

Short Communication: North Sinai fin whale stranding represents easternmost confirmed record for the Egyptian Mediterranean coast

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ABSTRACT

We report a fin whale carcass stranded on the Mediterranean shore of North Sinai, Egypt, on 9 February 2021, and place this event in the context of previous regional records, including all published fin whale occurrences along the Egyptian Mediterranean coast and Gaza Strip. The North Sinai carcass represents the easternmost confirmed fin whale record in Egypt, bridging a geographic gap between records from the Nile Delta and southern Levant. This occurrence highlights both the occasional use of the Gaza–North Sinai sector by Mediterranean fin whales and the need for coordinated stranding response and monitoring in this underrepresented part of the species' range.

KEYWORDS: FIN WHALE; STRANDINGS; NORTH SINAI; EGYPT; MEDITERRANEAN; VESSEL STRIKE

INTRODUCTION

The fin whale (*Balaenoptera physalus*) is the second-largest living mammal and one of the most widespread baleen whales, occurring in all major oceans, from temperate to polar waters. After heavy depletion by industrial whaling in the 20th Century, the global species is currently assessed as Vulnerable on the IUCN Red List (Cooke, 2018). The Mediterranean subpopulation is recognised as genetically distinct, largely resident within the basin. It is of particular conservation concern and has been recently assessed as Endangered in regional IUCN evaluations (IUCN, 2023). Recent Red List assessments and regional conservation reviews indicate that the status of the Mediterranean fin whale has deteriorated, with the subpopulation facing ongoing declines driven mainly by vessel strikes and other anthropogenic pressures (Panigada *et al.*, 2006; David *et al.*, 2011; IUCN, 2023).

Within the Mediterranean Sea, fin whales are the only mysticete regularly observed, but their distribution is heterogeneous. Abundance is markedly higher in the western and central basins, particularly in the Ligurian–Provençal region and around Corsica and Sardinia, whereas records from the eastern Mediterranean are comparatively scarce (Espada *et al.*, 2024). The Levantine Basin, including the waters off Egypt, Israel, Lebanon, Palestine, Syria and Turkey, has long been regarded as a data-poor region for cetaceans, with limited information on species composition, distribution and habitat use (Kerem *et al.*, 2012). A recent compilation of opportunistic sightings, strandings and videographic evidence indicates the occasional presence of fin whales in the Levantine Sea, while also showing that available records remain limited and geographically uneven (Stephens *et al.*, 2021).

The Egyptian Mediterranean coastline forms the southern margin of the Levantine Basin and extends for more than 1,000 km from the Libyan border in the west to the border with Palestine (Gaza Strip) in the east. It is dominated by sandy beaches interspersed with rocky headlands, lagoons and heavily modified urban shorelines. Despite its length and environmental heterogeneity, systematic information on cetaceans along this coast is still limited. Available summaries of marine mammal records indicate that fin whales occur sporadically, mainly as strandings or opportunistic observations, and that confirmed fin whale events have been concentrated

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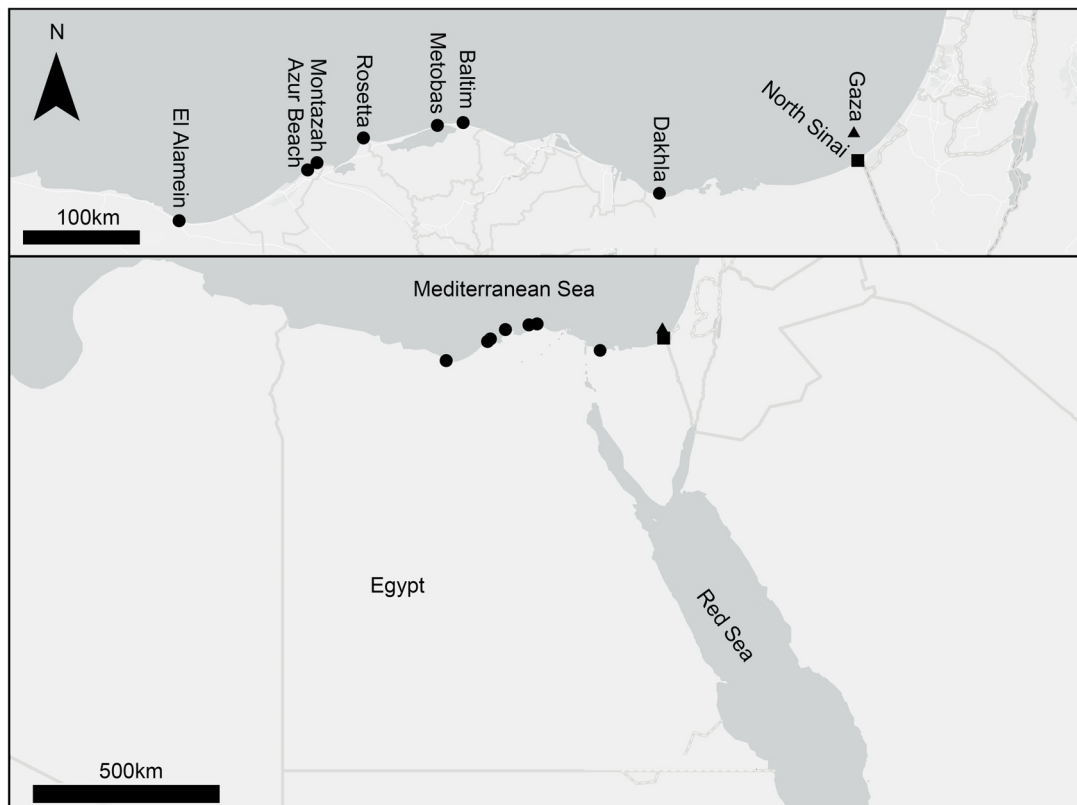


