

ON THE PRESENCE OF A WELL-ESTABLISHED POPULATION OF *LOBOTES SURINAMENSIS* (BLOCH, 1790) IN THE CENTRAL MEDITERRANEAN SEA*Francesco TIRALONGO*Ente Fauna Marina Mediterranea, Via M. Rapisardi trav.VIII 2, 96012 Avola, Italy
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ABSTRACT

*In the Mediterranean Sea, *Lobotes surinamensis* (Bloch, 1790) is considered a rare species. Although recent records from the Mediterranean Sea showed a range expansion of this thermophilic species, these only refer to one or two specimens. During the months of September to November 2017, we recorded a considerable increase in catches of specimens from the central Mediterranean Sea. Here, we report the presence of a well-established population of *L. surinamensis* from the southern Tyrrhenian Sea with considerations about its habits, presence and the role of fishermen in monitoring the species. An additional record (10th July 2016) from the Ionian Sea (first record for the area) is also reported.*

Key words: Lobotidae, new records, Mediterranean Sea, purse seine, FADs

SULLA PRESENZA DI UNA POPOLAZIONE STABILE DI *LOBOTES SURINAMENSIS* (BLOCH, 1790) NEL MAR MEDITERRANEO CENTRALE

SINTESI

*Nel mar Mediterraneo, *Lobotes surinamensis* (Bloch, 1790) è considerato una specie rara. Sebbene recenti segnalazioni di questa specie nel Mediterraneo abbiano evidenziato un'espansione di questa specie termofila, queste segnalazioni si riferiscono solamente a uno o due esemplari. Tra settembre e novembre 2017 si è registrato un considerevole aumento nelle catture di esemplari nel Mediterraneo centrale. Gli autori riportano la presenza di una popolazione stabile di *L. surinamensis* nel Tirreno meridionale, con considerazioni sulle abitudini, presenza e ruolo dei pescatori nel monitoraggio della specie. Viene anche riportata un'altra segnalazione (10 luglio 2016) proveniente dallo Ionio (prima segnalazione per l'area).*

Parole chiave: Lobotidae, nuove segnalazioni, mar Mediterraneo, rete a circuizione, FADs

INTRODUCTION

In the Mediterranean Sea, the family Lobotidae, which comprises only 2 recognized species (Froese & Pauly, 2017), is represented by *Lobotes surinamensis* (Bloch, 1790), commonly known as the Atlantic tripletail. It is a marine fish of worldwide distribution in tropical and subtropical waters (although records from central and eastern Pacific need confirmation). It is a medium-sized fish, with a maximum reported standard length (SL) of 1 meter and common lengths between 40 and 80 cm. The body is laterally compressed and deep. The subtriangular head shows a concave profile in the upper part that is more pronounced in adults. The preoperculum is strongly serrated in juveniles and finely serrated in adults. The soft parts of dorsal and anal fins are large and rounded and match, in size, the caudal fin which is also rounded, giving the species the common name “tripletail”. It can be found in estuaries, coastal and open waters, often floating on its side near the surface, below or in the vicinity of floating objects. While juveniles are considered epipelagic and found among floating *Sargassum* weed or artificial objects, mimicking a floating leaf to camouflage against predators, adults are benthopelagic and feed on small fishes and benthic crustaceans (Franks et al., 2003). In adults, where floating on the side has also been recorded, this behavior seems to be used to ambush prey (Massuti & Renones, 1994). Juveniles are mottled with yellowish, brownish and black blotches, while adults can show a more uniform color, dark brown, greyish or blackish.

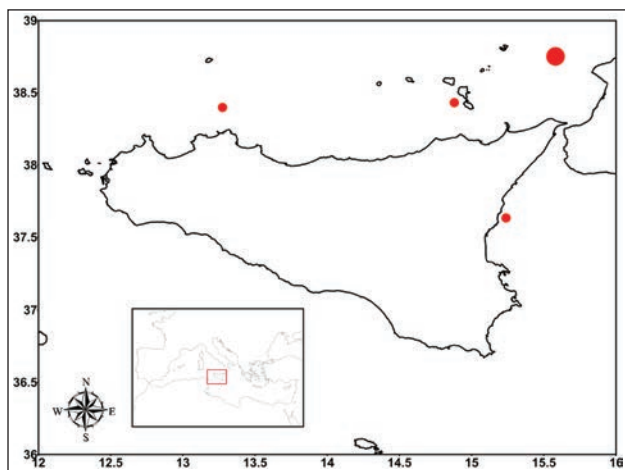


Fig. 1: New records of *Lobotes surinamensis* from the central Mediterranean Sea; small red circles indicate single records; the big red circle indicates multiple records.

Sl. 1: Novi podatki o razširjenosti vrste *Lobotes surinamensis* v Sredozemskem morju; mali rdeči krogi označujejo posamezne podatke; veliki rdeči krogec pa lokaliteto z večjim številom podatkov.

