

Report on cetacean strandings in Sicily from 1991 to 2013

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Abstract. All the information on the cetacean stranding along the Sicilian coast and smaller islands between 1991 and 2013 are collected. Species and there number are: *Stenella coeruleoalba* (302), *Tursiops truncatus* (77), *Physeter macrocephalus* (38), *Delphinus delphis* (33), *Grampus griseus* (29), *Ziphius cavirostris* (16), *Balaenoptera physalus* (8), *Steno bredanensis* (6), *Globicephala melas* (5), *Kogia sima* (1) and *Megaptera novaeangliae* (1) as well as 150 cetaceans not recognized because decomposed or impossible to verify. The strategic role of museums and the need to continue this collection of information are discussed.

Keywords: Cetacean, Stranding, Sicily, Mediterranean Sea.

INTRODUCTION

The present work is intended to fulfill the dataset of Italian stranding network and put together the sightings collected during 22 years of activity of the “Centro Regionale Recupero Fauna Selvatica e Tartarughe Marine” (CRRFSTM) in Comiso (Ragusa) of the “Sicily Wildlife Fund” (SWF), operating in agreement with the “Museo Civico di Storia Naturale of Comiso” (MSNC).

This report provides data from the national stranding network of the “Centro Studi Cetacei” of the “Società Italiana di Scienze Naturali of Milano”, collected thanks to a large group of scientific collaborators along Italian coasts, as well as the data collected by the “Wilderness studi ambientali” in Palermo (WSA) and the “Museo della Fauna” of the University of Messina (MF). Also for the last 3 years it was possible to verify the contents of the “Banca Dati Spiaggiamenti” (BDS), the national strandings database of “Ministero dell’Ambiente e della Tutela del Territorio e del Mare”.

Sicily has a central position in the geography of the Mediterranean sea and so it is of key importance for the study and management of cetaceans and sea turtle strandings. From 2002 cetaceans were included in the wild fauna of Sicily by law. As regional center of excellence for the rescue of wild animals the CRRFSTM in Comiso until 2013 collected the official reports on cetaceans and sea turtle strandings along the island coastal line. The activity consisted in checking every cetacean sights which was established in order to collect on a scientific base species, morphometrics, cause of stranding/death and collect samples according to national

and international guideline. The CRRFSTM, in the last 22 years, was the focal point of collecting the information, hosting researchers and widespread news on Sicilian fauna.

The availability of information is required by all the international agreements on wildlife protection as Barcellona, Berna and Bonn Conventions as well as the Monaco Agreement that indicate the cetaceans as endangered group of species and the actions to be performed for their protection.

MATERIALS AND METHODS

The present report collects all the available information on strandings on Sicilian coast and related islets from 1991 to 2013 putting together the records of CRRFSTM, SWF and MSNC, later crossed with the national reports of CSC, WSA and MF. For each record in a spreadsheet date, species, locality, sex, exitus (death or release) and responsible of sighting were recorded. In many cases the scientific personnel went directly to check, measure and sample specimens in the field to verify the identification and recover the greatest possible amount of information. Carcasses or bones were collected by MCSNC which since 1991 operates actively in the museum display of cetaceans in southern Italy. In some cases data from others Museums in the Island were also collected.

RESULTS AND DISCUSSION

From 1991 to 2013 669 strandings have been recorded along Sicilian coasts, including lesser islands (Table 1). The larger number of sights concerns *Stenella coeruleoalba* with 302 specimens, *Tursiops truncatus* (77), *Physeter macrocephalus* (38), *Delphinus delphis* (33), *Grampus griseus* (29), *Ziphius cavirostris* (16), *Balaenoptera physalus* (8), *Steno bredanensis* (6), *Globicephala melas* (5), *Kogia sima* (1) and *Megaptera novaeangliae* (1). Also for 150 specimens it

Tab. 1 – Cetaceans stranded by year along Sicilian coast.

