

esta especie en las costas italianas. De la misma forma, las escasas citas acerca de las capturas del adulto, se sitúan en el mes de abril. Este hecho podría sugerir que durante el período reproductor, los adultos realizan una migración hacia la costa para efectuar la freza donde las condiciones del medio son más adecuadas para el desarrollo y viabilidad de las larvas.

ABSTRACT

Collection of larvae of Rhynchogadus hepaticus (Facciola) (Pisces Gadoidei) in the Catalan coast (Western Mediterranean).— During April 1983, three larvae of *Rhynchogadus hepaticus* were caught in the catalan continental shelf. This record widens the geographical distribution of the species, which up to now had exclusively been found on the italian western coast.

Key words: *Rhynchogadus hepaticus*, Larvae, Distribution, Catalan coast.

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THE OCCURRENCE OF LOZANO'S GOBY *POMATOSCHISTUS LOZANOI* (DE BUEN, 1923) (PISCES, GOBIIDAE), ON THE PORTUGHESE COAST

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The taxon *lozanoi* was originally described by DE BUEN (1923) as a subspecies of sand goby *Gobius (Pomatoschistus) minutus* Pallas, 1770. FONDS (1973), MILLER et al. (1980) and WEBB (1980) recognized it as a distinct species. It occurs in the northeastern Atlantic and North Sea showing a great overlap in geographical and ecological distribution with *Pomatoschistus minutus* (DE

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BUEN, 1923; FONDS, 1970, 1971, 1973; MILLER, 1978), being *P. minutus* the one with a more meridional limit of distribution. Due to their small size and morphological resemblance they have been muddled.

GONÇALVES (1941) considered as *P. minutus lozanoi* 19 specimens captured off Cascais. The mention of *P. lozanoi* to Cascais in MILLER (1986) must in fact relate to

this record (Miller, pers. com.).

The aim of this note is to point out the presence of *P. lozanoi* off the western coast of Portugal.

A new occurrence of this species was recorded at the lagoon Ría de Aveiro (lat. 40° 26' N, long. 8° 60' W). A total of 24 individuals were caught together with *P. minutus*, in 1985 (3 in December), and 1986 (9 in January and 12 in February). They were caught by «chinchá», which is a nearly rectangular net of about 20 m long. Between the edge and the centre of the net, the width increases from 0.5 m to 2.5 m and the mesh-size decreases from 2.5 cm to 2.0 cm. A conical net is set into the middle of the «chinchá» which has a lower mesh-size of 1.0-1.5 cm. Essentially the net works like a purse-seine with a cod-end. The «chinchá» was usually set from the land.

Fresh material was easily separated by colour. *P. lozanoi* is more transparent and brownish in colour with irregularly dispersed pigment spots and a marble appearance, while *P. minutus* is greyish with finely dispersed pigment. However, after preservation the most useful characteristic to differentiate these two species was the pattern of dermal papillae on the head. The technique of DE BUEN (1923) was used to stain the papillae.

A meristic index was calculated for the number of scales in lateral series and rays of the first and second dorsals, left pectoral, pelvics and anal fins. Terminal bifid ray of second dorsal and anal fins was counted as one.

The arrangement of the sensory dermal papillae on the head is illustrated in figure 1. All specimens had a long row *b* (ending

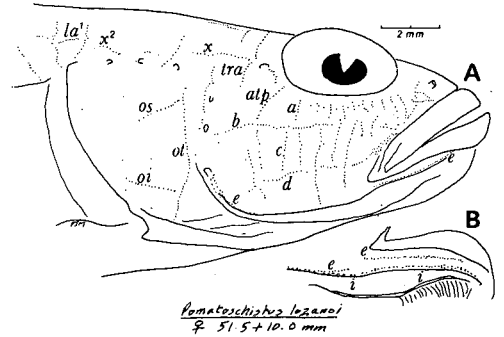


Fig. 1. *Pomatoschistus lozanoi* from the western coast of Portugal: A. Lateral view of head sensory papillae; B. Detail showing an oblique ventral view of the anterior part of preoperculo-mandibular row *i*. Rows of papillae are labelled with italic letters according to SANZO (1911).

Pomatoschistus lozanoi de la costa oeste de Portugal: A. Visión lateral de las papilas sensoriales de la cabeza; B. Detalle mostrando una visión lateral oblicua de la parte anterior de la fila preoperculo-mandibular *i*. Las hileras de papilas están señaladas siguiendo la nomenclatura de SANZO (1911).

under the anterior half of the orbit) and a high number of transverse *c* rows (range 8-9; mean 8.4; standard deviation 0.5) with second, fourth and last penetrating below row *d*. Supralabial section of row *d* in double series. Some doubling of papillae in the anterior part of preoperculo-mandibular row *i*. The suborbital papillae were arranged according to types 12, 13 and 14 of WEBB (1980) (percentage of occurrence: 0.167, 0.75 and 0.083 respectively).

Size range of fishes (total length in mm): 48-71 (mean 57.6; standard deviation 5.8).

The meristic indexes are summarized as follows (mean ± standard deviation): (*a*)

Table 1. Ranges of the meristic indexes of *Pomatoschistus lozanoi*. LL. Scales in lateral series. Number of rays: D₁. First dorsal fin; D₂. Second dorsal fin; P. Left pectoral fin; V. Pelvic fins; A. Anal fin.

Indices merísticos de *Pomatoschistus lozanoi*.

	LL	D ₁	D ₂	P	V	A
DE BUEN, 1923	57-64	VI	1+10-11	18-21	1+5/1+5	1+10-11
FONDS, 1973	60-65	VI	12-13	18-20		12-13
WEBB, 1980	57-65	VI	1+ 9-12	18-21		1+ 9-12
This work	59-65	VI	1+ 9-11	17-19	1+5/1+5	1+ 9-11

scales in lateral series 61.6 ± 1.7 ; (b) number of fin rays: first dorsal fin VI; second dorsal fin I + 9.7 ± 0.6 ; left pectoral fin 18.0 ± 0.5 ; pelvic fins I + 5 / I + 5; anal fin I + 10.2 ± 0.5 .

The ranges were compared with values given by previous authors (table 1) and found to agree. Nevertheless, the usefulness of such data from the literature is limited without the opportunity to standardize results from different counting methods, and the provision of further basic statistical information.

These captures of *P. lozanoi* confirm the presence of this species on the Portuguese coast.

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ABSTRACT

The occurrence of Lozano's Goby Pomatoschistus lozanoi (De Buen, 1923) (Pisces Gobiidae) on the Portuguese coast.—Twenty four individuals were captured at the lagoon Ria de Aveiro. A meristic index was calculated for the number of scales in lateral series and rays of the first and second dorsals, left pectoral, pelvic and anal fins. The arrangement of the sensory dermal papillae on the head is illustrated. The presence of *P. lozanoi* on the Portuguese shore is confirmed.

Key words: *Pomatoschistus lozanoi*, Portuguese coast.

RESUMEN

Presencia de Pomatoschistus lozanoi (De Buen, 1923) (Pisces, Gobiidae) en la costa portuguesa.—Se capturaron 24 individuos en la Ria de Aveiro. Se calculó

un índice merístico para el número de escamas en serie lateral y radios de la primera y segunda dorsales, y las aletas pectoral izquierda, pélvica y anales. Se ilustra la disposición de las papilas dérmicas sensoriales en la cabeza. La presencia de *P. lozanoi* en las costas portuguesas queda así confirmada.

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