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Mini Review

Recent Stranding of the Endangered Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) near the Northern Coastal Border of the Gaza Strip, Palestine

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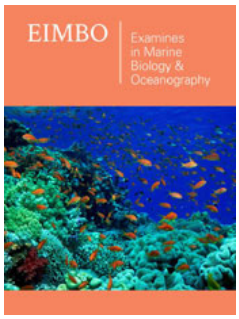

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Abstract

The Sperm Whale or Cachalot (*Physeter macrocephalus Linnaeus*, 1758), the largest living toothed whale, maintains a small and genetically distinct endangered subpopulation in the Mediterranean Sea. On 24 February 2026, a large individual measuring approximately 12-13m stranded at Hiribya (Zikim) Beach near the northern border of the Gaza Strip in the southeastern Mediterranean. This study documents the event and evaluates its ecological and conservation significance. Information was compiled from verified media sources, official statements and publicly available photographs and videos to confirm species identification, body length and carcass condition. The stranded whale, likely an adult male, appeared relatively fresh with no advanced decomposition, suggesting recent mortality. Although a necropsy was reportedly conducted by Israeli marine authorities, its results have not yet been published. This event represents the eighth documented case-and the largest-of Sperm Whale strandings along the Mediterranean coast of palestine since monitoring began in the early 1990s, and the first recorded case in close proximity to the Gaza Strip. Considering the offshore ecological niche of the species and the endangered status of the Mediterranean subpopulation, such mortality events are biologically significant. Potential contributing factors may include vessel strikes, fisheries interactions, plastic ingestion, chemical contamination, underwater noise associated with seismic exploration and other anthropogenic or environmental stressors. The record contributes to the limited documentation of cetaceans in the southeastern Mediterranean and highlights the importance of continued monitoring and regional cooperation for the conservation of Mediterranean Sperm Whales.

Keywords: Sperm Whale; *Physeter macrocephalus*; Toothed whales; Stranding; Hiribya (Zikim) beach; Anthropogenic threats; Marine conservation; Mediterranean Sea; Gaza Strip; Palestine

Introduction

The Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) (Figure 1), commonly known as Cachalot, a term describing the "big head", is the largest extant odontocete and one of the most widely distributed marine mammals, inhabiting tropical to subpolar oceans worldwide [1]. The term "Sperm Whale" is a shortened form of "Spermaceti Whale", referring to the waxy substance in its head, which was historically mistaken for "*semen*" [2]. Adult males may reach 16-20m in length and exceed 50tons, whereas adult females are smaller, typically measuring 10-12m in length and weighing about 12-15tons [3] (Figure 2). The species is highly specialized for deep-sea foraging, performing dives beyond 1,000m that may last over one hour while feeding primarily on *cephalopods* and deep-water fishes [4]. Within the Mediterranean Sea, Sperm Whales constitute a geographically and genetically distinct subpopulation largely confined to deep offshore waters extending from the Strait of Gibraltar to the Levantine Basin

[5-7]. Photo-identification and movement studies have confirmed limited interchange with Atlantic populations, reinforcing concerns regarding genetic isolation [8,9]. The Mediterranean subpopulation is classified as Endangered, with current estimates ranging between 250 and 2,500 mature individuals [10,11]. Compared with global population assessments [12], this group is small, regionally restricted and particularly susceptible to cumulative anthropogenic pressures. Major threats in the Mediterranean include ship strikes [13-15], entanglement in driftnets and longlines [16], ingestion of marine debris [17], and chemical contamination [18-20]. Underwater noise from seismic exploration and naval sonar may disrupt echolocation and navigation [21], while habitat degradation and maritime traffic further compound risks [22,23]. Strandings throughout Mediterranean coasts-including Italy, Tunisia, Morocco, Turkey, Syria, Algeria and Palestine-have provided essential information regarding mortality drivers and conservation status [24-39].