Figure 1. Geographic distribution of fin whale records along the Egyptian Mediterranean coast and adjacent Palestinian waters.

so far in the central and western sectors of the Egyptian north coast, particularly around the Nile Delta and neighbouring governorates (Farrag, 2019).

Documenting individual fin whale strandings in such data-poor regions is important for refining knowledge of the species' spatial range, identifying potential movement corridors between western and eastern Mediterranean areas, and establishing a baseline for assessing emerging threats in the southeastern Levantine Basin. In this note, we describe a fin whale carcass stranded on the Mediterranean shore of North Sinai, at the eastern extremity of the Egyptian north coast, and we place this event in context by compiling previously published fin whale occurrences along the Egyptian Mediterranean coastline and the nearest records from adjacent Palestinian waters.

Study site

The study area comprises the Egyptian Mediterranean coastline from the Libyan border in the west to the border with Palestine (Gaza Strip) in the east, encompassing a mosaic of sandy beaches, rocky headlands and artificial coastal structures (El-Bayomi, 2009; Hereher, 2015; Fouda, 2021; Fig. 1). This coast forms part of the oligotrophic southeastern Levantine Basin (Azov, 1986; Halim, 1995; Robarts *et al.*, 1996).

Stranding event

The new fin whale record concerns a carcass that stranded on the Mediterranean shore of the North Sinai Governorate, close to the land border with Palestine, at the eastern extremity of the Egyptian north coast (Hassan, 2002; Darwish & Smith, 2023).

METHODS

The carcass was located during coastal observations on 9 February 2021 in North Sinai. Its position was recorded in the field using a handheld GPS receiver (WGS84), giving coordinates of 31.307064°N, 34.198521°E.



Figure 2. Fin whale stranded on the Mediterranean coast of North Sinai, Egypt (9 February 2021).

Photographs were taken from different viewpoints to document the head, ventral surface, dorsal-fin region and caudal part of the body. These photographs formed the basis for all subsequent description of external morphology and carcass condition.

Species identification relied on external characteristics visible in the photographs and standard identification criteria for rorquals (Stewart *et al.*, 2002; Perrin, 2009; Jefferson *et al.*, 2015). Diagnostic features included the elongated, narrow rostrum, the numerous ventral grooves extending from the chin well beyond the pectoral region, the relatively small falcate dorsal fin positioned on the posterior third of the back, and the overall slender body proportions. The photographs also indicate the characteristic asymmetrical lower-jaw/ventral head pigmentation of fin whales, with the right side appearing paler than the left. Taken together, these characteristics support identification of the carcass as *Balaenoptera physalus*, despite the moderate to advanced stage of decomposition. No necropsy or tissue collection was carried out because access to the carcass in the surf zone was restricted.

RESULTS

The stranded whale was a large baleen specimen lying on its right side in the swash zone of a gently sloping beach with scattered rocks and concrete blocks in the surf zone. With an approximate estimated length of 16–20 m, the body was swollen, with extensive skin sloughing and discolouration, indicating a moderate to advanced stage of decomposition. Figure 2 shows a strongly tapered head with a long, narrow rostrum and numerous longitudinal ventral grooves extending from the chin to well beyond the pectoral region. No major open wounds, deep propeller cuts or obvious entanglements are evident on the exposed surfaces, although superficial abrasions and bruised areas are present, particularly around the flanks and head. The cause of death could not be determined from external, visual cues. This limitation highlights the need for a standardised stranding-response protocol and a coordinated regional stranding network to ensure rapid reporting, basic measurements, systematic photographic documentation, necropsy where feasible, and tissue sampling.

Table 1 shows seven previously documented fin whale records along the Egyptian Mediterranean coast between 1936 and 2021, located at Rosetta, Dakhla, Baltim, El Alamein, Montazah, Stanley and Metobas. These localities are clustered mainly along the central and western sectors of the coastline, particularly in the Nile Delta

Table 1
Previously documented fin whale records from along the Egyptian Mediterranean coast between 1936 and 2021.

