

SMITHSONIAN MISCELLANEOUS COLLECTIONS

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REPORTS ON THE COLLECTIONS OBTAINED BY THE FIRST
JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION
TO THE PUERTO RICAN DEEP

BOLLMANIA LITURA, A NEW SPECIES
OF GOBY

(WITH ONE PLATE)

BY

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U. S. Bureau of Fisheries



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BOLLMANIA LITURA, A NEW SPECIES OF GOBY¹

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The first Johnson-Smithsonian Deep-Sea Expedition to the Puerto Rican Deep obtained a specimen of a goby which proves to be a new species, described below.

BOLLMANIA LITURA, n. sp.

Description of type.—Body and head of medium depth, well compressed. Eye notably large, its diameter considerably greater than length of snout. Mouth medium, notably oblique, terminal, lower jaw projecting; a horizontal through anterior edge of upper lip about passing through lower margin of eye; maxillary ending on a vertical through middle of eye. Tongue fleshy, broad, free for a considerable distance, its anterior margin very moderately and broadly emarginate. Teeth in narrow bands of three irregular rows, extending nearly to angle of mouth; teeth in outer row of upper jaw and in inner and outer rows of lower jaw moderately enlarged; enlarged outer teeth of upper jaw extending nearly to angle of mouth; enlarged outer teeth of lower jaw smaller than those of upper jaw, extending only to approximately halfway between symphysis and angle of mouth; inner row of lower jaw having some of the teeth situated at the side somewhat larger than those at the symphysis, but no well-marked caninoids anywhere. Isthmus moderately broad, attachment of gill membrane approximately under margin of preopercle.

Scales large, in 28 oblique rows from upper angle of pectoral to base of caudal; scales completely covering body and entire belly, continuous on side around base of ventral to chest as far as gill opening; scales present on base of pectoral, on antedorsal distance as far as the eyes, and on cheek; scales on side of body and caudal peduncle weakly ctenoid, having one marginal row of comparatively small spinules, the others cycloid and somewhat smaller; opercle probably having one or

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two scales only at upper anterior corner. (As in the other species of its genus, the scales are more or less deciduous, and the specimen described has most of the scales missing. The above description is based, therefore, on a study of the scale pockets to a large extent; consequently, a study of specimens having complete scalation may necessitate some changes in the above statements. No scales at all are now present on the opercle, but feeble traces of scale pockets may be discerned.)

First dorsal with seven flexible spines, the middle ones much prolonged, the fourth longest, its tip reaching base of seventh ray of second dorsal when placed flat along the back, the fifth spine but slightly shorter, the third reaching to base of fourth ray, the sixth to base of second ray. Second dorsal and anal each with 12 rays (including the first unbranched ray, and counting the last two, which are approximated at their base, as one); origin of anal under base of second dorsal ray, end of anal base under base of penultimate dorsal ray; posterior rays of vertical fins notably prolonged, especially those of dorsal, when depressed their tip extending for a considerable distance beyond end of hypoural. Pectoral with 20 rays, its tip reaching a vertical through base of second anal ray. Ventral inserted but little behind base of pectoral, its tip reaching slightly past origin of anal; interspinous membrane well developed. Caudal lanceolate, long, nearly equaling one-half the standard length. Anterior nostril with a broad, very low tubule; posterior nostril with its rim hardly raised. (The cutaneous papillae are not well enough preserved to be described accurately, but their distribution apparently does not differ appreciably from the other species of the genus.)

Measurements.—A male, 39 mm in standard length. Caudal 49, ventral 31, pectoral 28, greatest depth 25, least depth of caudal peduncle 13, length of head (not including the fleshy border) 31, depth of head directly behind eye 20, width of head at same point 17, postorbital part of head 16, maxillary 15, eye 12, snout 8, and antedorsal distance 36 percent of standard length.

Color.—Ground color yellowish, upper third of body and side of head irregularly washed with blackish shades, lower third sparsely and uniformly pigmented with nearly evenly distributed minute chromatophores, underside of belly silvery; a median series of five diffuse, very faint blotches, the first under spinous dorsal, the last at base of caudal most distinct; first dorsal with a posterior black blotch having a rather diffuse boundary, anterior margin of fin with interrupted black streaks, entire fin diffusely shaded with blackish pigment faintly suggesting the following, namely, two lengthwise

streaks at base, and distally in the form of elliptical peripheries having whitish, irregularly shaded centers; second dorsal colored somewhat like the general color pattern as described for the first dorsal; caudal with lower half nearly uniformly dusky, upper half with the pigment concentrated in elliptical peripheries having variously shaded centers, more marked than on the dorsals, produced part of fin and posterior margin blackish; anal and ventral very dark, nearly black; pectoral dusky; upper lip dusky, but the pigment not markedly more intense than on rest of snout, no distinct black band. All fins, except the pectoral, more or less washed and daubed with a whitish color.

