

**FISHERIES OF THE NARROW-BARRED SPANISH MACKEREL
(SCOMBEROMORUS COMMERSION, LACÉPÈDE, 1800)
IN THE SOUTHERN AND EASTERN MEDITERRANEAN SEA AND RELEVANCE
OF THIS SPECIES TO ICCAT**

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SUMMARY

The presence of the narrow-barred Spanish mackerel (Scomberomorus commerson) is documented in most of the ICCAT Convention area. Fishery data for the Mediterranean Sea have been available for only the last few decades. This paper compiles all available fishery information and provides recent additional catch data, showing the relevance of this species for ICCAT, which is still not included among the small tuna species listed by this RFMO. Considering the relatively significant catch levels, the various fisheries concerned, the large geographic distribution, and the socio-economic importance, ICCAT should list this species and include it under its management.

RÉSUMÉ

La présence du thazard rayé indo-pacifique (Scomberomorus commerson) est documentée dans presque toute la zone de la Convention de l'ICCAT. Les données sur la pêche en Méditerranée ne sont disponibles que depuis quelques décennies. Ce document compile toutes les informations disponibles sur la pêche et fournit des données supplémentaires récentes sur les captures, montrant l'importance de cette espèce pour l'ICCAT, qui ne figure toujours pas parmi les espèces de thonidés mineurs relevant du mandat de cette ORGP. Compte tenu des niveaux de capture relativement importants, des différentes pêcheries concernées, de la grande distribution géographique et de son importance socio-économique, l'ICCAT devrait inscrire cette espèce sur la liste des espèces relevant de son mandat et l'inclure dans sa gestion.

RESUMEN

La presencia de carite estriado Indo-Pacífico (Scomberomorus commerson) está documentada en la mayoría de la zona del Convenio de ICCAT. Los datos pesqueros para el Mediterráneo están disponibles solo para las últimas décadas. Este documento recopila toda la información disponible de la pesquería y proporciona datos de captura reciente adicionales, demostrando la importancia de esta especie para ICCAT, que aun no está incluida entre las especies de pequeños túnidos que recaen bajo el mandato de esta OROP. Considerando los relativamente importantes niveles de captura, las diversas pesquerías afectadas, la gran distribución geográfica y la importancia socioeconómica, ICCAT debería incluir esta especie en la lista de las que recaen bajo su competencia.

KEYWORDS

*Narrow-barred Spanish mackerel, Scomberomorus commerson,
Lessepsian species, non-indigenous species, fisheries, distribution,
catches, fishery statistics, Lebanon, Egypt, Libya, Mediterranean Sea*

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1. Introduction

The narrow-barred Spanish mackerel (*Scomberomorus commerson*, Lacépède, 1800) is an Indo-Pacific species, distributed throughout most of the Pacific Ocean and the Indian Ocean, including the Persian Gulf and the Red Sea⁵. As concerns the ICCAT Convention area, a suspicious record exists from St. Helena in the Southeast Atlantic (Collette and Nawen, 1983; Froese and Pauly, 2019), while its presence in other areas in the Atlantic Ocean is not documented.

According to Di Natale *et al.*, 2009, the narrow-barred Spanish mackerel is also widely distributed in the eastern and southern Mediterranean Sea. This is an immigrant species that entered the Mediterranean from the Suez Canal.

2. Historical records in the Mediterranean Sea

The distribution of the narrow-barred Spanish mackerel in the Mediterranean Sea has been well documented for years and this species cannot be easily confused with other ones. The very first record in the literature was made in the Ligurian Sea as *Cymbium commersoni* (Bonaparte, 1846), implying that the specimen entered the Mediterranean Sea from the Strait of Gibraltar, because the Suez Canal was opened in 1869. This record is most likely a misidentification as the species has an Indo-Pacific distribution (Froese and Pauly, 2019).

The first substantiated record was made from the coast of Palestine as *Scomberomorus* sp. (Hornell, 1935). The species has likely entered the Mediterranean from the Red Sea through the Suez Canal, as a Lessepsian migrant (Por, 1978). In 1965, George and Athanassiou reported *S. commerson* from Lebanon and the species quickly became common along the coast of the Levantine Sea (Ben-Tuvia, 1971; Por, 1978). The species was recorded afterwards in several other coastal parts of the eastern and southern Mediterranean Sea:

The presence in Greece was first documented from Rhodes (Corsini-Foka and Calogirou, 2008), then spread to the Aegean Sea, where the species became commonly caught (Papacostantinou, 2014).

