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## THE MARINE MAMMALS SIGHTED DURING "CETACEA-90"

by

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### ABSTRACT

The sightings recorded during the cruise "Cetacea-90" carried out in July, August, September and October, 1990, on board of tuna fishing vessels in the Biscay Gulf are reported in this paper. 154 sightings were made in about 2,484 hours of observations and 2,044 specimens sighted. The species observed were the following: Balaenoptera physalus, Balaenoptera acutorostrata, Physeter catodon, Grampus griseus, Globicephala melaena, Orcinus orca, Pseudorca crassidens, Delphinus delphis, Stenella coeruleoalba and Turisops truncatus.

### RESUME

Les cétacés vus en mer pendant la campagne "Cetacea-90", qui a eu lieu en juillet, août, septembre et octobre 1990 dans le golfe de Gascogne, à bord de thoniers, sont communiqués en cette note. On a fait 154 contacts en 2.484 heures d'observations, avec 2.044 exemplaires vus. Les espèces observées sont: Balaenoptera physalus, Balaenoptera acutorostrata, Physeter catodon, Grampus griseus, Globicephala melaena, Orcinus orca, Pseudorca crassidens, Delphinus delphis, Stenella coeruleoalba et Turisops truncatus.

## INTRODUCTION

Since 1979, the Museo Marítimo del Cantábrico has been recording the presence, sightings or strandings of marine mammals on Cantabrian coast (Cantabric Sea). Taking into account that strandings were 90 per cent of the observations, it was thought necessary to plan surveys travels in order to collect more information and to gather a better understanding of the Cantabric marine mammals.

In view for the impossibility to undertake a specific sighting survey, a joint programme was established with the Spanish Institute of Oceanography, through its Santander Laboratory, the I.C.C.A.T. (International Commission for the Conservation of Atlantic Tuna) and the Museo Marítimo del Cantábrico by means of which the cruise "Cetacea-90" was carried out. The observers embarked on tuna fishing boats during the white tuna fishing season take charge of recording sightings while the vessels support its fishing activity either by troll or by live bait.

Of course we shall consider that survey vessel methodology isn't specific to record sightings of marine mammals.

## MATERIAL AND METHODS

### **Ships and survey:**

Four biologists (Pedro Güemes Chozas, Carlos Fernandez Calvo, Gonzalo Alonso Hernandez and Jesús Cisneros Aguirre) like samplers load of I.C.C.A.T., were the observers in the following tuna fishings vessels: 'Ribela' (Burela, Galicia), 'Bahia de Santoña' (Santoña, Cantabria), 'Pedro Jose Berria' (Getaria, Euskadi) and 'Aita Buria' (Orio, Euskadi). Other informations were recalc from sportive fishings, specially: Jesus Fiochi ("Surf" Santander, Cantabria) and Manuel Vila ("Narval" Santander, Cantabria).

This cruise were realized in july to october with a 2.484 hours of observation, from dawn to set, among  $2^{\circ}$  W -  $25^{\circ}$  W longitude and  $43.5^{\circ}$  N -  $51.5^{\circ}$  N latitude, the covered area is display in figure 1.

Records of water superficial temperature had oscillate between 16.8 and 22.7 centigrade grades.

#### Observations methods and records:

The fishing vessels used were not specially conducted for cetacean observations, but Cantabric tuna fishing request visual location, specially about for fish jumps. In this way six to fourteen fishermen were situated on prow about 2.5 meters height for sentry, only in bad weather watch from the bridge (6.5 mt. height).

Observations were made about simple sight for obtain more vision field, to identificate species and count specimens, the observators helps with prismatic, also each sentry had characteristics draws of the most typical species in the zone.

Biological, behaviour, geographic and oceanographic data of each event were registered in observations cards. The presence of marine birds and fish were also records for study the possible correlations of events concurrence.

### RESULTS

In this cruise 154 sightings were recored 2044 specimens sighted, the summary of this results are exposed in table 1.

#### Mysticeti:

28 sightings were record, five determinate how as Balaenoptera sp. because the imposibilyti of species indentificate. Its geographical distributions are display in figure 2.

#### Balaenoptera physalus:

Is the Mysticeti with great number of sightings and specimens (20 and 37 respectively). Individual number per group were from 1 to 5, with an 1.85 average. Temperature range registrate between 17.7°C and 22.0°C. Present the more geographycal distribution arrive to 51° 4'N and 20° 39'W. Appear associate in two times with Sterna hirundo and one to Calonectris diomedea, Sula bassana, Puffinus gravis and Fulmarus glacialis; while in relation to fish appear three with tuna and only one with herrings.

