



Scientific Note

Confirmed occurrence of a rare teleost species in Tunisian marine waters: the shortnose greeneye *Chlorophthalmus agassizi* (Osteichthyes: Chlorophthalmidae)

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Abstract. The occurrence of a rare teleost species in Tunisian marine waters, the shortnose greeneye *Chlorophthalmus agassizi*, is confirmed. The specimen was found in the stomach of a skate, closely related to *Raja montagui* Fowler 1910.

Keywords: description, morphometric measurements, meristic counts, deep sea waters.

Resumo. Ocorrência confirmada de uma espécie rara de teleósteo em águas marinhas da Tunísia: o peixe olho-verde *Chlorophthalmus agassizi* (Osteichthyes: Chlorophthalmidae). A ocorrência em águas marinhas tunísias de uma espécie rara de teleósteo, *Chlorophthalmus agassizi*, é confirmada. O espécime foi encontrado no estômago de uma raia, muito próxima a *Raja montagui* Fowler 1910.

Palavras-chave: descrição, medições morfométricas, contagens merísticas, águas profundas.

The shortnose greeneye *Chlorophthalmus agassizi* Bonaparte, 1840 is present on the western side of the Atlantic Ocean (Robins & Ray 1986), and off the eastern one, the species is known from Spain to Senegal and around Canary Islands (Sulak 1984), while in the Mediterranean Sea, it is abundant as by-catch species in eastern (Kabasakal 1999, Anastasopoulou & Kaporis 2008), and central regions (D'Onghia *et al.* 2006), by contrast, it was considered as rather rare in western regions (Stefanescu 1994).

In Tunisian marine waters, the species was reported in the southern Gulf of Gabès (Ben Othmen 1971, 1973), in central and northern areas (Bourgois & Farina 1961, Maurin 1962, 1968, Ben Mustapha 1966, Azouz 1971, 1974). However, Bradaï (2000) and Bradaï *et al.* (2004) considered the species as very rare in the area, additionally, no specimen was available for confirmation.

Investigations conducted on skates and rays from northern Tunisian areas since 2006, allowed to observe, on 25 March 2009, a skate species specimen captured off Bizerte, northern Tunisia, (37° 22' 38.13'' N, 10° 03' 07.33'' E), on sandy bottom (Fig. 1), This skate was identified as closely related to the spotted ray *Raja montagui* Fowler, 1910 following Stehmann (1984) but further study is needed to conclude on its taxonomic status. The specimen was 360 mm disc width, 533 mm total length, and weighed 1198 g. It was an adult female exhibiting a well-developed genital tract and fully yolky oocytes which contained in its gut only contained a single teleost species identified as *Chlorophthalmus agassizi* (Fig. 2). Once identified, the specimen was photographed, measured for total length to the nearest millimeter and weighed for total mass to the nearest gramme. Morphometric measurements were recorded to the nearest gramme

and meristic counts were carried out on this specimen, following Sulak (1984) and Anastasopoulou & Papaconstantinou (2007) (Table I). The specimen was preserved in buffered 10 %

formaline and deposited in the ichthyological Collection of the Faculté des Sciences of Bizerte, Tunisia and received the following number: FSB-Chlor-agas 01.

