

A new wrasse (Teleostei: Labridae) of the genus *Xyrichtys* from the Fernando de Noronha Archipelago

by

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With 1 figure

ABSTRACT

Description of a new species of the genus *Xyrichtys* Cuvier (Teleostei: Labridae) from the Fernando de Noronha Archipelago, Brazil. The new species *Xyrichtys incandescens* is described on the basis of three (1 primary and 2 terminal colour phase) specimens, 62.3-80.8 mm in standard length. It is close to the Caribbean *X. martinicensis* Valenciennes but differs substantially in colouration.

INTRODUCTION

During the course of the Cambridge Expedition to St. Paul's Rocks in 1979 we were able to spend a short period at the Fernando de Noronha Archipelago off north-east Brazil. About eighty species of fishes were recorded; these included a previously undescribed wrasse of the genus *Xyrichtys* Cuvier which forms the subject of the present paper.

The Atlantic members of the genus *Xyrichtys* were reviewed by RANDALL (1965) under the generic name *Hemipteronotus* Lacépède. Randall recorded five species, three of which occurred in the tropical western Atlantic. The present species is close to the Caribbean *X. martinicensis* Valenciennes, but differs substantially in colouration. Type specimens are deposited at the Museu de Zoologia, Universidade de São Paulo (MZUSP), the Muséum d'Histoire naturelle de Genève (MHNG) and the British Museum (Natural History) (BMNH).

Xyrichtys incandescens n. sp. (Figure 1)

Diagnosis: A species of the genus *Xyrichtys* Cuvier with the following combination of characters: 5 pored scales in posterior section of lateral line; 4 scales above first scale of lateral line to origin of dorsal fin; a row of about six scales extending from behind eye

downwards and forwards to a vertical between centre and posterior margin of eye; gill rakers 20-22; greatest body depth 27.4-27.8% of SL (standard length); pelvic fin of terminal phase individuals reaching anal fin origin; caudal fin truncate or very slightly rounded; terminal phase individuals with upper two thirds of body below last four dorsal rays and anterior part of peduncle bright red, also anal fin bright red; no dark spot at pectoral fin base; primary phase individuals with fleshy pink to reddish body, becoming silvery white on thorax and flanks, and a narrow dark bar on operculum; no horizontal band.

Description: Measurements are those of the holotype, followed in parenthesis by those of the larger and smaller paratypes respectively when these differ from the holotype.

Dorsal rays IX 12; anal rays III 12 (III 12, III 11); pectoral rays 12; pelvic rays I 5; principal caudal rays 14; gill rakers 6 + 1 + 14 (6 + 1 + 13, 7 + 1 + 14); tubular lateral line scales 20 + 5 (21 + 5, 20 + 5); lateral scale series from lateral line origin to caudal fin base 25 (26, 25); transverse scale series counted forwards and upwards from anal fin origin 9 + 1 + 2; 4 scales above first lateral line scale to origin of dorsal fin; circumpeduncular scales 16.

The following measurements are presented as percentages of the SL: head length 31.0 (30.4, 31.9); snout length 11.1 (10.4, 10.3); eye diameter 5.1 (5.0, 5.6); distance from snout to dorsal fin origin 23.3 (23.9, 25.5); distance from snout to anal fin origin 49.6 (49.1, 55.9); greatest body depth 27.4 (27.4, 27.8); body width just posterior to operculum 9.5 (10.5; 8.8); least depth of caudal peduncle 11.8 (12.5, 12.0); length of dorsal fin base 71.5 (72.5, 66.3); lengths of first, second, third and ninth dorsal spines 8.2 (10.3, 6.9), 7.5 (7.4, 7.5), 8.1 (9.8, 8.5) and 8.5 (10.0, 7.2) respectively; length of longest dorsal soft ray 9.0 (11.4, 9.5); length of base of anal fin 41.1 (40.7, 37.1); lengths of first, second and third anal spines 4.4 (3.1, 5.0), 5.5 (4.6, 6.1) and 7.0 (7.1, 7.4) respectively; length of longest anal soft ray 9.7 (9.8, 8.0); length of longest pectoral fin ray 17.4 (18.2, 18.1); length of longest pelvic fin ray 19.3 (22.5, 14.9); caudal fin length 19.0 (18.7, 17.5).

Body moderately elongate and laterally compressed. Mouth oblique and fairly large, the maxilla reaching posteriorly to a vertical through a point three quarters of way from snout tip to eye. Lower jaw projecting very slightly when jaw mouth closed.

Each jaw with a single row of moderate canines and a pair of enlarged curved canines anteriorly; a few granular teeth present medially behind enlarged canines.

