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A NEW LOCALITY RECORD FOR THE RANGE EXPANDING FISH *SERIOLA FASCIATA* IN THE MEDITERRANEAN

Luca CASTRIOTA & Manuela FALAUTANO

ISPRA, Italian Institute for Environmental Protection and Research, Lungomare Cristoforo Colombo n. 4521 (ex complesso Roosevelt),
Località Addaura, 90149 Palermo, Italy
e-mail: luca.castriota@isprambiente.it

Laura SINAPI

ISPRA, Italian Institute for Environmental Protection and Research, Via V. Brancati 48, 00144 Roma, Italy

ABSTRACT

We present the first record of the lesser amberjack, *Seriola fasciata* (Bloch, 1793), for Pantelleria Island (Strait of Sicily) based on a specimen fished and photographed by a tourist. It is a range expanding Atlantic fish species in the Mediterranean about which very little information is available. The importance of involving citizens in reporting sightings of rare or previously unseen species in an area is also discussed.

Key words: lesser amberjack, Pantelleria, range expanding species, new record, Strait of Sicily

NUOVA LOCALITÀ PER LA RICCIOLA FASCIATA, *SERIOLA FASCIATA* (BLOCH, 1793), IN MEDITERRANEO

SINTESI

Gli autori presentano il primo ritrovamento di *Seriola fasciata* (Bloch, 1793) nell'isola di Pantelleria (Stretto di Sicilia) sulla base di un esemplare pescato e fotografato da un turista. È un pesce atlantico in espansione di areale di cui si hanno scarsissime informazioni. Viene anche discussa l'importanza di coinvolgere i cittadini nel riportare le segnalazioni di specie rare o mai segnalate in un'area.

Parole chiave: ricciola fasciata, Pantelleria, specie in espansione, nuovo record, Canale di Sicilia

INTRODUCTION

The lesser amberjack *Seriola fasciata* (Bloch, 1793) is one of the several range expanding species that entered the Mediterranean Sea through the Strait of Gibraltar (Ben Rais Lasram *et al.*, 2008). This carangid species is typically found in the western Atlantic Ocean, including the Gulf of Mexico and the Caribbean Sea (Smith-Vaniz, 2002), less commonly encountered in the eastern Atlantic, extending from Galician waters (Spain) in the north to the Island of St. Helena in the south (Bañón & Mucientes, 2009). Its first appearance in the Mediterranean Sea took place in the Balearic Islands in 1989 (Massutí & Stefanescu, 1993), the species then expanded eastwards until reaching the coasts of Lebanon (Levant Basin) where it was first recorded in 2005 (Crocetta & Bariche, 2015). The biology and ecology of lesser amberjack are poorly known: juveniles are pelagic and are usually observed under floating objects as well as under fish aggregating devices (FADs) for

the catch of dolphinfish, *Coryphaena hippurus* Linnaeus, 1758, while adults are very rarely caught or misidentified with congeneric species (Andaloro *et al.*, 2005; Galbraith *et al.*, 2022; Cillari *et al.*, 2024). We here present the first record of *S. fasciata* for Pantelleria Island (Strait of Sicily), a volcanic island of huge ecological relevance for the high biodiversity of its marine life (Alongi *et al.*, 2004).

MATERIAL AND METHODS

In mid-September 2024, one individual of *Seriola fasciata* was caught with a trolling line by a tourist on the south-west coast of the island of Pantelleria (approximate coordinates 36.7628 °N, 11.9684 °E, Fig. 1). The specimen was photographed and then released into the sea, so unfortunately there are no measurements available. The photo (Fig. 2) was shown to a local fisherman who contacted ISPRA researchers for identification, claiming he had never seen this fish before.

