



On the occurrence of *Scomberomorus commerson* Lacepède, 1800 (Osteichthyes: Scombridae) off Northern Tunisia (Central Mediterranean)

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Abstract: *Scomberomorus commerson* Lacepède, 1800 is recorded for the first time in Tunisian waters, off Kelibia, Cape Bon, in northern Tunisia, central Mediterranean. This finding constitutes the seventh Lessepsian migrant fish reported in the area. This record is probably due to migration from the eastern Mediterranean where populations were previously established.

Résumé : Sur la présence de *Scomberomorus commerson* Lacepède, 1800 (Osteichthyes: Scombridae) au nord de la Tunisie (Méditerranée centrale). *Scomberomorus commerson* Lacepède, 1800 est signalé pour la première fois dans les eaux marines côtières septentrionales tunisiennes, à Kélibia (Cap Bon). Cette mention constitue la septième espèce de poisson lessepsienne pêchée dans la zone. Ce signalement est probablement dû à une migration depuis la Méditerranée orientale où les populations de ce scombridé sont bien établies et acclimatées.

Keywords: Scombridae; *Scomberomorus commerson*; Mediterranean Sea; Tunisia; First record; Lessepsian species

Introduction

Scomberomorus commerson Lacepède, 1800 is widely known from the Red Sea, eastern Africa to Cape Town, Indian Ocean to Japan, western and eastern Australia and Fiji (Golani et al., 2002). It was recorded first in the

Mediterranean off Palestine by Hornell (1935) as *Scomberomorus* sp. Then it extended its Mediterranean distribution northward off Lebanon (George & Athanassiou, 1965), Turkey (Gucu et al., 1994) and Dodecanese Islands (Buham et al., 1997), and eastward off Egypt (El Sayed, 1994) and Libya (Ben-Abdallah, pers. com., 2004) (Fig. 1). Golani et al. (2002) noted that the species is very common and commercially exploited throughout its range. *S. commerson* is not cited by Bradaï et al. (2004) among the ten scombrid species recorded off the coast of Tunisia.

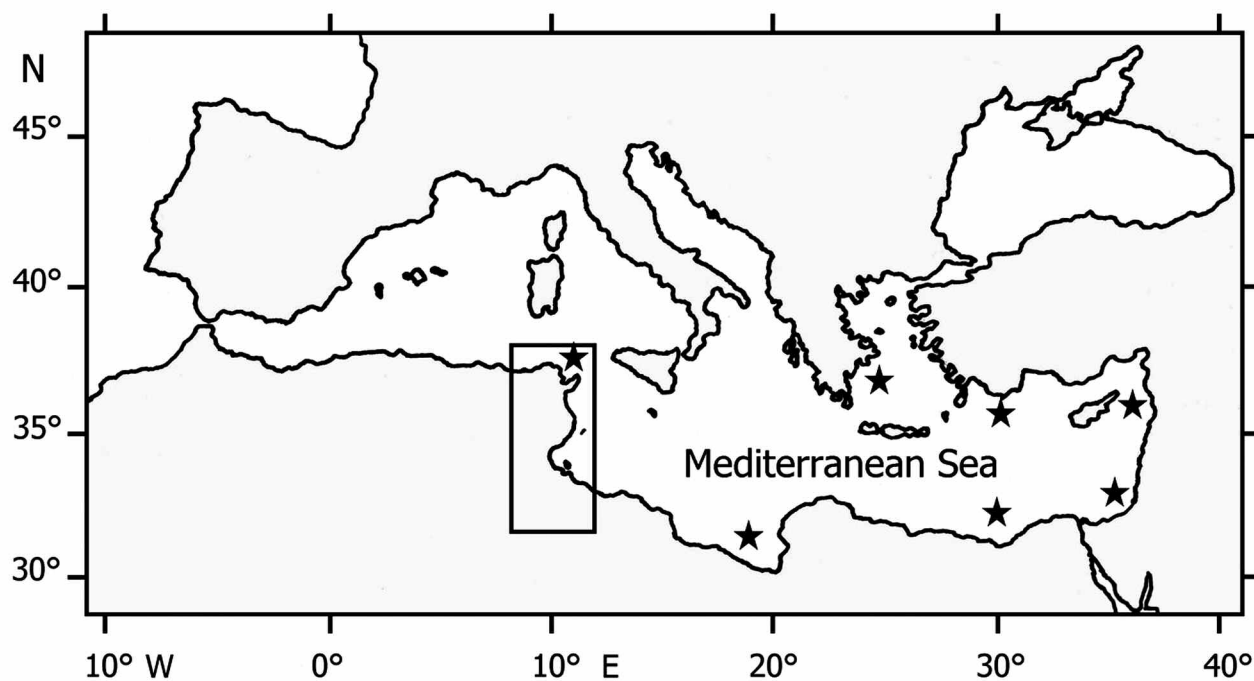


Figure 1. *Scomberomorus commerson*. Map of Mediterranean Sea, showing the collection sites (★).

Figure 1. *Scomberomorus commerson*. Carte de la Méditerranée montrant les sites de captures (★).

