



Cetaceans of the Mediterranean and Black Seas: State of Knowledge and Conservation Strategies

SECTION 5

Cetacean Direct Killing and Live Capture in the Mediterranean Sea

Giuseppe Notarbartolo di Sciarra¹ and Giovanni Bearzi²

¹Istituto Centrale per la Ricerca Applicata al Mare, via di Casalotti 300, 00166 Roma, Italy - disciara@tin.it

²Tethys Research Institute, Acquario Civico, Viale G.B. Gadio 2, 20121 Milano, Italy – bearzi@inwind.it

To be cited as: Notarbartolo di Sciarra G., Bearzi G. 2002. Cetacean direct killing and live capture in the Mediterranean Sea. In: G. Notarbartolo di Sciarra (Ed.), Cetaceans of the Mediterranean and Black Seas: state of knowledge and conservation strategies. A report to the ACCOBAMS Secretariat, Monaco, February 2002. Section 5, 4 p.

Commercial whaling activities

Commercial whaling never took place in the Mediterranean, probably because whales had always been presumed to be too rare to warrant the effort (Toschi 1965). One notable exception to this is represented by the whaling activities carried out in the Strait of Gibraltar and adjacent waters, possibly including the westernmost portion of the Alborán Sea, which began in 1921. *Balaenoptera physalus* (93%), *B. borealis* and *Physeter macrocephalus* were the object of a very successful, albeit short-lived whaling industry in the Strait area (Cabrera 1925, Tønnessen and Johnsen 1982, Sanpera and Aguilar 1992), with very large numbers of whales captured year-round. By 1926, with over 4,150 fin whales killed in only six years (Sanpera and Aguilar 1992), the population had collapsed, with CPUE values declining from a maximum of 54 whales/catcher/month in 1922 down to only six in 1926 (Clapham and Hatch 2000). In subsequent years the profitability of the operations continued to decline due to lack of whales (Tønnessen and Johnsen 1982). The remnants of this local fin whale population were exploited until the late 1970s by pirate whaling, which harvested hundreds of animals off the coast of the Iberian Peninsula (Best 1992), venturing occasionally perhaps as far as the Strait of Gibraltar (Sanpera and Aguilar 1992). Fin whales were likely extirpated from the Strait area, as demonstrated by the dearth of sightings since the 1960s (Bayed and Beaubrun 1987, Hashmi and Adloff 1991, Walmsley 1996, Cañadas et al. 1999). As proposed by Clapham and Hatch (2000), this probably occurred because the cultural memory of the existence of that habitat was lost within the population.

Occasional killing of cetaceans

Whales were occasionally killed in the Mediterranean Sea during the XIX and first half of the XX Century. Kills took place for museum collections and research (Richard 1936), as target practice by the military (Minà Palumbo 1868, Cornalia 1872, Parona 1896 1908, Anon. 1903, Cagnolaro 1977), and by fishermen who often undertook to chase and kill fin and sperm whales (Lepri 1914, Borri 1927, Bolognari 1949, Tamino 1953, Cyrus 1969). The intent was presumably to extract oil or other valuable products,

