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FIRST SUBSTANTIATED RECORD OF OILFISH *RUVETTUS PRETIOSUS* (OSTEICHTHYES: GEMPYLIDAE) FROM THE COAST OF SENEGAL (EASTERN TROPICAL ATLANTIC)

SUMMARY

Three specimens of oilfish *Ruvettus pretiosus* Cocco, 1829 were recorded for the first time from the coast of Senegal. The specimens were probably immature; a single specimen was measured and weighed, reaching 745 mm of total length and 2350 g of total body weight, the other specimens were smaller. In this note, the authors present a short description of one specimen and its main morphometric measurements and meristic characters. The distribution of *R. pretiosus* in its new area of capture is commented and discussed.

INTRODUCTION

Oilfish, *Ruvettus pretiosus* Cocco, 1829 is known in the Mediterranean Sea and described for the first time from specimens caught off Messina (Sicily). Following Tortonese (1975), the species is sporadically caught and landed in fish markets located in southern Italy. *R. pretiosus* is not reported from the Mediterranean coast of France (Quignard and Tomasini, 2000), but occurs in Adriatic Sea where it is considered as rather rare, mostly present in northern areas (Bettoso and Dulcic, 1999).

In the E Mediterranean, Tserpes *et al.* (2006) and Peristeraki *et al.* (2008) reported *R. pretiosus* in the Aegean Sea and Golani (2005) off Israel. Conversely, El Sayed (1994) did not report the species off the Mediterranean coast of Egypt, but westward, it was recorded for the first time in Libyan waters,

off Benghazi (Elbaraasi *et al*., 2007). From the Maghreb shore, since Dieuzeide *et al*. (1954) to date, the oilfish remained unknown off Algeria (Hemida, pers. comm., 2019), and the first record from the Tunisian coast was reported by Ben Amor *et al*. (2010), considered also as the SWmost extension range of the species in the Mediterranean Sea.

Ruvettus pretiosus is widely distributed in tropical and temperate waters throughout the world (Nakamura and Parin, 1993). The species is known along the NE Atlantic shore from off the British Isles to Portugal (Quéro *et al*., 2003). South the Strait of Gibraltar, *R. pretiosus* is reported from Morocco (Lloris and Rucabado, 1998) to South African waters (Smith and Heemstra, 1986). Moreover, the oilfish is commonly caught off Canaries, Madeira, and Cape Verde Archipelago (Parin, 1986). However, despite the fact that the species was considered as occurring in the eastern tropical Atlantic, no substantiated record of the species was reported off the coast of Senegal and no specimen is available for confirmation (Cadenat, 1951; Séret and Opic, 1991; Diatta *et al*., 2016). A routine monitoring conducted in this latter area and together with a collaboration with experienced fishermen allowed to observe some *R. pretiosus*, described in the present paper with some comments concerning the species distribution in its new area.

MATERIAL AND METHODS

On 12 April 2019, a specimen of *Ruvettus pretiosus* was collected at the fishing site of Hann (Fig. 1), city close to the touristic zone of Dakar. The specimen (see Fig. 2) was captured by monofilament commercial gill net of 18 mm streched mesh at 150 m depth approximately, on soft bottom, sandy substrate partially covered by seagrass, together with sparid and lutjanid species, by 14°32′45.63″N and 17°27′45.67″ W. The specimen was delivered for thorough examination at the Laboratory of Marine Biology of the Institut Fondamental d'Afrique Noire of Dakar (IFAN). Additionally, on 24 April 2019, 2 other specimens of smaller size were recorded at the same fishing site, unfortunately they were not recovered because rapidly cut into slices and sold to customers. The parameters of capture were similar to those of the first specimen.

Measurements were recorded to the nearest mm and total body weight to the nearest g from the first specimen. This specimen was fixed in 10 % buffered formaldehyde, preserved in 75 % ethanol and deposited in the Ichthyological Collection of IFAN, with catalogue number: IFAN-Ruv-pre-01.

