THE FIRST RECORD OF *LAMPRIS GUTTATUS* (BRÜNNICH, 1788) IN THE TUNISIAN COASTS (CENTRAL MEDITERRANEAN SEA)

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ملخص

في 17 ماي 2021، تم اصطياد عينة واحدة من (*Lampris guttatus* (Brünnich, 1788، في غار الملح (شمال البلاد التونسية ، وسط البحر الأبيض المتوسط) بواسطة مركب يستخدم شباكًا خيشومية على عمق 3 أمتار. هذا التسجيل يعتبر الأول لهذا النوع من الأسماك في المنطقة

الكلمات المفاتيح: *Lampris guttatus* ، اول تسجيل، السواحل التونسية، وسط البحر الأبيض المتوسط

RESUME

Le premier record de *Lampris Guttatus* (Brünnich, 1788) dans les côtes tunisiennes (mer Méditerranée centrale) : le 17 mai 2021, un spécimen de *Lampris guttatus* (Brünnich, 1788) a été capturé à Ghar El Melh (nord de la Tunisie, Méditerranée centrale) par un petit navire utilisant des filets maillants à 3 m de profondeur. Il s'agit du premier record de l'Opah dans la région.

Mots-clés : *Lampris guttatus,* première signalisation, côtes tunisiennes, Méditerranée central

ABSTRACT

on 17 May 2021, one specimens of *Lampris guttatus* (Brünnich, 1788) was captured in Ghar El Melh (Northern Tunisia, Central Mediterranean Sea) by a small scale vessel using gill nets at 3 m depth. This represents the first record of the Opah in the area.

Keywords: *Lampris guttatus*, First record, Tunisian coast, Central Mediterranean.

INTRODUCTION

Commonly known as opah, cravo and kingfish, *Lampris guttatus* (Brünnich, 1788) is a large, colourful, pelagic lampriform fish, belonging to the Lampridae family , It is generally found well offshore in temperate and tropical waters throughout all the world's oceans, including the Mediterranean Sea (Heemstra, 1986; Collette 2003). Reportedly, it prefers a solitary life (Palmer 1986) and inhabits waters from the surface to the lower epipelagic–mesopelagic in excess of 500 m (Nakano *et al.,* 1997).

In the Mediterranean, the first record of *L. guttatus* was made, in the biggening of the 19th century, from Ligurian Sea, Italy (Spinola, 1807). Consequent reports were made from southern Tyrrhenian Sea (Andaloro and Di Natale, 1979), central Tyrrhenian Sea (Psomadakis *et al.* 2006), Greesk Seas (Sinis 2004), Adriatic waters (Dulcic *et al.* 2005; Sprem *et al.* 2014) and Albanian waters from Adriatic Sea, Western Mediterranean, (Bego and Kashta 2012). Francour *et al.* (2010) reported that at least 10 specimens of this species along the French Mediterranean coasts were observed in 2008. The species occupies more and more new areas, it was reported in 2017 towards the Northern Eastern of the Mediterranean (Ercuden *et al.,* 2019).

On the southern coasts of the Mediterranean Sea, the only report of the species was in Algeria in 31 January 2008 (Francour *et al.,* 2010). It was a specimen of 38.5 cm total length caught in "Gouraya" at 28 m depth.

This report represents the first record of the Opah in Tunisian coasts, contributing to know more on the distribution and the development of the species in the Mediterranean Sea. Bradai et al., (2004) didn't mention this species in the Tunisian ichthyofauna.

MATERIALS AND METHODS

A large and colourful fish was landed by a small scale vessel (< 6m) using gill nets at beach of "Koukou" in Ghar El Melh (Northern Tunisia) at 3 m depth on 17 May 2021. The specimen was swimming on the surface likes as it tacks a sunbath when the fisherman encircles it with his gillnet.

Once landed, the specimen was quickly sold to the market which prevented us from taking precise measurements. Our investigations were limited therefore to the information provided by the fisherman who caught the specimen and the available photos (Fig. 1). The fish was identified according to Underkoffler *et al.,* (2018). The sex of the fish was determined conforming to Hwan et al., (2002). It was demonstrated, that opah exhibit sexual dimorphism,

thereby enabling the determination of sex without having to cut into the body cavity to access the gonads;

RESULTS

The fish was identified as the opah fish *Lampris guttatus* ((Brünnich, 1788) (Fig. 1). It's a discoid and deeply keeled species, with an attractive form, a conspicuous coloration and with a small, protrusible and toothless mouth. The dorsal and the anal fins are long-based. The species is characterised also by a large, falcate and horizontally inserted pectoral fins. The pelvic fins are likewise falcate, slightly behind level of pectoral fins. The first fin rays of the dorsal fin are as a hemispherical lobe.

The fish was a male of about 1m length and 40 kg total weight. No apparent injuries were observed.

Figure 1: *Lampris guttatus*. 1: Discoidal form; 2: Small and protractile mouth; 3: Long-based dorsal and anal fins; 4: Horizontally inserted pectoral fins; 5: Pelvic fins origin behind insertion of pectoral fins.