although the rendering of the carcasses was not always performed successfully, and the bodies were often discarded or left adrift at sea (Damiani 1911, Borri 1927). Today, cetacean mortality due to intentional killing seems to be still an issue, but limited to the smaller species (*Tursiops truncatus*, *Stenella coeruleoalba* and *Delphinus delphis*). Most of these deaths arise from deliberate slaughter of individuals regarded as vermin by fishermen, and occasionally from the use of cetacean meat for human consumption or bait (UNEP/IUCN 1994). Animals with lethal amputations or gunshots are not infrequent in Mediterranean stranding reports. Although the causes of these deaths can vary, and may include collisions or “sport” killings, the large majority of intentional takes are probably the result of retaliatory measures taken by fishermen against dolphins. Interactions resulting in direct killing of cetaceans have been reported to occur in several Mediterranean areas, both in the past and in the present (e.g., Barone 1895, Brunelli 1932, Duguy et al. 1983, Northridge 1984, Holcer 1994). Coastal dolphins – particularly common bottlenose dolphins – are often claimed to steal fish from the nets, scare the fish away, or damage the catch and fishing gear. This may result in actions ranging from a variety of attempts to keep the animals away from the nets, to intentional killings (e.g., in the Balearic Islands, Silvani et al. 1992, Gazo et al. In press). Deliberate offence may be carried out with guns, harpoons, explosives, or poisoned bait (Barone 1895, Di Natale 1990, Silvani et al. 1992, Reeves et al. In press). As the evidence of direct killing is mostly provided by a dead cetacean stranded or adrift, it may be difficult to assess with certainty the prime cause that prompted the killing, whether perceived competition, game hunting, or else. However, fishermen from several Mediterranean areas are known to carry various kinds of weapons on board, and many openly declare their hostility towards the dolphins. For instance, in the Italian seas, between 1986-90, 10% of the confirmed causes of death among stranded animals have been related to direct killings. The species that were most frequently affected were the striped dolphin and the common bottlenose dolphin, with a few cases involving other species (Cagnolaro and Notarbartolo di Sciara 1992). Increased common bottlenose dolphin mortality resulting from intentional killing of dolphins competing with local gill and trammel net fisheries has been reported in the Aegean Sea (Mitra et al. In press).

Cetacean products are used for human consumption, bait, farm animal consumption, oil, or other uses in many places around the world. In the Mediterranean, the use of cetacean meat for human consumption has been documented by recent reports of carcasses found stranded or adrift, with large portions of muscle tissue removed from the dorsum, mostly belonging to striped, common bottlenose, short-beaked common, and Risso's dolphins and long-finned pilot whales (Di Natale 1990). Along the Italian coasts, a total of 22 cetaceans were found stranded with evidence of bullet or harpoon wounds between 1986 and 1987 (Centro Studi Cetacei 1987), and twelve of them had their dorsal muscular area removed, suggesting use for human consumption. Dolphin meat may be sold to fishmongers and restaurants, particularly in Lazio, Tuscany, Liguria and Sardinia (UNEP/IUCN 1994). In Italy the dolphin fillet known as "musciame" could be found in limited supplies on illegal markets, particularly in Liguria and Tuscany (Di Natale 1990, Cagnolaro and Notarbartolo di Sciarra 1992). Dolphin meat has also been used for human consumption in Spain (UNEP/IUCN 1994). Vessels capturing cetaceans for use as bait have also been reported, for instance along the Spanish coasts of Andalusia and Murcia (UNEP/IUCN 1994), but it is unknown whether this practice is still in use. This bait was used in deep sea longline and crustacean fisheries. According to UNEP/IUCN (1994), none of these vessels were exclusively targeting cetaceans. Dolphin meat was also occasionally used as longline bait in Italy (Di Natale and Notarbartolo di Sciarra 1994).

Although it may represent an issue in some areas, the use of cetacean meat for human consumption or bait in the Mediterranean appears to involve a small number of animals/fisheries, and today it is unlikely to represent a major threat for any of the cetacean species inhabiting the basin.

Live capture

The capture of small cetaceans for live display in aquaria and research has been seldom carried out in the past in the Mediterranean (for examples, see Greenwood and Taylor 1978, Collet 1984, Johnson 1990), possibly given the lack of appropriate facilities to host these animals along Mediterranean riparian countries until a few decades ago. In recent years large aquaria have become more abundant in the Mediterranean, how-

ever due to stricter regulations in most coastal nations and public awareness problems, these have opted for the market importation of captive animals from other marine regions (e.g., Gulf of Mexico and Caribbean, Black Sea). To our knowledge, there is no official record of a cetacean having been captured for live display in the Mediterranean during the past 15 years.

