



Survival in the Mediterranean Sea: the sperm whale Atlante



Biagio Violi ^{1,2,*}, Carlo Guidi ^{1,2}, Barbara Mussi ³, Alessandro Verga ⁴, Elena Fontanesi ⁵,
Martina Negri ⁶, Giulia Calogero ¹, Elia Biasissi ¹, Eleonora Pignata ¹, Gabriele Principato ^{1,7},
Vladimir Kulikovskiy ², Matteo Sanguineti ^{2,8}.

¹Menkab: il respiro del mare APS, Savona, Italy; ²INFN, Istituto Nazionale di Fisica Nucleare, Genoa, Italy;
³Oceanomare Delphis Onlus, Rimini, Italy; ⁴Golfo Paradiso Whale Watching, Camogli-Genova, Italy
⁵Delfini del Ponente APS, Imperia, Italy; ⁶MolaMola Dive Team, Alassio, Italy;
⁷Artescienza s.a.s., Varazze, Italy; ⁸University of Genoa, Department of Physics, Genoa, Italy.



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violi.biagio@gmail.com
info@menkab.it

INTRODUCTION

The Mediterranean sperm whale (*Physeter macrocephalus*) subpopulation is isolated from the Atlantic population (Violi et al. 2023) and is classified as “Endangered” due to several anthropogenic pressures such as plastic ingestion, entanglements and ship collisions (Pirotta et al. 2021). Among these threats, the marks of a ship strike can be easily recognized on the body of great whales. Here is reported the case of a sperm whale named *Atlante*, with clear signs of an interaction with a propeller that has removed up to 25-30% of its fluke. Data on *Atlante* have been collected in 4 different sightings from October 2021 to August 2022 by different research groups and whale watching companies working in the Ligurian and in the Tyrrhenian Sea.



Figure 1. *Atlante*'s fluke details, dorsal (on the left), ventral (in the centre), lateral (on the right) views (©Biagio Violi - Menkab).

RESULTS

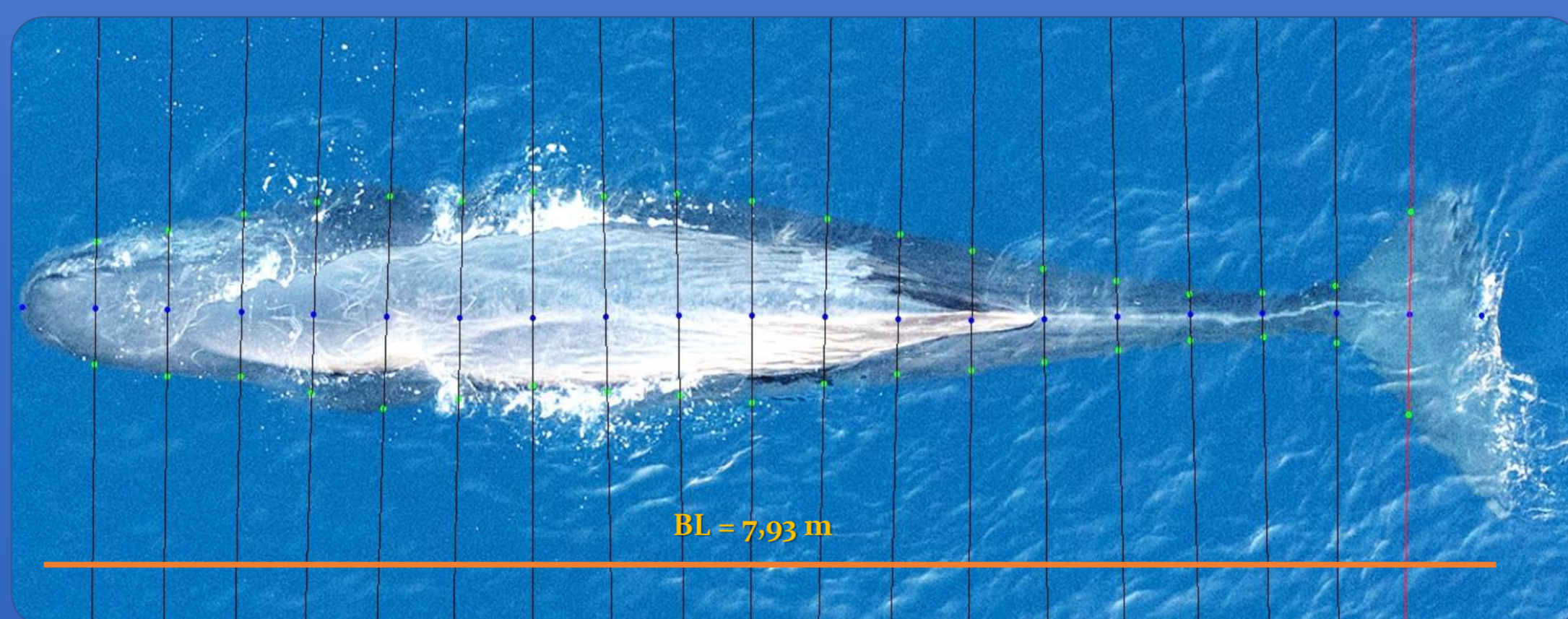
Sightings, photo-ID recapture and group composition



- I. 18th October 2021 in the Northern Pelagos Sanctuary, Ligurian Sea, 2 individuals.
- II. 12th May 2022 in the Ischia and Ventotene IMMA, Tyrrhenian Sea, 2 individuals.
- III. 29th July 2022 in the Northern Pelagos Sanctuary, Ligurian Sea, 4 individuals.
- IV. 6th August 2022 in the Western Pelagos Sanctuary, Ligurian Sea, 2 individuals.

