

First report of blue Wahles (*Balaenoptera musculus*) frequenting the Canary Island Waters

Fabian Ritter (1) and Bernd Brederlau (2)

(1) M.E.E.R. e.V., Berlin, Germany

(2) Project *M.E.E.R. LA GOMERA*, Apdo. de correos 121, E-38870 Valle Gran Rey, La Gomera

SURVEY AREA

To date, twenty-five cetacean species are known to inhabit or visit the waters of the Canary Islands archipelago including *physeterids*, *delphinoids*, several *ziphiids* and four species of the *balaenopterid* family: minke, bryde, sei and fin whale (VIDAL MARTIN, pers. comm.). Seventeen cetacean species have been documented to use the waters Southwest off La Gomera as part of their habitat (RITTER 1996; RITTER & BREDERLAU, unpubl. data).

La Gomera lies about 400 kilometres off the West African mainland (17°15'W-17°21'W and 28°1'N-28°14'N) in the Atlantic Ocean and belongs to the Western Canary Islands. The islands are surrounded by waters which rapidly get deeper the farther away from the coast (see Fig. 1). Some authors see the oceanographic circumstances as an absence of a shelf (MARTIN et al. 1992). In the Western part of the archipelago, the sea-bottom drops steeply to about 4.000 metres into the Canaries Basin (ROTHE 1986). In La Gomera's Southwest, where our observations are made, a depth of 2.000 m is already reached only a few kilometres away from the coast.

The climate is mainly determined by the islands' position in the north-eastern trade-wind. Water temperatures are approximately 22°C-24°C in summer and about 17°C-19°C in winter. This temperature is lower than might be expected from a subtropical region, mainly due to the cold lift off West Africa and the cooler Canaries Current (MONTERO & ARECHAULETA 1996).

METHOD

Off La Gomera, small whale watching vessels operate from the Valle Gran Rey, situated in the Southwest of the island. One of these boats - the VIENA, a former fishing boat - since 1995 is being used as the platform for a long-term cetacean research project. This research is conducted by the Project *M.E.E.R. LA GOMERA*, a NGO based in Germany, in co-operation with the *Club de Mar*, a local whale watching operator.

Since September 1995, sighting data has been collected for every sighting made aboard the VIENA. This is done during the regular whale watching trips, which usually takes place once or twice a day (10 a.m. and 17 p.m., according to tourist demand) and throughout the year. Data collected include determination of species, time, group size, distance to the coast and duration of the sighting. These are complemented by field notes concerning the sighting described in this paper.

Photographic pictures were made with a SLR camera equipped with 28-70mm/f3.5 and 80-200mm/f4.0 zoom lenses. Video footage was filmed with a HI8 video camera.

RESULTS On 4th, April 1997, 11:20 a.m. a sighting of blue whales (*Balaenoptera musculus*) was made. Three whales were encountered approximately 1nm off the South coast of La Gomera (Pta. Iguala, see Fig. 2). To our knowledge, this is the first report of blue whales frequenting the Canary Island Waters.

The depth at the place of first sighting is 100-150m. The whales first were about 500m away from each other. Only after a while the number of whales could be determined accur-

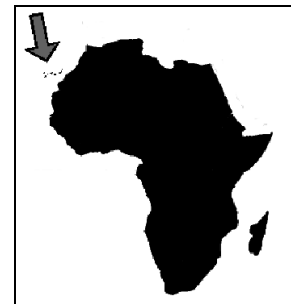


Figure 1

ately, because the animals stayed close to each other (50-200m). Two of the whales had body lengths of estimated 25m, the third animal being considerably shorter (approx. 20m).

The whales were followed by the VIENA, after a while two more whale watching boats (of the same type like the VIENA) joined the observation. The sighting lasted 2 hours and 5 minutes. The whales travelled into the same direction (Northwest) the whole time at a speed of about 3 knots. Only towards the end of the sighting they accelerated to 4-5 knots. The dive cycles were regular with dive times ranging from 30 seconds up to 2 minutes. The whales constantly stayed close to the surface and thus mostly were visible even when submerged. When they came to the surface to breath, they did this almost exclusively beside or in front of the boats.

The general behaviour was inconspicuous, no fluke-up dives or any spectacular behaviours were observed. Sometimes a whale diving close to the boat turned on his side, presumably to have a look at the whale watchers. The distance to the boats varied from 10 to 100 metres, some close approaches to the boats were observed. Once, an animal dived right below the VIENA at a depth of approx. 10m for 2-3 minutes (see Figure 6).

Photographic pictures (see Figures 3-6) were made throughout the encounter and also 1h and 15min of video footage were filmed by a guest of the whale watching trip.

DISCUSSION

Blue whales inhabit all oceans and are known to have a typical "balaenopterid life cycle". They stay in their tropical mating and calving grounds during winter and migrate to the Arctic and Antarctic feeding grounds in summer. However, there is evidence for non-migrating animals and resident populations in the Eastern Tropical Pacific (REILLY & THAYER 1990). Very little is known about the North Atlantic stock. Neither migrating routes nor the feeding and mating areas, could be determined up to now (LOCKYER 1990). Yet, there are indications for two separated stocks, one in the West and one in the East Atlantic (KLINOWSKA 1991). Concerning the East Atlantic, there have been sightings off West Africa at the level of Cape Blanco with the southernmost record for the eastern North Atlantic being from the Cape Verde Islands (INGEBRIGSTEN 1929). Estimations of the population size of the North Atlantic Ocean range from 100 to more than 500 (YOCHER & LEATHERWOOD 1985).

