

## SCIENTIFIC NOTE

# First confirmed record of a fin whale (*Balaenoptera physalus*) in the north coast of Cuba

Primer registro confirmado de rorcual común (*Balaenoptera physalus*) en la costa norte de Cuba

Joán I. Hernández-Albernas<sup>1\*</sup>  
Yusmila Helguera Pedraza<sup>2</sup>

<sup>1</sup>Refugio de Fauna Cayo Santa María. Plaza Las Terrazas. Caibarién, Villa Clara, Cuba.

<sup>2</sup>Centro de Estudios Ambientales. CITMA. AP 5, Ciudad Nuclear, 59350, Cienfuegos, Cuba.

\* Autor para correspondencia:  
joan.hdeza@gmail.com

## OPEN ACCESS

Distribuido bajo:  
Creative Commons Atribución-  
NoComercial 4.0 Internacional  
(CC BY-NC 4.0)

Editor:  
Leandro Rodríguez-Viera  
Centro de Investigaciones Marinas.  
Universidad de La Habana.

Recibido: 14.03.2022  
Aceptado: 09.05.2022

## Abstract

The finding of a fin whale (*Balaenoptera physalus*) on the coast of Cayo Francés, Sabana-Camagüey archipelago, is presented. This stranding is the first record for the species in the northern coast of Cuba, and the second documented in the country.

**Keywords:** stranding, baleen whales, fin whale, Cuba.

## Resumen

Se presenta el hallazgo de un rorcual común (*Balaenoptera physalus*) en el litoral de Cayo Francés, archipiélago Sabana-Camagüey. Este varamiento constituye el primer registro confirmado de esta especie en la costa norte de Cuba, y el segundo documentado para el país.

**Palabras clave:** varamientos, ballenas, rorcual, Cuba.

## Introduction

Baleen whales (Cetacea: Mysticeti) are not frequently found in Cuban waters. Only three out of 10 species, with primary or secondary range in the Atlantic Ocean, have been identified in the archipelago, either as sightings, capture or strandings (Blanco, 2008; Whitt *et al.*, 2011). The most commonly identified has been the humpback whale (*Megaptera novaeangliae*), with records in both, the northern and southern coasts of Cuba. The other identified species (*B. physalus* and *B. edeni/brydei/borealis*?) have been cited only for the southern coast (Whitt *et al.*, 2011).

The only previous confirmed record for a fin whale (*B. physalus*) was in Boca de Galafre, on the southern coast of Pinar del Río, in 1989 (Lima, 1989). The purpose of this scientific note is to document a new stranding for this species, and the first one in the northern coast of Cuba.

## Methods

### Stranding zone

On February 6<sup>th</sup>, 2022, the carcass of a cetacean was detected by direct observation southwest of Cayo Francés (22.63134° N, 79.21407° W). The body was found stranded at 80 cm depth, in a sediment accumulation area, adjacent to a mangrove forest.

Cayo Francés is located in the north-central coast of Cuba. The area is part of the Sabana-Camagüey archipelago, and close to the northern limits of the country's territorial waters, with high connectivity to the deep outer waters of the Old Bahama Channel (Fig. 1).

