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Two New Species of Gobiid Fishes from the Colombian Pacific

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Abstract Two new species of gobiid fishes are described from coastal waters off the west coast of Colombia. One of them, *Bollmannia gomezi*, is described on the basis of five specimens and represents the ninth species of the genus in the eastern Pacific. The other new species, *Lythrypnus solanensis*, is based upon the unique holotype, and constitutes the sixth species of eastern Pacific *Lythrypnus*. Habitat preferences and zoogeographic data of the new species are indicated.

The ichthyofauna from the Colombian Pacific is poorly known, particularly if the non-commercial coastal zone groups are considered. At the end of 1976 the Armada Nacional de Colombia made the cruise Benthos I, with the research vessel San Andrés. On this cruise several interesting specimens of fishes were collected, including two new species of Gobiidae, which are now described here. Methods of measurements are the same as those used by Böhlke and Robins (1968). For counting the second dorsal and anal fins, Böhlke and Robins' (1968: 49) methods are used: "The last two elements in the second dorsal and in the anal fins stem from a single interspinal element and are treated as a single ray, split to its base. The first element in the second dorsal and anal fins is a simple unsegmented but flexible spine which is included with the other elements of these fins in the counts throughout this paper."

The type material is deposited at the collections of the Los Angeles County Museum of Natural History (LACM), School of Marine and Atmospheric Science (UMML), Miami, U.S.A., and at the Instituto de Investigaciones Marinas de Punta de Betín (INVEMAR-P), Santa Marta, Colombia.

Bollmannia gomezi, sp. nov.
(Fig. 1)

Diagnosis. Dorsal rays VII-13, anal rays 14, pectoral rays 24~26; the least depth of caudal peduncle 1.1~1.2 in the diameter of eye; head length less than 3.6 in standard length; a black spot at base of caudal fin.

Description. Counts and measurements are in Tables 1 and 2. The dentition consists of 19 and 17 canine-like teeth on upper and lower jaws respectively. Posterior to them exist several bands of needle-like teeth, more numerous in the lower than in the upper jaw. The tongue tip is free, blunt and emarginate. There were approximately 28 lateral scales, almost all lost. The dorsal spines reach the central rays of the second dorsal. The soft dorsal and anal rays do not reach the caudal base.

Coloration: The coloration in preservative is generally pale, with only a black spot at the base of the caudal, the snout is darker than the rest of the head, with a black line over the upper lip. The peritoneum is black. There are also some other poorly defined dark zones on the body.

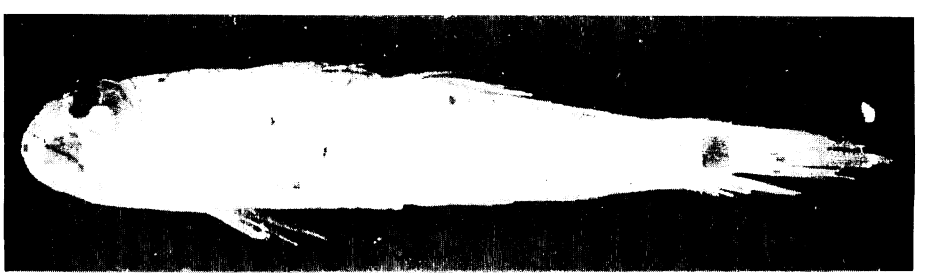

Fig. 1. *Bollmannia gomezi*, sp. nov., holotype, male, 59.5 mm SL, LACM 38223-1.

Table 1. Countings of fin elements of type material of *Bollmannia gomezi*. (* refers to holotype.)

Dorsal fin	Anal fin	Pectoral fin (both fins)		
VII-13	14	24	25	26
5*	5*	4	1*	5*

Habitat. *Bollmannia gomezi* was almost always collected with fishes of the families Cynoglossidae and Batrachoididae, in depths ranging from 20 to 60 m.

Range. This species is apparently very abundant south of the mouth of the Río San Juán (77°30′W, 04°30′N) since thirty-one fish were collected in seven of the eight stations below this point (from 77°30′ to 78°40′W, and from 04°30′ to 01°50′N), where the sea is influenced by the rivers from the Andean watershed. However, it appears to be absent from the northern Pacific coast of the Colombian department of Chocó, principally parallel to the mountain chain called Serranía del Baudó, which runs very near to the continental margin.

Name. It is named after my professor and friend Alfredo Gómez Gaspar, who stimulated my interest in ichthyology.

Comparisons. Within the Pacific species of the genus, after Jordan and Evermann (1898) and Ginsburg (1939), *Bollmannia gomezi* belongs to that group of species lacking a dorsal spot on the posterior potion of the spinous dorsal, and having the least depth of the caudal peduncle not greater than the diameter of the eye. In this species group, *B. gomezi* is distinguished clearly because it has 13 second dorsal rays, against 14 or 15 for the other two species. It is similar to *B. stigmatura* since both have a black spot at the base of the caudal fin, the spinous dorsal high, and the depth of the caudal peduncle less than the diameter of eye. *B. gomezi* differs from *B. stigmatura* in that the head is less than 3.6 in standard length. *B. macropoma* is similar to *B. gomezi* inasmuch as the heads of both species are less than 3.6 in standard length, but they are distinguished from one another in coloration, and the spinous dorsal of *B. macropoma* is lower than that of *B. gomezi*.

Besides, *Bollmannia stigmatura* and *B. macropoma* are known only from the Gulf of California, whereas the other species known south of the Bahía de Panamá are characterized by their high body, i.e. the depth of the caudal peduncle is greater than the diameter of the eye.

