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ON A NEW GOBY OF THE GENUS *LESUEURIGOBIOUS*
FROM OFF THE ATLANTIC COAST OF MOROCCO
AND MADEIRA

(PERCOMORPHI, GOBIOIDEA, GOBIIDAE)

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With 2 figures and 1 table

The first specimen of the material treated below, though thought to be an undescribed species, on account of its distinctive coloration, was not considered suitable for description as it presented abrasions on the head which had impaired part of the papillae, mainly of the upper region. Only 10 years after this specimen had come to hand was it possible to secure further material quite clearly belonging to the same species. It consisted of two specimens, one of which fortunately was in very good condition, so that it was possible to confirm the suggestion of a new species and describe it in sufficient detail to distinguish it clearly from its most closely related forms.

Lesueurigobius heterofasciatus sp. n.

Holotype. Well preserved specimen. MMF Reg. No. 22818, S. L. 42 mm., «Meteor» St. 82b, 19.VI.67, 31° 35.0' N., 10° 10.5' W., Agassiz Trawl, 150-160 metres.

Paratypes. One slightly damaged specimen. MMF Reg. No. 22824, S. L. 38.5 mm., «Meteor» St. 85a, 20.VI.67, 33° 10.5' N., 09° 17.5' W., Agassiz Trawl, 345-170 metres. One slightly damaged specimen (skin of upper part of head and nape abraded). MMF Reg. No. 11587, S. L. 44 mm., Funchal fish market, inside mouth of *Aulopus filamentosus*, 18.V.57.

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DESCRIPTION OF HOLOTYPE

Head and body distinctly compressed. Eyes large, interorbital narrow, maxillaries reaching vertical through centre of eye. Standard length 42 mm. Total length 54 mm. Head 3.6, greatest depth of body 4.7, distance from tip of snout to first dorsal 3, to second dorsal 1.9, to anal 1.8 in standard length. Snout 5, longest diameter of orbit 2.7, maxillary 2.2, least depth of caudal peduncle 2.7 in head.

Upper origin of pectoral fins slightly behind vertical through origin of pelvic fins and slightly in advance of vertical through origin of first dorsal fin. Origin of anal fin slightly behind origin of second dorsal fin and ending slightly in advance of end of second dorsal fin.

Pelvic and pectoral fins nearly reaching origin of anal fin. Fourth and fifth spines of first dorsal fin the longest in fin. Rays of middle of second dorsal fin slightly shorter than those nearer the extremities. Spine and first two rays of anal fin shorter than the remaining ones, which are all of approximately the same length. Caudal fin cuneiform, the longest rays somewhat above middle. The gill rakers of the first gill arch linear, those of the upper part short, those of the lower part distinctly long.

The infra-orbital row of pores *a* connects in its upper part with the scapular row *u* (For general arrangement of pores and papillae on head see also fig. 1, bottom). The pores of rows *a* and *u* are large, round and not very close-set. Row *a* consists of 6 pores, including the upper one which connects it with row *u*. Row *c* which runs in an even curve consists of 11 pores.

Just above row *c* runs a shorter one of 11 close-set minute papillae. Bordering the maxillary there is a row of close-set papillae curved upwards posteriorly.

The opercular row *ot* is evenly curved and oblique, extending from a point level with the tip of the snout to the lower border of the gill cover; the upper, more or less horizontal one *os* is also curved, descending posteriorly, and the lower very short one *oi* slightly ascending posteriorly.

The pre-operculo-mandibular row *e* consists of minute close-set papillae which are larger nearer the anterior and upper ends. The pores of row *i* consist of 11 large lower close-set ones and two detached upper ones, the uppermost of all near the second pore of row *u*, the uppermost of the 11 close-set ones at uppermost of row *e*.

Dorsally, just behind the eyes, there are 6 small, close-set, rod-shaped papillae *g* which are connected by a very low dermal elevation, and 5 unconnected knob-shaped ones just in front of the first dorsal on the right side but only two on the left due to slight abrasion in that region.

In the region of the anterior dorsal row of minute papillae *g* there are 3 much larger ones on each side: one just in front of row *g*; one downward-forward from it; one below the last of row *g*.

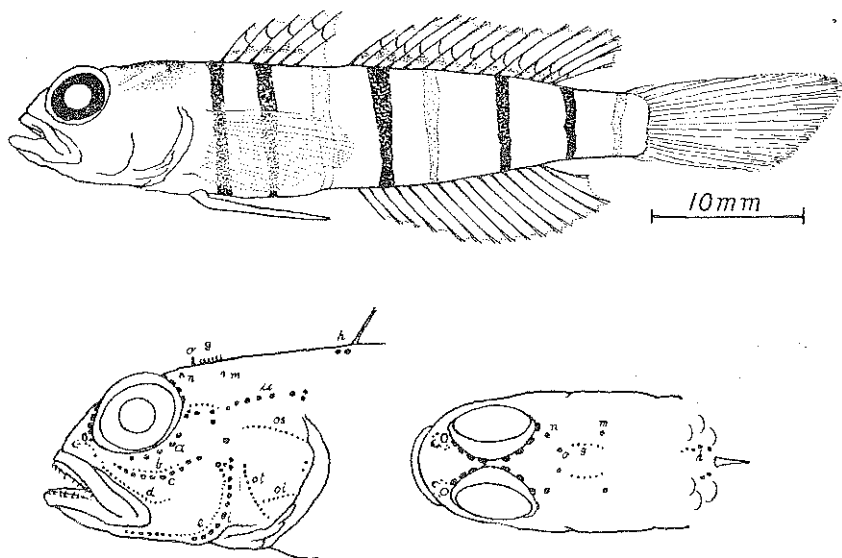


Fig. 1. — *Lesueurigobius heterofasciatus* sp. n. Holotype, Reg. No. 22818

Interorbital pores large and round.

