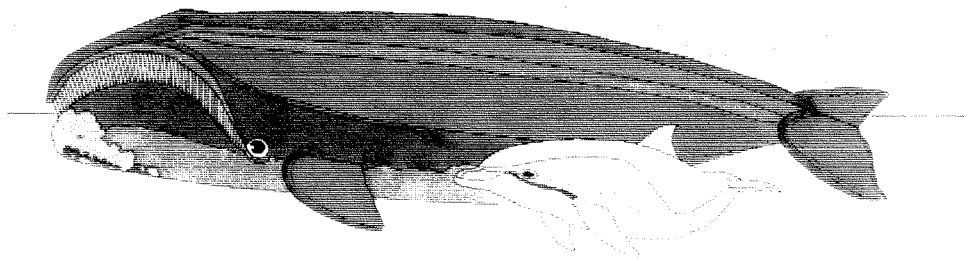


EUROPEAN RESEARCH ON  
CETACEANS - 4

PROCEEDINGS OF THE FOURTH ANNUAL CONFERENCE OF  
THE EUROPEAN CETACEAN SOCIETY,  
PALMA DE MALLORCA,  
2-4 MARCH 1990



EDITORS: P.G.H. EVANS, A. AGUILAR & C. SMEENK

**EUROPEAN RESEARCH ON CETACEANS - 4**

Proceedings of the Fourth Annual Conference  
of the European Cetacean Society, Palma de Mallorca,  
Spain, 2-4 March 1990

*Editors:* P.G.H. Evans, A. Aguilar & C. Smeenk

Date of Publication: December 1990

Place of Publication: Cambridge, England

---

## A MEDIUM-TERM SIGHTING SCHEME ON CETACEANS IN THE CENTRAL TYRRHENIAN SEA: WORK IN PROGRESS

Carlo Consiglio, Luca Marini, Annamaria Angradi and Andrea Sanna

Dipartimento di Biologia Animale e dell'Uomo, Università "La Sapienza",  
Viale dell'Università, 5, 00152 Roma, Italy

Although the presence of some species of cetaceans in the Tyrrhenian Sea is known from chance encounters and from specific sighting cruises, the numbers of these animals in our Sea and their presence in particular seasons of the year are almost unknown.

The National Railway ferry line (FF.SS.) between Civitavecchia (Rome) and Golfo Aranci (Sardinia) runs throughout the year and offers the opportunity for a systematic sighting scheme, almost independent of meteorological conditions and at very low cost. The distance between the two harbours is about 120 nautical miles and the crossing lasts 7-8 hr.

**METHODS** With the collaboration of the National Railway Board, starting from September 1989 and lasting for 1 year, groups of between two and four University students and researchers travelled on the ferries once a week and recorded all cetaceans observed during both outward and return legs of the trip, for a total of c. 1600 hr of observation per year.

At each sighting, the following information was recorded:

- (1) Photographic documentation of the animal or of the groups;
- (2) Angles subtended from the transect line to the sighted group (or animal) and their estimated distance;
- (3) Identity;
- (4) Group size and presence of juveniles;
- (5) Particular observations about the behaviour or presence of other marine animals, such as seabirds; and
- (6) Nautical position of the ferry.

Sea state, visibility conditions, water temperature and their variation were also recorded. From the photographs, we are trying to determine the length of the animals and their distance from the ferry using J. Gordon's method and to identify individual specimens from their natural markings.

During the crossing, we also recorded personal observations from the ferry crews relating to their vernacular names, old fishery techniques, proverbs and legends concerning cetaceans in Italian seas.

At the end of the year we expect to have recorded sufficient data for hypotheses on the following points:

- (1) a check of techniques employed and research theories;
- (2) geographical and seasonal distributions for each species;
- (3) group size and composition; and
- (4) intra- and interspecific behaviour (reactions to the boat, mixed schools, correlation with seabirds, individual and social behaviour).

If the tested methods and data should prove to be effective, the research may be continued for further years on the same, or some other ferry lines.

The first, incomplete raw data obtained during the first 4 months are reported here: the methodologies have proved to be quite satisfactory, thanks to favourable weather conditions.

