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GOBIUS XANTHOCEPHALUS HEYMER & ZANDER, 1992 IN PORTUGUESE WATERS (PISCES: GOBIIDAE).

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INTRODUCTION

Gobius auratus RISSO, 1810 has been recorded for the Portuguese coast by GONÇALVES (1941), HELLING (1943), ALBUQUERQUE (1954-56), ALMEIDA (1988, 1992, 1994, 1996), CUNHA & ANTUNES (1991), and I.C.N. (1993). Scuba-diving observations demonstrate that this is the most abundant species in the genus *Gobius* between 3 and 20 m depth on the Portuguese coast and represents 7% of the total fishes collected during a study made in 1984-85 (ALMEIDA, 1988).

Description of a new species, *Gobius xanthocephalus,* by HEYMER & ZANDER, 1992 and the sinonymia, proposed by these authors: *Gobius luteus* KOIOMBATOVIC (1981) (= *Gobius auratus* RISSO, 1810) and *Gobius auratus* RISSO, 1810 (= *Gobius xanthocephalus* HEYMER & ZANDER 1992) suggest the revision of the specimens status that has been referred to the Portuguese coast as *Gobius auratus.* The aim of this note is to review that status and add some morphological and ecological data.

MATERIAL AND METHODS

To study morphological data, twenty-six specimens, were used: (a) eleven of sixteen specimens in the collection of King Carlos I; from «Costa da Galé»

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(northwards Sines) and Setúbal-Tróia all collected in 1897, and from the southern coast of Portugal near Portimão in 1898 (GONÇALVES, 1941); (b) Ten specimens from the coast of Sesimbra and five from the coast of Sagres collected in 1976, by one of us (A.J.A), in scuba - diving with a hand net. The morphological features studied were the number of rays in the fins and the number of scales on the longitudinal line.

Other specimens were observed to confirm the status proposed by HEYMER & ZANDER, 1992: (a) Two specimens in Museu Zoológico de Coimbra, captured in 1938 off Sesimbra (HELLING, 1943); (b) 633 specimens captured between 1984-85 off Vila Nova de Milfontes. These late specimens were captured with a beam trawl net (rectangular mouth of 50×150 cm and 1 cm mesh size) (ALMEIDA, 1988) (Fig.1).

Colour in life and ecological data were observed during scuba-diving on the coast of Sesimbra, Vila Nova de Milfontes and Sagres and later registered aboard.

RESULTS

a) *Morphological data:*

First dorsal fin with 6 spines and second dorsal. fin with 1 spine and 14-16 soft rays. Pectoral rays 19-21. Ventral fin with 1 spine and 5 soft rays. Anal fin with 1 spine and 13-15 soft rays. Caudal fin with 17 soft rays. Scales on the longitudinal line ranging between 44 and 50.

Frequency distributions of the number of rays in second dorsal, anal and pectoral fins and of the scales on the longitudinal line are shown in the Table I.

D2	I/14	I/15	I/16
n = 26	11	13	2

A	I/13	I/14	I/15
n = 26	12	13	2

P le/ri	n = 26
19/19	6
19/20	1
20/20	11
20/21	2
21/21	5
21/19	1

LL	44	45	46	47	48	49	50
n =14	2	1	3	3	3	1	1

Table 1 - Frequency distribution of number of rays in second dorsal (D2), anal (A) pectoral (P) fins and of the scales on the longitudinal line (LL).

b) *Specimens coloration:*

Alive specimens with head and body almost translucid. Head yellow and belly with yellow spots. Body greyish with ventral side light in color. Small red spots elongated in shape on both sides of head and body.

Observed on the stereomicroscope, body with conspicuous black spots, Dorsal fins bluish, with red strips near distal end. Caudal fin with red spots. Anal fin with one red spot at the base of each ray. Pectoral. fin with black blotch, oval in shape, bordered in orange and yellow, near the insertion of the 7th or 8th rays.

Preserved specimens, in formalin, brownish in color with both stripes and spots lighter. Two black spots upper the pre-opercle, and three others near both the base of the pre-opercle and the lower jaw. The black blotch on the pectoral fin remains after preservation.

c) *Ecological notes:*

Specimens from both Sesimbra and Sagres were always captured near small caves and fissures, with sandy bottom, associated with boulders, from 2 to 20 m depth. More, specimens were frequently seen in caves of both semi-obscurity and total obscurity in association with *Thorogobius ephippiatus* (LOWE, 1839). Moreover, on the coast of Vila Nova de Milfontes they were always present in the seagrass beds.

DISCUSSION

The comparison of the observed morphological data with those by HEYMER & ZANDER (1992) shows that the upper limit of both number of rays of the second dorsal and the scales on the longitudinal line is greater for the specimens from the Portuguese coast (Table II).

