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Range Expansion of Wahoo (*Acanthocybium solandri*) in the Mediterranean

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Abstract

The scombroid *Acanthocybium solandri* (Cuvier, 1832), commonly known as the Wahoo (FAO code WAH), is a fish distributed in tropical and subtropical seas worldwide. There are only a few records of this fish in the Mediterranean Sea. One of these records was made in 2024 from the Üçadalar region of the Gulf of Antalya. A Wahoo specimen weighing 7500 g was caught by a recreational fisherman off the coast of Alanya 36°26'13.2"N, 31°52'55.8"E on July 5, 2025. A second individual weighing 8500 g was captured off the coast of Gazipaşa 36°1'43.67"N, 32°5'38.97"E on June 21, 2025. The specimen was caught in the epipelagic zone at a depth of 10-15 m, over a total water column depth of 1700 m. Both fish were caught with a trolling lure. The third fish specimen was sampled by live bait in the Antalya Bay N 36°47' 28.9" N 30°34'53.1" E by a fisherman engaged in sport fishing. The only recorded presence of wahoo in the Mediterranean to date has been in the Levant and the central Mediterranean region of Sicily. The absence of occurrence records in the western Mediterranean to date supports the hypothesis of a Lessepsian migration via the Suez Canal.

Keywords:
Non-Indigeneous, Lessepsian, Wahoo, Distribution, Mediterranean

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Introduction

The wahoo, *Acanthocybium solandri* (Cuvier, 1832), is a large pelagic fish species found in subtropical and tropical waters across the Indian, Atlantic, and Pacific Oceans, including the Mediterranean and Caribbean Seas. It is the only species within the genus Acanthocybium (Triay-Portella et al. 2023). This epipelagic oceanic fish can grow up to a maximum length of 210 cm. The heaviest wahoo recorded weighed 83,5 kg, caught in Cabo San Lucas, Baja California, in 2005. In fishing areas, most wahoos are reported to range from 100 to 170 cm in length, with size varying according to latitude and seawater temperature (Travassos et al. 2021). This scombrid species is often caught as bycatch in commercial fisheries targeting large pelagic species like tuna and swordfish, and it holds significant socio-ecological and economic value for many coastal nations (Gao et al. 2020).

The earliest record of this fish in the Mediterranean Sea is a specimen caught in a tuna trap at Solanto, near Palermo (Sicily, Italy), in 1872 (Deidun et al. 2025; Di Natale et al. 2025). At that time, Doderlein (1872) described the specimen as *Cybium verany*. It was later reidentified as *A. solandri* (Di Natale et al. 2025). One study suggested the fish originated from the Atlantic and likely entered the Mediterranean through the Strait of Gibraltar, although the possibility of its arrival via the newly opened Suez Canal (1869) was not considered then (Deidun et al. 2025). After more than a century, *A. solandri* was recorded again in 1990 and 2004 in the Strait of Messina, Sicily (Romeo et al. 2005; Deidun et al. 2025). The wahoo was later reported in Libyan waters nearby (Elbaraasi et al. 2019). Following these sightings, the

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fish has been documented in the Levantine Sea off Lebanon (Fatfat et al. 2024) and near Antalya and İskenderun, Turkey (Gökoğlu et al. 2024). More recently, wahoo was observed in Maltese waters by Deidun et al. (2025), off Alexandria, Egypt (Farrag et al., 2025), and four individuals were caught off Misrata, Libya (Di Natale et al. 2025). The most recent catch was reportedly made 12 nautical miles northeast of Malta on 9 June 2025 (Di Natale et al. 2025).
A review of all research on the wahoo shows that all documented sightings of this fish come from the central and eastern Mediterranean (Levantine Sea). Some researchers, including Romeo et al. (2005), Psomadakis et al. (2012), Deidun et al. (2025), and Di Natale et al. (2025), propose that this fish might have migrated into the Mediterranean from the Atlantic Ocean. This study presents two new records of the wahoo (*A. solandri*) in the Levantine Sea.