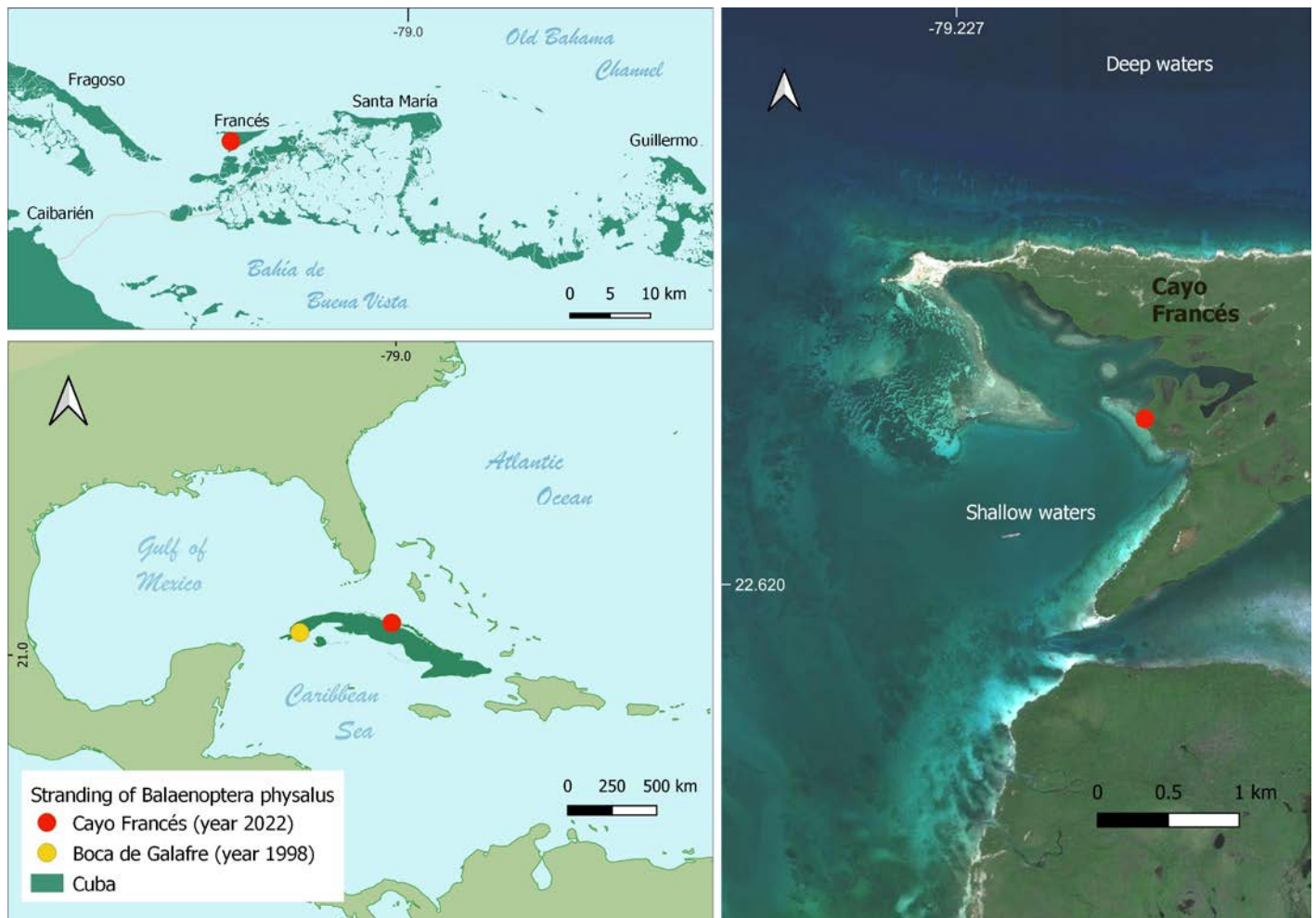
### Data analysis

Direct morphometric measurements using a tape-measure were made. We used the key to identification of cetacean based on external appearance by Jefferson *et al.* (2008). The taxonomic validation was consulted in WoRMS Editorial Board (2022).

### Results

The stranded individual (Fig. 2) was identified as a young male, belonging to:

Phylum Chordata  
Subphylum Vertebrata  
Class Mammalia



**Fig. 1.** Geographical location of the stranded fin whale (*B. physalus*) recorded in Cayo Francés.



**Fig. 2.** Stranded fin whale carcass in Cayo Francés.

Order Cetartiodactyla  
 Infraorder Cetacea  
 Superfamily Mysticeti  
 Family Balaenopteridae  
 Genus Balaenoptera  
 Specie *Balaenoptera physalus* (Linnaeus, 1758)

Some of the features leading to the identification of this species were the presence of ventral pleat, extending beyond the navel and the lack of knobs in the head (Jefferson *et al.*, 2008). However, the most distinctive feature was the dark color of the left lower jaw and the white color of the right jaw, observed from the ventral view (Fig. 3). The body coloration of fin whale is black or dark gray above and on the sides, shading to white below (Jefferson *et al.*, 2008). It is distinctive for the species the asymmetric pigmentation of the cephalic region (like that observed in our specimen) with the left lower jaw mostly dark, and the right jaw largely white (Jefferson *et al.*, 2008). This feature could be confirmed because the body was not in an advanced state of decomposition.