The presence in Turkey is largely documented for most of the areas (Gücü *et al.*, 1994; Buhan *et al.*, 1997; Basusta and Erdem, 2000; Torcu *et al.*, 2000; Bilecenoğlu *et al.*, 2002, 2014; Cinar *et al.*, 2005, 2011; Öğretmen *et al.*, 2005; Oz *et al.*, 2005).

In 2005, the narrow-barred Spanish mackerel was recorded in Syria (Saad, 2005) and in 2008 the species was also recorded in Cyprus (Katsanevakis *et al.*, 2009).

The presence in Egypt was documented for the first time by El Sayed (1994) and then by El-Haweet (2001) in the Bay of Abu Qir.

Shakman and Kinzelbach (2007) and Di Natale *et al.* (2008) documented the common presence of *S. commerson* in Libya, while in Tunisia its presence was reported by Bradai *et al.* (2004) and by Ben Soussi *et al.* (2006).

Tortonese (1975, 1987) reported the species from the Ligurian Sea (Italy), also mentioning the record by Bonaparte (1846). Di Natale *et al.* (2009) reported few occasional specimens from Sicily.

It is nowadays considered very successful in the southern and eastern part of the Mediterranean Sea (Srouf and Di Natale, 2008; Di Natale *et al.*, 2009; Srouf *et al.*, 2009; Zenetos *et al.*, 2010, Psomadakis *et al.*, 2012, Azzurro *et al.*, 2019).

Besides the scientific importance, Di Natale *et al.* (2009) put into evidence the catch data for *Scomberomorus commerson* existing at that time in the FAO-GFCM catch statistics from 1985 to 2006. The data, at that time, revealed a situation which was substantially different from the scientific one, showing catches in Algeria (1985-2006), Egypt (1985-2006) and Israel (1988 and 1992) (**Table 1**). However, on the same year the FAO provided cumulative catches of *Scomberomorus commerson* for the Mediterranean and the Black Sea that were different from the previous table, covering the period from 1964 to 2005 (**Figure 1**); even at that time, it was not possible to obtain any clarification or detail about these two different figures (Di Natale *et al.*, 2009).

The current catch statistics available from FAO-GFCM (**Figure 2**) show catches for Egypt (from 2015 to 2017), Israel (from 2009 to 2017) and Lebanon (from 2015 to 2017).

ICCAT (which is the RFMO responsible for the management of all tuna and tuna-like species in the Atlantic Ocean and the adjacent seas) does not include the narrow-barred Spanish mackerel in the catch statistics available on its web page.

3. New fishery data

We are able to provide additional recent fishery data, collected directly on site.

3.1 Lebanon

According to the available information, the narrow-barred Spanish mackerel is possibly one of the most common tuna species among the Lebanese catches in recent years. Catches are made by gillnets (GILL) and purse seine (PS), but additional catches are made by hand lines (HAND) for small fish, and rod-and-reel (RR), mostly by sport and recreational fishermen (SPOR). The catch statistics are available from 2015 to 2019 (**Figure 3**), but they are slightly different from GFCM data. Recreational and sport catches are not included in the catch statistics, because these fish are not usually sold on the market.

Catches of *Scomberomorus commerson* in Lebanon are reported for every month, but the highest ones occur from September to February, possibly around the spawning period, while the lowest are in April and May. It was possible to recover the catch data for each fleet segment in 2019 (**Figure 4**). It is uncertain if the “hooks and line” segment includes also RR, but it seems likely. Size frequencies are not available, but catches cover a wide range, from small individuals in coastal fisheries (**Figure 5**) to large individuals even over 30 kg in RR and SPOR fisheries.

This species has a good market value and is widely consumed.

3.2 Egypt

The fishery for the narrow-barred Spanish mackerel has been well established in Egypt for many years. It is included in the landing sampling protocol provided by FAO-EastMed (Dimech *et al.*, 2012). The most important fishing gear for catching the species are: rod-and-reel (RR or SPOR), purse seine (PS) and gillnets (GILL).