Material and Method

On July 5, 2025, an amateur fisherman, fishing with trolling lure (Figure 1) off the coast of Alanya in Antalya Bay at coordinates 36° 1' 43.67"N 32° 5' 38.97"E, caught a fish he initially thought was a narrow-barred Spanish mackerel (*Scomberomorus commerson*). However, upon realizing the fish was actually a different species, he requested help with its identification. He was then asked to provide the exact catch coordinates, the lure used, the fish's weight, as well as photos and videos.
Another amateur fisherman sent us another fish specimen and its data, which he caught while fishing with a similar technique off the coast of Gazipaşa at coordinates 36°26'13.2"N, 31°52'55.8"E on June 21, 2025 The species identification of the fish was made according to Travassos et al. (2021); Gökoğlu et al. (2024) and Deidun et al. (2025) using photographs and video recordings taken by the fishermen at the time of the catch.
The third specimen was caught on April 9, 2026, by a sport fisherman using live bait. Morphological examination conducted at the site where the report was made revealed the fish to be an A. solandri, measuring 80 cm in length and weighing 4700 gr. It was reported that the fish was caught on a fishing line in the Gulf of Antalya N 36°47'28.9" N 30°34'53.1" E, very close to the city center.

Figure 1: Wahoo (*A. solandri*) caught by an amateur fisherman off the coast of Alanya (in his hand) and the trolling lure which he caught the fish.

Figure 2: Wahoo (*A. solandri*) caught by amateur fisherman off the coast of Gazipaşa.

Figure 3: *A. solandri* specimen which caught with live bait in Antalya Bay (2026)

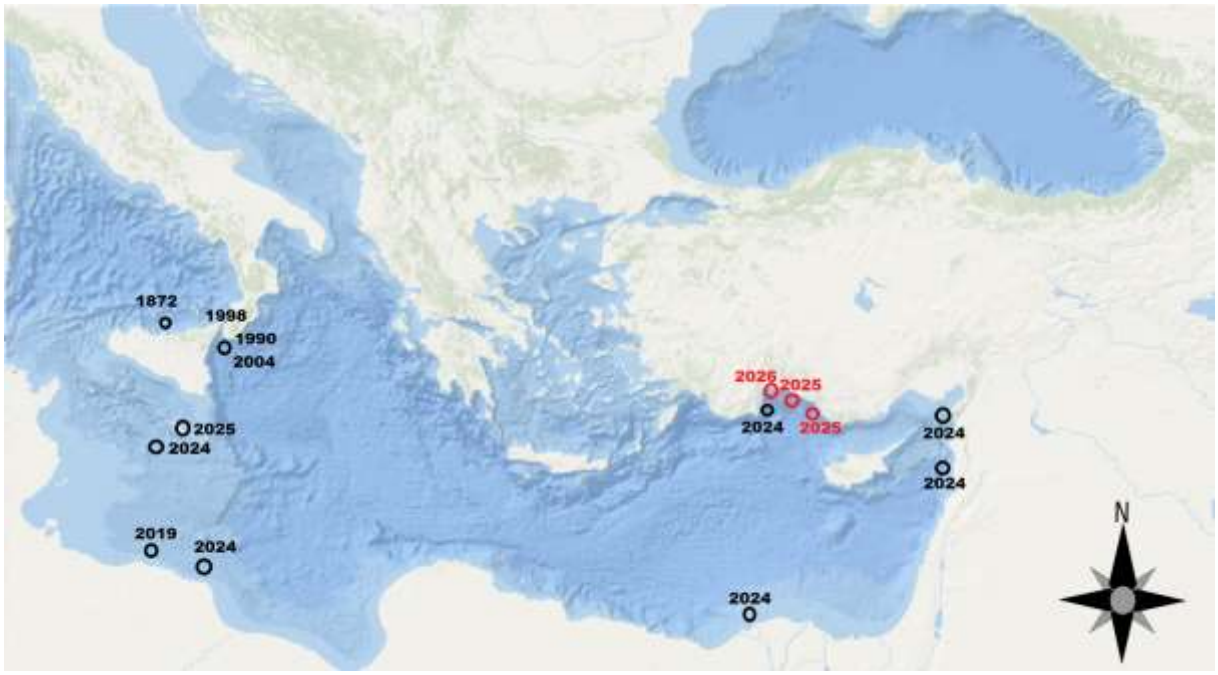

Figure 4: New locations where *A. solandri* was caught in the Gulf of Antalya (red circles) (Map Deidun et al. 2025; Di Natale et al. 2025)

