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CONFIRMED OCCURRENCE OF THE CORNISH BLACKFISH *SCHEDOPHILUS MEDUSOPHAGUS* (OSTEICHTHYES: CENTROLOPHIDAE) FROM THE MAGHREB SHORE (SOUTHWESTERN MEDITERRANEAN SEA)

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ABSTRACT

The authors report additional records of the Cornish blackfish, *Schedophilus medusophagus* (Cocco, 1839), from the western Algerian coast near the Moroccan border. Two specimens were captured off Beni Saf, measuring 600 mm and 630 mm in total length (TL) while their total body weight (TBW) was globally estimated to be more than 5 kg. The third specimen caught off Bouzedjar, measured 650 mm TL, but its TBW was not provided by the fishmonger. These additional records confirm the species' presence off the Algerian coast and throughout the Maghreb shore, with an apparently viable population successfully established. This pattern likely reflects regional abundance of jellyfish. While the origin of *S. medusophagus* in the study area remains obscure, range expansion from the eastern Atlantic through the Strait of Gibraltar remains a feasible hypothesis.

Key words: *Schedophilus medusophagus*, jellyfish, distribution, population, Maghreb shore

PRESENZA CONFERMATA DEL MANGIAMEDUSE *SCHEDOPHILUS MEDUSOPHAGUS* (OSTEICHTHYES: CENTROLOPHIDAE) LUNGO LA COSTA DEL MAGHREB (MEDITERRANEO SUDOCIDENTALE)

SINTESI

Gli autori riportano ulteriori ritrovamenti del mangiameduse, *Schedophilus medusophagus* (Cocco, 1839), lungo la costa occidentale algerina vicino al confine con il Marocco. Al largo di Beni Saf sono stati catturati due esemplari che misuravano 600 mm e 630 mm di lunghezza totale (TL), mentre il loro peso corporeo totale (TBW) è stato stimato globalmente superiore a 5 kg. Il terzo esemplare catturato al largo di Bouzedjar misurava 650 mm di lunghezza totale (TL), ma il suo TBW non è stato fornito dal pescivendolo. Questi ulteriori dati confermano la presenza della specie al largo della costa algerina e in tutto il Maghreb, con una popolazione apparentemente vitale stabilita con successo. Questo modello riflette probabilmente l'abbondanza regionale delle meduse. Sebbene l'origine di *S. medusophagus* nell'area di studio rimanga oscura, l'espansione dell'areale dall'Atlantico orientale attraverso lo Stretto di Gibilterra rimane un'ipotesi fattibile.

Parole chiave: *Schedophilus medusophagus*, meduse, distribuzione, popolazione, costa del Maghreb

INTRODUCTION

The Cornish blackfish, *Schedophilus medusophagus* Cocco, 1839, is distributed in the eastern Atlantic from the British Isles and the coast of Ireland (Günther, 1882; Quigley, 1984), to the Bay of Biscay (Quéro *et al.*, 2003), the northeastern coast of Spain (Bañón *et al.*, 2012), and southward along the Moroccan coast (Lloris & Rucabado, 1998), as well as around the Azores (Santos *et al.*, 1997) and Madeira Islands (Wirtz *et al.*, 2008).

S. medusophagus occurs in the western Mediterranean Basin (Haedrich, 1986), where it was first reported from Sicily (Cocco, 1839) and from broader Italian marine waters (Tortonese, 1975; Garibaldi *et al.*, 2010; Tiralongo *et al.*, 2019). Dulčić (1998) confirmed its presence in the Adriatic Sea, while tentative reports suggest its occurrence in the Hellenic Seas (Papaconstatinou, 2014). Eastward the species remains undocumented in Turkish marine waters (Bilecenoglu *et al.*, 2014) and absent from the Levant Basin (Ali, 2018; Bariche & Fricke, 2020). Southward, *S. medusophagus* is found in Maltese waters (Mifsud, 2005), but is unreported off Libya (Elbaraasi *et al.*, 2019) or Egypt's Mediterranean coast (El Sayed *et al.*, 2017).

