

Occurrence of Common Minke Whale, *Balaenoptera acutorostrata* (Lacépède, 1804) in Sicily

GIANNI INSACCO^{1*}, FILIPPO SPADOLA², MAURO CAVALLARO², CARMELO ISGRÒ³ & BRUNO ZAVA⁴

¹ Museo Civico di Storia Naturale, via degli Studi 9, 97013 Comiso (RG), Italy.

² Museo della Fauna, Dipartimento di Scienze Veterinarie, Università di Messina, Italy.

³ Medical System, via Garibaldi 9, 98042 Pace del Mela (ME), Italy.

⁴ Wilderness studi ambientali, via Cruillas 27, 90146 Palermo, Italy.

*Corresponding author: g.insacco@comune.comiso.rg.it

Abstract. The authors reported the stranding of a female juvenile specimen of Common Minke Whale, *Balaenoptera acutorostrata*, 327 centimeters total length, which occurred in Baia S. Antonio, Capo Milazzo (Messina), 10th April 2016. Thanks to the remarkable rarity of the finding, the Museo Civico di Storia Naturale di Comiso staff proceeded according stranding documented in Sicily this species, it proceeded to rescue the skeleton and the baleen for scientific use. The first stranding in Sicily appears to have occurred in Oliveri (Messina) in 1981, with a female of 540 cm.

Keywords: Balaenopteridae; *Balaenoptera acutorostrata*; Stranding; Sicily; Mediterranean Sea.

INTRODUCTION

The Common Minke Whale, *Balaenoptera acutorostrata*, Lacépède 1804, is one of the two smaller species of the Balaenopteridae family. It is found throughout the northern hemisphere from the Atlantic to the Pacific, but probably with a discontinuous distribution, being more rare in tropical waters than in colder ones. It is usually more easily observed in the waters that surround the continental shelf, although it attains the open sea and often reaches estuaries, fjords and channels (Cagnolaro et al., 2015). It occurs in the North Atlantic with the subspecies *B. acutorostrata acutorostrata* Lacépède, 1804 North Atlantic Minke Whale, in the North Pacific with the subspecies *B. a. scammoni* Deméré, 1986. North Pacific Minke Whale, and in the Southern Hemisphere with the unnamed subspecies Dwarf Minke Whale, but its presence has not been recorded for the Northern Indian Ocean (Mead & Brownell, 2005).

However, in the seas it differs from the Antarctic Minke Whale, *B. bonaerensis* Burmeister, 1867 which is partially sympatric in the Southern hemisphere with the Dwarf Minke Whale. Accordingly, molecular phylogenetic analyses confirm the specific rank of *B. bonaerensis* (Árnason et al., 1993; Pastene et al., 1994; Born et al., 2003). The Minke whale is included in the IUCN Red List as a taxon of “Least Concern” (LC) (Reilly et al., 2008b).

Much of the current knowledge of this species is due to the data collected by strandings. The latter ones, historically, have been collected by individual researchers and, more recently, over the past two decades, recorded by a National Working Protocol (Cagnolaro et al., 2015; Maio et al., 2016); the use of this protocol allowed the creation of a comprehensive database;

in particular this species has been recorded in the Mediterranean 32 times since 1771 (Cagnolaro et al., 2015; Maio et al., 2016). The recording of the data collected has allowed over the acquisition of general observations in order to define the geographical distribution and to investigate the causes of the different stranding. A recent study conducted by Maio et al. (2016) on molecular analysis of a partial sequence of the mitochondrial DNA, as considered as typical of individuals from the North Atlantic population; historical data, suggest the possibility that the Mediterranean Sea might be a potential calving or nursery ground for this species.

The Museo Civico di Storia Naturale of Comiso (Ragusa) is one of the most important centers of scientific-naturalistic activities in southern Italy with particular emphasis in the fields of zoology and paleontology, as well as in the preparation and storage of stranded cetaceans along the coast of southern Italy (Bagging, 2014). Among its recent scientific recoveries we reported the stranding of a female juvenile specimen of *B. acutorostrata*, which occurred in Baia S. Antonio, Capo Milazzo (Messina), 10th April 2016. Thanks to the remarkable rarity of the finding, the museum staff proceeded according stranding documented in Sicily this species, it proceeded to rescue the skeleton and the baleen. The first stranding in Sicily appears to have occurred in Oliveri (Messina) in 1981, with a female 5.40 meters long (pers. comm. by Antonio Di Natale).