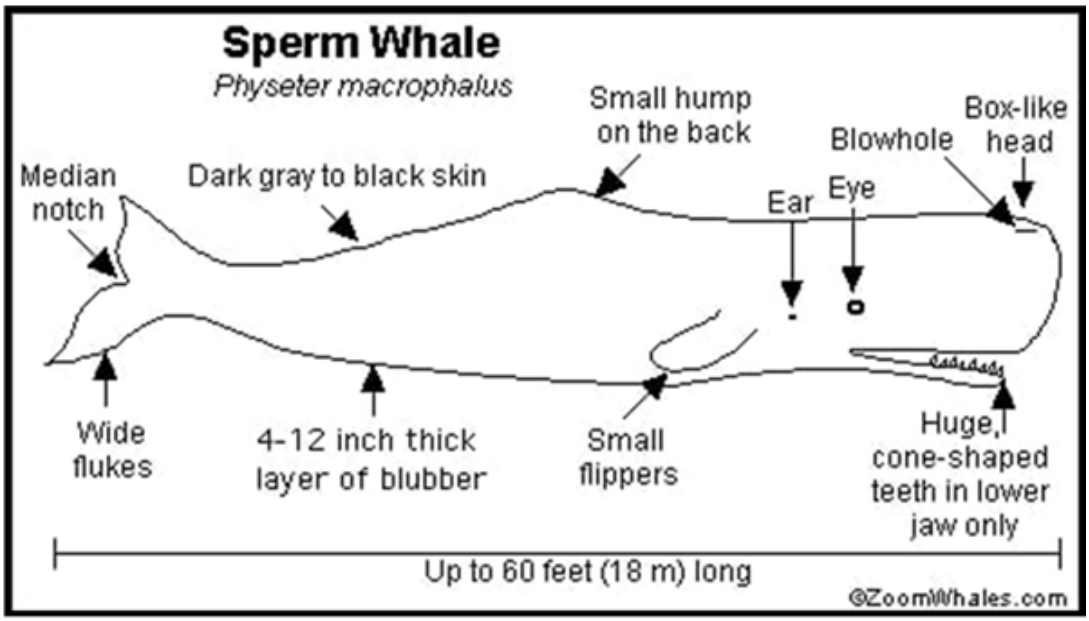

Figure 1: Labeled diagram of the Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758).
[Source: https://www.enchantedlearning.com/subjects/whales/species/Spermwhale.shtml]

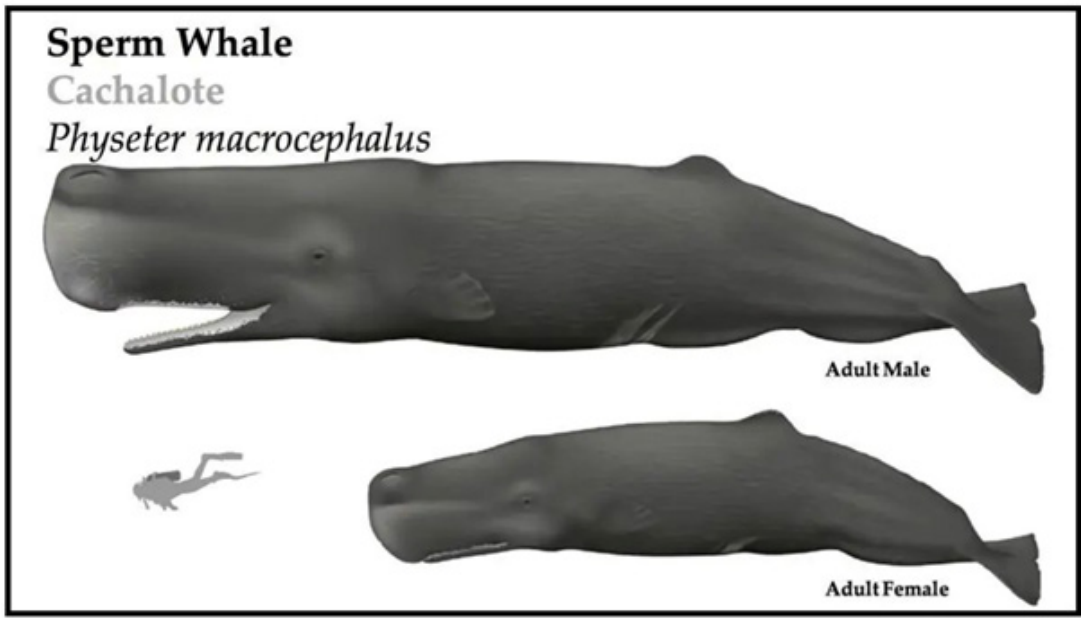

Figure 2: Comparison of the body length and mass between adult male and female Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758).
[Source: https://www.azoreswhalewatch.com/educational/speciescatalogue/mammals/sperm-whale-cachalote]

Despite numerous documented sightings and strandings of marine mammals along the Mediterranean coast of the Gaza Strip, as reported by Abd Rabou [40] and Abd Rabou et al. [41-44], no previously confirmed occurrence of the Sperm Whale has been recorded in this area. Therefore, the present study documents the stranding of a Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) in February 2026 and discusses its ecological and conservation implications within the broader context of the southeastern Mediterranean Sea. One of the main objectives of this modest study is to raise awareness among Palestinians in general, and Gazans in particular, about this unique whale species-the Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758), the largest toothed whale in the world. Such awareness may contribute to the protection of this endangered species, whose population in the Mediterranean Sea is limited and estimated at fewer than 2,500 adult individuals [10,11]. To support this goal, the study includes several illustrations to facilitate its identification by Gazan fishermen, the Palestinian community, and potentially residents of neighboring countries. For this reason, the present study can be regarded as an educational contribution for the Palestinian community as well as for communities in neighboring countries.