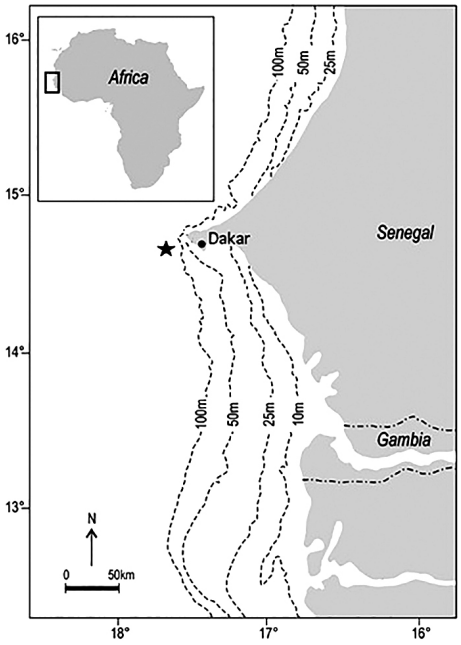

Figure 1. Map of Africa showing Senegal (rectangle) and map of the coast of Senegal indicating the capture site of the specimens of *Ruvettus pretiosus* (black star), redrawn from Diatta *et al.* (2013).

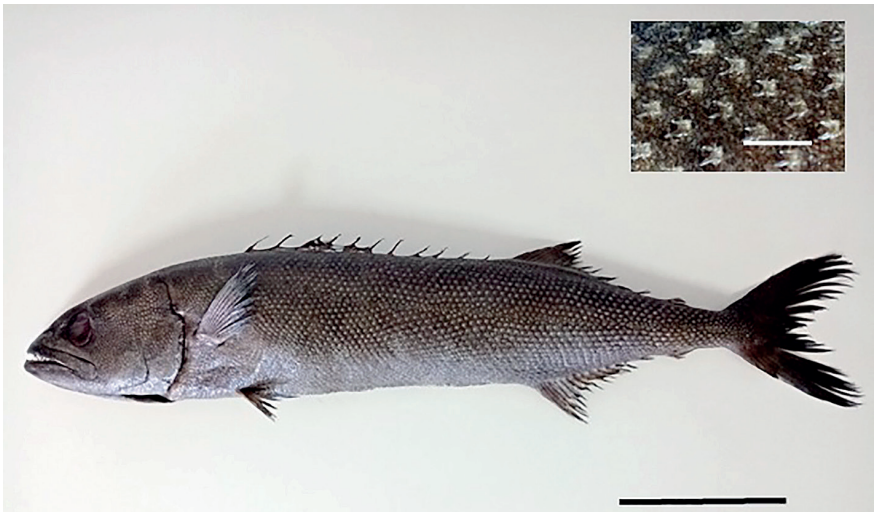

Figure 2. Specimen of *Ruvettus pretiosus* collected off the Senegalese coast (ref. IF-AN-Ruv-pre-01), scale bar = 150 mm. Insert showing scales removed from the dorsal surface, scale bar = 3 mm.

Figure 3. Two specimens of *Ruvettus pretiosus* collected off the Senegalese coast, among of lot of other teleostean species.

RESULTS AND DISCUSSION

The studied specimen was identified as *Ruvettus pretiosus* with combination of main morphological characters as follows:

- body oblong, semi-fusiform and slightly compressed;
- snout rounded, not particularly produced;
- lower jaw extended slightly anterior to upper jaw, but rounded and with no conspicuous fleshy tip on both jaws,
- upper jaw reaches to mid-point of eye at least;
- teeth moderate in size, sharp and strong and not fang-like,
- vomer toothed;
- two detached anal and dorsal finlets;
- caudal fin widely forked without caudal keels;
- belly keeled by bony scales between pelvic fins and anus;
- small cycloid scales, interspersed with rows of sharp spiny tubercles (see Fig. 2);
- body uniformly brown to dark brown, but lighter brown on the sides and belly.