The annual catches are quite relevant (Abo-ElMagd, 2019), reaching a maximum of about 1,800 tons in 2008, currently over 1,000 tons (**Figure 6**). The fishery is practised all along the Egyptian Mediterranean coast, mostly in the area of the Suez Canal. This species seems mostly caught from June to December, during the spawning season, but catches are reported every month (**Figure 7**) (GAFRD, 2017).

Landings have been regularly monitored for biological studies and Abo-ElMagd (2019) provides several details, particularly on the biology of this species. In 2017, fork length (FL) range was between 19 and 141 cm (**Figures 8 and 9**) and weight (RW) from 0.080 to 32.5 kg.

3.3 Libya

The fishery for the narrow-barred Spanish mackerel has been well established for many years, at least from 2005-2006. According to Shakman and Kinzelbach (2007), it was originally much more common in Tripolitania (western region) and in the Gulf of Sirt and rare in Cirenaica (eastern region).

In 2008 it was a very common on a daily basis in Tripoli landings and the nearest fishing harbour, with specimens often being well over 35 kg, all caught by longlines (LL), while smaller individual were caught by gillnets (GILL) and purse seines (PS), not commonly found in landings (**Figures 10 and 11**). Catches are known to occur mostly in summer-autumn, less in other seasons, even if catches occur every month, at least in the last 15 years.

This species has a good market value due to its sapid flesh quality and it is widely consumed, but catch statistics are not available (and not reported to ICCAT or FAO), mostly due to security problems in the last years, which prevents Libyan colleagues to carry out any field activity along the coast. It is supposed that annual catches might be around 50 tons minimum.

4. Relevance of the species for ICCAT

Scomberomorus commerson appears in the ICCAT species code under point 55, with the species code COM, but this is the only available evidence of the species in all ICCAT official documents, excluding the Joint ICCAT/GFCM reports.

The species is not even included in the ICCAT Species ID sheets (Diouf, n.d.) for small tunas and has not been listed among the small tuna species since the very first separate volume of ICCAT SCRS (Anon., 1995).

The first time it was mentioned in an ICCAT paper was on SCRS/2008/056, the report of the Joint GFCM/ICCAT Meeting on small tunas fisheries in the Mediterranean (Srour *et al.*, 2009), while it was not included in a previous paper (Srour and Di Natale, 2008), where the GFCM initiative on small tunas was previously presented. Surely, the FAO-GFCM initiative report (Di Natale *et al.*, 2009) clearly presented the data and information available on the narrow-barred Spanish mackerel in the Mediterranean Sea. Besides these evidences, this species was never included in the list of the ICCAT small tunas species in any of the following SCRS Reports (Anonymous, 2009, 2010, 2011, 2012, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020), without even mentioning it.

This exclusion is very difficult to understand because the species is clearly present in the ICCAT Convention area, and even more so due to the catch statistics already being reported in the FAO-GFCM study (Di Natale *et al.*, 2009), in the recent FAO-GFCM catch statistics (**Figure 2**) for the Mediterranean Sea, in the FAO-FIGIS web tables (where there are some catches reported also in the Atlantic Ocean by unknown Asian fleets, and all papers mentioned in the previous paragraphs).

For assessing the available catch data, we considered all data provided over the years by FAO and GFCM, including the recent scientific catch data; we always considered the highest figure in case of contrasting information, due to the lack of any additional detail from FAO, GFCM or ICCAT. The total catches available from the various sources (according to this criterium) are showed on **Table 2** and **Figure 12**. These catches show a peak of 5,540 tons in 2004 and a total of 12 years with catches over 1,000 tons. Some catches are clearly missing from **Table 2** (yellow shaded).

Considering that several Mediterranean catch data have not been reported either to FAO-GFCM or ICCAT, while a large portion of catches in the Atlantic Ocean has certainly not been reported for most of the years, it is reasonable and very likely to imagine that catch figures are often much higher than what is available.

Therefore, considering the large distribution of the species, the level of catches and its socio-economic importance in coastal fisheries, the relevance of this species for ICCAT is very clear.

5. Conclusion

The presence of the narrow-barred Spanish mackerel (*Scomberomorus commerson*, Lacépède, 1800) in the ICCAT Convention area has been well documented over various decades. Besides the very first record for the Mediterranean Sea (Bonaparte, 1846), which remains isolated in the history well before the opening of the Suez Canal, assuming a misidentification or testifying a possible presence of an individual occasionally migrating from the Atlantic Ocean, it is quite clear that the recent distribution in the Mediterranean Sea is mostly due to Lessepsian immigrants from the Red Sea/Indian Ocean throught the Suez Canal. The presence of this species in the Atlantic Ocean is doubtful and poorly documented.

