WMMC'19 World Marine Mammal Conference Barcelona 2019

First insights into the ecology of false killer whales observed in the Azores

ID 574

Lisa Steiner[1], Guilherme Estrela[2], Karin Hartman[3], Miranda van der Linde[4]

1. Whale Watch Azores, Estrada da Caldeira 2, Horta, Faial, Azores, wwa2@yahoo.com 2. Ocean Emotion, R.Luzia dos Santos, n9 1ºDTO 2835-105 Baixa da Banheira, Setúbal; estrela5cri@gmail.com 3. Nova Atlantis Foundation, Rua Dr A Freitas Pimentel 11, Santa Cruz das Ribeiras 4. Futurismo, 8 Freyberg Road, Dunedin, New Zealand

ABSTRACT

False killer whales, *Pseudorca crassidens*, are infrequently observed in the Azores. Since 1987, there have been roughly 125 reported sightings around various islands of the Archipelago. Photo-ID analysis of dorsal fins shows several long term (13 year) and inter-island matches (80-125nm). Given the infrequency of sightings, the fact that there are multiple re-sightings of individuals combined with individuals sighted only once, indicates that part of the population shows some degree of residency in the Azorean archipelago. Several individuals have been re-sighted together over multiple years, supporting the known cohesive social structure of this species. Group size varies from 2-150 individuals. New-born calves have been encountered on multiple occasions, indicating that the Azores may serve as a nursery ground and constitute a critical habitat for this species. False killer whales have been observed multiple times in association with bottlenose dolphins, *Tursiops truncatus*, and occasionally other species. Aggression from resident Risso's dolphins, *Grampus griseus*, towards false killer whales has been documented off Pico Island. False killer whales in the Azores have been observed feeding on tuna, snipe fish, mullet and wreck fish and may follow food resources around the archipelago and surrounding submarine mountains. These animals may require protection, since they interact with fisheries and at present there are 2 known by-catch events in the local long-line fishery. To date, individual matches between the Azores and the other Macaronesian Archipelagos have not been verified for this species. Since other odontocetes, such as short-finned pilot whales, *Globicephala machrorhyncus*, and sperm whales, *Physeter macrocephalus*, have shown long range movements within Macaronesia, false killer whales may also move between these archipelagos. In the future, matching will be done between the Azores and the remaining areas of Macaronesia, to gain insight into the movement patterns and distribution of this top predator.

METHODS

Sightings of false killer whales were recorded during whale watching tours from 1993-present. ID photos were taken with various SLR cameras and lenses. Dorsal fins were cropped and matched manually. For this study, only marked individuals were matched. The letter "A" was attributed to distinctively marked individuals, while "B" was attributed to less distinctive but nonetheless marked individuals.

RESULTS

Several individuals were re-sighted over the years, spanning over 10 years. Inter-island matches were also observed between the central and western group (80-125nm).

Calves were seen in many encounters, occasionally including newborns. Several females have been seen in different years with calves, so hopefully in the future we will be able to determine calving interval.

False killer whales often associate with bottlenose dolphins and smaller delphinids. They have also been observed travelling alongside fin and sei whales.

Socialising has been observed often, indicated by breaches or tail slaps

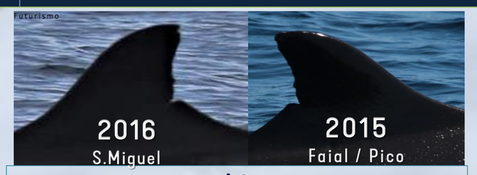
LONG-TERM MATCHES

ID	YEARS	DURATION
A3	2005, 2014, 2015, 2016, 2018	13 Years
A17	2005, 2014, 2015, 2016, 2018	13 Years
A8	2005, 2007, 2013, 2015, 2016, 2018	13 Years
A4	2005, 2007, 2013, 2015, 2016	11 Years
A6	2005, 2015, 2016	11 Years
B2	2005, 2013, 2016	11 Years
B3	2005, 2013, 2015, 2016	11 Years
B4	2007, 2010, 2013, 2015, 2018	11 Years
A7	2005, 2013, 2015	10 Years
A13	2011, 2019	9 Years
B6	2009, 2015	7 Years
B27	2013, 2016, 2017, 2018	6 Years
A10	2009, 2013, 2015	6 Years
A16	2012, 2013, 2014, 2015, 2017	6 Years
A11	2009, 2015	6 Years
B5	2009, 2014	6 Years
A12	2011, 2015	5 Years
B16	2013, 2014, 2015, 2016	4 Years
B17	2013, 2014, 2015, 2016	4 Years

A3

INTER-ISLAND MATCHES

ID	ISLANDS
A16	Faial-2013--São Miguel 2016--Terceira 2017
A18	Faial-2013--São Miguel 2016--Terceira 2017
A19	Faial 2013--São Miguel 2016
A23	Faial 2013--Terceira 2017
A29	Faial 2015--São Miguel 2016
A30	Faial 2015--São Miguel 2016
B15	Faial 2013--São Miguel 2016
B16	Faial 2013--São Miguel 2016
A39	Terceira 2018-Faial 2018 (20 days)-Condor (+a few days)
A37	Sao Miguel 2016--Faial 2016
B27	Faial 2016-Sao Miguel 2018-Terceira 2019



A9

Feeding on various species of fish was observed, including: mullet, snipe fish, wreck fish, mahi mahi, yellow fin tuna and bonito. In 2019 they were seen circling a turtle. False killer whales are known to interact with fisheries (mainly longlines) in the Azores. 2 animals were accidentally caught (Hernandez-Milian et al.2008), which could indicate a problem with bycatch, although the most recent study did not have enough observers on sword fish boats to determine this (Silva et al 2011).

REFERENCES

Hernandez-Milian G, Goetz S, Varela-Dopico C, Rodriguez-Gutierrez J, Romo´ n-Olea J, Fuertes-Gamundi JR, Ulloa-Alonso E, Tregenza NJC, Smerdon A, Otero MG et al.2008. *Results of a short study of interactions of cetaceans and longline fisheries in Atlantic waters: environmental correlates of catches and depredation events*. Hydrobiologia 612: 251–268.

Monica A. Silva, Miguel Machete, Dalia Reis, Marco Santos, Rui Prieto, Carla Damasao, Joao Gil Pereira and Ricardo S. Santos. 2011.. (2011). *A review of interactions between cetaceans and fisheries in the Azores* . Aquatic Conserv: Mar. Freshw. Ecosyst. 21: 17–27

ACKNOWLEDGEMENTS

Thank you to all the whale watching clients from Whale Watch Azores, Futurismo, Ocean Emotion, Norberto Diver & Biosphere Expeditions who make the sea time possible. Guilherme Estrela did the majority of the matching. Mariana Silva, Joana Oliveira, Timo Dersch (Behind The Mask), Sofia Mendonca and Marc Perussel shared photos and Vidal Martel from SEACAC donated a telephoto lens. Thanks also to all of the interns who worked with Nova Atlantis Foundation. Globe Guards for financial support of NAF and Pieter van der Harst for all kinds of support. Thank you!

Thanks for the help: Friends of Biosphere Expeditions and the many individual donors from my FB fundraiser!