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Presence of sperm whales (*Physeter macrocephalus*) around the Azores: A study of re-sightings off the South of Pico from 2003-2012



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Introduction

Sperm whales are migrant species and the Azores function as a breeding and feeding area for sperm whales ^{A, B}.

Aim of the study

- Find out if sperm whales that are seen during summer in the Azores are migrant or resident individuals to gain a better understanding of their life history

Hypothesis

- Majority of these animals are usually seen during summer
- Different animals are present during winter
- Animals re-sighted have a preference for a particular time of the year

Methods

Study area

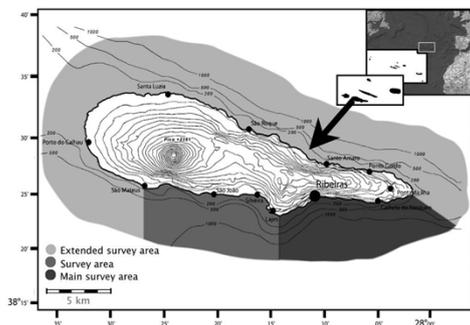


Figure 1: Location and detailed map of Pico Island, showing the survey areas. Out of all surveys; 83 % were carried out in the main survey area, 16% in the survey areas and less than 1% in the extended survey area.

Survey and matching protocol

- For each sighting : if possible photographs of the fluke were taken (data from 2003-2012)
- Creation of a catalogue by photo-identification method
- Matching of the individuals by eye
- Bad quality pictures were taken out to prevent false results/identification



Results

A total of 295 individuals were identified

- 60 individuals were re-sighted.
- 235 individuals were not re-sighted
- Majority of whales were sighted during summer (June-July-August)
- 18 individuals were also sighted during winter (December, January, February) of which 4 were resighted :
 - 1 during summer
 - 3 others in spring, autumn and winter.

Discussion

Possible explanation of the results

Winter sightings

- Some individuals only occur during winter in the Azores
- Female sperm whales generally stay in low latitudes year round however some females remain in the Azores all year without a seasonal shift in latitude

Re-sightings over the year

- Female sperm whales generally stay in low latitudes year round however some females remain in the Azores all year without a seasonal shift in latitude

Lacking resightings

- Azores function as feeding grounds for passing groups of sperm whales
- Study site was too limited

Limit of the study

- Small study area in comparison with the Azores archipelago and the home range of the sperm whales

Low research effort

- Only gps position on diving location
- Sperm whale is not the focus animal of the foundation
- The population size around the central group of the Azores was estimated at 2,500 per annum ^C. A lot of individuals were probably not seen off the South coast of Pico.

This study does not give a better understanding of the life history and migration patterns of sperm whales

Future research

- Matching individuals to other catalogues could provide information on the movements of these wide-ranging animals
- More data needs to be collected during winter to understand how different groups of animals use the Archipelago

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