Main morphometric measurements, including percent of total length (%

TL) and meristic counts, are presented in Table 1; they are in total agreement with Tortonese (1975), Parin (1986), Nakamura and Parin (1993) and Ben Amor *et al.* (2010) allowing us to state about the occurrence of *Ruvettus pretiosus* from the coast of Senegal. Therefore, this capture constituted the first substantiated record of the species in the area, which could be included at present in the Senegalese ichthyofauna.

Reference	**IFAN-Ruv-pre-01**	
Measurements	mm	%TL
Total length (TL)	745	100.00
Fourche length	676	90.74
Standard length	610	81.88
Head length	165	22.15
Eye diameter	28.	3.76
Snout length	91.	12.20
Preanal length	426	57.18
Predorsal length	150	20.13
Upper jaw length	71.	9.55
Pectoral fin length	22.	2.88
Pelvic fin length	11	1.42
Anal fin length	97	13.00
First dorsal fin length	250	33.56
Body with	123	16.47
Meristic counts		
First dorsal fin rays	XIV	
Second dorsal fin rays	II+15	
Pelvic fin length	I+5	
Anal fin rays	II+15	
Pectoral fin rays	13	
Caudal fin rays	26	
Total body weight	2250	

Table 1. Morphometric measurements (in mm and as % TL), meristic counts and total body weight (in gram) recorded in the specimen of *Ruvettus pretiosus* from the Senegalese coast (ref. IFAN-Ruv-pre-01).

Little is dealt about reproductive biology of *R. pretiosus*, to date, Parin (1986) noted only that maximal size is reached by oilfish at 2 m standard length, 3 m according to Nakamura and Parin (1993) for specimens from Pacific Ocean, usually between 1000 and 1500 mm total length (Parin, 1986). Consequently, the specimen caught off the Senegalese coast could be considered as large and heavy. Ben Amor *et al*. (2010) noted that a specimen from Tunisia measuring 1220 mm total length was still immature. It was probably the case for the 3 specimens caught off the Senegalese coast, a single specimen was measured and weighed, reaching 745 mm for total length and 2350 g for total body weight (ref. IFAN-Ruv-pre-01, see Table 1), the other specimens were not measured but observed and considered as smaller. These 3 records were isolated and did not constitute a sufficient statistical support to state on the species establishment, such occurrence is probably occasional in their capture area, *R. pretiosus* preferentially inhabit deep bottoms, poorly exploited locally. Its flesh is not greatly appreciated because it is very oily with purgative properties if eaten too much (Nakamura and Parin, 1993). Oilfishes are generally indigestible by half of all people due to its wax esther content, so its sale is at present illegal in some countries such as Italy (Jacquet and Pauly, 2008). Conversely the species is sold in Senegalese fish markets but its scarcity is due to the fact that it has little commercial value, and specimens are probably discarded at sea by fishermen soon after capture. The oil of *R. pretiosus* is not used in cosmetology and pharmacology such as that of *Centrophorus* spp according to our own observations. Additionally, in craft fisheries located throughout the coast of Senegal, oil extracted from livers of *Carcharhinus* spp are preferentially used to preserve and stop infestations of dried fishes by fly larvae and Dermestidae beetles (Gueye-Ndiaye *et al*., 1996).

The core of a Mediterranean population of *Ruvettus pretiosus* is not only restricted to Italian Seas and northern Adriatic following Tserpes *et al*. (2006) who noted that in Greek swordfish fishery the main bulk of by-catch is composed of oilfish. However, despite its abundance, migrations of *R. pretiosus* from the Mediterranean through the Strait of Gibraltar toward eastern Atlantic are not taken into consideration by Quignard and Tomasini (2000). Conversely, migrations from eastern Atlantic through Strait of Gibraltar into the Mediterranean Sea cannot be totally ruled out. Several thermophilic species appeared since the last decades throughout Mediterranean as a factual tropicalisation of the Sea (Francour *et al*., 1994) that influenced also the Mediterranean ichthyofauna where several alien species seemed to be successfully established since the early 1900 years following Golani *et al*. (2002).

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