

# CETACEAN SIGHTINGS IN THE ALBORAN SEA. JULY 1993

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The Mediterranean cetacean populations have in recent years been surveyed by several authors. These surveys have mainly taken place in the sea water around Italy : Ligurian sea (GANNIER & GANNIER, 1990; FABRI & LAURIANO, 1990), Tyrrhenian sea (CONSIGLIO *et al.*, 1990), Corsica, Sardinia and Sicily (NOTARBARTOLO *et al.*, 1990), Adriatic sea (SERMAN & SERMAN, 1990), in the Ionic sea (POLITI *et al.*, 1990) and in the northern western Mediterranean (AGUILAR, 1990; AGUILAR *et al.*, 1992; FORCADA *et al.*, 1990) and only a few studies have taken place in the Alborán sea (FORCADA *et al.*, 1990; AGUILAR *et al.*, 1992). From 8 to 27 July 1993, a cetacean survey cruise took place between 6°12'00"W and 2°0'00"W in the Alborán Sea and Gibraltar Strait waters. The observation platform was placed at 5 m. above sea level. A total of 127 hours of observations were made on board of the R/V Francisco de Paula Navarro during the IEO ICTIO ALBORAN 0793 cruise, covering a distance of 1288 n. miles (Fig. 1) with an area of 13.213 n m<sup>2</sup>. Line transect sampling methods (BURNHAM *et al.*, 1984) were used to analyze the data and to calculate the estimation of abundance for the whole area. Along with the date and time sightings, position, species, number of individuals, depth, distance to the coast, and distance to the sighting data of sea conditions, temperature, atmospheric conditions and visibility were also recorded together data of the cetacean behavior, school type, speed and course, swimming behavior, attraction to the vessel, the birds and to the other fauna. The total number of sightings was 62. The species encountered were *Delphinus delphis* (31%), *Globicephala melas* (26%), *Stenella coeruleoalba* (23%), *Tursiops truncatus* (18%), *Physeter macrocephalus* (1%) and *Grampus griseus* (1%). The LDS (density of sightings) was calculated giving a value of 0.048 schools/n.mile. Estimates for grouping index, distance to the coast, behavior, temperature ranges, etc., for the different species are given in table I.

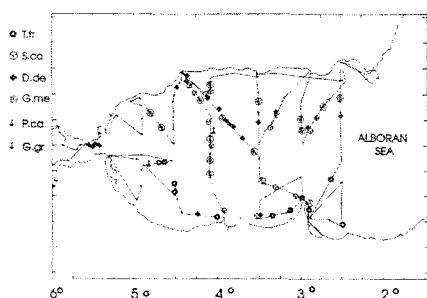


Fig. 1. Area surveyed and situation of the sightings.

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Table I. Summary of all data obtained in the sightings.

	<i>D. del.</i>	<i>G. mel.</i>	<i>S. coe.</i>	<i>T. tru.</i>	<i>P. mac.</i>	<i>G. gri</i>
n° sightings	19	16	14	11	1	1
n° individuals	236	118	129	57	1	1
LDS	0,014	0,012	0,01	0,008	0,0008	0,0008
Compact groups	1	6	1	1	-	-
Sparse groups	18	10	13	10	-	-
Isolated individuals	0	0	0	0	1	1
Average n°individ./group	12,42	7,37	9,21	5,18	1	1
Attraction to the vessel	12	6	3	6	-	-
Move away from the vessel	0	1	0	0	-	-
Indifferent to the vessel	7	9	11	5	1	1
Stationary swimming	2	7	5	1	-	-
Slow swimming	13	12	13	8	1	1
Fast swimming	6	0	0	3	-	-
Showing the back	18	16	13	10	1	1
Showing the caudal fin	4	0	6	2	-	-
Jumping	15	0	7	1	-	-
Maximum depth	1300	1500	1400	1150	700	1300
Minimum depth	80	375	75	30	700	1300
Average depth	685	869	727	407	700	1300
Max. distance to the coast	2,2	10,1	3,8	1,0	23,8	34
Min. distance to the coast	39,8	39,6	42,0	32,0	23,8	34
Ave. distance to the coast	15,9	24,7	18,8	13,7	23,8	34
Max. water temperature	21,3	23,9	23,6	23,2	20,8	21,8
Min. water temperature	18,6	21,4	21,3	20,8	20,8	21,8
Ave. water temperature	20,2	22,4	22,4	21,8	20,8	21,8