List of references

- Anonymous. 1903. Una balenottera presa a Savona. *L'Acquicoltura lombarda* 5:133.
- Barone G. 1895. Modificazioni delle abitudini del delfino comune (*Delphinus delphis*) osservate in Liguria e prodotte dal generalizzarsi della pesca intensiva. *Neptunia* 10:156-164.
- Bayed A., Beaubrun P.-C. 1987. Les mammifères marins du Maroc: inventaire préliminaire. *Mammalia* 51(3):437-446.
- Best P.B. 1992. Catches of fin whales in the North Atlantic by the M.V. Sierra (and associated vessels). Report of the International Whaling Commission 42:697-700.
- Bolognari A. 1949. A proposito della recente cattura di alcuni esemplari di capodoglio (*Physeter macrocephalus* L.) nel Mediterraneo. *Bulletin de l'Institut Océanographique (Fondation Albert 1^{er}. Prince de Monaco)* 949:1-43.
- Borri C. 1927. Una notevole comparsa di grandi cetacei nell'Arcipelago Toscano. *Monitore Zoologico Italiano* 38:18-23.
- Brunelli G. 1932. Biologia industriale dei Delfinidi. *Bollettino di Pesca, di Piscicoltura e di Idrobiologia* 3:343-359.
- Cabrera A. 1925. Los grandes cetáceos del Estrecho de Gibraltar, su pesca y explotación. *Trabajos Museo Nacional de Ciencias Naturales, Madrid, Serie Zoologica* 52:5-48.
- Cagnolaro L. 1977. Lo scheletro di *Balaenoptera physalus* (L.) esposto al Museo Civico di Storia Naturale di Milano. Studio osteometrico. *Natura, Società Italiana di Scienze Naturali, Museo Civico di Storia Naturale, Acquario Civico, Milano* 68(1-2):33-64.
- Cagnolaro L., Notarbartolo di Sciarra G. 1992. Attività di ricerca sui cetacei e loro status di conservazione in Italia. *Boll. Mus. Ist. biol. Univ. Genova* 56-57:53-85.
- Cañadas A., Sagarminaga R., Hernández-Falcón L., Fernández E., Fernández M. 1999. Fin whales (*Balaenoptera physalus*) in the northern part of the Alboran Sea and Strait of Gibraltar. *European Research on Cetaceans* 13:300-304.
- Centro Studi Cetacei. 1987. Cetacei spiaggiati lungo le coste italiane. I. Rendiconto 1986. *Atti Soc. ital. Sci. Nat. Museo civ. Stor. Nat. Milano* 128(3-4):305-313.
- Clapham P.J., Hatch L.T. 2000. Determining spatial and temporal scales for population management units: lessons from whaling. International Whaling Commission document SC/52/ID2, Adelaide, Australia, June 2000.
- Collet A. 1980. Live-capture of cetaceans for European institutions. *Rep. Int. Whal. Commn.* 34:603-607.