It is also very clear that, since many decades, the narrow-barred Spanish mackerel has had a complete life cycle in a part of the ICCAT Convention area and can be now be considered a permanent and well-established species, even if migratory components might be still present. Spawning areas seems to be mostly in the southern and eastern part of the basin, in the water column over the continental shelf.

Fishery is mostly related to the small-scale activities, even if catches also occur in pelagic longlines targeting other large pelagic species (swordfish and albacore) and purse seines. The species is particularly important for the recreational and sport fishery using rod-and-reel or trolling hand lines. Therefore, its socio-economic relevance is also clear.

It is very difficult to say anything more about the total level of catches (either about the level or the reliability), besides what was discussed in the previous chapter, but it is very clear that total catches are important for this species, particularly in the southern and eastern Mediterranean area.

Therefore, it is recommended that ICCAT should officially list, as soon as possible, the narrow-barred Spanish mackerel (*Scomberomorus commerson*, Lacépède, 1800) among the species of small tunas under its responsibility and therefore start the fishery data collection and the recompilation of all available scientific information, for eventually adopting management measures if necessary.

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Table 1. FAO-GFCM catch statistics for *Scomberomorus commerson* as declared by each country in the Mediterranean and the Black Sea from 1985 to 2006 (from Di Natale *et al.*, 2009).

Country	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Albania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Algeria	880	459	203	625	1 528	1 307	261	315	471	418	508	277	357	511	475	405	350	597	839	609	575
Bulgaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	32	68	53	16	49	86	144	112	299	270	30	203	194	227	170	340	374	418	449	4 931	721
France	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Israel	0	0	0	40	0	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0
Italy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Libyan Arab Jamahiriya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Morocco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palestine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Serbia and Montenegro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syrian Arab Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tunisia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
The former Yugoslav Republic of Macedonia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand total	32	527	256	681	49	86	405	463	770	688	536	480	551	738	645	745	724	1015	1288	609	1296

Table 2. Catches of narrow-barred Spanish mackerel (*Scomberomorus commerson*) from 1950 to 2019 in the ICCAT convention area, from various sources (FAO, FAO-GFCM, FAO-FIGIS, scientific studies). Cells highlighted in yellow indicate that catch data might be possibly available.

CATCHES	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Total (tons)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	804	504	303	102	102
Mediterranean Sea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	804	504	303	102	102
Algeria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU- Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU-Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palestine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Med nei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	804	504	303	102	102
Atlantic Ocean	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian nei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CATCHES	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total (tons)	0	31	223	344	181	140	146	239	211	688	239	332	296	305	11	912	527	256	681	1577
Mediterranean Sea	0	31	223	344	181	140	146	239	211	688	239	332	296	305	11	912	527	256	681	1577
Algeria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	880	459	203	625	1528
EU- Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	68	53	16	49
EU-Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Israel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	0
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palestine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Med nei	0	31	223	344	181	140	146	239	211	688	239	332	296	305	11	0	0	0	0	0
Atlantic Ocean	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asian nei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CATCHES	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total (tons)	1393	405	463	770	688	536	480	551	738	645	645	724	1015	1288	5540	1296	0	1550	1810	1863
Mediterranean Sea	1393	405	463	770	688	536	480	551	738	645	645	724	1015	1288	5540	1296	0	1550	1810	1774
Algeria	1307	261	315	471	418	506	277	357	511	475	405	350	597	839	609	575	0	0	0	0
EU- Cyprus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Egypt	86	144	112	299	270	30	203	194	227	170	240	374	418	449	4931	721	0	1550	1810	1685
EU-Greece	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Israel	0	0	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
Lebanon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Libya	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Palestine	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Med nei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atlantic Ocean	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
Asian nei	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89

