

FIN WHALE (*BALAENOPTERA PHYSALUS*) MIGRATION THROUGH THE STRAIT OF GIBRALTAR?

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INTRODUCTION: Research effort on the fin whale has been relatively important in the northern part of the Western Mediterranean Basin. The region of the Liguro-Provençal basin has been highlighted as being an important feeding ground for this species in the Mediterranean Sea, especially during the summer months (Zanardelli et al., 1992; Forcada et al., 1993; Forcada et al., 1996; Gannier, 1997). The decrease of the fin whale population in Liguria during the winter puts forward the question of where these whales go to, which has focused the attention of researchers during the last decade (Marini et al., 1995). Nevertheless, very little is known about possible migration patterns of this species in the Mediterranean Sea, and about the wintering grounds. The only passage for possible migrations between the Mediterranean and the Atlantic Sea is the Strait of Gibraltar. To test this hypothesis, research on this species started in 1999 by researchers of CIRCE in co-operation with ESPARTE and ALNITAK which has been recording sightings of fin whales in the eastern section of the Alboran Sea since 1994.

METHODOLOGY:

Shipboard surveys:

Ship-board surveys have been conducted in waters around the Strait of Gibraltar and the eastern Alboran Sea. Seven thousand six hundreds and thirty six nautical miles (14,141 Km) have been sailed in the Gibraltar region and contiguous Atlantic region onboard a ten meter motor-boat in 1999 and 2000, whilst 18,478 nmi (34,221 km) have been sailed in the central and eastern Alboran Sea region from 1992 to 2000. Data were recorded on number of individuals sighted, estimated size, initial cue and activity, contact position, depth, climatic parameters, sea state, associated species, and human activities.

Interviews and information from fishermen, yachtsmen and authorities.

For several years some fishermen, yachts and especially customs and police ships and planes have been sending sighting sheets to ALNITAK, CIRCE and ESPARTE. Interviews were held also by the different platform crew members with selected fishermen, maritime authorities and yachtsmen in all ports along the coastline of the research region throughout the research years. Only interviews and sighting sheets of fishermen, yachtsmen, whale watching boats and authorities considered most reliable and with most experience were

taken into account, and only data contrasted and proved either by photographs or by a very good and trustworthy description have been considered.

RESULTS:

Between 106 and 109 fin whales were sighted in a total of 74 sightings in the whole area. Seventy-four percent of these sightings were made between 1994 and 2000 in the central and eastern part of the Alboran Sea, and the other 26% were made between April-October of 1999 and 2000 in the Strait of Gibraltar. (Fig. 1)

In 83.8% of the sightings the behavior of these animals was recorded totaling 2,479 minutes of observation. In 82.3% of the encounters the animals were sighted traveling westbound towards or into the Atlantic, in 16.1% the animals were feeding and finally in 1.6% of the sightings, the animals were milling. (Fig. 2, 3)

DISCUSSION /CONCLUSIONS:

The new data reveal that possibly a large number of fin whales tend to go to the Atlantic Ocean during summer (82% of the sightings were made during July, August and September).

Another interesting fact is that the data confirms that the central part of the Alboran Sea could be a feeding ground. This area is considered as one of the most productive areas of the Mediterranean sea, as a result of the up-wellings of Estepona and Malaga (Garcia Lafuente et al, 1998) . In the rest of the areas, only in one occasion, in the Bay of Algeciras, the animals were sighted feeding. This sighting was made in conjunction with a bloom of the euphausid in this Bay.

Research from now will concentrate on answering the question of whether these whales come back to the Mediterranean and if so, when.

AKNOWLEDGEMENTS:

First of all thanks to Patricia Gozalbes for the collaboration and comments. To Anne Collet for the suggestions. Our special to the captains who patiently supported us in the campaigns we carried out, in particular to Antonio, Andres, Juan, Miguel and Kiko. To all the staff members of the different whale watching platforms, in special to Walti, Ketí and all the volunteers of firm España.

Last but not least, to the "Torre de Salvamento Marítimo de Tarifa Tráfico" and all the fisherman that are taken part in our research program

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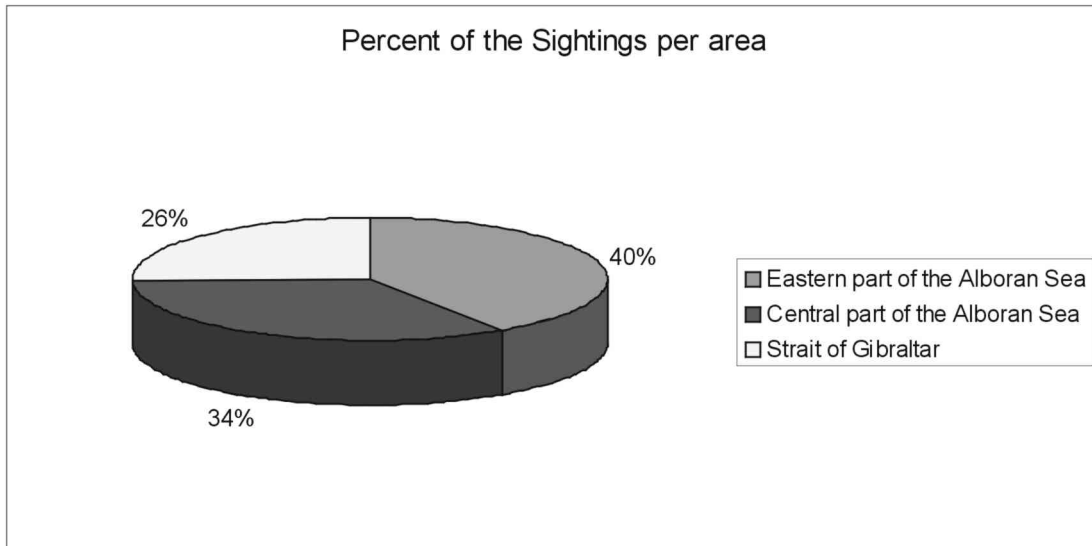


Fig 1

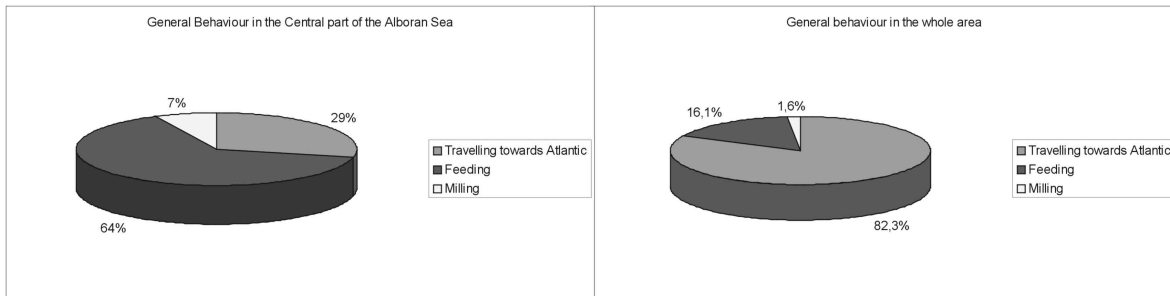


Fig 2 and 3