MATERIALS AND METHODS

On 10th April 2016 a female specimen of *Balaenoptera acutorostrata*, 327 centimeters total length, was found dead on Baia S. Antonio (38° 15.822'N, 15° 14.220'E) of Capo Milazzo (Messina), Sicily, Italy (Fig. 1). The carcass was in an medium state of decomposition, suggesting the animal was dead for some time before being washed ashore (Fig. 1).

The specimen was identified according to Cagnolaro et al. (1983) and Wilson & Reeder (2005) and it was measured with a tape in centimeters (Table 1). Due to its decomposition it was not possible to detect all the biometric features according to the national protocol; it was therefore decided to preserve the entire skeleton and the baleen; the specimen was moved to Comiso and deposited in the collection of the Museo Civico di Storia Naturale, with inventory number MSNC-4540.



Fig. 1 – Map showing the locality of the stranding of a juvenile *Balaenoptera acutorostrata*.



Fig. 2 – (a) A calf of *B. acutorostrata* stranded at Baia S. Antonio, Milazzo, Sicily, Italy in April 2016 (photo by G. Insacco). Detail of the ventral view (b), baleen (c), genitals (d) (photos by M. Cavallaro).

Tab. 1 – Measurements (in cm.) of the *B. acutorostrata* specimen stranded in Baia S. Antonio, Milazzo, Sicily, Italy in April 2016.

From tip of lower jaw to fluke notch	327
From tip of lower jaw to anterior margin of pectoral fin	98
From tip of lower jaw to posterior corner of mouth gape	68
From tip of lower jaw to anterior margin of eye	56
Difference between tips of lower and upper jaws	7
From tip of lower jaw to anterior margin of dorsal fin	215
Horizontal eye diameter	5
Length of the dorsal fin to the base	20
Height of dorsal fin	12
Posterior end of the dorsal fin in the middle of the caudal fin	97
Maximum width of the pectoral fin	11
Length of pectoral fin along anterior margin	43
Length of pectoral fin to the posterior insertion	29
Width of the caudal fin	70
Anal orifice to middle caudal fin	83
Central genital opening to the middle caudal fin	93
Distance genital opening to anus	13
Distance navel to median genital opening	55
Distance navel to the middle caudal fin	146

DISCUSSION

From a cursory investigation autopsy conducted on-site by the staff of Istituto Zooprofilattico of Palermo and the University Veterinary of Messina, no significant element due to its death was found; the stomach was empty. This occurrence confirmed the presence of another specimen of Common Minke Whale puppy in the Tyrrhenian Sea according to the hypothesis that the Mediterranean Sea can also be used as a potential calving or nursery ground by these whales (Maio et al. 2016). A tissue sample was taken for analysis of a partial sequence of the mitochondrial DNA and it was entrusted to the Dr. Nicola Di Maio, Department of Biology of the University Federico II in Napoli in order to assess the origin of the population of these whales, whether of North Atlantic origin or not. This study took into account the relevant records, gathered through bibliographic and museological researches historical survey of stranded or incidentally caught *B. acutorostrata* individuals along the coasts (Cagnolaro et al., 2014). Therefore it was found that it is the only specimen preserved in Sicily and increases to 12 the number of cetacean taxa present in the collections MSNC (Bagging et al., 2014). It is the 15th specimens stranded along the Italian coast since 1771 and it is the 9th skeleton of this taxon preserved in Italy (Cagnolaro et al. 2012 and 2014; Bank strandings data, 2014 and

2015). The “vulnerable” status for this species in the Mediterranean would be justified also due to the small number of individuals and their confinement in a partially degraded marine environment, as stressed by Notarbartolo di Sciarra and Birkun (2010).

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RIASSUNTO

Segnalazione di Balenottera minore, *Balaenoptera acutorostrata* Lacépède 1804, in Sicilia

Gli autori riportano i dati relativi allo spiaggiamento di una giovane femmina di Balenottera minore, *Balaenoptera acutorostrata*, di 327 centimetri di lunghezza totale, avvenuto a Baia S. Antonio, Capo Milazzo (Messina) il 10 aprile 2016. Considerata la notevole rarità del ritrovamento, il personale del Museo Civico di Storia Naturale di Comiso (Ragusa) ha deciso di documentare il secondo spiaggiamento di questa specie in Sicilia. Considerato lo stato di parziale decomposizione dell'esemplare si è proceduto quindi a musealizzare lo scheletro e i fanoni. Il primo spiaggiamento in Sicilia di questa specie sembra essere avvenuto a Oliveri (Messina) nel 1981, con una femmina di 540 cm.

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