DISCUSSION

Lampris guttatus, is an oceanic species, it has a worldwide distribution preferring warm oceanic waters (Tortonese 1970). The sighting rhythm of the species in Mediterranean Sea show an increasing during the last twenty years (Fig.2). Somot *et al.* (2006) pointed out that increase of records for this species may be related to the sea temperature increase in the north-western Mediterranean. Similarly, Francour *et al.* (1994) and Francour *et al.* (2010) claimed that the recent records for this species from the Adriatic and Mediterranean are associated with the increase in sea water temperature as a result of global climate change. This warming leads to changes of fauna and flora, with records of new thermophilic species spreading from the warmer part of the Atlantic through the Gibraltar Strait (Francour and Mouine 2008). However, it's amazing that there is no record from the Mediterranean north –Africa coast (except a single record from Algeria) and from the warmer Eastern Mediterranean area (Fig. 3). Ben Rais Lasram *et al.*, (2008) showed that the majority of neo-coloniser fishes in the Mediterranean colonize only the northern side. According to the general circulation in the Mediterranean, with an Atlantic surface water inflow along the southern side, they logically expected a better colonization of the southern side than the northern one.

All signalisations were solitaire proving the preference of solitary life of the Opah fish. Maximum length (TL) of the species was given as 200 cm (Gon 1990), it is generally around 120 cm (Cervigon *et al.,* 1992).

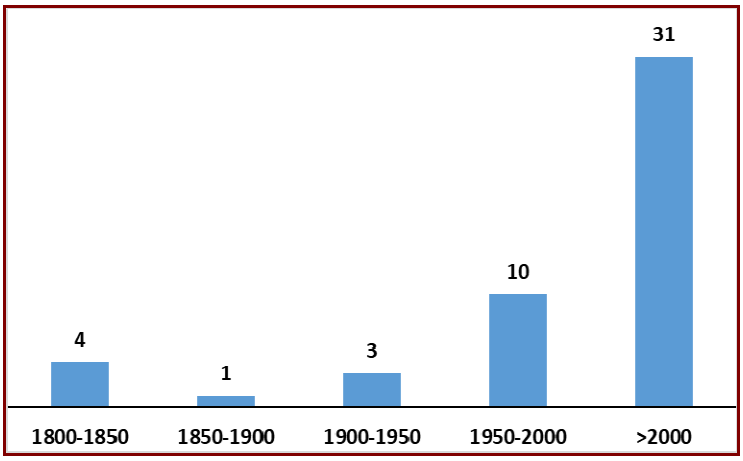

Figure2: Temporal distribution of signalisations dealing with *Lampris guttaus* in the Mediterranean Sea.

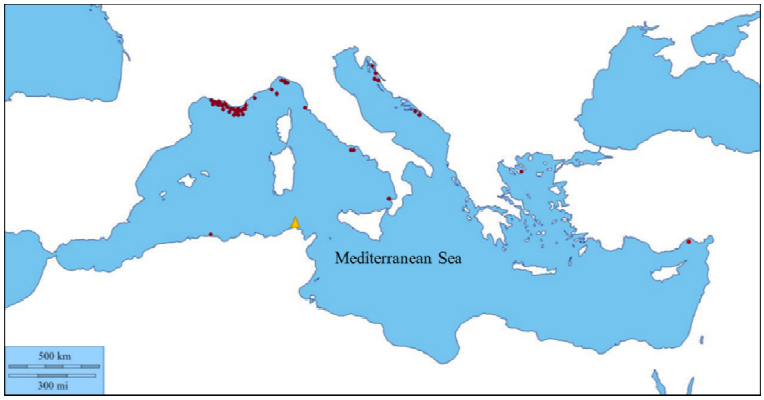

Figure 3 : Location of records of *Lampris guttatus* in the Mediterranean Sea. •, previous study, ▲: present study.

Lampris guttatus, is an endotherm species. It has the ability to raise body temperature by internal heat production (Davesne *et al.,* 2018). This character is unusual in teleost fishes and has only been documented within the Scombroidei. Typically, it is found within water at 8 to 22 °C (Polovina *et al.,* 2008). Their location was found to be related to a temporal scale, inhabiting depths of 50–100 m during the night and 100–400 m during the day (Polovina *et al.,* 2008). The opah fish recorded in Tunisian water was caught in the northern at 3 m of depth and 15 °C of water temperature. A long the French coast of 19 specimens of depth known, nine opahs have been observed close to surface. Francour *et al.* (2010) explain that the observations close to the surface could concern not healthy or injured specimens unable to reach deepest waters after a night migration upward the surface.

CONCLUSION

The current record of *Lampris guttatus* represent the second signalisation of the species in southern coast of the Mediterranean Sea. This species is listed as Data Deficient (DD) in the Mediterranean Sea (Abdul Malak *et al.,* 2011), despite their occurrence in the area for more than a century. Its population structure and possible threats are not well established yet. Therefore, this record represents an important contribution to enrich our knowledge on the geographical distribution of the species in the area.

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