	Dl-VI	D2-I/14-16	A-I/13-15	V-I/5	P-19-21	C-17 (segmented ray)	LL - 44-50
HEYMER & ZANDER	D1. - VI	D2-I/13-16	A-I/13-15	V-I/5	P-18-20	C-13-15	LL - 42-48

Table II- Comparison of the morphological data on this paper with those observed by HEYMER & ZANDER (1992). (D1 - First dorsal fin; D2 - Second dorsal fin; A - Anal fin; V - Ventral fin; P - Pectoral fin; C - Caudal fin; LL - Scales on the longitudinal line).

The greyish color of the body of the specimens observed on the Portuguese coast is the same referred to by HEYMER & ZANDER (1992) based on specimens from the Mediterranean but not the greenish color of the body observed by WIRTZ & HERRERA (1995) on specimens of the coast of Canary Islands.

The specimens on the Portuguese coast were found on sandy bottom associated with pipes and bouders in depths till about 20 meters as referred to by HEYMER & ZANDER (1992) and WIRTZ & HERRERA (1995).

Records of *Gobius auratus* RISSO, 1810 from the Portuguese coast as GONÇALVES (1941) and HELLING (1943), both quoted by ALBUQUERQUE (1954-56), CUNHA & ANTUNES (1991), ALMEIDA (1988, 1992, 1994, 1996) and I.C.N. (1993) are misidentifications of *Gobius xanthocephalus* HEYMER & ZANDER, 1992. More, no specimen of the former species was ever reliably identified.

So, the known geographical distribution of this species is the northwestern mediterranean, both southwestern and south coasts of Portugal and Canary Islands (Fig. 1).

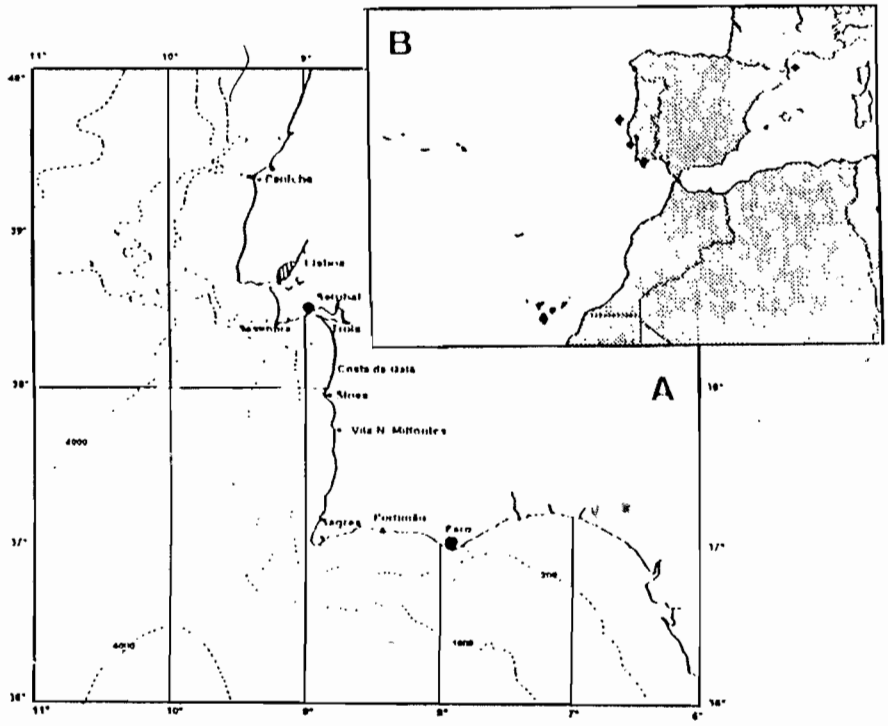

Fig. 1 - **A** - Places where *Gobius xanthocephalus* has been collected or observed on the Portuguese coast. Peniche (ALMEIDA, 1996); Sesimbra (HELLING, 1943 and present paper); Setúbal (CUNHA & ANTUNES, 1991); Costa da Galé (GONÇALVES, 1941); Vila Nova de Milfontes (ALMEIDA, 1988,1992,1994); Sagres (present paper); Portimão (GONÇALVES, 1941). **B** - known geographical distribution - ♦

SUMMARY

The records of *Gobius auratus* made by several authors to the Portuguese coast are confirmed as *Gobius xanthocephalus* HEYMER & ZANDER, 1992. Some morphological and ecological data of this specimens are given.

SUMÁRIO

Confirma-se que *Gobius auratus* RISSO, 1810 referido por vários autores para a costa portuguesa é *Gobius xanthocephalus* HEYMER & ZANDER, 1992. São apresentados dados morfológicos e ecológicos da espécie na costa portuguesa.

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