CATCHES	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total (tons)	1664	1013	763	564	753	885	1119	1213	180	59	0
Mediterranean Sea	1617	974	629	522	702	794	1007	1119	69	59	0
Algeria	0	0	0	0	0	0	0	0	0	0	0
EU- Cyprus	0	0	0	0	0	0	0	0	0	0	0
Egypt	1570	935	495	480	660	699	895	1025	0	0	0
EU-Greece	0	0	0	0	0	0	0	0	0	0	0
Israel	47	39	134	42	42	42	45	42	0	0	0
Lebanon	0	0	0	0	0	53	67	52	69	59	0
Libya	0	0	0	0	0	0	0	0	0	0	0
Palestine	0	0	0	0	0	0	0	0	0	0	0
Syria	0	0	0	0	0	0	0	0	0	0	0
Turkey	0	0	0	0	0	0	0	0	0	0	0
Med nei	0	0	0	0	0	0	0	0	0	0	0
Atlantic Ocean	47	39	134	42	51	91	112	94	111	0	0
Asian nei	47	39	134	42	51	91	112	94	111	0	0

Boat-gear	
Mot 0-6 m Gillnets/Entangling nets	0.1
Mot 0-6 m Hooks and Lines	15.1
Mot 6-12 m Gillnets/Entangling nets	13.7
Mot 6-12 m Hooks and Lines	26.7
Mot 6-12 m Surrounding nets	2.9
TOTALS	58.6

Figure 4. Yearly catch (in metric tons) of *Scomberomorus commerson* in Lebanon in 2019 by fleet segment and gear.



Figure 5. Abundant daily catches of *Scomberomorus commerson* in Sidawi (Lebanon).

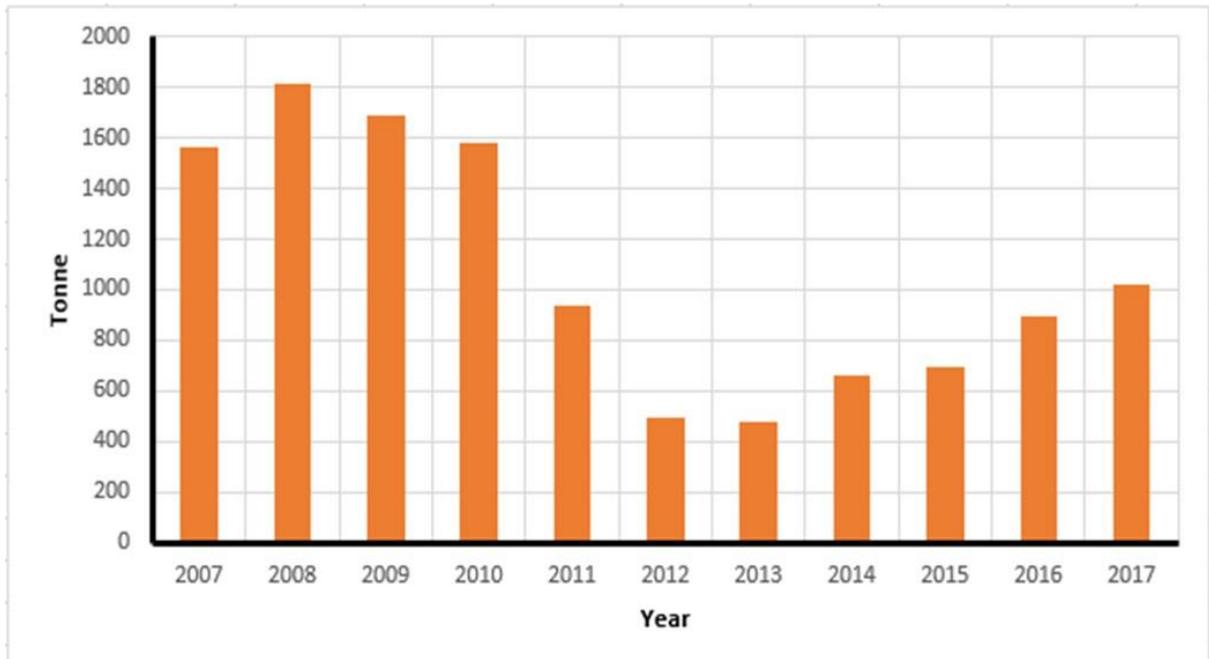


Figure 6. Yearly catch (in metric tons) of *Scomberomorus commerson* in Egypt from 2007 to 2017 (GAFRD, 2018).

