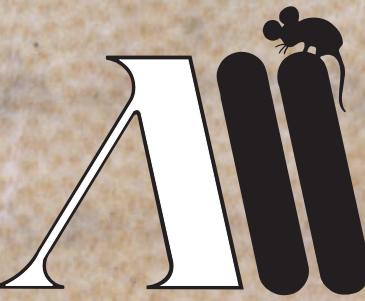


# ANNALES



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Annali di Studi istriani e mediterranei  
Annals for Istrian and Mediterranean Studies  
Series Historia Naturalis, 31, 2021, 2*



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## FIRST SUBSTANTIATED RECORD OF CRESTED OARFISH *LOPHOTUS LACEPEDE* (OSTEICHTHYES: LOPHOTIDAE) FROM THE SYRIAN COAST (EASTERN MEDITERRANEAN SEA)

*Malek ALI*

Marine Sciences Laboratory, Basic Sciences Department, Faculty of Agriculture, Tishreen University, Lattakia, Syria  
e-mail: malekfaresali@gmail.com

*Vienna HAMMOUD*

Biology Department, Faculty of Sciences, Tartous University, Syria

*Ola FANDI*

Environmental Laboratory, Prevention Environmental Department, Higher Institute for Environmental Research Sciences, Tishreen University, Lattakia, Syria

*Christian CAPAPÉ*

Laboratoire d'Ichtyologie, case 104, Université de Montpellier, 34 095 Montpellier cedex 5, France  
e-mail: capape@univ-montp2.fr

### ABSTRACT

The authors report the capture of a specimen of crested oarfish, *Lophotus lacepede* Giorna, 1809, from the coast of Syria. The specimen was medium size, measuring 724 mm in total length (TL) and 701 mm in standard length (SL), and weighing 959.6 g. It displayed gonadal activity and its stomach was empty. The specimen was described, including morphometric measurements and meristic counts. This finding represents the first record of the species for Syrian waters and a new record for the Levant Basin. It also constitutes the easternmost limit of the species' extension range in the Mediterranean Sea.

**Key words:** total length, total body weight, distribution, extension range, Levant Basin, eastern Mediterranean Sea

## PRIMO RITROVAMENTO DEL PESCE LIOCORNO *LOPHOTUS LACEPEDE* (OSTEICHTHYES: LOPHOTIDAE) LUNGO LA COSTA SIRIANA (MEDITERRANEO ORIENTALE)

### SINTESI

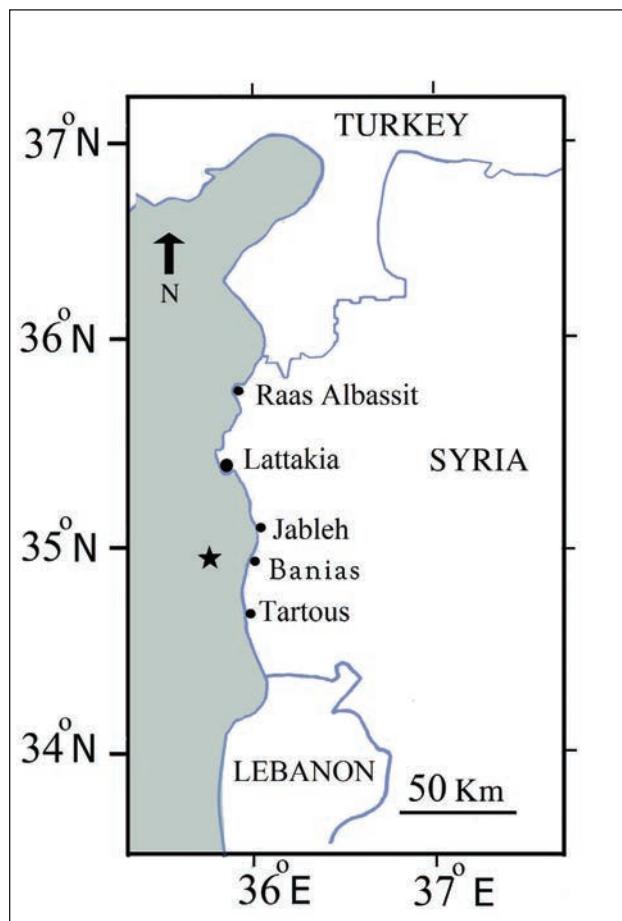
Gli autori riportano la cattura di un esemplare di pesce liocorno, *Lophotus lacepede* Giorna, 1809, lungo la costa della Siria. L'esemplare era di medie dimensioni, misurava 724 mm di lunghezza totale (TL) e 701 mm di lunghezza standard (SL), per un peso di 959,6 g. Mostrava attività gonadica e il suo stomaco era vuoto. Nell'articolo viene descritto l'esemplare, includendo misure morfometriche e conteggi meristici. Questo ritrovamento rappresenta il primo dato della specie per le acque siriane e una nuova segnalazione per il bacino del Levante. Costituisce anche il limite più orientale dell'area di estensione della specie nel mare Mediterraneo.

