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NUOVE CONOSCENZE SULLA PRESENZA E DISTRIBUZIONE DI DELFINO COMUNE *DELPHINUS DELPHIS* NEI MARI ITALIANI

NEW INSIGHTS ON THE PRESENCE AND DISTRIBUTION OF THE SHORT- BEAKED COMMON DOLPHIN DELPHINUS DELPHIS IN ITALIAN WATERS

Abstract - Pooled data on the endangered short-beaked common dolphin *Delphinus delphis* collected in the central Mediterranean Sea over 2000-2014 period by different research groups in Italy were analysed. A total of 266 encounters with 4675 common dolphins was attained. The species was mainly recorded in the central and southern Tyrrhenian Sea (around Ischia island and Strait of Messina), in both pelagic and neritic habitats. Mixed groups of common dolphin with other cetacean species were observed in 78 occasions. Group size ranged from 1 to >100 individuals, with differences between study areas. The presence of calves was consistently documented around Ischia only.

Key-words: distribution, *Delphinus delphis*, common dolphin, Mediterranean Sea.

Introduction - The short-beaked common dolphin (*Delphinus delphis* Linnaeus, 1758) is a small odontocete found worldwide. Currently, its abundance is in steep decline throughout the central and eastern Mediterranean (Bearzi *et al.*, 2003) with the only notable population remaining in the Alboran sea (Cañadas and Hammond, 2008). This drop during the last few decades raised conservation problems and in 2003 the Mediterranean short-beaked common dolphin 'subpopulation' was listed as endangered in the IUCN Red List of Threatened Animals. So far, in Italian waters, this species was reported to be regularly present in very low numbers around Ischia (about 50 individuals) and Lampedusa Islands (<250 individuals) and rare in all other seas, including the Adriatic (Habitat Directive Reporting, 2014; Bearzi *et al.*, 2003). Here, pooled data on presence, distribution, group size and association with other species is presented, thanks to a common effort carried out by different research groups in Italy.

Materials and methods - Data on *D. delphis* groups were collected over 2000-2014 period within Pèlagos Sanctuary (PS), central (CT) and southern (ST) Tyrrhenian sea, Sicily Channel (SC) and western Ionian Sea (WI). Dedicated visual surveys with structured sampling design were conducted by trained observers in good weather

condition (Beaufort <3). Different platforms of observation (ferries, sailing vessels, inflatables, fishing/motor boats, oceanographic vessel) were employed. A group of common dolphin was defined as an aggregation of all the dolphins within visual range. A visual count or estimate of the number of animals in the focal group was recorded. Age class was assessed whenever possible through size-based estimates. In some cases common dolphins were individually photo-identified through long-term natural marks on dorsal fins.

Results - A total of 266 encounters with 4675 common dolphins was recorded (40 from ferries and 226 from other platforms). The species was mainly recorded in the central (n=73 sightings, principally around Ischia) and southern (n=109 sightings, mainly in the Strait of Messina) Tyrrhenian sea, in both pelagic and neritic habitats. A number of 54 encounters were located in the Pelagos Sanctuary area, 24 in the Sicily Channel (principally around Lampedusa island) and 5 in the Western Ionian. Group size ranged from 1 to >100 individuals, with differences in average between study areas (PS=5.9±6.3; CT=33.5±35.1; ST=13.9±10.6; SC=34.9±18.8; WI=29.8±18.9). The presence of immature animals (juveniles, calves and newborns) was repeatedly documented around Ischia island only. Mixed groups of common dolphin with other cetacean species were encountered on 78 occasions in all study areas, with striped dolphin (*Stenella coeruleoalba* Meyen, 1833) observed in 58 'mixed' cases and bottlenose dolphin (*Tursiops truncatus* Montagu, 1821) in 10 ones (all near Lampedusa island). Other associated species included Risso's dolphin (*Grampus griseus* Cuvier, 1812), sperm whale (*Physeter macrocephalus* Linnaeus, 1758) and fin whale (*Balaenoptera physalus* Linnaeus, 1758). 'Mixed' encounters occurred mainly during feeding and/or travelling activities, in few cases social interactions between common dolphins and other species were documented (principally with striped dolphins around Ischia island). A number of 20 photographically identified individuals were captured in the Pelagos Sanctuary, with resightings between 2004 and 2010, and 97 around Ischia Island, with 70 resightings over the years. No matches between the PS and CT areas were currently found. Photoidentification catalogues in ST and SC are still in progress.

Conclusions - Preliminary, pooled data on short-beaked common dolphins in Italian waters showed the great potential of this new research network and provided a novel picture on the presence and distribution of the species between 2000 and 2014. CT (Ischia island), ST (Strait of Messina) and SC (Lampedusa island) resulted marine areas that are deemed significant ecosystems or habitats for the endangered *D. delphis*. These regions seem to give strong arguments for specific management strategies to be developed and applied for a species that rely on these areas for important biological processes (*i.e.* feeding/breeding). The persistent presence of the species is of notable importance given the apparent susceptibility of the Mediterranean subpopulation to coastal anthropogenic impacts.

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