In the Mediterranean Sea, where the *L. surinamensis* was recorded for the first time in 1875 (Doderlein, 1875), the species is considered rare. However, especially in past few years, several records from the eastern and central part of the Basin showed a range expansion of this thermophilic species (Hemida et al., 2003; Camilleri et al., 2005; Zava et al., 2007; Deidun et al., 2010; Dulčić & Dragičević, 2011; Akyol & Kara, 2012; Dulčić et al., 2014a; Dulčić et al., 2014b; Kavadas & Bekas, 2014; Bettoso et al., 2016; Bilge et al., 2016; Ounifi-Ben Amor et al., 2016; Tiralongo, 2016; Tunçer & Önal, 2016). These records, however, refer only to one or two specimens. Here, instead, we report a considerable number of records from the central Mediterranean Sea (Tyrrhenian Sea) and a first record from the Ionian Sea (coast of Sicily). In the Tyrrhenian area concerned by this report, the species has not been recorded since 2007 (Bilge et al., 2016).

MATERIAL AND METHODS

All specimens of *L. surinamensis*, with the exception of the Ionian Sea specimen (caught with purse seine targeting *Engraulis encrasicolus*), were caught with purse seine or hand net around FADs, during the fishing season of the common dolphinfish, *Coryphaena hippurus* (from mid-August to mid-December), in the southern Tyrrhenian Sea (Fig. 1).

Data were collected through direct observation at landings and through e-mail (or Facebook Messenger) from fishermen and fishmonger involved in the project “AlienFish” of *Ente Fauna Marina Mediterranea* concerning alien and rare species in the Mediterranean Sea. The information collected for each record included: date, locality (GPS coordinate), photo and/or video, fishing gear, estimated (or measured) weight and/or total length (TL) of the specimen caught and notes.

A total of 26 fishermen who operate purse seines around FADs for the fishing of *C. hippurus* were interviewed in order to obtain additional data on the historical presence, abundance and habit of *L. surinamensis* along the Ionian and Tyrrhenian coasts of Sicily.

RESULTS AND DISCUSSION

A total of 22 specimens of *L. surinamensis* were recorded during this study: 21 were caught and recorded during the period between September and November 2017 in the Tyrrhenian Sea and a specimen on 10th July 2016 in the Ionian Sea. Eight of these specimens (2 adults and 6 juveniles) were recorded in the short period between the 7th and the 24th September 2017, 24–30 miles off the coast of Stromboli Island (area centered at 38.75°N, 15.56°E), in the area between Stromboli (Aeolian Islands) and Calabria (Vibo Valentia). Adult specimens (Fig. 2A, 2C), about 5 kg in weight, were consumed by fishermen. In the stomach of one of



Fig. 2: Specimens of *Lobotes surinamensis* caught in Tyrrhenian (A-C-D-E) and Ionian Sea (F); adult specimen of *L. surinamensis* caught on 7th September 2017 in the area between Stromboli Island (Aeolian Islands) and Vibo Valentia (Calabria) (A) and its stomach content (*Caranx crysos*) (B); adult specimen of *L. surinamensis* caught on 24th September 2017 in the same area of the specimen as in A (C); adult specimen of *Lobotes surinamensis* caught on 26th September 2017, 3 miles off the north-west coast of Vulcano Island (Aeolian Islands) (D); adult specimen of *L. surinamensis* caught on 3rd October 2017, in the area between Capo Gallo and Ustica Island (E); small specimen of *L. surinamensis* caught on 10th July 2016 at Aci Trezza (F).

Sl. 2: Primerki triplavutarice, ujeti v Tirenskem (A-C-D-E) in Jonskem morju (F); odrasel primerek, ujet 7 septembra 2017 na območju med otokom Stromboli (Eolsko otočje) in Vibo Valentio (Kalabrija) in vsebina njegovega želodca (*Caranx crysos*) (B); odrasel primerek triplavutarice ujet 24 septembra 2017 na isti lokaciji kot primerek pod A; (C) odrasel primerek, ujet 26 septembra 2017 tri milje izven severozahodne obale otoka Vulcano (Eolsko otočje)(D); odrasel primerek ujet 3 oktobra 2017 med območjem Capo Gallo in otokom Ustica (E); manjši primerek, ujet 10 julija 2016 blizu lokalitete Aci Trezza (F).

these specimens (a mature female with eggs), a small blue runner (*Caranx crysos*) was present (Fig. 2B). Fishermen describe *L. surinamensis* as a slow-swimming fish. Indeed, in some cases fish are caught with hand nets, near or below FADs, even for a large specimen (8-9 kg), filmed and caught on 2nd October 2017. Ten

other specimens were caught in the same area as late as the end of November. On 26th September 2017, one adult specimen of *L. surinamensis* (Fig. 2D) was caught by purse seine, 3 miles off the north-west coast of Vulcano Island (Aeolian Islands) (38.42°N, 14.83°E), around FADs targeting *C. hippurus*. The fish was 55 cm

in total length, with a weight of about 3.5 kg, and also consumed by the fishermen. Another specimen (Fig. 2E) was caught on 3rd October 2017, in the area between Capo Gallo and Ustica Island (38.38°N, 13.37°E). The specimen was 3.2 kg in weight and was sold at the fish market.