#### Balaenoptera acutorostrata:

Three contacts with four specimens, only one with two individuals. Temperature range oscillate from 17.4 to 22.1°C. No bird associate, but one with tuna and herrings In three contacts specimens aproache near the vessels and one of then cross underwater the keel.

### Great Odontoceti:

Present in 40 sightings (25,98 %) with 208 specimens (10,97 %), seven cases was unable the species determination and list like Great Odontoceti. Its geographical distribution are display in figure 3.

### Physeter catodon:

Two sights and three individuals, groups of one and two specimens. Water superficial temperature range oscillate between 20.3° C and 21.2°C. In both occasions not appered association with birds, tuna or herrings.

### Ziphius cavirostris:

Only one time sighted with an lonely specimen in 18.5°C water superficial temperature, also no associate with birds, tuna or herrings.

### Globicephala melaena:

With the great number of sightings in this group, counting 16 contacts and 102 specimens. The groups were constituted from 1 to 14 individuals (6.8 average). Water superficial temperature range oscillate between 18.5° C and 22.5°C. Never presents associate with birds, tuna or herrings. Sucklings appear in four sightings.

### Grampus griseus:

92 specimens in 10 sightings constituting groups of 1 to 40 specimens and 9.2 average. Water superficial temperature range oscillate between 18.1° C and 22.6°C. In one case appear associate with Sterna hirundo and never with tuna or herrings. Sucklings appear in fewness sightings.

### Pseudorca crassidens:

Sighted in three cases, summary an 10 total specimens. The groups were from 1 to 8 (3.3 average). Water superficial temperature range oscillate between 21.1° C and 22.6°C. In one case associate with Sterna hirundo, another with tuna and never with herrings.

### Orcinus orca:

Only one male sighted in 18.1°C water superficial temperature and no associate with birds, tunids or herrings.

### Small Odontoceti:

With an 86 total sightings, that summary 526 specimens, in 21 of then were unable to species identificate clearly the species and list like Delphinidae sp. Its geographical distribution are display in figure 4.

#### Tursiops truncatus:

Sighted in nine contacts counting 40 specimens in groups formed by 1 to 16 individuals (4.4 average). Water superficial temperature range oscillate between 18.6°C and 22.3°C. Appear associate in two occasions with Puffinus gravis and others to Sterna hirundo, Fulmarus glacialis and Calonectris diomedea. Never associate with tuna but yes in two cases with herrings.

#### Delphinus delphis:

Presents the height sigths frequency and individuals number, 43 and 770 respectively. The groups were about 2 to 50 with 15.27 of average. Water superficial temperature range oscillate between 16.8°C and 21.8°C. Associate in 6 cases with Larus, 4 with Sula bassana, 4 with Sterna hirundo, 3 with Puffinus gravis and 1 with Puffinus griseus, Fulmarus glacialis y Phalacrocorax carbo, in relations with fish, 10 times tuna and 15 with herrings. In this mammer is the species most associate with birds and fish.

#### Stenella coeruleoalba:

Sigths in 13 contacts, counting 430 specimens, in groups from 6 to 90 animals (30.0 average). Water superficial temperature oscillate between 18.1°C and 22.2°C. Associate in one ocasion with Sterna hirundo, Puffinus gravis and Calonectris diomedea, while another with tuna and never to herrings.

#### **Abundance estimation:**

Because the impossibility to compute abundance index for tansects, like Laake (1980), I.W.C.(1981); Leatherwood, Tood and Thomas(1982) describe by superficial, owing to the methodoly use, we employ the number of sightings for 100 observations hours such as abundance index. The values are exposed in table 1.

### DISCUSSION

The results obtain contribute to overcoat in more geographical facts of marine mammals in Biscay Bay. Balaenoptera physalus is the species with more wide distribution in the zone together with Delphinus delphis. Balaenoptera acutorostrata, Grampus griseus, Pseudorca crassidens and Orcinus orca observations are confined to continental slope of Cantabric Sea and Biscay Bay.

In relation with the presence, the small Odontoceti (less than 4. mt) constituted the greatset number of contact (55 %) and also the group with higher specimens, while Mysticeti sightings constitute the 18% of contacts and much less

individuals (2.3%). Specifically Delphinus delphis is the most abundance (frequency 1.73 sigths/100 hours), succession of Balaenopetera pycalus (0.81 sigths/100 hours) and Stenella coeruleoalba (0.53 sigths/100 hours).

