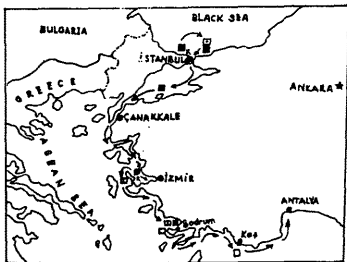


## Species of Dolphins that occurs in the Western Black Sea, the Sea of Marmara and the Aegean Sea

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### Abstract :

We observed, photographed and filmed the dolphins that we came across in the waters of Western Black Sea, The Sea of Marmara and The Aegean Sea, in a series of research sails that took place from June 20, 1989 to September 10, 1989. A team of 20 people aboard a 15 mile per hour research vessel was employed in the observation and count of the dolphins. Although the observation and the count were made directly most of the time, we also took advantage of binoculars in order to verify what we had observed with naked eye. We also evaluated the photographs and films of dolphins that we had taken, for the some reason I have just mentioned.



On the map you see the route that our research vessel took besides, the areas where different species of dolphins were spotted.

Of the total number of 63 dolphins observed, 9 *Delphinus delphis* (Linnaeus, 1758); 6 *Tursiops truncatus* (Montagu, 1821); 8 *Delphinus delphis* and, 26 *Stenella coeruleoalba* (Meyen, 1833); 6 *Delphinus delphis*, 8 *Tursiops truncatus*, from Odontoceti-Delphinidea were spotted respectively in The Western Blacksea, The Sea of Marmara and The Aegean Sea. Among the dolphins were observed *Stenella coeruleoalba* (Striped Dolphins) make up the biggest group 26 dolphins, followed by *Delphinus delphis* (Saddleback Dolphins) with 23 dolphins and by *Tursiops truncatus* (Bottlenose Dolphins) with 14 dolphins.

According to our conclusion *Stenella coeruleoalba* was only observed in the Aegean Sea, mainly in the area between Kaş and Antalya. 6 young dolphins were spotted as well during the project.

However, we need more data and time to estimate the abundance and the frequency for the exact distribution of dolphin in Turkish coast.

### REFERENCES :

- ARSINIOV, V. A. - ZOMSKY, V. A. - STUDETSSKOYA, I.S. (1973) Morskije Mlekopiteyushchie (Marine Mammals) Moskova, Piscevaya Promislenost.
- BERKES, F. (1977). Turkish Dolphin Fisheries *Oryx*, 14 (2): 163-167
- ÇELİKKALE, S-KARAÇAM, H-DÜZGÜNEŞ, E-ÜNSAL, S-DURUKANOĞLU, F. (1989) Size and Distribution of Dolphin Population in the Blacksea, Doğa, Tu.j. Zoology 13-3, 1989 ANKARA
- DANILAVSKY, N. M-TUVUTYUNNIKOV, V.P. (1968) Present State of Black Sea Dolphins Described *Dybn. Khoz. Mosk.* 11,25-7-1968
- KARAÇAM, H-DÜZGÜNEŞ, E-DURUKANOĞLU, F. (1990) Karadenizde Yaşayan Yunuslarda Yaş-Ağırlık, Yaş-Uzunluk Kompozisyonu Üzerine Bir Araştırma. K.T.Ü. Sürme Deniz Bilimleri ve Teknolojisi Yüksekokulu (Baskıda)
- MARCHESSEAU, D. (1980) A Review of Current Knowledge of The Cetaceans in The Eastern Mediterranean Sea, *Vie Marine* Volume: 2. Page 59 a 66
- SLASTENENKO, E. (1953) Karadeniz Yunus Balıkları, *Hidrobiyoloji Mecmuası*, I.Ü.F.F. Hidrobiyoloji Araştırma Enstitüsü Yayını, 3,2,69-90-1955

## Stomach Content Analysis of a Stranded Specimen of *Tursiops truncatus*

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Abstract - A total of 145 individuals belonging to at least 9 species were found in the analysis of a bottle-nosed dolphin stomach content; fishes represented approximately 90% and the remaining 10% were cephalopods. Most of the preys found have demersal habits.

On the 15th of February 1990 a stranded male bottle-nosed dolphin (*Tursiops truncatus*) was found on the beach of Marina di Donoratico, Livorno, Italia. 1-2 days before the dolphin was found, when the stranding is supposed to have taken place, winds blew from S-SW, with a strength of 30-75 km/h and the sea was very rough (6-7 degrees Beaufort).

The specimen, 2.15 m long, bore no outward signs of the possible cause of the death. A superficial necropsy, carried out on the field, revealed no useful hints as to assess why the animal died. The complete skeleton is deposited at the Natural History Museum of Livorno.