**RESULTS** Some difficulties in identifying different species of Delphinidae (striped dolphin *Stenella coeruleoalba*, common dolphin *Delphinus delphis*, bottle-nosed dolphin *Tursiops truncatus* and Risso's dolphin *Grampus griseus*) were sometimes due to bad sea conditions or, more frequently, to sightings being at distances over 1.5 nautical miles, although photographs can be very helpful: more than 500 photographs have been taken with 35 mm cameras using lenses of 50, 135 and 200 mm focal length.

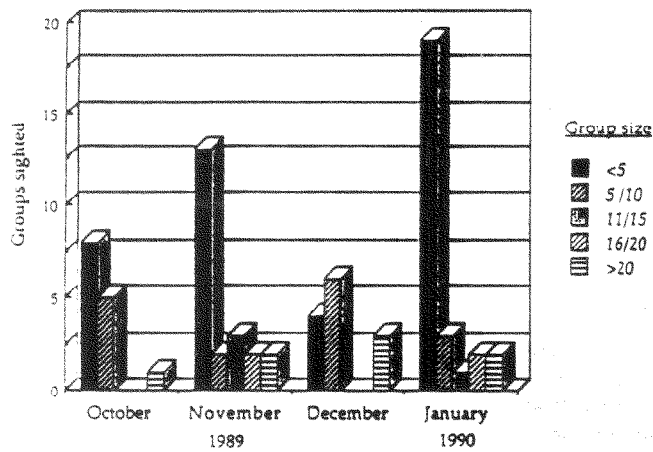
This research was carried out with a grant from the Environment Bureau of the Provincial Administration of Rome.

Table 1. Number of groups encountered for various cetacean species

	October	1989 November	December	1990 January
<i>Stenella coeruleoalba</i>	14	22	13	27
<i>Tursiops truncatus</i>	1	1	1	
<i>Delphinus delphis</i>		1	1	
<i>Grampus griseus</i>	2			1
Delphinidae unident.		1	2	2
<i>Balaenoptera</i> sp.	4	1	1	4
Trips	8	10	7	9

Fig. 3. Seasonal variation in group sizes of *Stenella coeruleoalba*

*Stenella coeruleoalba*



In this analysis we have aggregated smaller groups encountered within a few minutes and considered them as larger groups.

Percentage of sighted groups

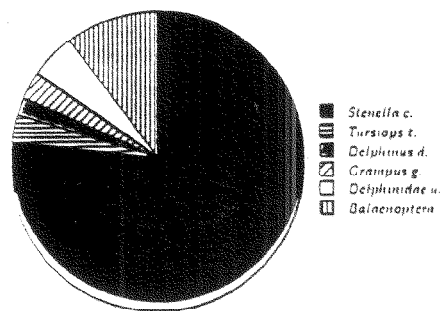


Fig. 2. Percentage of sighted groups of various cetacean species in Tyrrhenian Sea

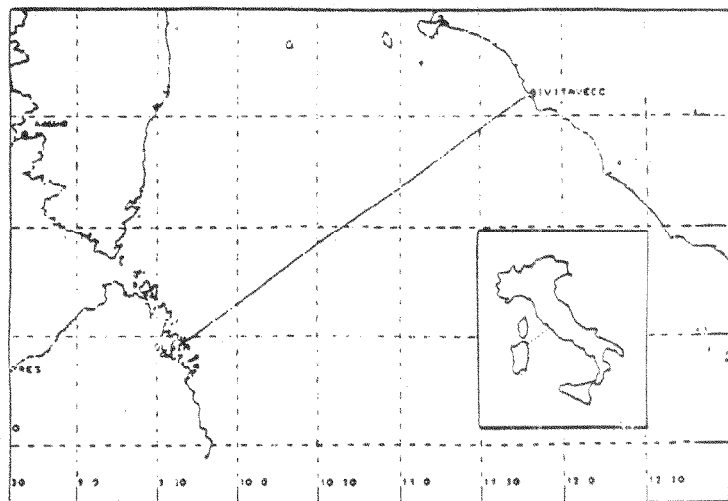


Fig. 1. Ferry route between Civitavecchia and Golfo Aranci, Tyrrhenian Sea