We can't obtain especific index abundance for geografical area conclusions because the own fihsing boats activite.

The studies about correlation between cetacea presence with birds and fishes not bring significant values, only Delphinus depbis is the species most associate with both.

#### ACKNOWLEDGEMENTS

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Table 1.

Species	Sights		Sepecimens		Temperature	
	count	/100 h	summary	/sights	min.	max.
Balaenoptera physalus	20	0.81	37	1.85	17.7	22.0
Balaenoptera acutorostrata	3	0.12	4	1.33	17.4	22.1
Balaenoptera sp	5	0.20	6	1.20	21.2	22.0
	28	1.12	47			
Physeter catodon	2	0.08	3	1.50	20.3	21.2
Ziphius cavirostris	7	0.28	7	1.00		
Orcinus orca	1	0.04	1	1.00	18.1	18.1
Pseudorca crassidens	3	0.12	10	3.33	20.7	22.6
Grampus griseus	10	0.40	92	9.20	18.1	22.6
Globicephala melaena	16	0.48	102	6.37	18.5	22.5
Odontoceto mayor	1	0.04	1	1.00		
	40	1.61	216			
Delphinus deslphis	43	1.73	770	17.90	16.8	21.8
Stenella coeruleoalba	13	0.52	430	33.07	16.8	22.2
Tursiops truncatus	9	0.36	40	4.44	18.6	22.3
Delphinido menor	21	0.84	526	25.04	17.4	22.7
	86	3.46	1766			
Total	154	6.19	2044			