Although the body remained upside down, with the ventral region exposed, basic morphometric measurements could be taken and are included in Table 1 for

future references, including the submerged dorsal fin, which had to be amputated for the measurement (Fig. 4).

According to the relation weight/length described by Geraci & Lounsbury (1993) for estimating the weight of cetaceans occurring in North Atlantic waters, the animal found must have between 23 and 27 t of biomass.

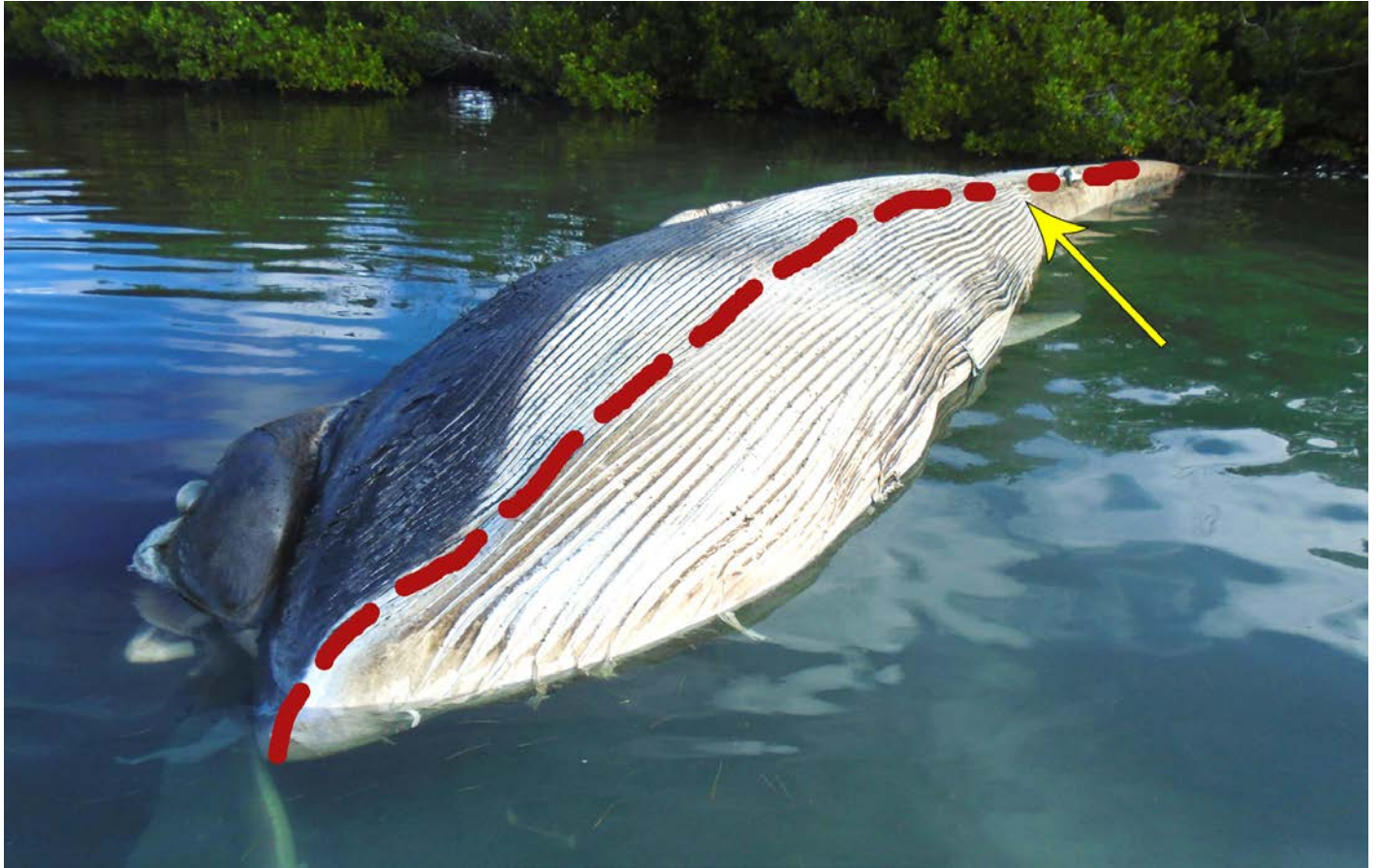
### Final considerations

Alayo (1958) mentioned that this species had been reported from Júcaro off the southern coast of Cuba; however, the only confirmed record of this species is a stranding of an individual near of Boca de Galafre, Pinar del Río, in July 1989 (Lima, 1998). The current stranding is the second confirmed report of this species in the country, and the first confirmed report from

