LARGE WHALES IN THE CENTRAL MEDITERRANEAN SEA: SCHOOLS SIZE.

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SUMMARY

A schools size analisys of large Cetaceans in the Central Mediterranean Sea is reported in this paper. All the baleen whales (*B. physalus, B. acutorostrata, Balaenoptera* sp.) seem to maintain the classic social structures, with the exclusion due to the lack of large schools. Sperm whales seem to have anomalous social structures, instead of the normal gregarious habits, with a spread fragmentation of the schools.

Résumé

La structure quantitative des groupes de grands Cétacés en Méditerranée centrale est examinée par l'analyse des observations réalisées entre 1978 et 1984. En général, les Balénoptères (B. physalus, B. acutorostrata, Balaenoptera sp.) semblent maintenir les structures sociales classiques, à l'exception de l'absence d'écoles nombreuses. Le Cachalot, au contraire, révèle des structures sociales anormales ne correspondant pas aux moeurs classiques de l'espèce (notoirement grégaire), avec des divisions fragmantaires des écoles.

Actually, bibliographical information about schools size of large Cetaceans in the Mediterranean Sea is scarce (DI NATALE & MANGANO,1981; DUGUY & ROBINEAU, 1982; CAGNOLARO et al., 1983), but sightings collected by "Project Cetacea"(*) from 1978 to 1984 give some useful indication about the quantitative composition of large Cetaceans schools in the Central Mediterranean Sea. The total number of the sightings examined is 444, concerning an estimated number of 994 specimens. 207 records concern *Physeter macrocephalus* (486 specimens); 181 *Balaenop-*

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tera physalus (400 spec.); 4 *Balaenoptera acutorostrata* (14 spec.); 50 *Balaenoptera* sp. (93 spec.) and 1 record of a single specimen of *Megaptera novaeangliae.*

Classic structure of the schools seems to be maintained by all of the Balaenopteridae, with a high percentage of single specimens or pairs, and a low percentage of small groups. Large schools are to be considered an exceptional case in the Central Mediterranean Sea. Probably, such social structure is due to the lack of large areas of upwelling (where Krill is more concentrated), so it could be interpreted as a strategy of adaptative behaviour. Such hypothesis fits very well with the schools size of *B. physalus*; an analysis of the sum of records concerning *B. physalus* and *Balaenoptera* sp. (which are probably concerning a high number of Fin Whales) confirms the quantitative distribution of the schools.

Analisys of the information concerning *Physeter macrocephalus* is different and more interesting from an ethological point of view (MANGANO, 1983). Sperm Whale, infact, is often sighted singly or in pairs in the Central Mediterranean Sea; single specimens belong to all the age classes and the same happens for pairs. Such particular social structure is anomalous, with regard to the classic behaviour of the Sperm Whale, which is normally a gregarious species. Large schools are decreasing more and more with time in the Mediterranean Sea. An explanation of such behavioural modification could be looked for in the increasing of the impact of human activity on marine environment and in the higher possibility of trophic success of a behavioural strategy which forecasts a spatial fragmentation of the schools.

The few records of *B. acutorostrata* are to be valued as scarcely significant, even if reflecting the normal composition of the Minke Whale schools. The observation of a single specimen of *Megaptera novaeangliae* has only a simple informative interest.

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