The stomach contained approximately 2 kg (total weight) and 1.3 kg (dripped weight) of food at various stages of digestion. The analysis of the gastric contents revealed rests of fishes and molluscs, some of which at the initial stage of digestion, thus indicating that the dolphin had ingested food almost until its death. The remains of the food were analysed in order to determine which species were present. The following table is a detailed list of the body parts used for the identification and of the number of individuals found for each species.

SPECIES	OTHOOLITS		OTHER BODY PARTS	BEAKS	SPECIMENS
	R.	L.			
<b>FISHES</b>					
<i>Merluccius merluccius</i>	62	62	yes		62
<i>Spicara smaris</i>	30	30	yes		30
<i>Trisopterus minutus</i>	22	22	yes		22
<i>Argentina sphyraena</i>	-	-	yes		2
<i>Conger conger</i>	1	1	yes		1
<i>Scomber sp.</i>	2	2	yes		2
Clupeidae	1	2	yes		7
unidentified fishes	5	7	-		7
<i>Cephalopods</i>					
<i>Eledone cirrhosa</i>			yes	11	11
<i>Illex coindetii</i>			yes	1	1

The identification of the species through otholiths and cephalopod beaks was carried out by comparison with those available in the Institute study collections and by using reference books (Clarke 1986). Where it has been possible, other identification keys were used: jaws, vertebrae, etc.

Clupeidae have very small and fragile otholiths and reassembled vertebral columns were used to determine the number of specimens. *A.sphyraena* was identified through its peculiar swimming bladder.

The size and weight of the preys can be approximately inferred from the body parts which have been found. The otholiths length / total length ratio has been estimated and used for *M.merluccius* ( $N=34$   $a=-1.91$   $b=2.16$   $r=.995$   $p<.001$ ); figure 1 shows the distribution by size obtained by means of this ratio.

Weights varying from 15 to 380 g were estimated by using the L/W relationship (Auteri et al. 1987). The size and weight of *E.cirrhosa* was determined through the beak length / mantle length and beak length / weight ratios indicated by Clarke (1986). The specimens have thus resulted to have mantle sizes that varied from 70 to 95 mm and weights from 50 to 150 g.

For little sized species, with a very reduced size range, single values were given for length and weight. A weight of 25 g per individual was attributed to *L.minutus* and *S.smaris*, usually shorter than 15 cm, and 15 g to *A.sphyraena* and Clupeidae. An evaluation of the weight of the few items of *Scomber sp.*, *C.conger* and *I.coindetii*, thanks to their almost integral conditions, was possible: 250, 150 and 25 g respectively.

Figure 2 shows the diagrams of presence respectively by items' numbers and weights per species.

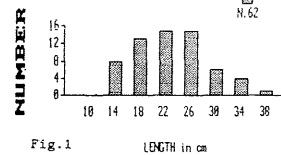


Fig. 1

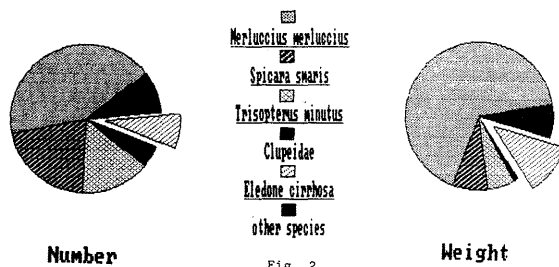


Fig. 2

The preys found totalled 145 individuals and about 9.5 kg; fishes represented approximately 90% in number as well as in weight. Most of the preys are demersal species (*M.merluccius*, *L.minutus*, *C.conger*, *S.smaris*) and even benthic ones (*E.cirrhosa*) confirming that this dolphin is adapted to a catholic diet (Evans, 1987).

The total length of most of the preyed fishes is less than 20 cm, probably because these are the most common sizes in the environment; however *M.merluccius* close to 40 cm long and 400 g weight have been reported.

### REFERENCES

- CLARKE M.R., 1986. A Handbook for the Identification of Cephalopod Beaks. Clarendon press, Oxford 1-XIII+1-273 pp.
- EVANS P.G.H., 1987. The Natural History of Whales & Dolphins. Hein press, London 136-142 pp.
- AUTERI R., BAINO R., SERENA F., RIGHINI P., REALE B., VOLIANI A., MANNINI P., VOLPI C., PIRAS A., SILVESTRI R., 1988. Valutazione delle risorse demersali: risultati del presurvey 1985 dalla foce del Magra all'Isola d'Elba. Atti Sem. UU.00. Min. Marina Mercantile: 1105-1165.