Methodology

This descriptive study compiles information regarding the stranding event of a Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) of 24 February 2026 from verified digital news platforms, official statements, and publicly available visual documentation. Photographs and video materials were examined to confirm species identification, approximate body length and general condition. The stranding occurred along the southern Levantine coast of the Mediterranean Sea, just north of the Gaza Strip (approximately 365km^2) (Figure 3), highlighting the site's close geographical connection to Palestinian marine waters.

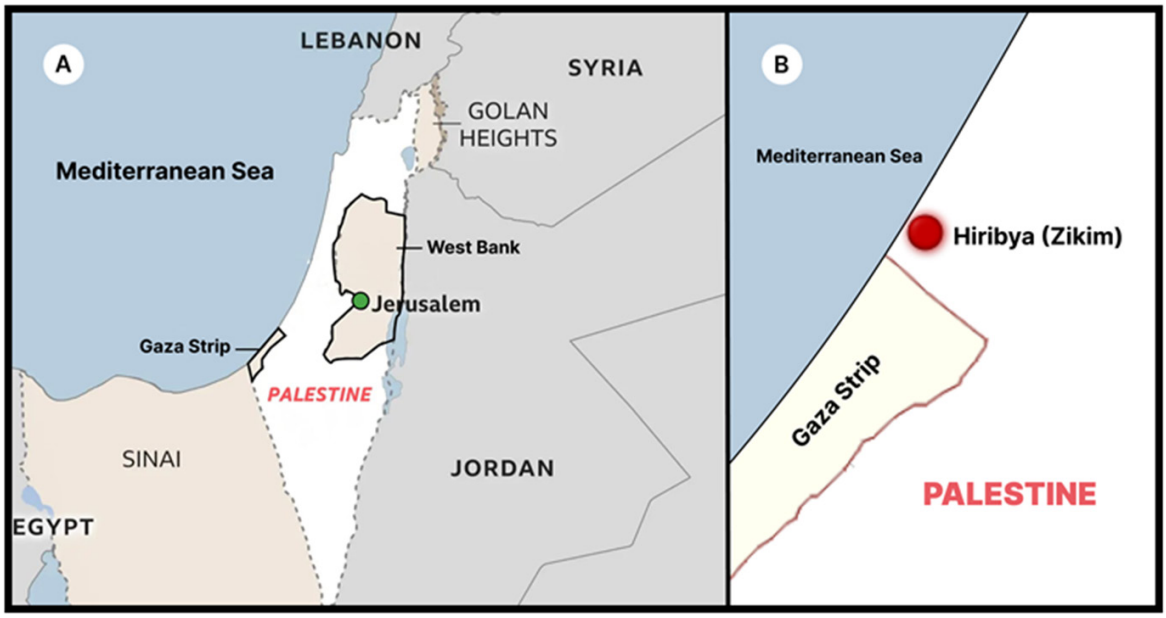

Figure 3: Map showing (A) the geographical location of the Gaza Strip (365km^2) in the southwestern part of Palestine (27,000 km^2), and (B) the site of the Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) stranding at Hiribya (Zikim) beach near the northern border of the Gaza Strip.

Result and Discussion

Event description

On 24 February 2026, a Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) measuring approximately 12-13m in length stranded at Hiribya (Zikim) Beach, situated just north of the Gaza Strip. According to field observations and local reports, sea waves pushed the carcass ashore (Figure 4). Although it remains uncertain whether the whale died offshore or shortly after stranding, mortality was confirmed at the site. The carcass appeared relatively fresh and showed no advanced decomposition, suggesting that death likely occurred shortly before the stranding event. Based on the recorded body length, the individual was most likely an adult male. Due to the large size of the carcass, heavy machinery and a crane were required to remove and bury the whale, and a trench was excavated at the site to allow safe burial. Such procedures are commonly adopted in coastal stranding events involving large cetaceans when detailed necropsy investigations are not feasible [45].