The size of the animals observed off La Gomera points to two adults and one younger, nearly sexually mature (compare KLINOWSKA 1991). The group size fits to the numbers given in literature: blue whales mostly swim alone or in groups of 2 or 3 animals (YOCHER & LEATHERWOOD 1985).

Western Atlantic blue whales apparently start migrating northwards as early as March/April (SEARS et al. 1990). Eastern Atlantic blue whales are said to migrate from the area of the Cape Verde Archipelago to Spitzbergen and the Barent Sea (KLINOWSKA 1991, YOCHER & LEATHERWOOD 1985). Given the date of our sighting and the observed travel direction, we may conclude that these blue whales were on their way to the Arctic seas. Also, the speed of the whales during our sighting corresponds to the migrating speed of blue whales (5 to 33 km/hour, YOCHER & LEATHERWOOD 1985).

The long duration of the encounter and the constant close distance to the whale watching boats, leads to the conclusion that it was the *whales* which *stayed with the boats* and not vice versa.

The use of whale watching vessels as a platform of opportunity herewith is demonstrated to be very important to collect data on a regular basis. The co-operative partnership of tour operator and researchers like on La Gomera is a vital example for the reciprocal completion of whale watching tourism and scientific research. Such a co-operation is looked at as a necessary feature of whale watching activities in general (HOYT 1994; IFAW, TETHYS & EUROPE CONSERVATION 1995). Moreover, the alliance of scientists and operators enables the direct realisation of conclusions from experiences gained in cetacean encounters. The (human) conduct towards the animals can thus be adjusted *directly* to the animals' natural occurring behaviour, a procedure which is vital for whale watching areas in development (FORESTELL 1995,

SMITH & HOYT 1996, in prep.). If we consider the fact, that there is an additional link to the public work done by the Project M.E.E.R. LA GOMERA, the *precautionary approach*, being the basis of the whale watching activities off the coast of La Gomera, can be regarded as a special kind of *mutualism*.

Acknowledgements:

We want to thank the *Club de Mar* for providing the research platform. The research- and information activities by the Project *M.E.E.R. LA GOMERA* are supported by the *Deutsche Umwelthilfe*, Radolfzell and *delphis dialog*, Hamburg.

References:

- Forestell, P. 1995. Ensuring Scientific Proposals for Rules are Practicable. Workshop on the Scientific Aspects of Whale Watching, Montecastello di Vibio, Italy. 30th March-4th April 1995: Working Paper MWW 95/46. 10 pp.
- Hoyt, E. 1994: Whale Watching and the Community: The way Forward. Whale and Dolphin Conservation Society, Bath, UK, pp.1-29.
- IFAW, Tethys and Europe Conservation 1995. Report of the Workshop on the Scientific Aspects of Whale Watching. Montecastello di Vibio, Italy. 30th March-4th April 1995. 45 pp.
- Ingebrigsten, A. 1929. Whales caught in the North Atlantic and other Seas. RAPP. CONS. EXPLOR. MER., RAPP. PROC.-VERB REUN. 56: 1-26. Cited in Yochem & Leatherwood (1985), original not seen.
- Klinowska, M. 1991. Blue Whale *Balaenoptera musculus* (Linnaeus 1758). Pp. 401-410 in ibd.: Dolphins, Porpoises and Whales of the World. The IUCN Red Data Book. IUCN, Gland, Switzerland and Cambridge, U.K. viii + 429pp.
- Lockyer, C. 1990: Blauwal *Balaenoptera musculus*. Pp.68-70 in: Martin, A.R. (Ed.): Wale und Delphine, Mosaik Verlag GmbH, München 1991.
- Martin, V., Montero, R., Heimlich-Boran, J. & Heimlich-Boran, S. 1992. Preliminary Observations of the Cetacean Fauna of the Canary Islands. European Research on Cetaceans - 6. Proceedings of the 6th annual conference of the European Cetacean Society: 61-63.
- Montero, R. & Arechavaleta, M. 1996. Distribution Patterns: Relationships between Depths, Sea Surface Temperature, and Habitat Use of Short-finned Pilot Whales South-West of Tenerife. European Research on Cetaceans - 10. Proceedings of the 10th annual conference of the European Cetacean Society: 193-198.
- Reilly, S.B. & Thayer, V.G. 1990. Blue Whale (*Balaenoptera musculus*) Distribution in the Eastern Tropical Pacific. MARINE MAMMAL SCIENCE, 6(4): 265-277.
- Ritter, F. 1996. Abundance, Distribution and Behaviour of Cetaceans off La Gomera (Canary Islands) and their Interaction with Whale Watching-Boats and Swimmers. Diploma Thesis to the University of Bremen, Faculty of Biology. 114pp.
- Rothe, P. 1986. Sammlung Geologischer Fuehrer, 81: Kanarische Inseln. Gebrueder Borntraeger, Berlin.
- Sears, R., Williamson, J.M., Wenzel, F., Bérubé, M., Gendron, D. & Jones, P. 1990. Photographic Identification of the Blue Whale (*Balaenoptera musculus*) in the Gulf of St. Lawrence, Canada. REP. INT. WHAL. COMMN (SPECIAL ISSUE 12). SC/A88/ID23. Pp. 335-342.
- Smith, A. & Hoyt, E. (1996, in prep.): A Review of International Regulations for Small Cetacean Watching and Swimming. Whale and Dolphin Conservation Society, Bath, UK.
- Yochem, P.K. & Leatherwood, S. 1985: Blue Whale *Balaenoptera musculus* (Linnaeus, 1758). Pp.193-240 in Ridgeway, S.H. & Harrison, R. (Eds.): Handbook of Marine Mammals. Volume 3. The Sirenians and Baleen Whales, Academic Press, London.