However, two records of the species have been reported from the Tunisian coast – one from the northern Gulf of Tunis (Bradaï, 2000) and another off Salakta, a city on the eastern coast (Hattour & Koched, 2017) – and one from Annaba, an Algerian city near the Tunisian border (Ladoul *et al.*, 2024). Investigations conducted in western Algeria have

made it possible to report the capture of three new specimens of *S. medusophagus* described herein, and to provide a few comments on the species' distribution along the Maghreb shore.

MATERIAL AND METHODS

Three specimens of *Schedophilus medusophagus* were observed at the main fish markets of Algiers, where fish and other marine species caught along the Algerian coast, from the Moroccan to the Tunisian border, are landed. On 28 June 2018, two *S. medusophagus* specimens were captured by trawler at a depth of 200 m over sandy-muddy substrates, off Beni Saf in western Algeria (35°18'08" N, 1°23'01" W) (Fig. 1). They were caught along with several specimens of the Norway lobster *Nephrops norvegicus* (Linnaeus, 1758) (Fig. 2). On 16 December 2018, a third specimen was caught by trawler at a depth of 200 m over sandy-muddy substrates, off Bouzedjar, also in western Algeria (35°42'35" N, 1°22'17" W) (Fig. 1), along with angler fish *Lophius piscatorius* Linnaeus, 1758 and slender rockfish *Scorpaena elongata* Cadenat, 1943. The three *S. medusophagus* specimens were identified using field guides and ichthyological fauna including Cocco (1839), Günther (1882), Tortonese (1975), Haedrich (1986), Deidun *et al.* (2003), Garibaldi *et al.* (2010), and Ladoul *et al.* (2024). They were photographed and – to the extent possible – measured. Obtaining full morphometric measurements proved challenging as all three specimens were quickly sliced and sold.

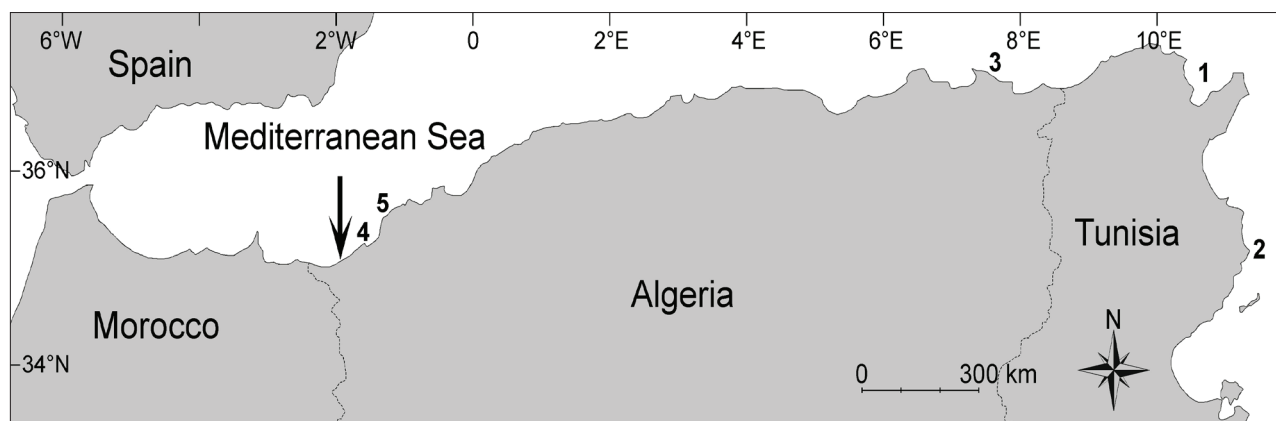


Fig. 1: Map of the Maghreb shore indicating the capture sites of *Schedophilus medusophagus*. 1. Gulf of Tunis (Bradaï, 2000). 2. Off Salakta (Hattour & Koched, 2017). 3. Off Annaba (Ladoul *et al.*, 2024). 4. Off Beni Saf (this study). 5. Off Bouzedjar (this study). Arrow: collection site of the Portuguese man-of-war jellyfish, *Physalia physalis* (Linnaeus, 1758), (Boughamou & Ladoul, 2022).

