

# First record of the great barracuda, *Sphyraena barracuda* (Perciformes, Sphyraenidae), in the Azores, north-east Atlantic

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## Abstract

One individual of *Sphyraena barracuda* was collected on August 5, 2023, in the northern coast of Terceira Island, Azores, Portugal, by spearfishing. In this note, we report this first record and discuss the occurrence, which represents the northernmost one in the north-east Atlantic.

## KEYWORDS

ichthyodiversity, Macaronesia, new species, range expansion, tropicalization

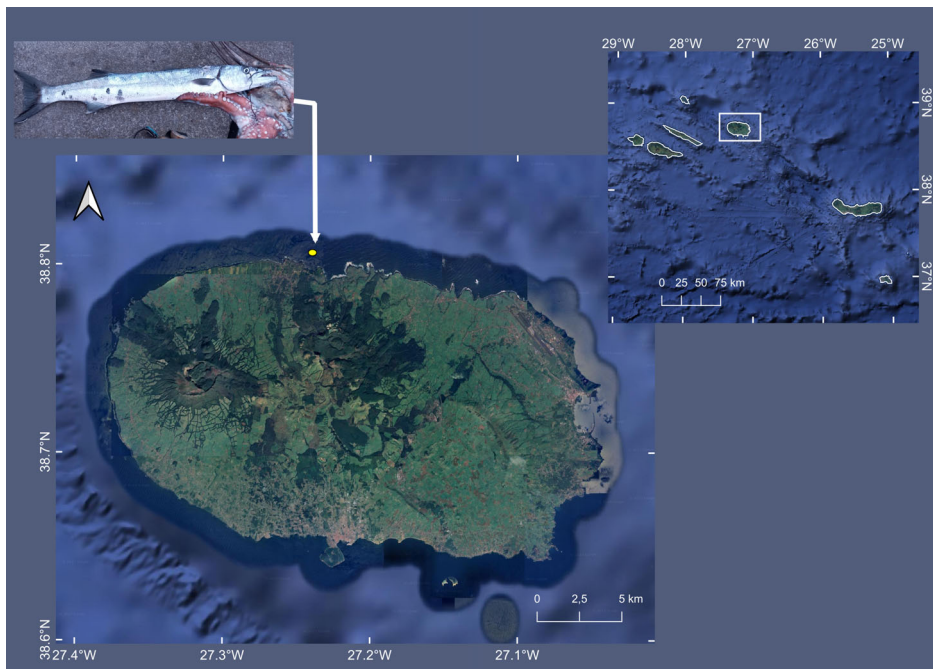
Barracudas, a group encompassing 26 recognized species globally (Fricke et al., 2023), hold significant economic importance in both commercial and sports fishing endeavors (Fontes & Afonso, 2017). Among these, *Sphyraena barracuda* (Edwards, 1771), commonly referred to as the great barracuda, boasts a widespread distribution across tropical and subtropical waters. This species is frequently encountered in near-shore reefs and pelagic environments, demonstrating a versatile range of habitats extending as far north as Nova Scotia, Canada (Balkwill et al., 2006). Throughout their life cycle, *S. barracuda* exhibits habitat versatility, from shallow seagrass beds and mangroves during their juvenile phase to offshore environments as adults, engaging in extensive migrations for feeding and reproduction (D'Alessandro et al., 2011; O'Toole et al., 2011). Notably, the IUCN Red List classifies this species as Least Concern (LC) (Aiken et al., 2017).

The Azores Archipelago, an autonomous region of Portugal situated in the north-east Atlantic, is renowned for its diverse marine life, influenced by various abiotic factors (Morato et al., 2020). The

proximity of the Gulf Stream contributes crucial nutrients to the region, fostering rich deep waters that support the Azores' marine biodiversity (Santos et al., 2019). Within the exclusive economic zone (EEZ) of the Azores, Sphyraenidae, represented by the yellowmouth barracuda (*Sphyraena viridensis* Cuvier, 1829), is a common presence and holds economic significance for local fisheries (Barreiros et al., 2002; Fontes & Afonso, 2017; Silva & Goulding, 2003). The appearance of *S. barracuda* in this area is unprecedented, with recent records from other Macaronesian archipelagos like the Canary Islands (Falcón et al., 2023) and Madeira (Wirtz, 1998). The occurrence of *Lutjanus cyanopterus* (Cuvier, 1828) in the region, a known tropical/subtropical coastal fish (Ribeiro et al., 2017), sparks discussions about potential tropicalization processes in the Azores (Afonso et al., 2013).

On August 5, 2023, an experienced spearfisherman captured a great barracuda off the northern coast of Terceira Island in the Azores, specifically at Rua Longa (Biscoitos) (Figure 1). The catch took place at a depth of 10 m over a mixed sandy/rocky bottom. The free-diving spearfisherman, well acquainted with the yellowmouth barracuda, immediately discerned the distinct nature of this specimen

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**FIGURE 1** Location of the capture (yellow dot), on Terceira Island in the Azores Archipelago, north-east Atlantic.



**FIGURE 2** (a) The *Sphyræna barracuda* specimen just after being landed. Note the distinctive spots can be seen on the back of the fish. Photo by Luís Rodrigues. (b) *S. barracuda* being measured in the laboratory. The distinctive spots of this species are clearly seen on the posterior section.

(pers. comm. to JPB). A confirmation photo was promptly sent after the catch (Figure 2a). The captured specimen, weighing 4740 g with a total length of 100 cm and a standard length of 85 cm, was frozen by the spearfisherman and later examined at the anatomy laboratory of the University of the Azores, Campus of Angra do Heroísmo. Notably, the specimen's stomach was empty, and its gonads indicated immaturity. Muscle and liver samples were collected and preserved frozen, whereas the labeled specimen (SPHBAR/1/2023/TER/Az) will be deposited at the Natural History collection of the Carlos Machado Museum, Ponta Delgada, Portugal (Figure 2b).

This report expands the recognized geographical distribution of *S. barracuda* to the north-eastern Atlantic.

#### AUTHOR CONTRIBUTIONS

**Conceptualization:** Luís M. D. Barcelos, João B. Barreiros, and João P. Barreiros. **Methodology:** Luís M. D. Barcelos and João P. Barreiros. **Investigation:** Luís M. D. Barcelos, João B. Barreiros, and João P. Barreiros. **Writing—original draft preparation:** João P. Barreiros. **Writing—review and editing:** Luís M. D. Barcelos, João B. Barreiros, and J. P. Barreiros. **Visualization:** Luís M. D. Barcelos, João B. Barreiros, and João P. Barreiros. **Images:** Luís M. D. Barcelos. All authors have read and agreed to the published version of the manuscript.

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#### DATA AVAILABILITY STATEMENT

This contribution does not include datasets. The specimen is available as mentioned earlier.

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