A small specimen (20–25 cm in total length) (Fig. 2F) was caught at Aci Trezza, close to the coast (37.55°N, 15.17°E), and represents the first record of this species in the Ionian Sea.

The interviewed fishermen from the Ionian coast of Sicily did not report the presence of the species around FADs. This suggests that, unlike off the southern Tyrrhenian Sea, *L. surinamensis* appears to be rare off the Ionian coast of Sicily.

Considering the particular behavior of floating just below the surface, near or below floating objects, *L. surinamensis* is particularly easy to detect and/or catch with purse seine (or with hand net) used for the fishing of *C. hippurus* around FADs. Indeed, in this study, all the specimens from the Tyrrhenian Sea were caught around FADs. Hence the importance of this fishing method in monitoring the presence and abundance of *L. surinamensis*, although limited to the fishing period of *C. hippurus*.

Results from the current study suggest that *L. surinamensis* is currently markedly more common in the Mediterranean Sea than it has ever been. Indeed, past published records refer to, at most, two specimens in this area.

In conclusion, on the basis of the several documented records of the species, we can hypothesize the existence of a well-established population of *L. surinamensis* in the southern Tyrrhenian Sea. Most fishermen who operate in the southern Tyrrhenian Sea queried about the presence of *L. surinamensis* in the area, answered that, although they sporadically have been catching the species for the past 10 years with purse seines around FADs, the 2017 fishing season of *C. hippurus*, starting from September, saw a marked increase in catches and observations of adults and juveniles of the species. In the same area, a study on fish assemblages associated with FADs conducted between January 2000 and January 2001 failed to

demonstrate the presence of *L. surinamensis* (Andaloro et al., 2007) and therefore support the relatively recent colonization of the southern Tyrrhenian Sea. On the basis of these findings, we suggest the recent establishment of a self-sustaining population in the area. Because the catches of the species are connected to the seasonal fishing of *C. hippurus*, *L. surinamensis* is probably quite common in the area all year long (or at least for several months). Furthermore, the species finds a suitable habitat around FADs, in which it seems to feed mainly on pelagic fishes such as Carangidae, aggregating around FADs. Potential common preys could be *Naucrates ductor*, as reported by Zava et al. (2007), *Caranx crysos*, as reported in this study, and other carangid species such as juveniles of *Seriola* spp. The actual increase in abundance of the species showed in this study is probably mainly due to global warming and changes in hydrological conditions. Following the current trend, we may expect to find this species to become increasingly more common in the whole Mediterranean Sea, and could become locally commercialized in the next years. Indeed, the meat of this species is considered of high quality, and this was also confirmed by Sicilian and Calabrian fishermen who ate it and are also trying, due to the increase in catches, to persuade local fishmonger to buy and sell the fish. Further study could confirm this. A similar trend in increasing abundance of the species seems also to be present in Maltese waters, in which small shoals of juveniles were reported by fishermen to be present around FADs and other floating objects (Deidun et al., 2010). The role of citizen scientists, fishermen in particular, in the monitoring of species such as *L. surinamensis*, is of great importance. Indeed, as in our case, all the records come from professional fishermen (or fishmonger).

ACKNOWLEDGEMENTS

We are grateful to the several Sicilian and Calabrian fishermen and fishmonger for providing information and pictures on *Lobotes surinamensis*, with particular gratitude to Gabriele De Leonardo, Franco Campiti, Giovanni Lo Coco, Carmelo Maggiorino and Enzo Di Salvo.

O NATURALIZIRANI POPULACIJI TRIPLAVUTARICE *LOBOTES SURINAMENSIS* (BLOCH, 1790) V OSREDNJEM SREDOZEMSKEM MORJU

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POVZETEK

Triplavutarica *Lotobes surinamensis* (Bloch, 1790) je redka vrsta v Sredozemskem morju. Čeprav novejši podatki o tej toploljubni vrsti kažejo, da se njeno območje razširjenosti širi, se to navadno nanaša na posamične ali kvečjemu par primerkov. Med septembrom in novembrom 2017 smo zabeležili občuten porast primerkov te vrste v ulovih v osrednjem Sredozemskem morju. V pričujočem delu poročamo o naturalizirani populaciji te vrste v južnem Tiren-skem morju, o njenih navadah, prisotnosti in vlogi ribičev pri spremljanju vrste. Poročamo tudi o pojavljanju te vrste (10 julij 2016) iz Jonskega morja, kar je sploh prvi zapis za ta del Sredozemskega morja.

Ključne besede: Lobotidae, novi podatki, Sredozemsko morje, zaporna plavarica

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