**Parole chiave:** lunghezza totale, peso corporeo totale, distribuzione, range di estensione, Bacino del Levante, Mediterraneo orientale

## INTRODUCTION

The crested oarfish, *Lophotus lacepede* Giorna, 1809 is widely distributed in most oceans from the surface to a depth of 300 m (Knudsen, 2015). The species is known along the western coasts of the Atlantic, from the Gulf of Mexico to southern Brazil (Robins & Ray, 1986), and in southern Australia (May & Maxwell, 1986). *L. lacepede* is found in the eastern coasts of Africa (Smith & Hemstra, 1986; Knudsen, 2015) and in the waters surrounding Réunion Island (Letourneau et al., 2004).

*L. lacepede* is known in the eastern Atlantic, off Portugal, and southward from Madeira and the Canary Islands (Palmer, 1986; Knudsen, 2015). Palmer (1986) noted that in the Mediterranean, the species occurred throughout the western Basin, but not in the eastern Basin. However, more recent observations and captures of *L. lacepede* indicate that its



**Fig. 1: Map of the Syrian coast with the black star indicating the capture site of *Lophotus lacepede*.**  
**Sl. 1: Zemljevid sirske obale z označeno lokalitetom ulova (črna zvezdica), kjer je bil ujet primerek čopovke.**

**Tab. 1: Morphometric measurements in mm and as percentages of total length (%TL), meristic counts and weight in grams recorded in the specimen of *Lophotus lacepede* collected off the Syrian coast.**

**Tab. 1: Morfometrične meritve, izražene v mm in kot delež celotne dolžine (%TL), meristična štetja ter teža v gramih na primerku čopovke, ujetem ob sirske obali.**

| Reference  | MSL 2320 |       |
|--|----------|-------|
| Morphometric measurements                          | mm       | % TL  |
| Total length                                       | 724      | 100.0 |
| Standard length                                    | 701      | 96.8  |
| Body depth   | 118      | 16.3  |
| Head length  | 109      | 15.1  |
| Space before mouth                                 | 17       | 2.3   |
| Eye diameter                                       | 31       | 4.3   |
| Iris diameter                                      | 17       | 2.3   |
| Pre-orbital length                                 | 43       | 5.9   |
| Pre-pectoral fin length                            | 102      | 14.1  |
| Pectoral fin length                                | 46       | 6.4   |
| Pectoral fin base                                  | 16       | 2.2   |
| Dorsal fin length                                  | 704      | 97.2  |
| Crest length on the head (first ray of dorsal fin) | 219      | 30.2  |
| Pre-anal fin                                       | 661      | 91.3  |
| Anal fin length                                    | 22       | 3.0   |
| Anal fin base                                      | 15       | 2.1   |
| <b>Meristic counts</b>                             |          |       |
| Dorsal fin rays                                    | 228      |       |
| Anal fin rays                                      | 18       |       |
| Pectoral fin rays                                  | 13       |       |
| Caudal fin soft rays                               | 19       |       |
| Lateral line scales                                | 101      |       |
| Total weight (g)                                   | 959.6    |       |

distribution in this sea should be reassessed. According to Minos et al. (2015), the species was recorded off some northern regions of the western Basin, from Gibraltar (Rey, 1983) to the Italian seas (Tortonese, 1970; Minos et al., 2015) and the coast of Sicily, which also constitutes the southern extension range of the species in this basin (Ragonese et al., 1997).

Further southward, *L. lacepede* is only known from the Algerian coast (Bachouche et al., 2016) but is unknown to date in Morocco (Lloris & Rocabado, 1998) and Tunisia Ounifi-Ben Amor et al., 2016; Rafrati-Nouira, 2016).

*L. lacepede* is also known in the Adriatic Sea; historical and more recent captures were listed by Dulcic & Ahnelt (2007), and additional records of large specimens observed in the same sea were also compiled (Dulčić & Soldo, 2008; Sprem et al., 2014).

Furthermore, the species has extended its distribution into the eastern Mediterranean Basin, as can be derived from captures in the Aegean Sea, in Greek waters (Minos et al., 2015; Aga-Spyridopoulou et al., 2019) and in Turkish waters as well (Bilecenoglu et al., 2001; Tunçer & Kanat, 2019; Yapıcı, 2019).

Based on routine monitoring of Syrian waters in the last two decades (Saad, 2005; Ali, 2018) and through assistance of experienced fishermen, we learned that a specimen of *L. lacepede* was captured in this area. The present paper provides a short description of the specimen, including morphometric measurements and meristic counts, together with some comments about the real status of the species in the Syrian coast and the wider eastern Mediterranean Sea.

#### MATERIAL AND METHODS

The specimen of *L. lacepede* was caught on 14 June 2021, by commercial longline, the hook baited by small round sardinella *Sardinella aurita* Valenci-

ennes, 1847 and sprat *Sprattus sprattus* (Linnaeus, 1758). The longline was spread out at a depth of 10–15 m and reached 500–600 m in depth. The capture occurred about 19 km away from the Syrian shore, off Banias, 35°43' E and 35°11' N (Fig. 1). All measurements were recorded to the nearest millimetre and included in Table 1 together with meristic counts. The specimen was preserved in 10% buffered formalin and deposited in the Ichthyological Collection of the Environmental Laboratory at the Higher Institute for Environmental Research, Tishreen University.