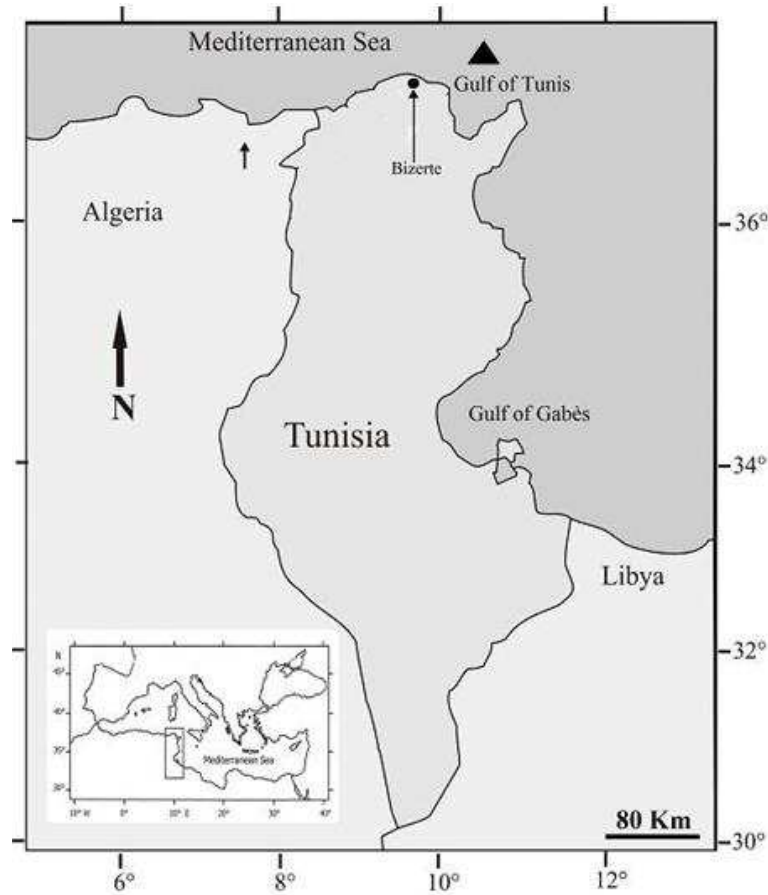


Figure 1. Map of the Mediterranean showing the Tunisian coast and pointing out the capture sites of *Chlorophthalmus agassizi* off Bizerte (black triangle).



Figure 2. *Chlorophthalmus agassizi* (FSB-Chlor-agas 01), scale bar= 50 mm.

Table I. Morphometric measurements, (in mm) with % TL and meristic counts of the specimen of *Chlorophthalmus agassizi*.

Reference	FSB-Chlor-agas 01	
	mm	%TL
Morphometric measurements (mm)		
Total length	265.00	100.00
Fork length	243.00	91.70
Standard length	222.00	83.77
Pre-first dorsal length	85.54	32.28
Pre-second dorsal length	176.81	66.72
Pre-pectoral length	68.54	25.86
Head length	48.55	18.32
Inter-dorsal space	48.99	18.49
Pelvic fin length	52.87	19.95
Pre-pelvic length	79.00	29.81
Pre-anal length	154.86	58.44
Pelvic-anal length	75.86	28.63
Pelvic-caudal length	130.88	49.39
Pectoral insertion-pelvic insertion	6.99	2.64
Pectoral length	36.76	13.87
Anal-caudal length	55.02	20.76
Snout-vent length	136.3	51.43
Vent-caudal length	76.11	28.72
Pre-nasal length	17.17	6.48
Inter-nasal length	8.59	3.24
Eye length	15.85	5.98
Inter-orbital	9.00	3.40
First dorsal base	42.28	15.95
First dorsal heigth	41.65	15.72
Second dorsal base	4.17	1.57
Second dorsal heigth	4.48	1.69
Caudal pedoncule heigth	12.04	4.54
Trunk heigth	31.79	12.00
Caudal terminal lobe	59.07	22.29
Meristic counts		
Pectoral rays	13	
Pelvic rays	15	
First dorsal rays	16	
Total mass (grammes)	98.16	

The specimen was identified as follows: head depressed snout broad and spatulate, eyes very large, elliptical, lower jaw projected beyond upper jaw and ending in a bony knob, maxilla failing at mid-point of eye, its blade expanded posteriorly. Teeth in jaws very small, conical, depressible arrayed in bands, pelvic fins inserted just behind

dorsal fin origin, adipose fin present, inserted opposite fin, caudal fin deeply forked. Color is yellow-fawn, with irregular oblique brown blotches on the sides. The operculum is silver-black; anus and gill cavity black; belly stippled black, caudal fin base and inner ventral fin rays black.

Description, colour, morphometric

measurements with percents of total length and meristic counts are in agreement with Sulak (1984). So this new finding confirm previous records reported in Tunisian marine waters, and consequently, the presence of *Chlorophthalmus agassizi* in the area.

It appears difficult to explain why the species is dominant in eastern Mediterranean such as Ionian Sea and rather rare in other eastern areas such the Tunisian coast. Additionally, Anastasopoulou & Kaporis (2008) noted that the species is one of the most abundant species of epi-bathyal assemblage and present a large vertical distribution between 50-1000 m, most commonly between 350 and 450 m (Fischer *et al.* 1987). Firstly, such depths are not reached off Tunisian northern coasts, secondly, deep areas are poorly exploited by commercial trawlers, then *C. agassizi* present low commercial value, and it is probably discarded at sea by fishermen soon after captures. However, further findings of shortnose greeneye are needed prior to state that a sustainable population is established in Tunisian marine waters as other eastern and central Mediterranean areas.

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