

SHORT COMMUNICATION

On the presence of *Lophotus lacepede* Giorna, 1809 in the Greek waters (eastern Mediterranean Sea)

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Abstract

Crested oarfish *Lophotus lacepede* Giorna, 1809, is widely distributed in the mesopelagic zone and sometimes are accidentally collected as bycatch in commercial fishing practices. In this study, we add yet another record of this bathypelagic species in the Greek Seas, while the documented occurrence of the species is also reviewed for the entirety of the Mediterranean Sea. Furthermore, the results point to the species being much more common in the area than previously hypothesized.

Keywords: Rare species, Lophotidae, mesopelagic zone, bycatch

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The family Lophotidae consists of two genera, *Eumecichthys* and *Lophotus*, with the later containing only a single species, *Lophotus lacepede* Giorna, 1809, a large, oceanodromous and ribbon-like fish that can reach length up to 200 cm (Heemstra 1986). *Lophotus lacepede* has been recorded from a wide range of depth, from surface waters down to 1000 m (Olney 1999; Riede 2004) and it inhabits the warmer waters of the global oceans.

Despite being the only member of its family in the Mediterranean Sea, many aspects of its biology, ecology and distribution have been scarcely studied. In this paper we report a new confirmed record from the Greek waters, contributing the references on the species presence in the Mediterranean Basin, in where only about 30 specimens have been confirmed so far. Specifically, on 5 July 2021, a

female individual of *L. lacepede* (Figure 1) was caught by a professional fisher using longlines, at a depth of 450 m, 2.5 miles off Ammouliani Island, North Aegean Sea (40.2905°N, 23.8861°E) (Figure 2). Biometric and meristic data were collected. All measurements were expressed in terms of millimeters (mm) and afterward as a percentage (%) of standard length (SL) (Table 1).

Table 1. Biometric and meristic traits of the examined *Lophotus lacepede* specimen

	Measurement (mm)		Proportion
Total length (TL)	1212		
Standard length (SL)	1186	% TL	97.8
Head length (HL)	144	% SL	12.1
Preorbital length	37		3.1
Postorbital length	71		6.0
Crest-anus projection length	1161		97.9
Anus-caudal peduncle length	71		6.0
Pectoral fin length	70		6.0
Base pectoral fin width	17		1.4
Base anal fin width	24		2.0
Longitudinal eye diameter	46	% HL	31.9
Length upper jaw	50		34.7
Lower jaw length	42		29.2
	Measurement (g)		Proportion
Total weight (TW)	5300		
Stomach contents weight	8.6	% TW	
Liver weight	43.5		0.8
Gonad weight	148.2		2.8
Ink gland weight	26.5		0.5
Number rays dorsal fin	246		
Number rays pectoral fin	16		
Number rays anal fin	20		
Number rays caudal fin	N/A		

The first officially reported sighting for the species dates back in 1890 in the southern Adriatic Sea (Kolombatović 1890) and subsequently reported in various areas throughout the Mediterranean Basin, such as the Adriatic Sea (Dulčić and Ahnelt 2007; Dulčić and Soldo 2008; Sulić Šprem *et al.* 2014), Aegean Sea (Bilecenoglu *et al.* 2001; Corsini-Foka *et al.* 2015; Minos *et al.* 2015; Tuncer and Kanat 2019; Naasan Aga Spyridopoulou *et al.* 2020; Dalyan *et al.* 2021), Algerian coast (Bachouche *et al.* 2016), Island of Sicily (Sanzo 1940; Spartà 1954; Tortonese 1970; Magazzu and Zaccone 1971; Guiffre *et al.* 1980; Ragonese *et al.* 1997; Falsone *et al.* 2017), Tyrrhenian Sea (Tortonese 1970; Bussotti *et al.* 1999), Gibraltar and the Balearic Sea coast (Portas and del Cerro 1979; Rey 1983; Rodriguez *et al.* 2013).



Figure 1. The specimen of *Lophotus lacepede* captured off Ammouliani Island, North Aegean Sea, Greece (Photo: V. Minasidis)

This study shows an extensively documented occurrence of *L. lacepede* in the Mediterranean Sea, with numerous records reported by Papaconstantinou (2014) solely in the Greek Seas. The species does not seem to occur so uncommonly, as previously hypothesized by Minos *et al.* (2015), and its assumed seasonality, pointing to an increased frequency of occurrence in the summer months mostly relating to an observable pattern, as highlighted by Naasan Aga Spyridopoulou *et al.* (2020).

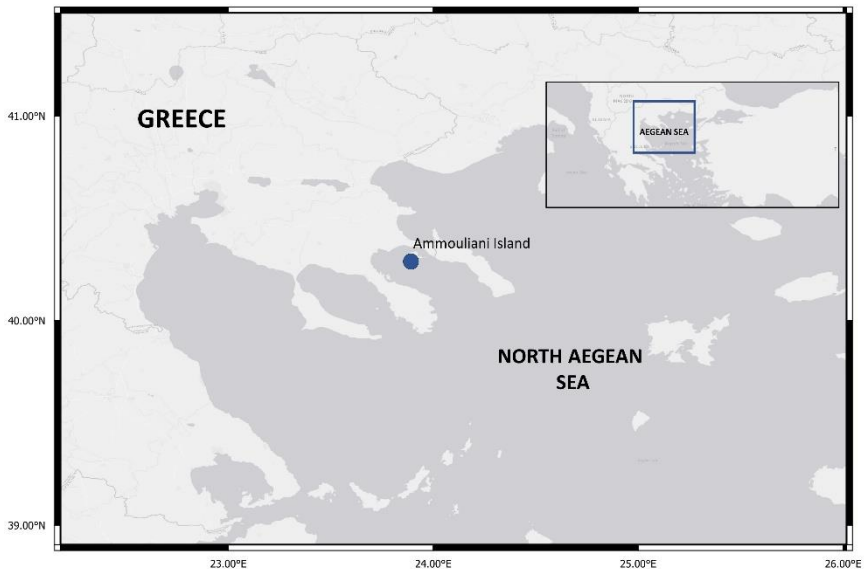


Figure 2. The location of *Lophotus lacepede* specimen reported in the present study

The mesopelagic zone, which constitutes the preferred habitat of the species, is seldom targeted by commercial fishing practices. In Greece, mesopelagic fisheries particularly targeting large pelagic fish like *Xiphias gladius* and *Thunnus thynnus* is relatively limited in terms of the number of vessels. The specialized fishing gears used by the aforementioned fisheries are drifting longlines, hand lines and pole lines (mechanized) and purse seines (Ministry of Rural Development and Food 2020). *Lophotus lacepede* is most commonly fished by longlines, as the majority of reported sightings quoted the collection was carried out using this fishing gear (Minos *et al.* 2015; Falsone *et al.* 2017; Naasan Aga Spyridopoulou *et al.* 2020). Thus, the scarcity in the reported sightings of the species is most likely owes to the fact that the fishing activity, within the species' natural habitat, is limited as far as Greek commercial fisheries are concerned.

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