#### RESULTS AND DISCUSSION

The studied specimen measured 724 mm in total length (TL) and 701 mm in standard length (SL), its total body weight was 959.6 g (Tab. 1). Palmer (1986) noted that the species size is 1.80 SL, but usually smaller. Based on the Mediterranean reports of the species, Minos et al. (2015) noted that its TL globally ranged between 21 and 1900 mm TL. The present *L. lacepede* specimen was a medium-sized adult female displaying conspicuous gonadal activity; its stomach was empty.

The specimen was identified as *L. lacepede* via the combination of the following morphological characters: body elongate, compressed and tapering to caudal fin; head with an occipital crest extending forward to level of mouth; teeth conical, in 3 irregular rows in both jaws; a small patch of



**Fig. 2:** The *Lophotus lacepede* collected from the Syrian coast, scale bar = 100 mm.  
**Sl. 2:** Primerek čopovke, ujet ob sirski obali (merilo = 100 mm).

teeth on vomer; dorsal fin long-based and low, with anterior ray elongated; anal fin short, very close to the caudal fin; pectoral fin with rays inserted horizontally; pelvic fin absent; scales thin, oblong cycloid; lateral line present with smooth plates; colour silvery blue dorsally without brilliant spots; fins pinkish (Fig. 2).

The morphology, morphometric measurements, meristic counts, and colour are in total agreement with previous descriptions of the species (Tortonese, 1970; Palmer, 1986; Dulčić & Ahnelt, 2007; Dulčić & Soldo, 2008; Sprem et al., 2014; Minos et al., 2015). Therefore, *L. lacepede* could be included among the species belonging to the Syrian ichthyofauna (Ali, 2018). Although the specimen displayed gonadal activity, a single capture cannot yet confirm the presence of a viable population of *L. lacepede* in the area, however, such a hypothesis cannot be totally ruled out. Minos et al. (2015) listed captures of mature specimens at different stages of reproduction suggesting that *L. lacepede* is successfully established in the Mediterranean and could be considered as a solid element of the

fish fauna from this sea, although it is caught only sporadically while trying to explore new areas to live and reproduce.

Minos et al. (2015) added that the global warming of the Mediterranean Sea (see Francour et al., 1994) contributes to the homogenisation of fish fauna, and the present report of *L. lacepede* corroborates this opinion. This capture constitutes not only the first record for the Syrian coast but also a new record for the Levant Basin (Yapıcı, 2019), where the species has not been observed to date in some areas (Golani, 2005; Bariche & Fricke, 2020). This makes it also an indicator of the easternmost limit of the species' extension range in the Mediterranean Sea, corroborating the opinion of Minos et al. (2015).

#### ACKNOWLEDGEMENTS

The authors wish to thank Mr. Raed Moussa for his cooperation in collecting the present specimen of *Lophotus lacepede* and his assistance for obtaining it from fishermen.

PRVI UTEMELJENI ZAPIS O POJAVLJANJU ČOPOVKE *LOPHOTUS LACEPEDE*  
(OSTEICHTHYES: LOPHOTIDAE) OB SIRSKI OBALI (VZHODNO SREDOZEMSKO MORJE)

Malek ALI

Marine Sciences Laboratory, Basic Sciences Department, Faculty of Agriculture, Tishreen University, Lattakia, Syria  
e-mail: malekfaresali@gmail.com

Vienna HAMMOUD

Biology Department, Faculty of Sciences, Tartous University, Syria

Ola FANDI

Environmental Laboratory, Prevention Environmental Department, Higher Institute for Environmental Research Sciences, Tishreen University, Lattakia, Syria

Christian CAPAPÉ

Laboratoire d'Ictyologie, case 104, Université de Montpellier, 34 095 Montpellier cedex 5, France  
e-mail: capape@univ-montp2.fr

POVZETEK

Avtorji poročajo o ulovu primerka čopovke, *Lophotus lacepede* Giorna, 1809, ob sirski obali. Srednje velik primerek je meril 724 mm celotne dolžine (TL) in 701 mm standardne dolžine (SL) ter tehtal 959,6 g. Primerek je bil v fazi razmnoževalne aktivnosti, želodec je bil prazen. Avtorji so primerek natančno opisali in opravili morfometrične meritve ter meristična štetja. Najdba čopovke predstavlja prvi zapis o pojavljanju te vrste v sirskih vodah in novi primer v levantskem bazenu. Sočasno predstavlja skrajno vzhodno mejo razširjenosti te vrste v Sredozemskem morju.

**Ključne besede:** celotna dolžina, celokupna teža, razširjenost, širjenje areala, levantski bazen, vzhodno Sredozemsko morje

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