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Two New Localisation Records of *Priacanthus sagittarius* (Starnes, 1988) in the Westernmost Part of the Levant Sea

Alper Yıldız[1]*, M. Tunca Olguner[2], Mehmet Gökoğlu[1], Jale Korun[1], and Mesut Yılmaz[1]

[1]Akdeniz University, Faculty of Fisheries, 07070 Antalya, Turkey
[2]Mediterranean Conservation Society, 35100 İzmir, Turkey

ABSTRACT

Two individuals of *Priacanthus sagittarius* Starnes, 1988, were recorded in the westernmost part of the Levant Sea. A single specimen (17.5 cm TL; 91.97 g W) was captured in the Gulf of Antalya at a depth of 70 m in June 2025. The fish was caught with a 25-mm trammel net off Maden Bay, the Gulf of Antalya. Another specimens (20.5 cm TL; 146 g W and 23 cm TL; 175 g W) were caught with a 45 mm gill net at Fethiye Bay, from a depth of 40-50 m. These sites mark the fish's westernmost known occurrence in the Levant. These results imply that *P. sagittarius*, a *Lessepsian* species, has likewise acclimated to the Mediterranean and is progressively spreading westward. Typically found in protected reefs, caverns, or rocky regions, this demersal species is most likely to be found farther west in the Mediterranean and Aegean Sea.

Keywords: Priacanthus, Mediterranean, Lessepsian

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E-mail addresses:
alperyildiz@akdeniz.edu.tr (Alper Yıldız)
tunca.olguner@akdenizkoruma.org.tr (M. Tunca Olguner)
gokoglu@akdeniz.edu.tr (Mehmet Gökoğlu)
jalekorun@akdeniz.edu.tr (Jale Korun)
myilmaz@akdeniz.edu.tr (Mesut Yılmaz)
* Corresponding author

INTRODUCTION

Bigeyes, also known as *Priacanthidae*, are found in tropical and subtropical waters, typically on coral reefs or rocky bottoms (Carpenter & De Angelis, 2016). According to reported studies, there are twelve recognised species in the genus Priacanthus (Oken, 1817) worldwide (Froese & Pauly, 2026). The Atlantic bigeye (Priacanthus arenatus Cuvier, 1829), the Moontail bullseye (Priacanthus hamrur; Forsskål, 1775), the Elongate bulleye (*Priacanthus prolixus* Starnes, 1988), and the Arrow

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bulleye (*Priacanthus sagittarius* Starnes, 1988) are the four species of this genus that have been documented in the Mediterranean Sea so far (Alshawy et al., 2019; Ergüden et al., 2018; Gürlek et al., 2021; Goren et al., 2010; Gürlek et al., 2017). Only *P. arenatus*, one of four species found in the Mediterranean, is native to the Atlantic; the others are native to the Red Sea (Alshawy et al., 2019). The same family's *Priacanthus blochii* Bleeker, 1853, is also known to occur in the Red Sea, but to date no evidence of this species has been found in the Mediterranean (Gürlek et al., 2021). The species *Priacanthus sagittarius* inhabits the Indo-West Pacific and the Mediterranean (Froese & Pauly, 2022). It is a demersal marine fish that typically lives in rocky habitats, caves, or protected reefs (Gürlek et al., 2021). Additionally, this fish is one of the *Lessepsian* species that migrate through the Suez Canal to the Mediterranean. The species was first documented in Israel in 2010 (Goren et al., 2010) and was subsequently recorded again on the Israeli coast (Haifa) in 2011 (Golani et al., 2011). Since these reports, more specimens from the Syrian, Egyptian, Lebanese, and Israeli seas have been recorded (Golani et al., 2021).

P. sagittarius, a member of the *Priacanthidae* family, is a marine fish suitable for human consumption. The first report of this fish in Turkish waters was by Gökoğlu and Teker (2018) from the coast of Mersin/Taşucu. Subsequent reports were from Mersin Bay (Ergüden et al., 2023) and Konakcık Beach in İskenderun Bay (Gürlek et al., 2021).

This article reports on fish from the westernmost reaches of the Levant Sea, namely Maden Bay in the Gulf of Antalya and Aquarium Bay in Muğla/Dalaman.