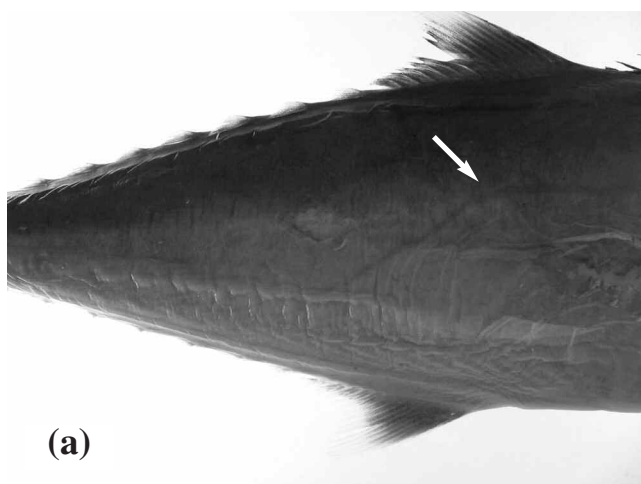


Figure 2. *Scomberomorus commerson*. 320 mm total length (SCO-Scc-01), from off Kelibia, Cape Bon, northern Tunisia, central Mediterranean. (a). Detail of lateral line bent.

Figure 2. *Scomberomorus commerson*. Longueur totale 320 mm (SCO-Scc-01), capturé au large de Kélibia, Cap Bon, nord de la Tunisie, Méditerranée centrale. (a). Détail de la ligne latérale.

Table 1. *Scombermorus commerson*. Morphometrics (in mm) and meristic characteristics of the individual caught in Tunisian waters.

Tableau 1. *Scombermorus commerson*. Caractéristiques morphométriques (en mm) et méristiques de l'individu capturé dans les eaux tunisiennes.

Measurements in millimeters	
Specimen	SCO-Scc-01
Total length (TL)	312.0
Fork length	271.0
Standard length (SL)	247.0
Head length (HL)	64.2
Interorbital space	17.3
Snout length	24.7
Upper jaw length	37.4
Lower jaw length	30.8
Eye diameter	9.0
Body height	55.5
Body depth	27.0
Snout tip to vent	143.0
1 st Dorsal fin length	20.2
1 st Dorsal fin base	68.1
2 nd Dorsal fin length	21.4
2 nd Dorsal fin base	31.1
Pectoral fin length	31.8
Pectoral fin base	8.0
Pelvic fin length	15.0
Pelvic fin base	2.5
Anal fin length	22.4
Anal fin base	30.3
Caudal fin upper lobe length	63.9
Caudal fin lower lobe length	60.4
Caudal fin height	67.2
Pre-pelvic length	69.5
Pre-pectoral length	64.8
Pre-dorsal length	64.8
Pre-anal length	145.9
Mass in grams	176.0
Counts	
Dorsal fin spines	XVI
Dorsal fin soft rays	15
Anal fin soft rays	16
Pectoral fin soft rays	21
Pelvic fin soft rays	5
Gill-rakers	5
finlets behind second dorsal fin	9
finlets behind anal fin	9

S. commerson is a schooling epipelagic species in coastal waters at a depth between 15 and 200 m (Collette, 1986, 2001 & 2003). It feeds on clupeids, engraulids and

carangids; juveniles also feed on benthic species (Collette, 1986; Golani et al., 2002). It reaches sexual maturity at 650 mm. Eggs and larvae are planktonic (Golani et al., 2002).

Results and discussion

Investigations conducted in the area enabled us to collect, on 16 October 2004, a specimen of 312 mm total length and weighing 176 g (Fig. 2), captured off Kelibia (36°52'N - 11°10'E), city located in Cape Bon shore, northern Tunisia (Fig. 1), with a purse seine in surface waters over rocky substrate at a depth of about 46 m.

The specimen is preserved in 5 % buffered formalin and deposited in the Ichthyological Collection of the Institut National Agronomique de Tunisie, Tunis, catalogue number SCO-Scc-01.

The main morphometric measurements and meristic counts of the Tunisian specimen are presented in Table 1.

Body elongate, fairly robust and compressed. Snout pointed, 2.6 times in head length. Large mouth, upper jaw slightly larger than lower jaw. Maxilla extends back beyond posterior of eye margin. Large triangular and compressed teeth in jaws and smaller teeth on the palatine and vomer. Five gill-rakers in the first arch. Two dorsal fins narrowly separated. First dorsal fin lower than second dorsal fin. Second dorsal fin origin slightly in front of anal fin origin. Caudal fin forked with two keels on its base and a median keel on caudal peduncle. Pectoral fin pointed. Lateral line bent downwards under the middle of second dorsal fin (Fig. 2). Entire body covered with small scales.

Color: back dark silvery grey with light grey belly. Numerous dark vertical and wavy bars, with spots on flanks.

All morphometric measurements, meristic counts and colour agree with Collette (1986) and Golani et al. (2002). The origin of the Tunisian *S. commerson* is evidently from the eastern Mediterranean where the species is established. Moreover, the species is abundantly caught in the nearby Libyan waters where it formed the object of intense commercial fishery exploitation (Ben-Abdallah, pers. com.).

S. commerson is a recent immigrant to the eastern Mediterranean Sea, through the Suez Canal, rather reported in warm areas (Collette, 1986). However, its capture in northern Tunisia remains uncommon and such findings in Tunisian waters generally occurred in southern areas (e. g. Gulf of Gabès, see Bradaï et al., 2004). Six Lessepsian migrants were reported in Tunisian waters by Bradaï et al. (2004), two new species were recently recorded (Ben Souissi et al., 2004 & 2005). This finding confirms the progressive invasion of the area by exotic fishes during the last decades. This phenomenon occurs in different Mediterranean areas, especially the eastern Levantin basin

(Golani, 1996; Golani et al., 2002) and the Adriatic Sea (Dulcic et al., 2003). It may be due to Mediterranean waters becoming warmer (Francour et al., 1994) or to the use of new surveying techniques and equipments that enable to explore previously inaccessible habitats (Golani & Sonin, 1996; Quignard & Tomasini, 2000).

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