specie	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	totale
<i>Balaenoptera physalus</i>			1						1	1	2					1	2							8
<i>Cetacean undetermined</i>	50	5	5	3	9	2	8	4	5	8	1	2	2	5	1	4	6	7	6	4	5	1	7	150
<i>Delphinus delphis</i>	1			2	1	1	3	3	3	3	1		1			1	3	2	3	1	2	2	33	
<i>Globicephala melas</i>	2	1			2		1	4	3		1	2		1		1								5
<i>Grampus griseus</i>		2	3		2		1	4	3		1	2		2		2	2	2	1	1	3			29
<i>Kogia sima</i>											1													1
<i>Megaptera novaeangliae</i>													1											1
<i>Physeter macrocephalus</i>	3	6	2	5	4	1	2		1		3	1		1	1	1	1	4	1	1	1	1		38
<i>Stenella coeruleoalba</i>	47	14	18	9	10	9	19	11	18	8	13	5	11	8	9	5	20	20	10	10	7	10	11	302
<i>Steno bredanensis</i>												6												6
<i>Tursiops truncatus</i>	5	1	1	2	3	2	6	4	10	6	9	1	5	3	2	2	1	3	3	5	5	1		80
<i>Ziphius cavirostris</i>	1	1	1		1	2			1		1		2	2	2			1	1					16
Totale	108	30	31	20	30	16	39	26	40	27	28	21	21	20	14	15	33	35	24	26	21	22	22	669

was not possible to have a correct identifications since already decomposed or impossible to contact them.

Considering the province of the island there were sights in all of them, here reported by percentage (%): Palermo (23), Trapani (19), Messina (16), Siracusa (14), Ragusa (10), Catania (8), Agrigento (8), Caltanissetta (2).

In 1991 the outbreak of morbillivirus brought the *Stenella coeruleoalba* to a high mortality (Aguilar et al., 1993; Cebrian, 1995; Di Guardo et al., 1995; Domingo et al., 1995; Duignan et al., 1992; Valsecchi et al., 2004), which explains the high number of specimens for that year. Also the 50 unidentified specimen can be probably referred to striped dolphins. Few cases can be considered as multiple strandings. In 1994 5 specimens of *Physeter macrocephalus* were found trapped in driftnets close to Filicudi island (Messina) and in 2002 close to Donnalucata (Ragusa) 6 *Steno bredanensis* arrived to the shore; 4 of them were rescued and later free in the sea. For *Stenella coeruleoalba* it was possible to record cases where specimens, probably of the same group, come to shore in sites close to each other in few days. Also parasite could be one of the stranding reason for a *Z. cavirostris* and one *B. physalus* (Fognani et al., 2004). Two cases should be stressed with the finding of the second Mediterranean record of *Kogia sima* (Bortolotto et al., 2003) and the rescue of a *Megaptera novaeangliae* in 2002 in open water off Siracusa, free at sea from driftnets (CSC, 2004).

Considering the specimens recorded, during this period, 44 cetaceans become part of Sicilian collections including 35 at the MCSNC, 6 at CNR at Capo Granitola, 2 at MF (Insacco et al., 2014) and 2 specimens deposited at WSA (pers. comm. by B. Zava).

This important collection of information suggests the importance of maintaining an active surveillance, based on the actions so far organized by the Museo Civico di Storia Naturale in Comiso, in order to continue to collect case studies and make available to the scientific community the elements of a such rich fauna as well, deepening the relevant information on the stranding causes and continuing the increasing of this Mediterranean biodiversity in the museum collections.



Fig. 1 – *Balaenoptera physalus*, Secca Grande, Ribera (Agrigento), 03.III.1993.



Fig. 2 – *Physeter macrocephalus*, Mazara del Vallo (Trapani), 02.VI.2007.



Fig. 3 – *Physeter macrocephalus*, Brucoli (Siracusa), 10.I.2006.



Fig. 4 – *Balaenoptera physalus*, Contrada Pisciotto, Licata (Agrigento), 12.X.2002



Fig. 5 – *Grampus griseus*, Capo Milazzo (Messina), 08.II.2012.



Fig. 6 – *Ziphius cavirostris*, Contrada Maddalusa, S. Leone (Agrigento), 24.XII.2003.