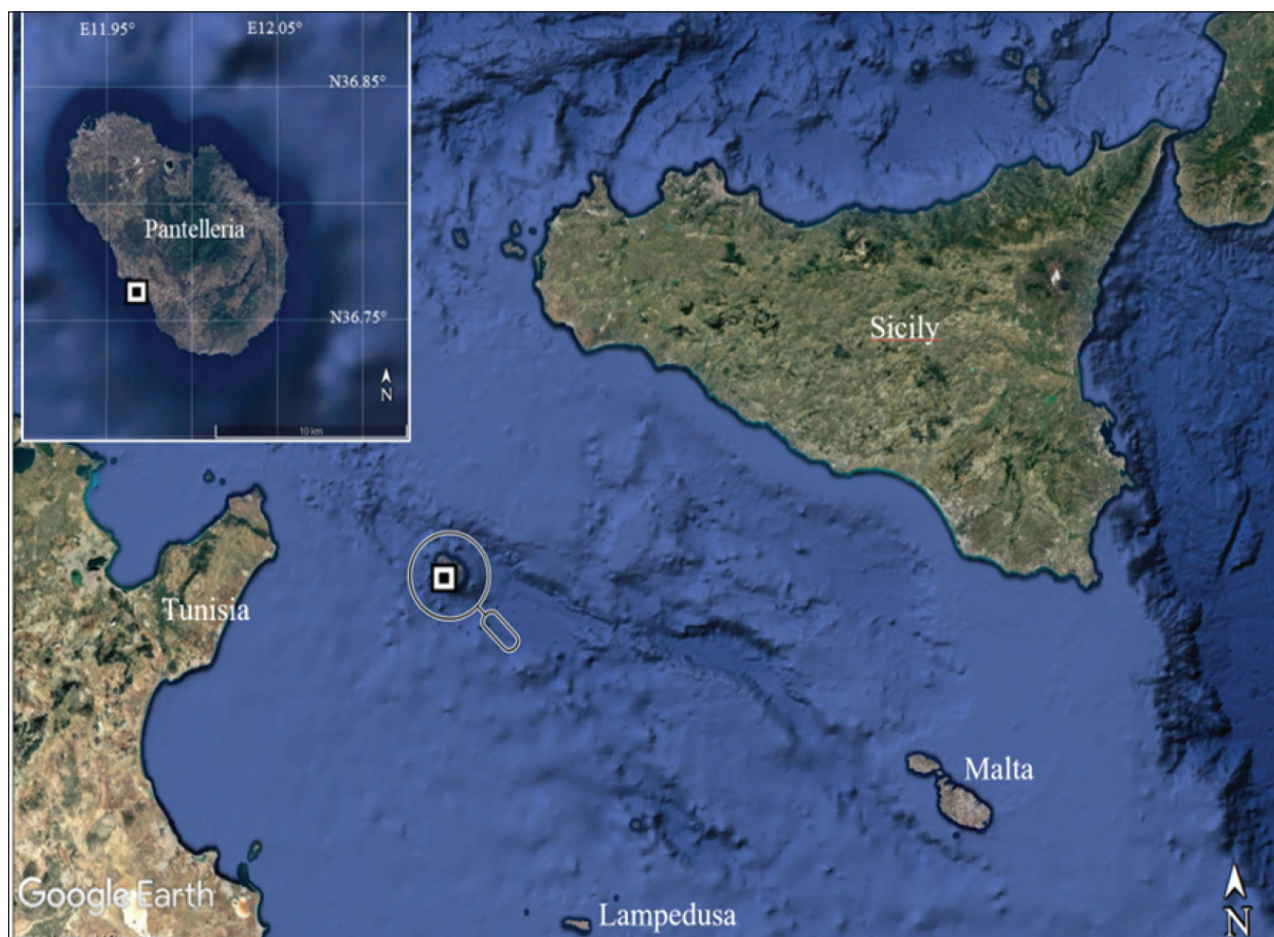


Fig. 1: Location (square) off the south-western coast of Pantelleria Island, where the specimen of *Seriola fasciata* was fished.
Sl. 1: Lokaliteta (kvadrat) ob jugozahodni obali otoka Pantellerie, kjer so ulovili primerek vrste *Seriola fasciata*.



Fig. 2: *Seriola fasciata* caught at Pantelleria Island.

Sl. 2: Primerek vrste *Seriola fasciata*, ujetega v vodah otoka Pantellerie.

RESULTS AND DISCUSSION

The island of Pantelleria is located in the Pantelleria Rift, between Africa and Sicily, on the European continental shelf, with a minimum distance of about 38 nautical miles from the Tunisian coast, 54 from Sicily and 111 from Malta. The seabeds, especially in the first few metres, are steep and rocky, then they degrade more slowly to a depth of around 35–50 m, on sandy or gravelly bottoms interspersed with large boulders. The island mainly bases its economy on agriculture and is a destination for thousands of tourists every year, especially sea lovers, swimmers, divers and anglers. Regarding professional fishing, a very small number of vessels carry out artisanal activities. Although *Seriola fasciata* has already been reported in the Strait of Sicily (Bradai *et al.*, 2004; Andaloro *et al.*, 2005), it had never been reported on this island.