**Table 1.** Morphometric data of the stranded fin whale recorded in Cayo Francés.

Quantitative data (+/- 0.01 m)	(m)
total length	13.00
pectoral fin length	1.50
dorsal fin height	0.24
dorsal fin width	0.47
fluke width	2.60





**Fig. 3.** Ventral view showing asymmetrical coloration of the cephalic region. Red dashed line mark the imaginary central axis to compare symmetry. Yellow arrow indicates the navel.



**Fig. 4.** Measurements in the fins of stranded *Balaenoptera physalus*. Right: dorsal fin. Left: pectoral fin.

the northern coast. However, there are other reports in Cuba classified as unidentified rorquals (two in the north and one in the south), *Balaenoptera* spp. (one in the north), unidentified whale (one in the north) and unidentified large whale (one in the south) (Whitt et al. 2011, Garcia-Alfonso, pers. comm).

This species has a cosmopolitan distribution, and although they are considered oceanic whales, they can be observed in coasts with nearby deep waters. These whales reach the second largest size in the animal kingdom (27 m in individuals from the southern hemisphere) (Jefferson *et al.*, 1993; Blanco, 2011), only overtaken by the blue whale (*Balaenoptera musculus*), however the individual found was only 13 m. Toro *et al.* (2020) consider the individuals, even larger (15 m), as immature with ages between 3 and 5 years.

Without signs of apparent disease, nor marks of large predators on the carcass, this stranding event could be attributed to the weather from the previous week, with sustained winds associated with a continental winter front. Cetaceans can be forced by weather conditions to reach shallow depths and unknown coastlines, subsequently becoming disoriented while trying to return to deep water. Geraci & Lounsbury (1993) consider unusual weather-related environmental events as a cause of mortality in cetaceans.

Fin whale (*B. physalus*) is considered a threatened species, in the category of Vulnerable (IUCN, 2022), according to the latest assessment of Cooke (2018). Increasing the knowledge about the presence of the species in Cuba will certainly contribute to a better understanding of the global distribution of the species.

## Acknowledgments

We appreciated the fast information and effectiveness of collaboration of Centro de Estudios y Servicios Ambientales of Villa Clara, Cayo Las Brujas Diving Center and Cayo Santa María Protected Area team. Thank you to Rossy and Anmari for their considerations.

## Statements

### Author contributions

Conceptualization and original draft, JHA; Investigation and methodology, JHA and YHP; Review and final writing, JHA and YHP.

### Funding

The authors of this work have not received any funding to conduct the research.

### Conflict of interest

The author has no financial or non-financial conflicts of interest to declare that are relevant to the content of the manuscript.

### Ethical behaviour

The author has followed all applicable international, national, and institutional recommendations related to the use and handling of animals for research.

### Permits for sampling and other permits

No permits were required for the conduct of this research.

## References

- Alayo, D. (1958). *Lista de los mamíferos de Cuba (vivos y extinguidos)*. Universidad de Oriente, Museo Charles T. Ramsden, Santiago de Cuba.
- Blanco, M. (2008). Varamientos y avistamientos de ballenas edentadas (Cetacea: Mysticeti) en costas y aguas cubanas. *Rev. Invest. Mar.* 29(1), 81-85.
- Blanco, M. (2011). Ballenas y delfines. En Borroto-Páez, R. and Mancina, C.A. (Eds) *Mamíferos en Cuba* (pp. 186-201). UPC Print, Vasa, Finlandia.
- Blanco, M. (2013). Varamientos y avistamientos de *Physeter macrocephalus* (Mammalia: Physeteridae) en las costas y aguas de la plataforma cubana. *Revista Cubana de Ciencias Biológicas* 2(1), 1-4.
- Carrillo, M., Alcántara, E., Taverna, A., Paredes, R. & Garcia-Franquesa, E., (2014). Descripción osteológica del