Fig. 7 – *Ziphius cavirostris*, Costa
Esperia, Scoglitti (Ragusa).



Fig. 8 – *Kogia sima*, Eraclea Minoa
(Agrigento), 08.IX.2002.

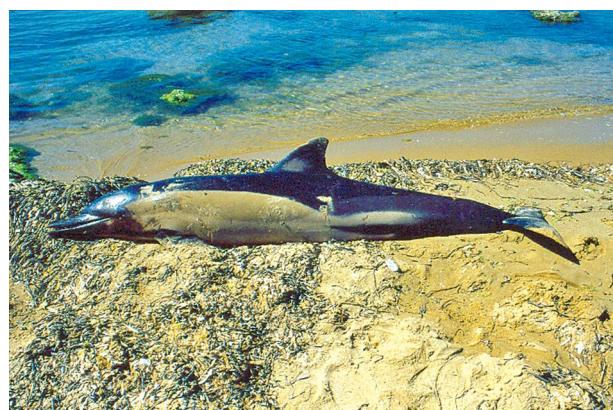


Fig. 9 – *Delphinus delphis*, Contrada
Maulli, Marina di Ragusa (Ragusa),
26.VI.2000.



Fig. 10 – *Tursiops truncatus*, Scoglitti (Ragusa), 14.I.2010.



Fig. 11 – *Stenella coeruleoalba* foetus, Mascali (CT), 19.VIII.2008.



Fig. 12 – Detail rostrum of *S. coeruleoalba* with bristle-like tactil hairs typical of the suckling calf.



Figs 13-14 – *Megaptera novaeangliae*, Siracusa (SR), 02.IV.2004.



Fig. 15 – First aid rescue on *Delphinus delphis*, Agnone Bagni (Siracusa), 20.VI.2007.



Fig. 16 – First aid rescue on *Stenella coeruleoalba*, Palermo (Palermo), 12.VIII.2009, with the tail wrapped by a nylon rope.



Fig. 17 – First aid rescue on *Grampus giseus*, Trapani (Trapani), 13.IX.2009, found wrapped in a squid jiggling.



Fig. 18 – First aid rescue on *Ziphius cavirostris*, Fontane Bianche (Siracusa), 09.II.2011.



Fig. 19 – First aid rescue of five individual of *Steno bredanensis* stranded at Donnalucata (Ragusa), 05.IV.2002.

Fig. 20 – Individuals of *Steno bredanensis* stranded at Donnalucata (Ragusa), 05.IV.2002: relaying in container prepared in situ.



Fig. 21 – *Steno bredanensis* stranded at Donnalucata (Ragusa), 05.IV.2002; detail of the leader female died during the stranding.



Fig. 22 – *Steno bredanensis* stranded at Donnalucata (Ragusa), 05.IV.2002: transhipment operations on boat of Guardia Costiera, Capitaneria di Porto of Pozzallo for the release to the sea.



Fig. 23 – *Steno bredanensis* stranded at Donnalucata (Ragusa), 05.IV.2002: individuals of the same bunch who gathered after reintroduction to the sea, which took place on 06.IV.2002 and made about 20 miles off the coast of Pozzallo (Ragusa).

RIASSUNTO

Report dei cetacei spiaggiati in Sicilia dal 1991 al 2013

In questa nota sono raccolte tutte le informazioni sui cetacei spiaggiati lungo le coste della Sicilia e isole minori tra il 1991 e il 2013. Vengono riportati dati sulle seguenti specie: *Stenella coeruleoalba* (302), *Tursiops truncatus* (77), *Physeter macrocephalus* (38), *Delphinus delphis* (33), *Grampus griseus* (29), *Ziphius cavirostris* (16), *Balaenoptera physalus* (8), *Steno bredanensis* (6), *Globicephala melas* (5), *Kogia sima* (1) e *Megaptera novaeangliae* (1); a questi si aggiungono 150 cetacei non identificati perché in avanzato stato di decomposizione o non raggiungibili. Viene infine ricordato il ruolo fondamentale dei musei e la necessità di continuare questa raccolta di informazioni.

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