MATERIALS AND METHODS

A fisherman named Ahmet Telçelik captured a fish he had never seen before in his net on June 13, 2025, while fishing in Maden Bay (coordinates N 36°25'57.86"; E 30°29'42.88") (Figure 3), Antalya, at a depth of 70 metres using a 25-mm trammel net. He asked for its identification. The fish sample (Figure 1) was sent to the Akdeniz University Faculty of Fisheries laboratory in an ice-cooled box. Another specimen was captured (Figure 2) in Fethiye Bay, Muğla (coordinates N 36° 39' 30.06"; E 29° 3' 52.2432") (Figure 3) at a depth of 40-50 metres using a 45-mm gill net (by a fisherman). When both fish samples were sent to our laboratory for identification, they were already dead. The species were identified after metric and meristic measurements were performed.

RESULTS AND DISCUSSION

While it is widely acknowledged that the first record of an invasive species in the Mediterranean should be published immediately, it is equally critical to publish subsequent records of the same species to confirm its establishment and distribution in its new habitat (Golani et al., 2011).



Figure 1. Priacanthus sagittarius caught in Maden Bay, the Gulf of Antalya



Figure 2. Specimens of *P. sagittarius* caught in Fethiye, Muğla



Figure 3. The points where *Priacanthus sagittarius* individuals were caught (Red pins: Present records, Black pins: Previous records)

The Gulf of Antalya is among the Mediterranean's areas with the highest prevalence of *Lessepsian* species. According to reports, there are now 71 *Lessepsian* fish species in this gulf (Yıldız & Gökoğlu, 2024). The inclusion of *P. sagittarius* in this Gulf investigation has increased the total to 72. Figures 1-2 show that the fish taken in the Gulf of Antalya measured 17.5 cm in length and weighed 91.97 g. The maximum total length reported for *P. sagittarius* is 35-37 cm (Froese & Pauly, 2026). The individual caught in the Gulf of Antalya was half the maximum reported total length for the fish and appears to be a juvenile.

The other specimens in our study were caught in Muğla's Fethiye Bay (Figure 2). The total length and weight of the fish were determined to be 20.5 cm TL; 146 g W and 23 cm TL; 175 g W, respectively. The first record of P. sagittarius on the Mediterranean coast of Turkiye was in 2018 at Tasucu (Gökoğlu & Teker, 2018). Subsequently, in 2021 and 2022, one individual of *P. sagittarius* was caught in Konacık and Yeşilovacık Bay, respectively (Ergüden et al., 2023; Gürlek et al., 2021). The recent and previous records of *P. sagittarius* on the Mediterranean coast of Türkiye are listed chronologically (Table 1).

The locations where P. *sagittarius* was caught in both the Gulf of Antalya and Muğla's Fethiye Bay represent the westernmost points of the species detected so far in the Levant Sea (Figure 3). Furthermore, Fethiye Bay lies on the border between the Aegean and Mediterranean Seas. Based on the locations where other researchers have caught the fish, it appears that *P. sagittarius* has gradually expanded its distribution westward (Farrag et al., 2016; Goren et al., 2010; Gökoğlu & Teker, 2018). The present records from Antalya

and Fethiye suggest that *P. sagittarius* is not only exhibiting a distinct westward geographic expansion but is also undergoing a vertical shift towards shallower waters of 40 to 70 metres. Furthermore, the capture of a juvenile specimen in the Gulf of Antalya, which measures only half of the species' maximum reported length, strongly supports the view that this fish is successfully establishing sustained populations in these newly occupied habitats. This demographic evidence, combined with its adaptation to shallower coastal waters, underscores the species' ongoing acclimation to the Mediterranean ecosystem. Henceforth, the fish is likely to be seen along the Aegean Sea and the coasts of Greece.

While writing this article, we learned that an individual was caught in Marmaris (Aegean Sea), confirming our view. However, because we did not receive the fish sample, the fish data could not be included in the article.

Table 1
Records of P. sagittarius *in Türkiye*

Author	Date of Record	Location	Depth (m)
Gökoğlu and Teker (2018)	2017	Tasucu	100
Gürlek et al. (2021)	2021	Konacık	80
Ergüden et al.(2023)	2022	Yesilovacık Bay	90
Present Study	2025	Antalya	70
Present Study	2025	Fethiye	40-50

CONCLUSION

Many fish species migrate from the Red Sea to the Mediterranean. Most of them are not consumed as human food and are not economically valuable. Moreover, some species, such as pufferfish, damage fishing gear and catches and complicate fishing operations. Literature on *P. sagittarius* indicates that its meat is consumed as human food, and it is also reported to be an important species for aquarium fishing (Anonymous, 2025).

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