

Short Communication: Rare sighting of Gervais' beaked whales in offshore waters of southeastern Brazil

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Beaked whales are a relatively diverse and unknown family of cetaceans (*Ziphiidae*), composed of 22 species across six genera. These animals are rarely seen in their natural habitat due to their typically offshore distribution and deep-diving behavior (Mead, 2009; Virgili *et al.*, 2019).

The Gervais' beaked whale (*Mesoplodon europaeus*) is a medium size cetacean, with adults reaching at least 4.8 m (Jefferson *et al.*, 2015), with a small, triangular dorsal fin, a small head and a well-defined rostrum. Adult males present two erupted mandibular teeth; females can present a white patch in the genital area (Norman & Mead, 2001; Jefferson *et al.*, 2015). This species is widely distributed in deep waters across the tropical temperate Atlantic Ocean, north and south of the equator (Jefferson *et al.*, 2015). Most of our knowledge about this species' distribution is based on strandings, with a relatively small number of sightings, concentrated in the Atlantic North, including the southeastern coast of the USA (150 events), the Canary Island (21 events) and Cuba (11 events) (Norman & Mead, 2001; Bachara *et al.*, 2018; Pitman & Brownell, 2020). Mass strandings associated with naval exercises occurred in the Bahamas (Rowles *et al.*, 2000) and Canary Island (Waring *et al.*, 2006; IUCN, 2021). As with other beaked whales, *M. europaeus* may be vulnerable to anthropogenic noise, such as seismic exploration and navy sonar (Cox *et al.*, 2006).

In Brazil, only two records of Gervais' beaked whale have been documented to date. An individual was found washed ashore on the São Paulo coast in 2001 (southeast Brazil) (Santos *et al.*, 2003), and another on the Ceará coast (northeast Brazil) also in 2001 (Martins *et al.*, 2004; Meirelles *et al.*, 2009). This note describes a new sighting during a visual monitoring exercise off the Brazilian coast as part of offshore oil and gas activities.

On 23 June 2021, a group of three Gervais' beaked whales were sighted in offshore waters off southeastern Brazil (25°6'25,254''S, 044°26'15,978''W) during mandatory visual monitoring of marine mammals carried out during a 2D seismic survey (Fig. 1). This sighting occurred at a depth of 1.381 m, approximately 150 km southeast of Ilhabela, on the São Paulo coast (Santos Basin, Fig. 1), with the ship enroute to the Pelotas Basin, where the seismic survey was being carried out. This represents the first documented sighting of Gervais' beaked whales in the region and the southernmost record of this species in the southwestern Atlantic Ocean.

Exposure of two individuals' bodies during aerial and surface behaviours enabled observation of peculiar morphological characteristics, including a white patch in the genital area (Fig. 2). Good quality photographs contributed to the species identification by marine mammal specialists (see Acknowledgements).

Limited knowledge of beaked whales in general, and, consequently, of Gervais' beaked whales is associated, at least in part, with their offshore habitat, their extended deep-diving behaviours (typically of an hour or more) and short time spent at the surface (Tyack *et al.*, 2006; Baird *et al.*, 2006). Considering the potential acoustic impacts of seismic surveys on marine fauna, especially cetaceans, visual and acoustic monitoring are required during seismic surveys by the Brazilian Institute of the Environment and Renewable Natural Resources. Monitoring has a mitigating role as the source of this noise (airguns) is required to be shut down if animals are visually or acoustically detected within a 1,000 m exclusion area around the ship. Visual and acoustic monitoring during seismic operations provides important opportunities to improve our knowledge of the occurrence and