Aerial photo analyses

Aerial images analyses using *Whales_Morphometrics* (Christiansen et al., 2016) show body length of $7,93 \pm 0,24$ m and don't reveal any sign of weight loss.



Acoustics

Regular clicks and creaks have been recorded in 3 of 4 sightings revealing regular feeding activities and the presence of 2-4 individuals in the area.

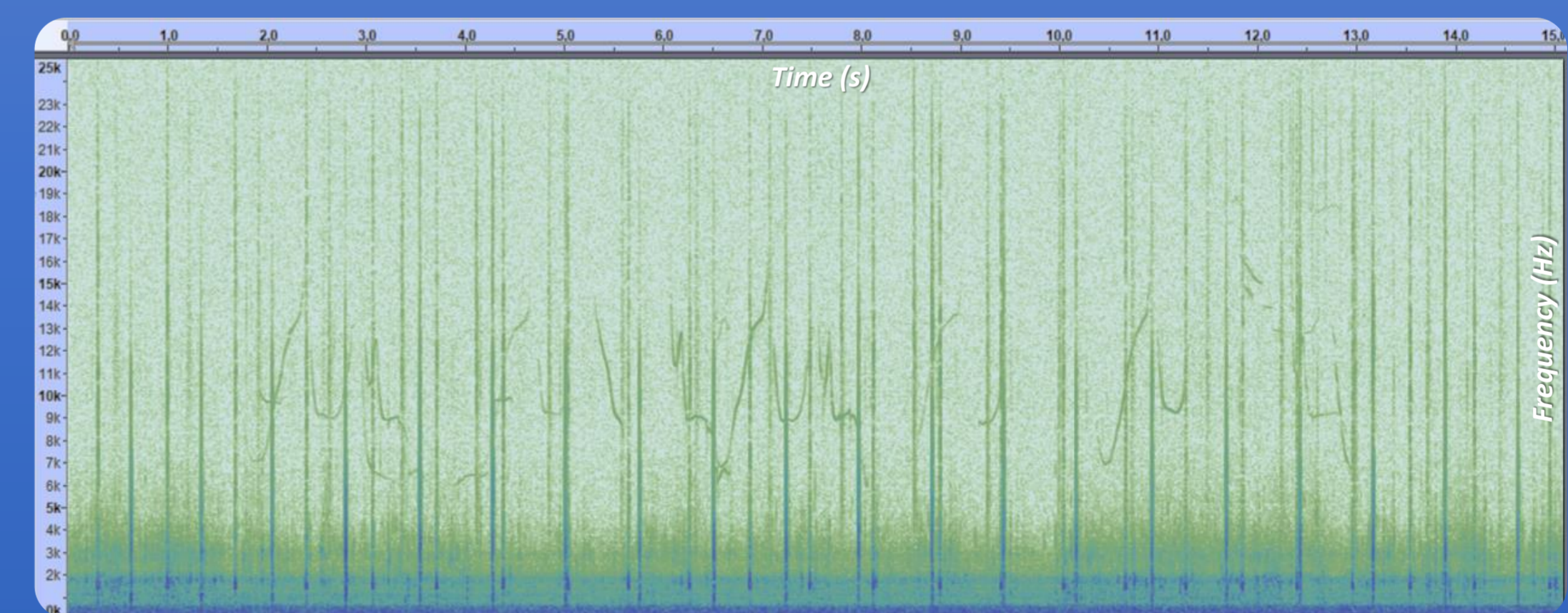


Figure 2. Map of the sightings between 2021 and 2022; aerial image of *Atlante*'s dorsal view (©Gabriele Principato - Menkab/Artescienza); acoustic recording of III sighting with sperm whales clicks revealing more than 2 whales in the area.

Total displacement: ca. 660 nautical miles in 292 days. In all sightings, the sperm whales were in loose male aggregation and performing asynchronous fluking and feeding dives.

CONCLUSIONS

Due to the body length estimates (~8m) and the presence of other individuals in each sighting, *Atlante* has been classified as juvenile of less than 10 years old (see Frantzis et al. 2014; Glarou et al. 2022; Maio et al. 2022). The photographic recaptures suggest that despite the injury, this animal can feed regularly and undertake long movements within the Western basin. In all sightings, *Atlante* didn't exhibit any elusive behaviour to the boat presence. However, the marks on the fluke reveal that ship strike is a real danger to this species in the Mediterranean Sea. Sharing *Atlante*'s fluke and records with the scientific community is fundamental to keeping track on this animal. Further data will be valuable for a better knowledge of how this animal can survive and live after this trauma.

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