Material examined. *Bollmannia gomezi*: Holotype: LACM 38223-1 (59.5 mm in standard length, male), Colombia, Departamento del Cauca, 35 km west of Isla Gorgona (78°30′W, 03°00′N), 58 m, 24 October 1976, ARC San Andrés staff. Paratypes: LACM 38223-2 (1, 47.6 mm), UMML 33475 (1, 44.0 mm), INVEMAR-P 0267 (2, 38.0～60.3 mm), same collecting data as holotype.

Lythrypnus solanensis, sp. nov.
(Fig. 2)

Diagnosis. Dorsal rays VI-12, anal rays 9, pectoral rays 22, segmented caudal rays 17; 16 narrow blue bands in head and body, less

Table 2. Measurements of type material of *Bollmannia gomezi* and holotype of *Lythrypnus solanensis*. Data in hundredths of standard length except for holotypes and standard lengths, which are in mm. Data in parentheses are means.

	L. solanensis	*B. gomezi*	
	Holotype	Holotype	Type material
Standard length	27.5	59.5	38.0～60.3
Head length	8.7	17.6	28～31 (30)
Depth at dorsal origin	6.4	11.4	17～22 (19)
Depth at anus	5.3	10.7	15～18 (16)
Caudal peduncle depth	2.8	5.7	8～10 (9)
Length of pectoral fin	7.7	14.9	23～29 (27)
Length of caudal fin	6.9	16.0	22～34 (29)
Eye diameter	2.4	6.0	9～11 (10)
Snout length	1.9	2.9	4～ 5 (5)
Upper jaw length	3.0	7.9	12～14 (13)

Fig. 2. *Lythrypnus solanensis*, sp. nov., holotype, male, 27.5 mm SL, LACM 38222-1.

than half as wide as the interspaces, and with fine dark center lines; without a spot at base of pectoral fin.

Description. Measurements are in Table 2. The dentition is composed of several canine-like teeth in the upper and lower jaws, with those of the upper jaw more numerous and smaller than those of the lower jaw. Among them exist small villiform teeth arranged in bands. There were approximately 27 lateral scales, almost all lost. The first two spines of dorsal fin are more or less produced. Four dorsal and 4 anal rays are branched.

Coloration: The life colors of this fish are beautiful, with 16 narrow blue bands over the red body and head. The blue bands are less than half as wide as the interspaces, and with fine dark center lines. There is no spot at the base of the pectoral fin. In formalin, colors are almost completely dull red-brown, with the bands tanner than the rest of the body, and the central lines darker than the bands. There are 10 diffuse points on the cheek.

Habitat. The only known specimen was collected at a depth of 57 m with fishes of the family Cynoglossidae.

Range. It is known only from Bahía Solano, Departamento del Chocó, Colombia.

Name. From the place where it was collected, the inlet known as Bahía Solano, and the town of the same name.

Comparisons. Pacific American species of *Lythrypnus* are distinguished from the Atlantic forms as they were defined by Böhlke and Robins (1960) by having 17 or more rays in the pectoral fin (against 13~17) and in their greater size, more than 23 mm standard length (against maximum 22 mm). After Ginsburg (1939), Wiley (1976) and personal comparisons, *L. solanensis* differs from the rest of known Pacific American species for its high number of pectoral rays, having 22 rather than 17 to 21.

Wiley (1976) reports that *L. zebra* may have 21 pectoral rays, but using his description, *L. solanensis* can be distinguished from *L. zebra* in that the bars of the body of *L. zebra* are at least half as wide as interspaces, and *L. solanensis* has narrower bars, less than half as wide as interspaces.

Material examined. *Lythrypnus solanensis*: Holotype: LACM 38222-1 (27.5 mm in standard length, male), Colombia, Departamento del Chocó, Bahía Solano (77°25′W, 06°20′N), 57 m, 29 October 1976, ARC San Andrés staff.

L. dalli: INVEMAR-P 0262 (Ex LACM 30159-1) (3, 26.3~33.2 mm), U.S.A., California, Santa Cruz Island, Pelican Bay, 21 May 1968, R. Lavenberg.

L. gilberti: INVEMAR-P 0263 (Ex LACM 8150) (3, 21.6~25.5 mm), Ecuador, Islas Galápagos, Isla Narborough, Punta Espinosa, 29 January 1964, B. Walker et al.

L. pulchellus: INVEMAR-P 0264 (Ex LACM 6984-15) (3, 20.6~23.4 mm), México, Golfo de California, Isla de San Francisco, 23 July 1965, R. Rosenblatt et al.

L. rhizophora: INVEMAR-P 0265 (Ex LACM 8021) (3, 21.8~24.6 mm), Ecuador, Islas Galápagos, Isla Santa Cruz, 5 miles west of Academy Bay, 8 February 1964, B. Walker et al.

L. zebra: INVEMAR-P 0266 (Ex LACM 32149-19) (3, 30.8~35.5 mm), U.S.A., California, San Clemente Island, northwest of Pyramid Cove, 1 July 1971, Searcher Sta. 149).

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コロンビアの太平洋沿岸域から採集されたハゼ科魚類の2新種

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コロンビアの太平洋沿岸域からハゼ科の2新種，*Bollmannia gomezi* と *Lythrypnus solanensis* が採集された．

前者は5尾の標本にもとづいて創設されたもので，東太平洋産 *Bollmannia* 属では9番目の種にあたる．後者は1尾の標本によるもので，東太平洋産 *Lythrypnus* 属では6番目の種となる．

両新種と近縁種との相異点を形態と分布から論議した。