Sl. 1: Zemljevid obale Magreba z označenimi lokalitetami ulova vrste *Schedophilus medusophagus*. 1. Tuniški zaliv (Bradaï, 2000). 2. Pri Salakti (Hattour & Koched, 2017). 3. Pri Annabi (Ladoul in sod., 2024). 4. Pri Beni Safu (ta študija). 5. Pri Bouzedjarju (ta študija). Puščica: mesto ulova portugalske ladjice *Physalia physalis* (Linnaeus, 1758) (Boughamou & Ladoul, 2022).



Fig. 2. Specimens of *Schedophilus medusophagus* captured off Beni Saf. Scale bar = 200 mm (Photo: F. Hemida).

Sl. 2: Primerki vrste *Schedophilus medusophagus*, ujeti pri Beni Safu. Merilo = 200 mm (Foto: F. Hemida).

RESULTS AND DISCUSSION

The two specimens of *Schedophilus medusophagus* captured off Beni Saf measured 630 mm and 600 mm in total length (TL), 510 mm and 490 mm in standard length (SL), respectively (Fig. 2). As confirmed by the fishmonger, their combined total body weight (TBW) exceeded 5.0 kg. The specimen caught off Bouzedjar measured 650 mm TL and 550 mm SL (Fig. 3); however, despite requests from the co-author, its TBW was not provided. The three *S. medusophagus* were large-sized specimens; Haedrich (1986) reported 500 mm as the maximum SL. They were identified via a combination of the following morphological characters: body compressed and high; a single long dorsal fin, its origin anterior to pectoral fin origin; snout obtuse and slightly shorter than eye diameter; eyes positioned just below the upper profile of the head; prominent spines on the preoperculum margin; no teeth on the roof of mouth; pectoral and pelvic fins inserted at the same level; caudal fin bilobate, anterior part of lateral line strongly curved over the operculum

and the pectoral fin; background body color light blue, with irregular darker grey patches and wavy horizontal stripes along the sides, some extending to the bases of dorsal and anal fins; pectoral and pelvic fins dark; a continuous dark stripe running along the middle of both dorsal and anal fins (Fig. 2).

The general morphology and color of the specimens are consistent with previous descriptions of *S. medusophagus* by the authors cited above. These new findings confirm the presence of the species in the Algerian ichthyofauna and fill the distributional gap along the Algerian coast between the westernmost records off Morocco (Lloris & Rucabado, 1998) to the easternmost off Tunisia (Bradaï, 2000; Hattour & Koched, 2017). Based on these new records, it appears that a viable population of *S. medusophagus* is established along the Maghreb shore and likely throughout the southern Mediterranean coast.

S. medusophagus is a pelagic species often associated with floating objects and closely linked to blooms of medusae, which constitute its main prey (Günther, 1882; Battaglia *et al.*, 2014). In



Fig. 3. Specimen of *Schedophilus medusophagus* captured off Bouzedjar. Scale bar = 100 mm (Photo: F. Hemida).