- Cornalia E. 1872. Fauna d'Italia. Parte prima. Catalogo descrittivo dei mammiferi osservati fino ad ora in Italia. F. Vallardi, Milano 98 pp.
- Cyrus J.L. 1969. A propos du *Balaenoptera physalus* (L.) du Museum de Marseille et de sa présentation. Bulletin du Museum d'Histoire Naturelle de Marseille, 29:65-72.
- Damiani G. 1911. Sovra una *Balaenoptera* del novembre 1910 a Marciana Marina (Elba). Bollettino della Società Zoologica Italiana, Roma 1911:50-57.
- Di Natale A. 1990. Interaction between marine mammals and Scombridae fishery activities: The Mediterranean case. FAO Fisheries Report 449:167-174.
- Di Natale A., Notarbartolo di Sciara G. 1994. A review of the passive fishing nets and trap fisheries in the Mediterranean Sea and of cetacean bycatch. Rep. Int. Whal. Commn., Special Issue 15:189-202.
- Duguy R., Casinos A., Di Natale A., Filella S., Ktari-Chakroun F., Lloze R., Marchessaux D. 1983. Répartition et fréquence des mammifères marins en Méditerranée. Rapp. Comm. Int. Mer Médit. 28:223-230.
- Greenwood A.G., Taylor D.C. 1978. Clinical and pathological findings in dolphins in 1977. Aquatic Mammals 6(2):33-38.
- Hashmi D.D.K., Adloff B. 1991. Surface frequency of cetaceans in the Strait of Gibraltar. European Research on Cetaceans 5:16-17.
- Holcer D. 1994. Prospective of cetology in Croatia. European Research on Cetaceans 8:120-121.
- Gazo M., Fernandez-Contreras M.M., Brotons J.M., Aguilar A. In press. Interactions between bottlenose dolphins and artisanal fisheries in the Balearic Islands: May acoustic devices be a solution to the problem? European Research on Cetaceans 15.
- Johnson W.M. 1990. The rose-tinted menagerie. Heretic Books, London.
- Lepri G. 1914. Su di una balenottera arenatasi presso Ostia. Bollettino della Società Zoologica Italiana 3(3):32-38
- Minà Palumbo F. 1868. Catalogo dei mammiferi della Sicilia. Ordine VIII. Cetacci [sic]. Biblioteca del Naturalista Siciliano 12(2):111-123.
- Mitra S., Koutrakis E., Milani C. In press. Cetacean interaction with small scale coastal fisheries: Implications for conservation and damage limitation. European Research on Cetaceans 15.
- Northridge S. 1984. World review of interactions between marine mammals and fisheries. FAO Fisheries Technical Paper 251. Food and Agriculture Organization, Rome. 190 pp.
- Parona C. 1896. Notizie storiche sopra i grandi cetacei nei mari italiani ed in particolare sulle quattro balenottere catturate in Liguria nell'autunno 1896. Atti Soc. Ital. Sci. Nat. Mus. Civ. St. Nat. Milano 36:297
- Parona C. 1908. Catture recenti di grandi cetacei nei mari italiani. Atti Soc. Ligustica Sci. Nat. Geogr. Genova 19:173-205.
- Reeves R.R., Read A.J., Notarbartolo di Sciara G. 2001. Report of the workshop on interactions between dolphins and fisheries in the Mediterranean: evaluation of mitigation alternatives. ICRAM Workshop, Rome, May 2001. Doc. SC/53/SM3 presented to the 53rd Meeting of the International Whaling Commission, London, July 2001.
- Richard J. 1936. Notes sur les cétacés et les pinnipèdes. Pp. 34-61 in: J. Richard (Ed.), Documents sur les cétacés et pinnipèdes des croisières du Prince Albert I de Monaco. Résultats des campagnes scientifiques accomplies sur son yacht par Albert I Prince Souverain de Monaco, 94:1-61.
- Sanpera C., Aguilar A. 1992. Modern whaling off the Iberian Peninsula during the 20th Century. Report of the International Whaling Commission 42:723-730.
- Silvani L., Raich J., Aguilar A. 1992. Bottle-nosed dolphins, *Tursiops truncatus*, interacting with fisheries in the Balearic Islands, Spain. European Research on Cetaceans 6:32-34.
- Tamino G. 1953. Note sui cetacei. VIII. Rinvenimento di una giovane Balenottera arenata sulla spiaggia dei Maronti (Isola d'Ischia), il 16 Novembre 1953. Atti Soc. Ital. Sci. Nat. Mus. Civ. St. Nat. Milano 92: 123-126.
- Tønnessen J.N., Johnsen A.O. 1982. The history of modern whaling. University of California Press, Berkeley and Los Angeles, 798 pp.
- Toschi A. 1965. Mammalia: Lagomorpha, Rodentia, Carnivora, Artiodactyla, Cetacea. Fauna d'Italia, Vol. 7. Edizioni Calderini, Bologna. 647 pp.
- UNEP/IUCN. 1994. Technical report on the state of cetaceans in the Mediterranean. Mediterranean Action Plan Technical Reports Series No. 82, UNEP, Regional Activity Centre for Specially Protected Areas, Tunis. 37 pp.
- Walmsley T. 1996. Cetacea survey around Gibraltar. European Research on Cetaceans 10:130.