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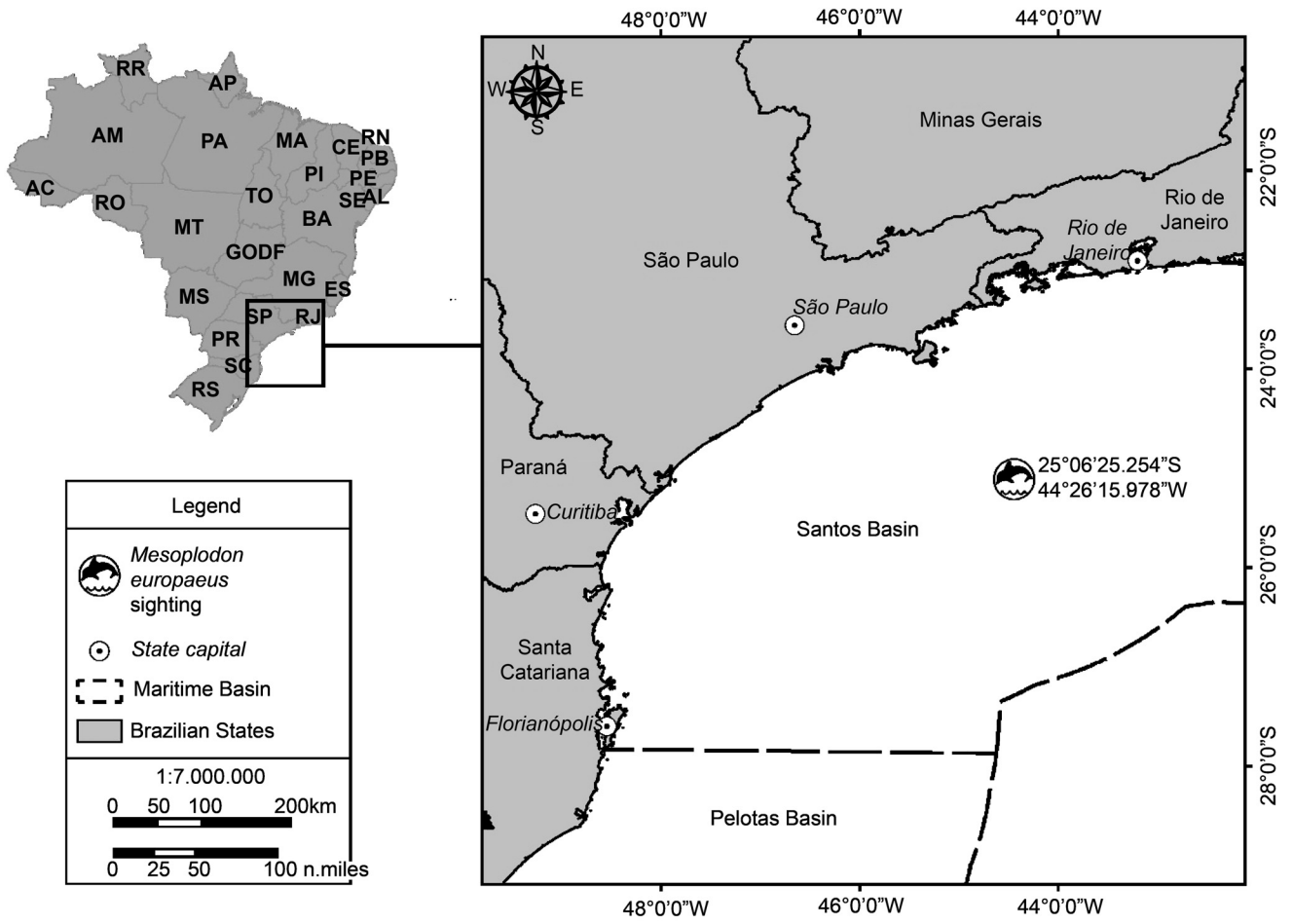


Figure 1. Location of three Gervais' beaked whales recorded in the Santos Basin.



Figure 2. A single individual Gervais' beaked whale photographed off southeastern Brazil on 23 June 2021. Photos: Carlos Eduardo Palmeira Quintana.

distribution of rare marine animals in the region, particularly as seismic activities commonly occur in offshore areas where observation effort is scarce.

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