Sl. 3: Primerek vrste *Schedophilus medusophagus*, ujete pri Bouzedjaru. Merilo = 100 mm (Foto: F. Hemida).

the Ligurian Sea, Garibaldi *et al.* (2010) noted that the abundance of *S. medusophagus* was related to blooms of the jellyfish *Pelagia noctiluca* (Forsskal, 1775) occurring in the western Mediterranean. Similar patterns have been observed by Onofri *et al.* (1986) in the Middle Adriatic Sea. Boughamou & Ladoul (2022) reported the first fully documented records of the Portuguese man-of-war, *Physalia physalis* (Linnaeus, 1758), collected on Al-Wardania Beach west of the cities of Bouzedjar and Beni Saf, where captures of *S. medusophagus* have also been reported. Therefore, the occurrence of a viable population of this species along the Maghreb shore remains a plausible hypothesis likely supported by the regional abundance of medusae, especially *Pelagia noctiluca* in Tunisian waters (Daly Yahia *et al.*, 2003; Aissi *et al.*, 2014) and along the Algerian coast (Kherchouche & Haferssas, 2019).

Dulčić (1998) suggested that the presence of *S. medusophagus* in the Adriatic Sea may reflect water column warming. A similar distribution pattern was reported in the central Tyrrhenian Sea by Milana *et al.* (2011). However, trophic changes occur with ontogeny: stomach contents reveal

small teleosts, chaetognaths, and crustaceans in larger specimens of this species, which may explain why they are found in deeper waters (Bañón *et al.*, 2012).

The origin of *S. medusophagus* in the Mediterranean Sea remains unclear, despite attempts to trace it through specimens captured in the western basin (Cocco, 1839; Günther, 1882), where the species appears to be more widely distributed (Haedrich, 1986). Ladoul *et al.* (2024) proposed that larvae and juveniles may have been carried by oceanic currents through the Strait of Gibraltar, finding favorable environmental conditions for growth and reproduction. This hypothesis is supported by captures of specimens along the western coast of Algeria.

Although a range expansion of *S. medusophagus* from the eastern tropical Atlantic through the Strait of Gibraltar is a plausible hypothesis, direct human-mediated introduction (*sensu* Golani *et al.*, 2021), via commercial vessel ballast water transport of larvae and juveniles remains equally possible. Specimen records from Tunisian to Algerian and Moroccan waters confirm the species' occurrence in this western Mediterranean region.

One likely reason for the relative rarity of *S. medusophagus* is that it is frequently mistaken for some of its centropholid relatives – particularly the blackfish, *Centrolophus niger* (Gmelin, 1788), and the imperial blackfish, *S. ovalis* (Cuvier, 1829) – although these species can be distinguished by the shape of the lateral line, strongly arched in the

anterior part in *S. medusophagus*, but only slightly arched in its congeners. Another factor contributing to the species' apparent scarcity could be its low commercial value. Locally, *S. medusophagus* is not targeted for consumption or other uses, although fish traders offer no further details or information in this respect.

POTRJENA PRISOTNOST MEDUZOJEDA *SCHEDOPHILUS MEDUSOPHAGUS*
(OSTEICHTHYES: CENTROLOPHIDAE) Z MAGREBSKE OBALE (JUGOZAHODNO
SREDOZEMSKO MORJE)

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POVZETEK

Avtorji poročajo o novih najdbah meduzojeda *Schedophilus medusophagus* (Cocco, 1839), iz zahodne alžirske obale blizu meje z Marokom. Pri Beni Safu sta bila ujeta dva primerka, ki sta merila 600 mm in 630 mm totalne dolžine, njuno težo pa so ocenili, da je presegala 5 kg. Tretji primerek, ulovljen pri Bouzedjarju, je meril 650 mm TL, vendar ribič ni navedel njegove teže. Ti dodatni zapisi o pojavljanju potrjujejo prisotnost vrste ob alžirski obali in po celotni obali Magreba, kjer se je uspešno vzpostavila viabilna populacija. Ta vzorec najverjetneje odraža regionalno številčnost meduz. Čeprav izvor meduzojeda na preučevanem območju ostaja nejasen, je hipoteza o razširjanju areala iz vzhodnega Atlantika skozi Gibraltarsko ožino možna.

Ključne besede: *Schedophilus medusophagus*, klobučnjaki, razširjenost, populacija, obala Magreba

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