Margins of operculum and preoperculum smooth. Nostrils very small and inconspicuous, barely larger than pores of the lateralis system; posterior nostril slightly oral and immediately anterior to front of eye, the distance separating eye from nostril equal to about half eye diameter; anterior nostril in a short membranous tube.

Scales large and cycloid. Head not scaled except for 2 or 3 scales at upper margin of operculum and a row of about six scales extending from behind eye downwards and forwards to a vertical between centre and posterior margin of eye. Fins not scaled except for 2-3 rows of scales at base of caudal fin.

Lateral line arched, following dorsal body contour, reaching its highest point below bases of fourth to sixth dorsal spines; lateral line interrupted below base of about tenth dorsal soft ray, the posterior portion running along centre of peduncle and ending above hypural plate.

Origin of dorsal fin vertically above posterior margin of preoperculum; dorsal spines flexible, approximately equal in length; dorsal soft rays branched posteriorly, about as long as spines. Anal fin origin approximately below base of last dorsal spine; and spines



FIG. 1. — Holotype of *Xyrichtys incandescens* n. sp., 73.0 mm SL.

increasing gradually in length posteriorly, the third only slightly shorter than the longest anal ray; anal soft rays branched posteriorly. Dorsal and anal fins with even distal margins, pointed posteriorly. Origin of pectoral fins below base of third dorsal spine, second ray longest. Pelvic fin origin below pectoral fin origin, first and second soft rays longest, reaching to anal fin origin in holotype and larger paratype and to a point half way between pelvic fin origin and anal fin origin in smaller paratype. Caudal fin truncate or very slightly rounded.

Colouration: Shortly after death, head of holotype (terminal colour phase) whitish becoming yellowish ventrally and on snout and operculum; about three oblique to vertical blue lines below eye and an additional two or three similar lines on operculum; dorsal body contour pale bluish becoming pale reddish anterior to sixth dorsal spine; flanks bluish with faint golden edges to scales; ventral surface of body whitish to pale bluish yellow; a faint pale blue line along pectoral fin base, with a similar parallel line about one scale row above; upper two thirds of body below last four dorsal rays and anterior part of peduncle bright red. Iris violet. Dorsal fin yellowish grey with darker greyish vermiculations and a fine violet margin, becoming bright red posterior to third from last soft ray; anal fin bright red with a row of magenta to violet spots along base and a fine dark margin; pectoral fins hyaline; caudal fin light yellowish grey; pelvic fins yellowish hyaline with orange red anterior margin. Colours of larger paratype similar.

Shortly after death, head of smaller paratype (primary colour phase) pale yellowish becoming silvery white on operculum and fleshy pink dorsally; a slightly oblique narrow dark bar on operculum; body fleshy pink to reddish except for a silvery white area covering thorax and flanks anterior to approximately fifth anal soft ray; abdomen with golden vertical lines. Iris reddish violet. Pectoral fins hyaline; pelvic fins yellowish hyaline; caudal fin pale pinkish hyaline; anal fin pinkish hyaline; dorsal fin pinkish hyaline becoming reddish hyaline on outer half.

In life, the colours of undisturbed individuals seemed to match those described above; frightened fishes took on a mottled pattern before diving into the sand. The red on the body and fins of terminal phase fishes was particularly conspicuous, appearing dark underwater.

In alcohol, primary phase individual uniformly pale, the narrow dark bar on the operculum just visible. Terminal phase fishes light brown, becoming beige mottled with brown on areas of the body that were bright red in life; dorsal fin brown with slightly darker vermiculations, becoming abruptly pale posterior to the second or third from last ray; other fins pale.

REMARKS

Xyrichtys incandescens is known only from the Fernando de Noronha Archipelago, where it was found in sandy areas at 7-15 m depth. It was observed in groups of up to 30-40 individuals, with terminal colour phase fishes frequently displaying.

The present species is close to *Xyrichtys martinicensis* but may be distinguished using the characters given in the diagnosis. The areas of bright red colouration present on terminal phase individuals are distinctive, hence the Latin name *incandescens* meaning glowing.

MATERIAL EXAMINED

- (a) Holotype (terminal colour phase, presumed male), 73.0 mm SL, at 8 m, open sand, Baía do Sancho, Fernando de Noronha I., Brazil, coll. R. Lubbock & A. Edwards on 9.10.1979; MZUSP 14633.
- (b) 1 paratype (terminal colour phase, presumed male), 80.8 mm SL, coll. with holotype; MHNG 2029.01.
- (c) 1 paratype (primary colour phase, presumed female), 62.3 mm SL, coll. with holotype; BMNH 1980.3.18.1.

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