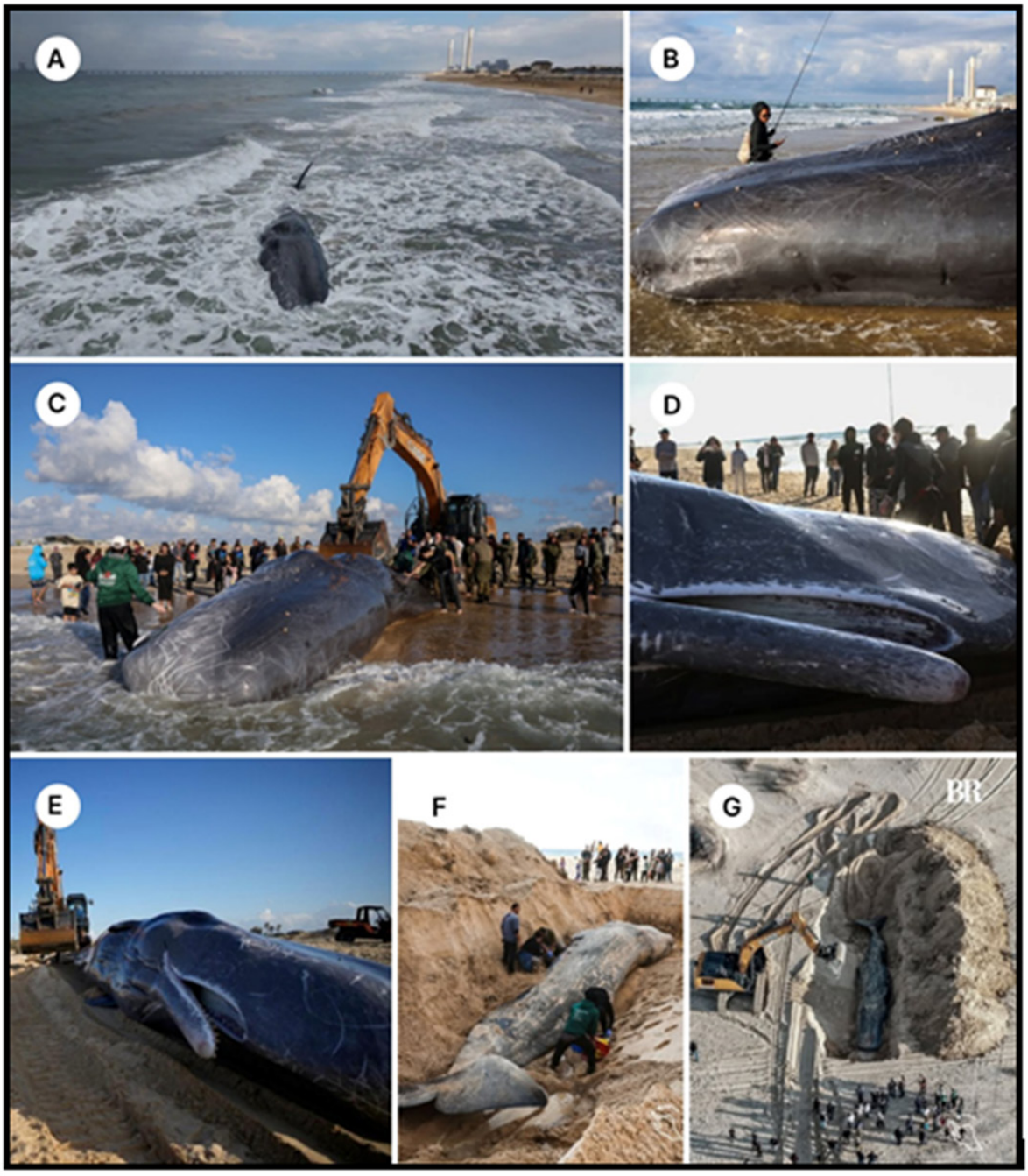

Figure 4: Stranding of a Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) on Hiribya (Zikim) Beach, near the Gaza Strip, southern Palestine, on 24 February 2026: (A-C) Sea waves pushed the carcass onto the shore, (D-E) The toothed lower jaw of the whale is clearly visible, and (F-G) Heavy machinery was used to excavate a trench for burial of the whale carcass.

Regarding the stranding of large whales, only a few cases involving dead Fin Whales (*Balaenoptera physalus Linnaeus*, 1758) have been recorded along the Gaza Strip's coast during the past 40-50 years, and most of these were in advanced stages of decomposition. In some instances, the carcasses were safely buried to prevent the spread of odors associated with decomposition [41,43]. In Australia, similar burial operations for whale carcasses have been documented [45,46]. Given that Sperm Whales are predominantly deep-diving oceanic cetaceans inhabiting offshore waters, strandings along coastal areas are relatively uncommon and often associated with ecological or anthropogenic stressors rather than simple navigational error [47]. Consequently, stranding events provide important opportunities to document species occurrence and evaluate environmental pressures affecting Mediterranean cetacean populations.

