish outer rings. Lower half of body with 6 internal red bars extending to just above vertebral column, narrowing toward midside of body. Peritoneum light golden, with dark brown speckles. Operculum orange or red-brown. Nape behind eyes with irregular clusters of orange and brown speckles. Red to orange stripe extends from eye around snout and upper lip, tip of lower lip usually



Fig. 2. ASIZP-057302, *Bryaninops loki*, 28.9 mm SL.

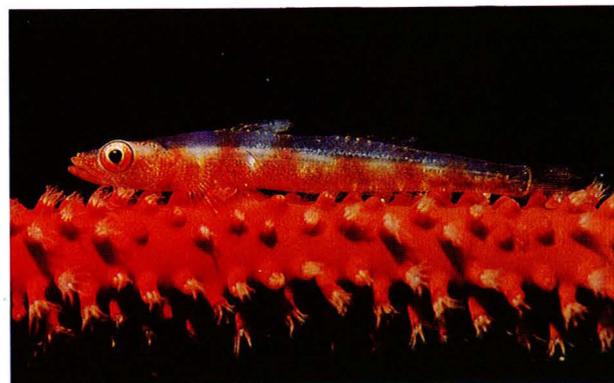


Fig. 3. *Bryaninops loki* on an unidentified gorgonian at Gu-dan-shi, Kenting, Pingtung County, 32 m depth.

within the stripe. Fins clear, caudal translucent, pink to red on lower half.

Distribution: This species had been collected from many areas of the West Pacific region, such as: Great Barrier Reef of Australia; Fiji; New Caledonia; Papua New Guinea; Philippines; Japan and this record from Taiwan.

Remarks: It seems that the specimens collected from Taiwan have slightly higher counts of pectoral fin rays and longitudinal scale rows than the average values in Larson's collection (Larson 1985). However, the other characters always followed the original manuscript of Larson, 1985. Therefore, we treated the specimens as *B. loki*. This species had been recorded from symbiotic hosts including: some gorgonian seafans and whips such as, *Ctenocella pectinata* Pallas, *Junceella gemmecea* (Valenciennes), *Ellisella quadrilineata* (Simpson), *Subergorgia suberosa* Pallas and black coral *Antipathes* sp. (Larson, 1985). However, other kinds of hosts for this species may be found whenever future intensive investigations are conducted.

Acknowledgements—The authors thank Dr. K.T. Shao, Institute of Zoology, Academia Sinica for giving valuable suggestions, Mr. K.L. Lin and Mr. D. Lin, Department of Marine Resources, National Sun Yat-sen University for assisting with field work, and Miss C.C. Hsieh for preparing this manuscript.

References

- Davis WP, DM Cohen. 1968. A gobiid fish and a paleomomid shrimp living on an antipatharian seawhip in tropical Pacific. Bull. Mar. Sci. 18: 749-761.
- Goren M. 1983. On the occurrence of *Tenacigobius yongei* (Davis and Cohen) in the Gulf of Elat (Red Sea) (Pisces, Gobiidae). Israel J. Zool. 32: 135-137.
- Hubbs CL, KF Lagler. 1958. Fishes of the Great Lakes region. Bull. Cranbrook Inst. Sci. 26: 1-213.
- Larson HK. 1985. A revision of the gobiid genus *Bryaninops* (Pisces, Gobiidae), with a description of six new species. Beagle, Occasion. Paper. North. Territ. Mus. Art. Sci. 2(1): 57-93.
- Larson HK. 1987. A new species of *Bryaninops* (Pisces, Gobiidae) with notes on new records of three species of the genus. Beagle, Rec. North. Territ. Mus. Art. Sci. 4(1): 139-145.
- Larson HK. 1990. A revision of the commensal gobiid genera *Pleurosicya* and *Luposicya* (Gobiidae), with descriptions of eight new species of *Pleurosicya* and discussion of related genera. Beagle, Rec. North. Territ. Mus. Art. Sci. 7(1): 1-53.
- Larson HK, DF Hoese. 1980. Fische des Indischen Ozeans XXIII. Gobiidae. 'Metoer' Forschungsschiffe-Ergebnisse. Reiche D. 32: 33-43.
- Masuda H, K Amaoka, C Araga, T Uyeno, T Yoshino. 1984. The fishes of Japanese Archipelago. Tokyo: Tokai Univ. Press, 298 pp.
- Shao KT, IS Chen. 1993. Seven new records of Gobiid fishes from Taiwan. Bull. Inst. Zool., Acad. Sinica 32(4): 229-235.
- Smith JLB. 1959. Gobioid fishes of families Gobiidae, Periophthalmidae, Trypauchenidae, Taenioididae and Kraemeriidae of western Indian Ocean. Rhodes Univ. Ichthyol. Bull. J.L.B. Smith Inst. Ichthyol. 13: 185-225.

記臺灣南部產之新記錄屬之共生性鰕虎魚類 *Bryaninops* (苔鰕虎)

陳義雄^{1,2} 韓僑權^{1,2} 方力行^{1,2}

本文係報導本省南部珊瑚礁海域產之共生性的小型鰕虎魚類之新記錄屬，*Bryaninops* 苔鰕虎屬。本屬共計發現有 2 種新記錄種，分別是楊氏苔鰕虎 *B. yongei* (Davis and Cohen, 1969) 以及羅氏苔鰕虎 *B. loki* Larson, 1985。

本屬大部分種類與海鞭行共生生活，此 2 種亦為此典型。本文除描述此 2 種之形態特徵、地理分布或附記外，並附以此魚種之彩色照片。

關鍵詞：珊瑚礁魚類，魚類分類，魚類相。

¹ 國立中山大學海洋資源研究所

² 國立海洋生物博物館籌備處