- rorcual común (*Balaenoptera physalus*, Linnaeus, 1758) del Museo de Ciencias Naturales de Barcelona. *Arxius de Miscel·lània Zoològica*, 12, 93-123. <https://doi.org/10.32800/amz.2014.12.0093>
- Claro, R., Reshetnikov, Y.S., Alcolado, P.M. (2002). Physical attributes of coastal Cuba. En Claro, R., Parenti, L.R., Lindeman, K.C. (Eds) *Ecology of the Marine Fishes of Cuba* (pp. 1-20). Smithsonian Institution Press, Washington, D.C., USA.
- Coakes, A., Gowans, S., Simard, P., Giard, J., Vashro, C., Sears, R. (2005). Photographic identification of fin whales (*Balaenoptera physalus*) off the Atlantic coast of Nova Scotia, Canada. *Mar. Mamm. Sci.*, 21(2), 323-326.
- Cooke, J.G. (2018). *Balaenoptera physalus*. The IUCN Red List of Threatened Species 2018: e.T2478A50349982. <https://dx.doi.org/10.2305/IUCN.UK.2018-2.RLTS.T2478A50349982.en>. Accessed on 02 March 2022.
- Cubillas, V. (1970). Una captura insólita en Cuba. *Mar y Pesca* 65, 32-37.
- Geraci, J. R., Lounsbury, V. J. (1993). *Marine Mammals Ashore: A field guide for strandings*. A Texas A&M Sea Grant Publication: 82
- González, O., Ortiz, M., Lalana, R., Varela, C. (2001). Los crustáceos ectoparásitos de una ballena (Cetacea, Mysticeti, Balaenopteridae), encallada en la costa norte de Cuba. *Rev. Invest. Mar.* 23(1), 67-68.
- Hain, J.H.W., Ratnaswamy, M.J., Kenney, R.D., Winn, H.E. (1992). The fin whale, *Balaenoptera physalus*, in waters of the northeastern United States continental shelf. *Reports of the International Whaling Commission* 42, 653-669.
- IUCN (2022). *Red List of Threatened Species*. Accessed on 2 March 2022. [Available from [www.iucnredlist.org](http://www.iucnredlist.org)].
- Jefferson, T.A., Leatherwood, S., Webber, M.A. (1993). *FAO species identification guide. Marine mammals of the world*. Rome, FAO.
- Jefferson, T.A., Webber, M.A., Pitman, R.S. (2008). *Marine mammals of the world: a comprehensive guide to their identification*. Academic Press.
- Lima, O. (1989). Ballena de Boca de Galafre. *Mar y Pesca*, 286, 17-19.
- Rosel PE, Wilcox LA, Yamada TK, Mullin KD. (2021). A new species of baleen whale (*Balaenoptera*) from the Gulf of Mexico, with a review of its geographic distribution. *Mar Mam Sci.* 37, 577-610. <https://doi.org/10.1111/mms.12776>
- Toro, F., Gutiérrez, J., M., Henríquez, A., Leichtle, J., Follador, N., Abarca, P., Calderón, C., Peña, C., Aravena, P., Henríquez, A., Rodríguez, D., Sánchez, C., Pincheira, B. (2020). Report of two fin whale (*Balaenoptera physalus*) strandings associated with ship strikes in central-south coast of Chile. *Lat. Am. J. Aquat. Mamm.*, 15(1), 8-14. <https://doi.org/10.5597/lajam00255>
- Whitt, A.D., Jefferson, T.A., Blanco, M., Fertl, D., Rees, D. (2011). A review of marine mammal records of Cuba. *Lat. Am. J. Aquat. Mamm.*, 9(2), 65-122. <http://dx.doi.org/10.5597/lajam00175>
- WoRMS Editorial Board (2022). *World Register of Marine Species*. <http://www.marinespecies.org>, searched on February 13, 2022. <https://doi.org/10.14284/170>.

### Como citar este artículo

Hernández-Albernas, J.I., Helguera Pedraza, Y. (2022). First Confirmed Record of a Fin Whale (*Balaenoptera physalus*) in the north coast of Cuba. *Rev. Invest. Mar.*, 42(1), 145-150.