Teeth in bands on upper and lower jaws, outer row consisting of slightly curved, fairly wideset teeth of moderate size, inner ones minute.

First dorsal fin VI; second dorsal fin I,14 (last ray double); anal fin I,14 (last ray double); pectoral fins 23/23; pelvic fins I,5; caudal fins IX,14,VIII; gill rakers 3 + 12; lateral series of scales (from upper origin of pectorals to posterior end) 28.

Proportions in percent of standard length: head (to end of bony part of operculum) 27.4; snout 5.5; orbit (longest diameter) 10; maxillary (from snout tip to posterior end) 12.6; greatest depth of body 21.4;

least depth of caudal peduncle 10; snout to first dorsal fin 32.6; snout to second dorsal fin 52; snout to anal fin 54.8; snout to pectoral fins 29.3; snout to pelvic fins 27.6.

Colour after preservation in formalin, dirty yellowish white. Eight narrow very distinctly marked cross bands on body. (See Fig. 1, top). The anterior 5 closer to one another than the posterior 4; first second, fourth, sixth and seventh dark brown; third, fifth and eighth only outlined, with very little pigmentation between the outlines. Upper half of head with brown pigmentation and a light oblique band from hind end of operculum up to middle nuchal region. First and second dorsal fin with a brownish longitudinal proximal band. There may also be a distal one, but the membranes of the distal half or three quarters of the second dorsal fin are torn, while those of the anal fin are completely missing. When fresh a certain amount of yellow in more or less diffuse markings could be observed on head and sides of body as well as fins.

PARATYPES

There is good general agreement between the holotype and the two paratypes as regards proportions. When fresh all 3 specimens had the

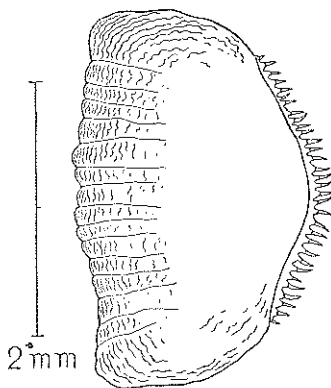


Fig. 2. — *Lesueurigobius heterofasciatus* sp. n. Scale from median region of side of paratype MMF Reg. No. 11587

same characteristic coloration. Meristically there are some slight differences. The paratype No. 22824 has 15 soft rays in the anal fin compared to 14 in the holotype, and on the left side 24 pectoral rays compared to

TABLE I.

	<i>L. sanzoi</i>	<i>L. friesii</i>	<i>L. lesueurii</i>	<i>L. heterofasciatus</i>
Dorsal papillae <i>g</i> and <i>h</i>	in one row <i>g h</i> , papillae connected, forming dermal crest	only anterior row <i>g</i> , papillae not connected	in two separate rows <i>g</i> & <i>h</i> , papillae not connected	in two widely separated rows <i>g</i> & <i>h</i> , papillae of <i>g</i> connected by low elevation, not forming crest
Nape	with scales	with scales	without scales	without scales
Coloration	diffuse vertical yellow bands	yellow bands	obscurely outlined bands of yellow and blue	well-marked narrow dark-brown bands
Row of papillae <i>b</i>	reaching edge of pre-opercle	reaching edge of pre-opercle	reaching edge of pre-opercle	far from reaching edge of pre-opercle
Second dorsal	I, 15	I, 13-16	I, 13-14	I, 14
Anal	I, 16-17	I, 13-15	I, 13-14	I, 14-15
Pectorals	22	18-19	17-20	22-24
Gill rakers	2 + 8 = 10 *	2 + 8 = 10 *	2 + 8 = 10 *	3 + 11-12 = 14-15

* De Buen (1923) does not mention the number of gill rakers. He states, however, that they are «poco abundantes» and gives a figure of the first branchial arch of *L. sanzoi*, made from a camera lucida drawing. On this there clearly are 2 upper knob-like gill rakers and 8 lower elongated ones. The gill rakers of both *L. friesii* and *L. lesueurii* he describes as identical with those of *L. sanzoi*.

23. The paratype of No. 11589 has only 22 pectoral rays on both sides compared to 23 and 14 gill rakers on the lower part of the first gill arch compared to 15.

A scale from the median region of the side, under the origin of the second dorsal fin (Fig. 2.) was removed from paratype 11587 for examination. It is strongly ctenoid, with 32 relatively long and narrow, mostly curved, pointed spines along its free border. The intervals between the spines are slightly wider than their own thickness (see fig. 2).

AFFINITY

The arrangement of the pores and papillae on the head clearly range this species in the genus *Lesueurigobius* which is known from 3 Mediterranean and Atlantic species: *L. sanzoi* (de Buen), *L. friesii* (Collett), *L. lesueurii* (Risso). The present new species is distinguished from all 3 by its coloration, the arrangement of some of the rows of pores and papillae of the head and, apparently, the gill raker count. For the extent to which it differs in these and some further characters, based on descriptions and illustrations rendered by de Buen (1923), Lozano e Rey (1960) and Bini (1969) see table 1.

Geographical and vertical distribution. West coast of Morocco, between about 31° and 34° N. lat. and off Madeira. The two Moroccan specimens from at least 150 m. depth. *Aulopus filamentosus*, from the mouth of which the Madeiran specimen was extracted, is generally taken in about 100 m. depth.

Species name *heterofasciatus*, from Greek *hetero* = other, different and Latin *fascia* = band, on account of the curious difference in intensity of pigmentation in the bands and the differing intervals between them.

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