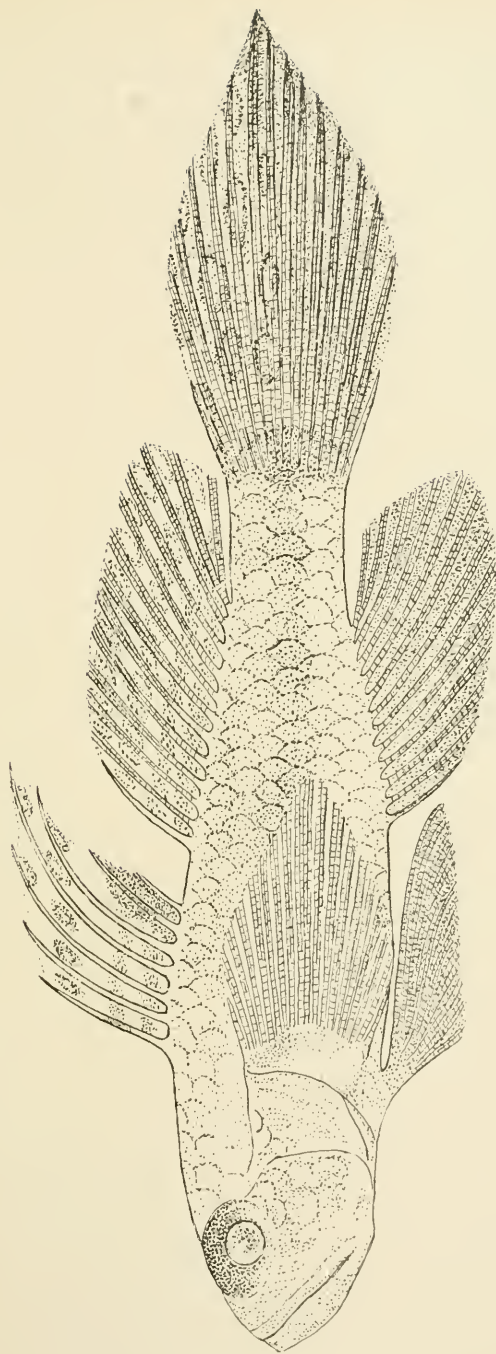
Comparison.—The specimen described was compared with specimens of all the species of *Bollmania* now known, except (*Gobius*) *Bollmania eigenmanni* Garman. No specimens of the latter are available for comparison, and I had to rely solely on the original account. As compared with the four species of *Bollmania* from the eastern Pacific,² *litura* differs chiefly in having fewer rays in the vertical fins. As compared with its two known congeners occurring in the same faunal region with it, *litura* differs from *B. boqueronensis* Evermann and Marsh³ in having a much more elevated dorsal; and from *B. eigenmanni* (Garman)⁴ in having a longer ventral and caudal and in lacking a black band on the upper lip. The presence of a median row of blotches is unique for a species of *Bollmania*. The only other species of this genus which apparently approach *litura* in this respect are *B. macropoma* Gilbert and *B. chlamydes* Jordan from the Pacific, which were originally described as having the sides with vertical dusky bars. The specimens of the latter two species which I examined are now faded, and the color cannot be compared.

Holotype.—U.S.N.M. no. 93797. A male, *Caroline* station 59. Samaná Bay, Dominican Republic, trawled in 18 to 19 fathoms, on a mud bottom. The type is the only specimen now known.

² See Jordan and Evermann, U. S. Nat. Mus. Bull. 47, pt. 3, pp. 2238-2239, 1898.

³ Bull. U. S. Fish Comm., vol. 20, pt. 1, p. 298, fig. 92, 1902.

⁴ Bull. Lab. Nat. Sci., State Univ. Iowa, vol. 4, no. 1, p. 88, pl. 3, fig. 1, 1896.



BOLLMANIA LITURA, FROM THE TYPE