Record date	Location	Coordinates (decimal degrees)	Reference(s)
1936	Rosetta, Egypt	31.481187°N, 30.379576°E	Farrag <i>et al.</i> (2019)
2008	Baltim, Egypt	31.598653°N, 31.149858°E	Farrag <i>et al.</i> (2019)
2014	Baltim, Egypt	31.598653°N, 31.149858°E	Farrag <i>et al.</i> (2019)
2014	El-Alamein, Egypt	30.842515°N, 28.956279°E	Farrag <i>et al.</i> (2019)
2015	El-Alamein, Egypt	30.842515°N, 28.956279°E	Farrag <i>et al.</i> (2019)
Jun. 2016	Alexandria (Montazah Marina), Egypt	31.289047°N, 30.021909°E	Farrag <i>et al.</i> (2019)
Jan. 2018	Azur Beach, Alexandria, Egypt	31.234522°N, 29.949516°E	Farrag <i>et al.</i> (2019); Abo-Taleb <i>et al.</i> (2020)
Feb. 2021	Ghalion aquaculture zone near Metobas, Kafr El-Sheikh, Egypt	31.578650°N, 30.949860°E	Farrag <i>et al.</i> (2022)
1980	Dakhla, north-eastern Sinai, Egypt	31.053380°N, 32.665820°E	Stephens <i>et al.</i> (2021)
1993	Near Gaza, Palestinian coast	31.535830°N, 34.167538°E	Stephens <i>et al.</i> (2021)

region and adjacent coasts. None of the earlier records originated from Sinai. When plotted together with the North Sinai stranding, the new record occupies the easternmost position among Egyptian Mediterranean occurrences and falls geographically close to previously reported fin whale strandings on the Palestinian coast. The 2021 North Sinai stranding therefore extends the documented distribution of fin whales eastward along the Egyptian north coast and confirms the species' occasional use of the Gaza–North Sinai sector of the southeastern Levantine Basin.

DISCUSSION

This North Sinai fin whale stranding adds a new point to the very sparse set of records for *Balaenoptera physalus* along the southern margin of the Levantine Basin and shifts the documented eastern limit of the species along the Egyptian Mediterranean coastline. Previous work has shown that confirmed fin whale strandings on the Egyptian coast have been concentrated in its central and western sectors, while additional records come from the adjacent coasts of Israel and the Gaza Strip. By documenting a carcass at the extreme eastern end of the Egyptian north coast, this study helps to bridge the gap between those Egyptian records and the small number of fin whale events known from neighbouring Levantine shores.

Although fin whales are generally more abundant in the western and central Mediterranean, particularly during summer, sightings and strandings from the Levantine Basin demonstrate that at least some individuals regularly penetrate eastern basin waters. The North Sinai record is consistent with this pattern and indicates that the Gaza–North Sinai sector is occasionally used by the Mediterranean subpopulation. Whether such occurrences represent sporadic exploratory movements or part of a more regular seasonal use of the southeastern Levantine Basin cannot be resolved with the currently available data. However, each additional well-documented event contributes to a better understanding of the species' range and connectivity within the basin.

The absence of a necropsy or tissue sampling means that the cause of death of the North Sinai whale remains unknown. This limitation highlights the importance of establishing a coordinated stranding network and standardised response procedures to ensure rapid reporting, photographic documentation, basic morphometric measurements, necropsy where feasible, and tissue sampling. Nevertheless, in the Mediterranean Sea, vessel strikes are regarded as one of the principal conservation threats to this subpopulation. The extreme southeastern Mediterranean is traversed by intense maritime traffic linked to the Suez Canal and regional ports, suggesting that vessel strike risk may be non-negligible, even in areas where the species is only occasionally present. Although no unequivocal external evidence of vessel strike was visible on this carcass, the event underscores the need to consider the Egyptian and Palestinian coasts within broader assessments of vessel strike risk and efforts to monitor the coast for strandings.

Finally, this case highlights both the value and limitations of opportunistic strandings data from under-studied coastlines. The North Sinai shore is difficult to monitor systematically, and the frequency of fin whale occurrence there is almost certainly underestimated (Rabia & Attuma, 2018; Stephens *et al.*, 2021). At the same time,

restricted access and the lack of a formal response protocol limited the information that could be collected from this carcass. For example, IJsseldijk *et al.* (2019) recommend standardised field data sheets, photographic documentation, basic morphometric measurements, external examination, and, where feasible, tissue sampling, to maximise the scientific and conservation value of stranding records. The establishment of practical stranding-response procedures for Egypt and neighbouring countries would therefore be an important step towards building a more complete picture of fin whale occurrence and mortality in the southeastern Levantine Basin.

Establishing systematic stranding-response procedures in Egypt and neighbouring countries would greatly improve knowledge of fin whale occurrence and mortality in the southeastern Levantine Basin. Standardised protocols would ensure that even opportunistically detected carcasses yield comparable data across sites and years. These should include rapid reporting, site access where feasible, photographic documentation, basic morphometrics, assessment of decomposition, recording of trauma or entanglement, and collection of tissue or skeletal samples for genetic, pathological and toxicological analyses. Without such a framework, many strandings remain anecdotal, and key information on species identity, cause of death, health status and distribution is lost. In a region where records are rare and monitoring is uneven, a coordinated response network would improve baseline knowledge and help identify mortality drivers.

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