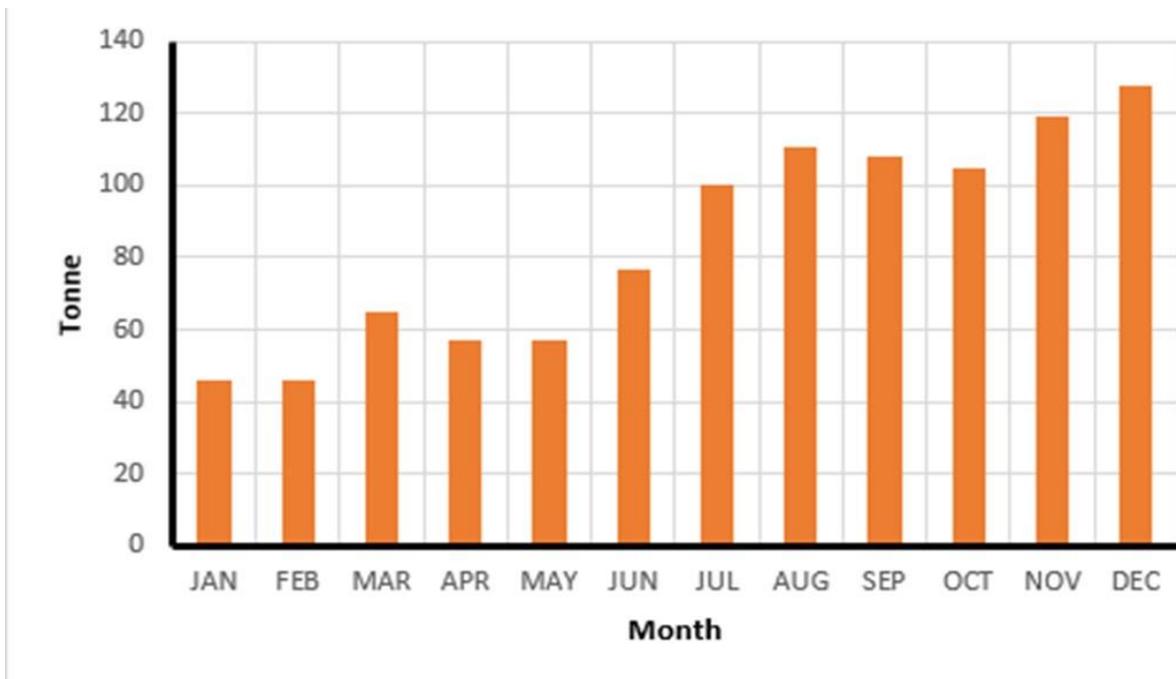


Figure 7. Monthly catches (in metric tons) of *Scomberomorus commerson* in Egypt in 2017 (GAFRD, 2018).

