

Short Note

First Sighting of the Pantropical Spotted Dolphin (*Stenella attenuata*) in the Madeira Archipelago: A New Northern Range in the East Atlantic Ocean

Cátia Freitas,¹ Micaela Costa,¹ Marta Dias,¹ Laura Redaelli,^{2,3}
Rita Ferreira,^{2,4} Filipe Alves,^{2,4} and Filipe Moura¹

¹H2O-Madeira, Madeira Wild Blue, Calheta, Madeira, Portugal

E-mail: cragfrei@gmail.com

²MARE – Marine and Environmental Sciences Centre/ARNET – Aquatic Research Network, Regional Agency for the Development of Research Technology and Innovation (ARDITI), Funchal, Madeira, Portugal

³ISPA – Instituto Universitário, Lisbon, Portugal

⁴Faculty of Life Sciences, University of Madeira, Portugal

The pantropical spotted dolphin (*Stenella attenuata*) is distributed throughout tropical and subtropical regions, from 30 to 40° N to 20 to 40° S (Jefferson et al., 2015). The species usually occurs in offshore waters and around oceanic islands where it can be abundant, such as in the Gulf of Mexico, Sulu Sea, or Eastern Tropical Pacific (Perrin, 2018). Yet, in the Eastern North Atlantic, its distribution is based on occasional sightings on the West African coast (Jefferson et al., 1997; Perrin & Van Waerebeek, 2012) and on unconfirmed records (i.e., without image or skull/skeleton) in or close to the Canary Islands (Correia et al., 2019). Based on two encounters with photographs at Madeira Island, this study provides the first photographic evidence of the pantropical spotted dolphin in the oceanic waters of the Eastern North Atlantic, expanding the species' northern range by 500 km.

The species can be identified by a long, narrow beak distinctly demarcated from the melon (Perrin, 2018), with a white tip of the snout and white lips (Mignucci-Giannoni et al., 2003). The body is slender and streamlined, and the dorsal fin is strongly curved and narrow, pointed at the tip (Mignucci-Giannoni et al., 2003). The calves are unspotted, and dark spots develop on large juveniles' bellies. Near-adult animals and some young adults have large disconnected or overlapping spots on the dorsal (light) and ventral (dark) sides. In adults, the ventral spots join and fade to a pale grey; and on the dorsal, lighter spots intensify, causing some individuals to appear nearly white from above (Perrin, 2018). Presently, the species is globally classified as “Least Concern” by the International Union for Conservation of Nature's (IUCN) *Red List* (Kiszka & Braulik, 2018).

The Madeira Archipelago is located about 1,000 km southwest of mainland Portugal (Figure 1) and hosts a remarkable diversity of cetaceans—ca. 30 species, including island-associated populations and occasional visitors (Freitas et al., 2012; Alves et al., 2013, 2018; Cartagena-Matos et al., 2021). Being surrounded by deep waters (ca. 1,500 m; Rosa et al., 2022), its pelagic waters are characterised by oceanic processes, such as leeward eddies, that induce upwelling (Caldeira et al., 2002).

On 1 August 2024 at 1320 h local time, a group of around 50 pantropical spotted dolphins was sighted by the whale-watching operator H2O-Madeira about 11 km off the southwest coast of Madeira Island, 32° 34.762' N, 017° 12.466' W, in water 1,500 m deep. The sighting lasted 15 min, and high-quality photographs were taken of animals of all age classes exhibiting bow riding and porpoising behaviours. A second sighting of a group of similar size and exhibiting similar behaviours was recorded on 5 August 2024 at 1334 h local time in the same area (32° 40.662' N, 017° 16.137' W) (Figure 2).

