

# Cetaceans of the tallest mountain in Western Europe, the Gorringer Bank, Portugal

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## Introduction

Seamounts serve as biodiversity hotspots for several marine species including cetaceans. By aggregating prey in the open ocean, seamounts attract diverse whale and dolphin species<sup>(1)</sup>. The Gorringer seamount is located in the Atlantic Ocean, southwest of the Portuguese coast. Despite previous research on this seamount, cetacean-focused studies remain very scarce.

## Methodology

From the 8th to the 25th September 2024, a joint scientific expedition was conducted to the Gorringer Bank, with a dedicated team to cetaceans. Visual transects using distance sampling methods were done, totaling 52 hours and 35 minutes of effort (Fig 1).

## Results

Seven cetacean species were recorded (Fig 2). Atlantic spotted dolphins (*Stenella frontalis*) were the most frequent (36.6%), followed by beaked whales (Ziphiidae, 19.5%). Bottlenose dolphins (*Tursiops truncatus*) and unidentified rorquals (*Balaenopteridae*) each represented 14.6%. A single Bryde's whale (*Balaenoptera edeni*) was observed (2.4%). Species could not be identified in 12.2% of sightings (Table 1).

TABLE 1. Summary information of each sighting by species. SD - Standard Deviation; SST - Sea Surface Temperature; UNID - Un-identified. \* stands for species recorded during the expedition only outside of the Gorringer seamount area.

Species	N sightings	Group size Mean; SD (Range)	Depth (m) Mean; SD (Range)	SST (°C) Mean; SD (Range)
Atlantic spotted dolphin ( <i>Stenella frontalis</i> )	15	24.6; 23.7 (4-100)	1142; 1126 (96-4521)	21.48; 0.27 (21.02-21.93)
Bottlenose dolphin ( <i>Tursiops truncatus</i> )	6	11.8; 13.9 (1-38)	785; 987 (301-2784)	21.57; 0.27 (21.35-22.02)
Common dolphin* ( <i>Delphinus delphis</i> )	3	42.5; 10.6 (35-50)	272; 352 (57-678)	17.40; 0.52 (16.84-17.86)
Bryde's whale ( <i>Balaenoptera edeni</i> )	1	1	96	21.66
Rorqual ( <i>Balaenoptera</i> sp.)	6	2.8; 3.5 (1-9)	371; 252 (64-719)	21.54; 0.21 (21.35-21.78)
Cuvier's beaked whale ( <i>Ziphius cavirostris</i> )	3	1.3; 0.6 (1-2)	1869; 908 (973-2789)	21.62; 0.20 (21.40-21.79)
Blainville's beaked whale ( <i>Mesoplodon densirostris</i> )	2	2; 0 (2)	1720; 682 (1238-2202)	21.65; 0.42 (21.35-21.95)
Gervais' beaked whale ( <i>Mesoplodon europaeus</i> )	1	3	1846	21.79
Beaked whale ( <i>Ziphiidae</i> sp.)	2	1; 0 (1)	1811; 703 (1314-2308)	21.87; 0.25 (21.69-22.04)
UNID Odontocete	1	2	1511	21.92
UNID Cetacean	3	1; 0 (1)	2127; 453 (1672-2578)	21.63; 0.36 (21.32-22.03)

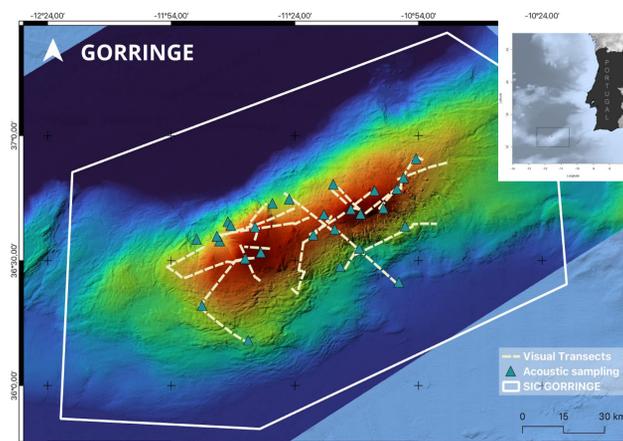


Fig. 1 - Distribution of visual transect and acoustic sampling effort along the Gorringer seamount.

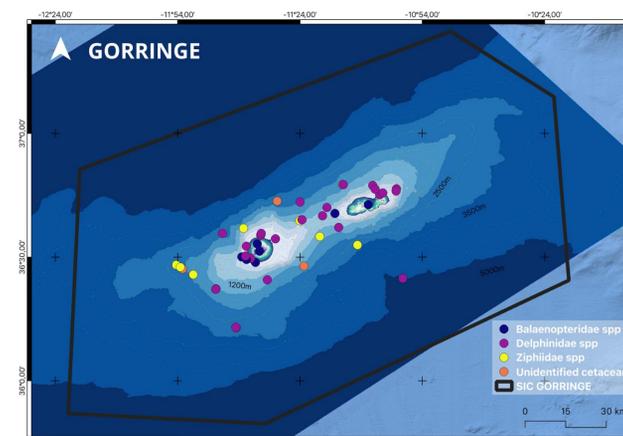


Fig. 2 - Distribution of cetacean sightings around the Gorringer seamount.



## Discussion and Conclusion

This study provides new insights into the cetacean diversity in the southwestern Portuguese Economic Exclusive Zone, suggesting that the Gorringer Bank may serve as an important habitat for species like beaked whales and Atlantic spotted dolphins. Further research is essential to better understand cetacean biodiversity and abundance, as well as temporal and seasonal variation, in offshore waters of Portugal.

## Acknowledgements

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More info here!



## References

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