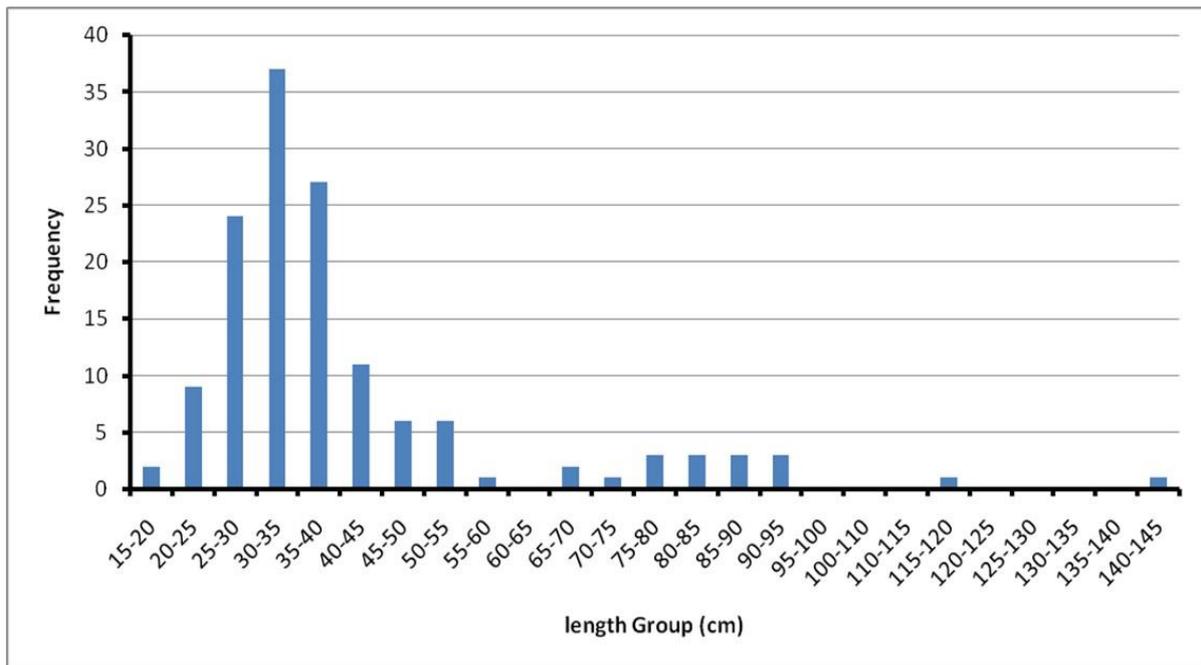


Figure 8. Length (FL in cm) distribution by 5 cm class of *Scomberomorus commerson* in Egypt in 2017 (from Abo-ElMagd, 2019).



Figure 9. A big specimen of *Scomberomorus commerson* caught in Egypt (from Abo-ElMagd, 2019).



Figure 10. A big specimen (> 30 kg) of *Scomberomorus commerson* in a local fish market east of Tripoli (Libya).



Figure 11. Another big specimen of *Scomberomorus commerson* in a local fish market east of Tripoli (Libya).

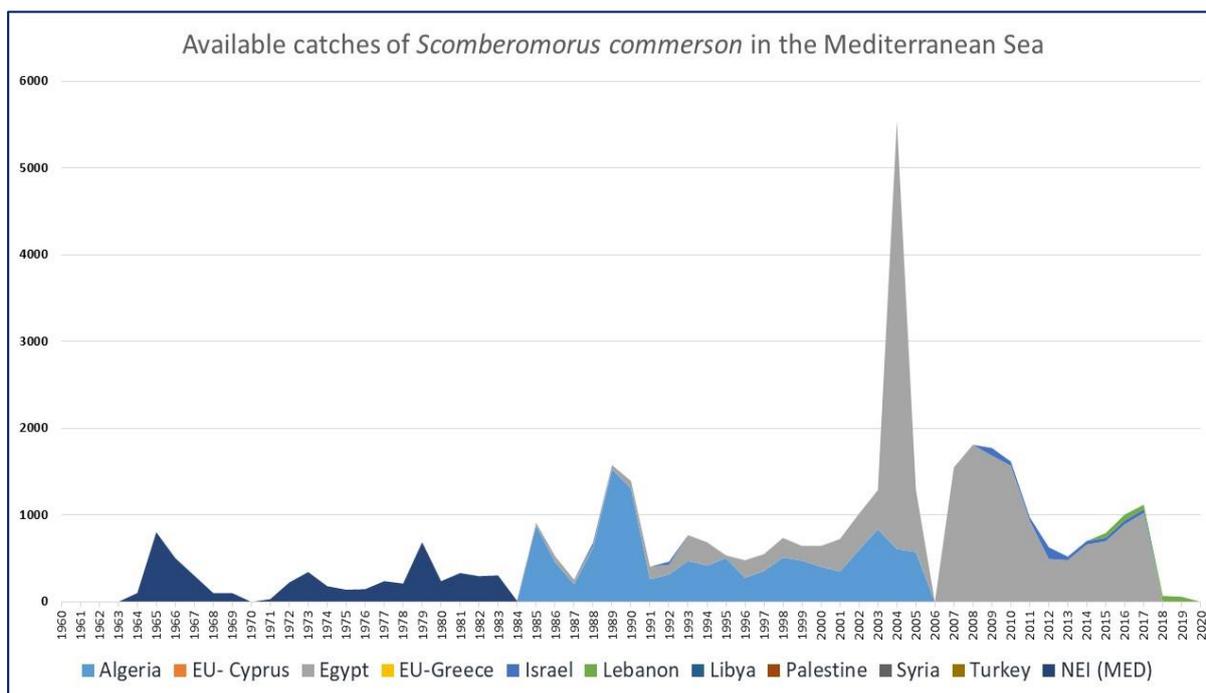


Figure 12. Cumulative annual catches of the narrow-barred Spanish mackerel (*Scomberomorus commerson*) in the Mediterranean Sea, from 1960 to 2019 (including data from all available sources).