In the Atlantic, the pantropical spotted dolphin may be confused with the congeneric Atlantic spotted dolphin (*Stenella frontalis*), which is very common in the Eastern North Atlantic, especially around Madeira and the Canary Islands during summer and autumn (Carrillo et al., 2010; Alves et al., 2018; Fernandez et al., 2021; Herrera et al., 2021). There has been a high level of search effort for cetaceans in the last two decades in the coastal waters of these archipelagos (Freitas et al., 2012; Herrera et al., 2021; Sambolino et al., 2022), and it is possible pantropical spotted dolphins may have been sighted in this region and not correctly identified. Indeed, Correia et al. (2019) reported

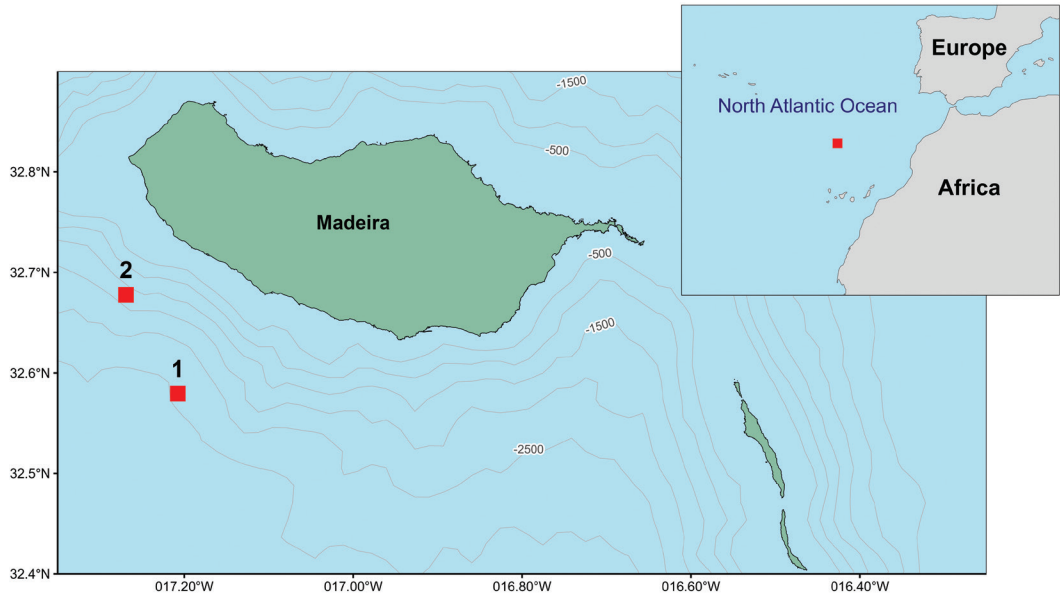


Figure 1. Location of the study area in the Eastern North Atlantic Ocean (inset image). Map shows bathymetry and contour lines at every 500 m. The “1” and “2” squares represent the two sightings of pantropical spotted dolphins (*Stenella attenuata*) photographed in Madeira Island on 1 and 5 August 2024.





Figure 2. Pantropical spotted dolphins porpoising along the southwest coast of Madeira Island (in the background), where the species' external characteristics (described in the text) are visible: (A) photograph from the first encounter on 1 August 2024; and (B) photograph from the second encounter on 5 August 2024. (Photos provided by © H2O-Madeira)

one sighting of pantropical spotted dolphins in the Canary Islands and another in its northern offshore waters, but these were from cargo ships and without photographs; thus, further confirmation is not available. On the West African coast, this species appears to be relatively common from Liberia to Western Sahara (Jefferson et al., 1997; Robineau & Vely, 1998; Robards & Reeves, 2011; Perrin & Van Waerebeek, 2012), which are located at lower latitudes than the sightings presented in this study.

Two subspecies of pantropical spotted dolphins have been identified: (1) the offshore (*Stenella attenuata attenuata*), found in deep offshore waters of all oceans; and (2) the coastal (*Stenella attenuata graffmani*), restricted to the continental shelf in the Pacific Ocean (Perrin et al., 1994; Jefferson et al., 2015). The two sightings presented in this study likely refer to the offshore form due to the location of Madeira Island.

The present study expands the species' known northern range in the Eastern North Atlantic, increasing the list of tropical species being recorded outside their typical latitudes on this side of the Atlantic (e.g., see Silva et al., 2023). Although this could represent a recent distributional shift due to climate change, further data are needed to support this hypothesis. This study contributes to updating

knowledge about the region's marine mammal fauna and highlights the importance of maintaining collaborations between whale-watching operators and research teams as an added value towards cetacean monitoring.

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