Figure 1

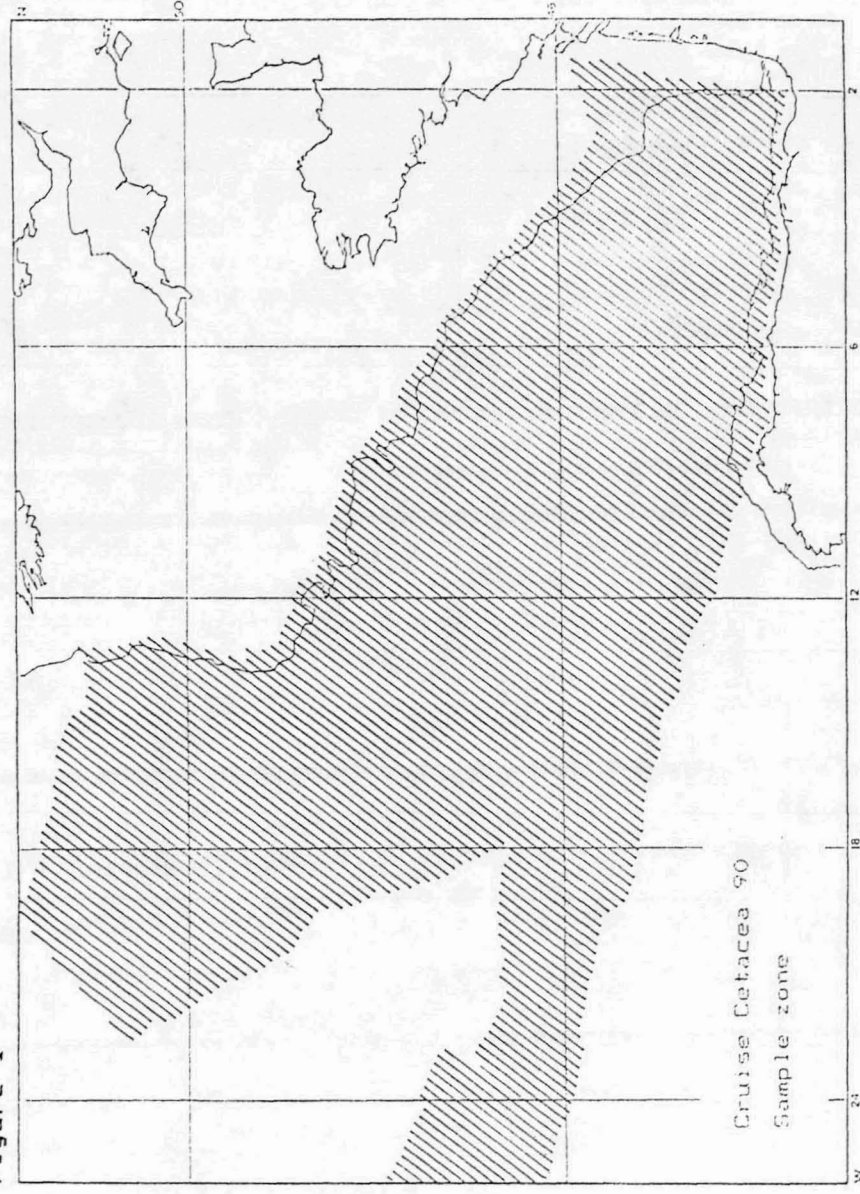
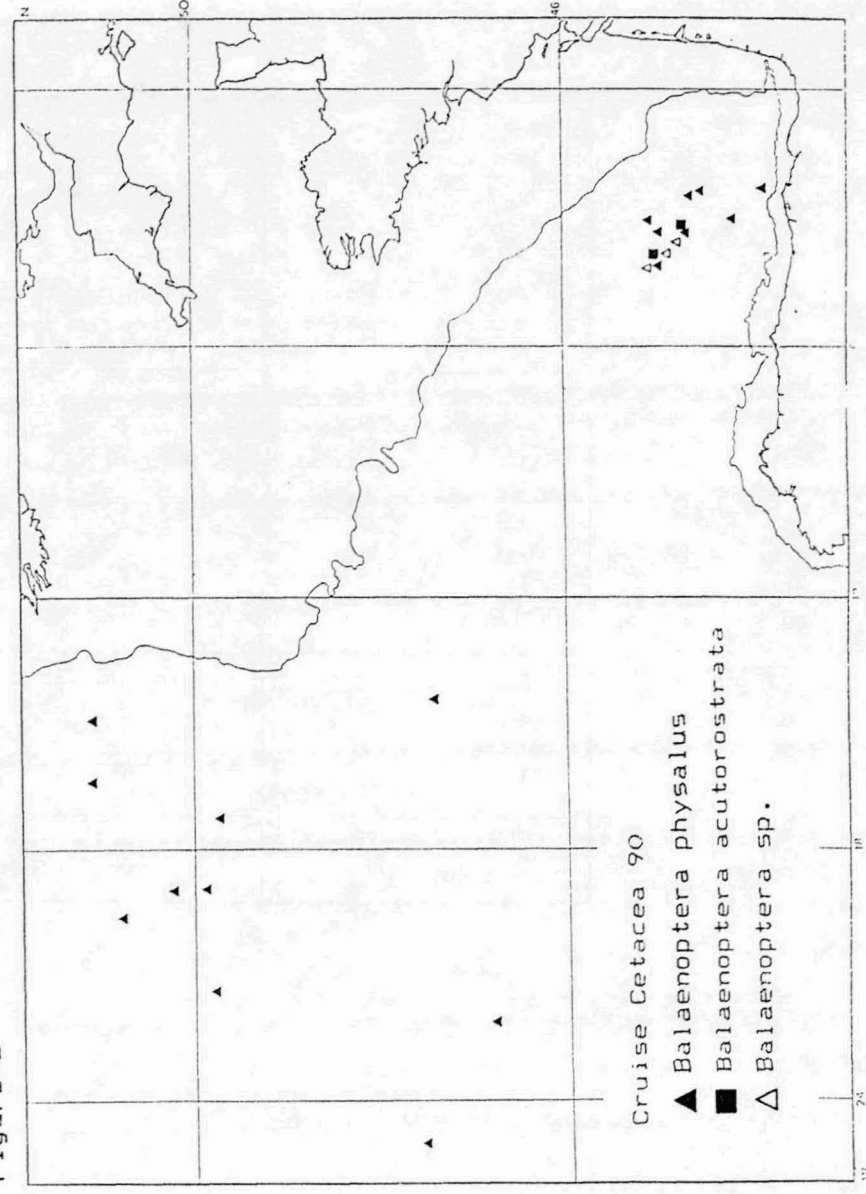


Figure 2





Cruise Cetacea 90

- ▲ *Globicephala melaena*
- *Grampus griseus*
- *Pseudorca crassidens*
- ★ *Orcinus orca*

Figure 4

Cruise Cetacea 90

- ▲ *Delphinus delphis*
- *Stenella coeruleoalba*
- *Tursiops truncatus*
- △ *Delphinidae* sp.