The species belonging to the *Seriola* genus are not easy to identify, particularly at their adult stage when they lose some phenotypic characters typical

of juveniles. According to Smith-Vaniz (2016) as well as to the more recent revision of Galbraith *et al.* (2022), the specimen caught in Pantelleria Island is attributed to *S. fasciata* for bearing a narrow supramaxilla and seven vertical dark body bands plus a well visible nuchal stripe and a further band on the caudal peduncle. Such a pattern is an indication that the caught specimen is a juvenile. The lesser amberjack is a little-known subtropical species with a very dispersed distribution in the Mediterranean where it is mainly reported in the juvenile stage (Cillari *et al.*, 2024). Its presence is mainly correlated with the presence of FADs (Cillari *et al.*, 2024), which might represent the key factor for the success of this species. Indeed, as already observed for other FADs associated species (Andaloro *et al.*, 2003), juvenile *S. fasciata* caught as bycatch of dolphinfish fishery, are discarded and thrown back into seawater alive since they are non-marketable. The increasing use of FADs in certain areas might therefore have contributed to the population increase of

this species as well as to its spread elsewhere. Its current distribution in the Mediterranean is mainly concentrated in the southern sectors (Cillari *et al.*, 2024), which suggests that the presence of this species could also be linked to the higher temperatures recorded in those areas compared to the northern sectors. This agrees with the results of the MaxEnt model applied to this species where sea floor temperature was among primary factors driving species distribution (Cillari *et al.*, 2024). Pantelleria island, besides, is located in an area between Tunisia, Sicily and Malta, where the use of FADs is widespread. In agreement, spatial-temporal analyses made on *S. fasciata* distribution in the Mediterranean had already identified this area as a presumed expansion area (Cillari *et al.*, 2024), so its appearance in the island of Pantelleria was predictable. The capture of a single individual, however, does not allow us to advance hypotheses on the stage of settlement of this species on this island, but adds a missing piece to the distribution of the species in the Strait of Sicily. What is not yet known mainly concerns the adult stage of lesser amberjack whose ecology is still poorly understood, and which instead could help to define the potential of this species as a fishing resource. In this regard, the arrival and establishment of *S. fasciata* in the Levant Sea led some authors to consider it as a promising fishery resource, so much so as to suggest the implementation of a management plan to protect it and prevent its decline (Jawad *et al.*, 2015; Ali *et al.*, 2024). However, it needs to be considered that the arrival of new species in an area where they were not yet present involves the establishment of interactions with marine local communities, in some cases with consequent impacts. It is therefore essential to collect information and data

on new species to understand their ecology in order to preserve native biodiversity. From this perspective, it is important not only to collect the first records of the new species, but above all the subsequent ones as they identify their establishment and help to trace their spread. Most records of lesser amberjack in the Strait of Sicily documented in literature come from Lampedusa Island and Malta (Andaloro *et al.*, 2005; Deidun *et al.*, 2021; Ragkousis *et al.*, 2023), over 75 nautical miles southeast to Pantelleria Island, and date back no later than 2020. The closest record is a single juvenile specimen caught about 45 nautical miles in the southern coast of Sicily, and dates back to 2016 (Geraci *et al.*, 2020). The present record adds a new locality for the lesser amberjack in a marine area of the Straits of Sicily considered of great naturalistic interest and suggests further investigations, also with the support of citizens, in order to acquire more information on its population in this area. Only recently has the use of social media made information on rare or poorly known species more widely available, allowing for more consistent population estimates. In order to fill the knowledge gaps on the historically overlooked lesser amberjack, it would be fruitful to promote citizen science activities, involving the main stakeholders such as fishers and divers, aimed at collecting any type of information in the event of specimens being caught and to preserve them for subsequent biological analyses by researchers.

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NOVA LOKALITETA POJAVLJANJA VRSTE *SERIOLA FASCIATA*, KI ŠIRI AREAL V SREDOZEMSKEM MORJU

Luca CASTRIOTA & Manuela FALAUTANO

ISPRA, Italian Institute for Environmental Protection and Research, Lungomare Cristoforo Colombo n. 4521 (ex complesso Roosevelt),
Località Addaura, 90149 Palermo, Italy
e-mail: luca.castriota@isprambiente.it

Laura SINAPI

ISPRA, Italian Institute for Environmental Protection and Research, Via V. Brancati 48, 00144 Roma, Italy

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Ključne besede: mali gof, Pantelleria, vrsta, ki razširja areal, novi zapis o pojavljanju, Sicilijanska ožina

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