Results and Discussion

The Mediterranean links to the Atlantic Ocean through the Strait of Gibraltar, to the Red Sea by the Suez Canal, which opened in 1869, and indirectly to the Indian Ocean. These connections enable numerous species from the Red Sea and Atlantic Ocean to migrate into the Mediterranean. The Levant Sea basin, including Turkey, is the area where migrations from the Red Sea are most frequent (Zenetos 2019; Golani 2021; Gökoğlu et al. 2024).

The study reported that nearly 1,000 organisms originating from the Red Sea migrated to the Mediterranean after the Suez Canal was opened (Katsanevakis et al. 2014). While some of these species are used for food and economic purposes, others are not commercially valuable and are seen as invasive, causing harm to the ecosystem, fisheries, environment, tourism, and human health (Galil 2023).

Fish are among the non-native alien species migrating to the Mediterranean ecosystem. So far, over 100 non-native alien fish species have been identified in the Mediterranean. Many of these species have successfully adapted to the Mediterranean environment and formed populations in their new habitats (Golani 2021).

One of the non-native fish species found in the Mediterranean is *Acanthocybium solandri*, commonly known as the wahoo. This fish was first caught in a tuna trap near Solanto, close to Palermo (Sicily, Italy), in 1872. Initially, it was misidentified as a novel species and described as *Cybium verany*. Since the Suez Canal had just opened around that time, it was believed the fish might have entered through the Strait of Gibraltar (Deidun et al. 2025). The second recorded specimen of *A. solandri* in the Mediterranean appeared about 118 years later (1990), also from the same area. So far, there have been 10 recorded sightings of this fish in the Mediterranean. These records show that it is found mainly in the central Mediterranean (Italy, Libya, Malta) and the Levant (coasts of Turkey, Lebanon, and Egypt) (Deidun et al. 2025; Di Natale et al. 2025). No sightings have been reported from the western Mediterranean to date. Di Natale et al. (2025) suggest this is because the fish prefers the warmer waters of the eastern and central Mediterranean rather than the cooler western part.

This study reports three new locations where *A. solandri* was caught in the Mediterranean Sea (Antalya Gulf), off the coasts of Gazipaşa, Alanya and Antalya (Figure 4). The fish caught at these locations weighed 8500 g (Gazipaşa) and 7500 g (Alanya) and 4700 g (Antalya) (Figures 1, 2 and 3). This increases the total reported occurrences of this fish in the Levant Sea basin to six. There may be additional cases of this fish being caught in the Levant Basin. Since this fish closely resembles another

scombrid, the narrow-barred Spanish mackerel (*Scomberomorus commerson*), fishermen might have mistaken one species for the other.
Literature searches have found no records of *A. solandri* in the western Mediterranean. Existing records for this fish are from the central and eastern (Levantine) Mediterranean. *A. solandri* is distributed in the Atlantic Ocean, as well as the Indo-Pacific and Red Seas. Based on its previous Mediterranean catches, it appears likely that *A. solandri* entered the Mediterranean via the Suez Canal from the Red Sea.
This fish is also an important species for recreational fisheries, and its meat is regarded as a delicacy and a source of food for humans. There are notable gaps in knowledge about its presence, distribution, population status, and reproduction in the Mediterranean. To fill these gaps, more research on *A. solandri* is necessary.

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Competing interest
The authors declare that they have no conflict of interest.

Author Contributions
Alper YILDIZ: Data curation, Writing- original draft
Mehmet GOKOGLU: Conceptualization, Supervision, Writing- review and editing

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Data Availability
Data will be made available on reasonable request.

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