Possible causes of stranding

Although no official necropsy findings have been publicly disclosed for this individual, a range of anthropogenic and natural factors have been recognized as major contributors to Sperm Whale strandings worldwide and in the Mediterranean Sea. Ship strikes represent one of the leading causes of mortality in the eastern Mediterranean due to dense maritime traffic and the presence of major international shipping routes crossing the Levantine Basin [13,15,48]. Large-bodied and slow-moving whales are particularly vulnerable to collisions with vessels traveling at high speed [49,50]. Entanglement in fishing gear also constitutes a significant threat. Longlines and other fishing equipment targeting pelagic species such as swordfish and tuna may accidentally trap large cetaceans, leading to injury, stress or eventual death [16]. Such interactions are widely documented across the Mediterranean [21,51]. Marine pollution represents an additional conservation concern. Plastic ingestion has been repeatedly documented in stranded Mediterranean Sperm Whales, with plastic debris sometimes constituting a substantial portion of stomach contents and potentially causing digestive obstruction or malnutrition [17,52]. Moreover, contaminant accumulation, including heavy metals and persistent organic pollutants, has been detected in stranded individuals and may negatively affect physiological functions such as immune response and reproduction [53-57]. Anthropogenic underwater noise particularly that associated with seismic surveys for oil and gas exploration represents another possible factor influencing cetacean behavior. Exposure to intense acoustic disturbances may disrupt orientation, navigation and feeding behavior, potentially forcing whales into atypical shallow-water environments [21,58-60]. In addition to these human-related factors, natural causes such as disease, physiological stress or other biological conditions cannot be excluded [61].

Regional context

This event represents the eighth documented Sperm Whale stranding along the Mediterranean coast of Palestine since systematic monitoring began [28,38] and is the largest recorded stranding as well (Table 1). It occurred in the southernmost part of the Palestinian coast, near the northern Gaza Strip. Although the Levantine Basin is generally an offshore habitat for this species, occasional coastal strandings indicate that Sperm Whales periodically enter the broader southeastern Mediterranean region [62,63]. The Levantine Basin is characterized by intense maritime activity, expanding fisheries and increasing offshore energy exploration, all of which may contribute to cumulative pressures on marine megafauna. Recent spatial analyses indicate that existing marine protected areas may not adequately cover important Sperm Whale habitats within the Mediterranean basin [23]. Furthermore, acoustic monitoring studies suggest relatively low regional abundance of Sperm Whales, highlighting the vulnerability of this Mediterranean subpopulation [64]. Consequently, individual mortality events may have disproportionate ecological significance for the conservation of the species. In the Gaza Strip, this stranding event expands the limited records of both baleen and toothed whales along the southeastern Mediterranean coast. Despite constraints in scientific infrastructure and monitoring, such observations remain important for understanding regional cetacean distribution and mortality, and highlight the need for standardized stranding response, necropsy investigations and stronger regional scientific cooperation.

Table 1: Chronology of documented Sperm Whale Strandings along the Mediterranean Coast of Palestine (~230km)*.

#	Date	Location of the Coast	Estimated Length
1	1996	Haifa	8-10m
2	2009	Al-Haram or Sidna Ali (Herzliya)	Not reported
3	2013	Al-Majdal or Asqalan (Ashkelon)	~10m
4	2016	Isdud (Ashdod)	11-12m
5	2018	Umm Khalid (Netanya)	Not reported
6	2019	Al-Khadayra (Hadera)	Not reported
7	2023	Tal al-Rabie or Yafa (Tel Aviv or Jaffa)	Not reported
8	24-Feb-2026	Hiribya (Zikim)	12-13m

Conclusion

The February 2026 stranding of a Sperm Whale (*Physeter macrocephalus Linnaeus*, 1758) near the northern coastal border of the Gaza Strip represents the first documented record of the species close to Gaza Strip's Mediterranean waters. As part of the endangered Mediterranean subpopulation, the event highlights potential pressures on large cetaceans in the southeastern Mediterranean, including maritime traffic, fisheries interactions, pollution and underwater noise. Documenting such incidents contributes to the scarce records from the Levantine Basin and emphasizes the need for continued monitoring, standardized stranding-response protocols and stronger regional scientific cooperation.

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