

Captures of “*toninhas*” in Angola during the 20th century

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ABSTRACT

References to the capture of “*toninhas*”, a Portuguese word used mainly to name common dolphins, *Delphinus delphis* (or eventually to name harbor porpoises, *Phocoena phocoena* and striped dolphins, *Stenella coeruleoalba*), are part of the 20th century fishing statistics of Angola. National fishing books from this former Portuguese colony, where consulted in the National Institute of Statistic in Lisbon and data, between 1940 and 1969, were obtained. Information on fish captures is given in tons, total of about 25 tons of “*toninhas*”. If we consider these animals may weigh between 75 to 150 kg each, we can evaluate the total number of captured individuals as varying between about 320 and 650. Each year there were some variations in the amount of captures, but they were regular all the period. We cannot be completely certain about the captured species, as several small dolphins occur off Angola. It is evident that a fishing effort focused on these cetaceans occurred in the region. This is a small but relevant contribution to the knowledge on captures of small cetaceans in the region, also indicative of their historical occurrences.

KEYWORDS

Exploitation; Management.

INTRODUCTION

In Angola, since, at least, the beginning of the 20th century, industrial captures of large whales occurred, both from land stations and from international whaling fleet (Figueiredo, 1960). Portuguese land based whaling took place in the bay of Mossamedes (“*Companhia de Pesca da Baleia*”) and “*Praia Amélia*” (Matos, 1979). Publications and statistics regarding capture of large whales are available for Angola (e.g. Figueiredo, 1958), but none concerning captures of small cetaceans is known by the authors.

Across the world there are some indications of small cetaceans captures, during the 20th century, but no historical accounts were evaluated or considered systematically. For instance, a fishery based in the USSR and Turkey for three species of small cetaceans (common dolphin, *Delphinus delphis*; bottlenose dolphin, *Tursiops truncatus*; and harbour porpoise, *Phocoena phocoena*) operated in the Black Sea since 1870 until 1983. However, direct catches of common dolphins are also reported from several other areas. In the western Mediterranean, small numbers were taken off Spain up to 1988, when this practice was banned. Off the Atlantic coast of France, some were harpooned by fishermen for consumption at sea (Reyes, 1991; Jefferson et al., 1993). Also, in Venezuela small cetacean exploitation associated with intentional captures has been reported as more widespread than commonly believed (Romero *et al.*, 1997). Furthermore, direct catches or by-catches of common dolphins have been reported in Portugal (Teixeira, 1979) but information is unusual and sparse as well.

Based on some non published reports and grey literature as well as on oral sources, we started an historical search looking for references of small cetaceans captures in Portugal

mainland, Portuguese archipelagos and former Portuguese African colonies. We came across some information regarding the capture of “*toninhas*” in Angola which data will be presented here.

METHODS

A search was conducted for old reports and grey literature regarding historical occurrences of cetaceans as well as captures. Together with local oral sources we look towards information through national statistics books. We consulted the National fishing books for Angola (as a former Portuguese colony) at the National Institute of Statistics (INE) in Lisbon, from which we obtained fishing values, between 1940 and 1969.

References to the capture of “*toninhas*”, a Portuguese word used to denominate common dolphins, *Delphinus delphis* (or eventually to name harbor porpoises, *Phocoena phocoena* (Gama, 1957) and striped dolphins, *Stenella coeruleoalba*), are an important element of the 20th century fishing statistics of Angola.

RESULTS

Between the years 1940 and 1969, a total of 24.540 kg of “*toninhas*” were captured off Angola and discarded in the main fishing harbor of Luanda (Fig. 1). Captures were more abundant during the first years than the last one, when numbers registered were almost inexistent (Fig. 2).

If we considered these animals (common dolphins or some *Stenella sp.*) may height between 75 to 150 kg each, we can evaluate the total number of captures as varying between 321.70 and 643.40 individuals. The total average of captures was of 428.93 dolphins. Each year there were some variations in the amount of captures, but they were regular all the period. We estimate an average of 10.72 to 21.45 dolphins captured each year (Table I).

If we exclude the years without captures, we obtain an average of 20 dolphins captured each year (Fig. 3).

DISCUSSION

Since a long time now misunderstanding existed regarding the vulgar name of common dolphins (*Delphinus delphis*) and harbor porpoises (*Phocena phocoena*) in Portugal (Nobre, 1899; Gama, 1957). But, generally, the word “*toninha*” is used for the common dolphin (Nascimento, 1945). Although we are basically assuming that captured “*toninhas*” were common dolphins, we need to keep in mind that other species occur in the region and could easily be called by the same local name. This is the case of the pantropical spotted dolphin (*Stenella attenuata*), the Atlantic spotted dolphins (*Stenella frontalis*), the striped dolphin (*Stenella coeruleoalba*), the spinner dolphin (*Stenella longirostris*) and the clymene dolphin (*Stenella clymene*) (Weir, 2007). Other species need also to be considered, such as the common bottlenose dolphin (*Tursiops truncatus*), the Atlantic humpback dolphin (*Sousa teuszii*) and the rough-toothed dolphin (*Steno bredanensis*) (Weir, 2007). Nevertheless, common dolphins (either *Delphinus delphis* or *Delphinus capensis*) are considered to be the most common offshore delphinids in West Africa (Jefferson *et al.*, 1997). Harpooning by hand has been the preferred method of capturing small cetaceans by artisanal fishermen and they usually hunt species more accessible to them, either because they are more common or range coastally (Romero *et al.*, 1997).

Occurrence of “*toninhas*” as common dolphins is also referred in old scientific bibliography for Angola. Their meat was appreciated by local fishermen who usually take advantage of the fact that they accompany the fishing boats to harpoon and capture them (Vilela, 1923). This may be indicative that numbers of captures found were referring to opportunistic catches instead of direct hunting. In other parts of the world, number of deliberate dolphin takes was much higher (e.g. Romero *et al.*, 1997). In the northern Adriatic where dolphin killings have been reported to occur since historical times, mostly involved measures to reduce conflict with fisheries (Bearzi, *et al.*, 2004), it should be expectable that captured

numbers were much superior than in Angola. But in this area the only available information regarding statistical data from captured weight of mammals refers that less than 10 dolphins were landed per year, in the period 1877–1882, at eight northern and eastern Adriatic fish markets (Bearzi et al., 2004). Our data show an average of 20 dolphins captured for a much larger period of 22 years.

Presence of purse seine fisheries in West Africa at artisanal, national and foreign commercial scales, has been reported (Maigret, 1994) and these fisheries are known to catch dolphins. Coastal West African cetacean species such as bottlenose and Atlantic humpback dolphins are particularly vulnerable to artisanal fisheries, as well (Jefferson *et al.*, 1997). Again, the presence of dolphin catch records amongst other fisheries may also indicate that these captures were a result of local by-catches and this may pose a conservationist issue. Presently there is no indication of dolphin by-catches in the region, but the same as in other parts of the world these events are probably being underestimated.

More accurate information on the capture of common dolphins (and other small cetaceans), in any part of the world, need to be discovered and compiled, based on fishing statistics as well as on grey literature reports and other non-published material. Significant references may arise and give new perspectives on past and recent occurrence, distribution and numbers.

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Figure 1 – Angola geographical localization in the West Coast of Africa.



Figure 2 – Amounts of captured dolphins (“toninhas”) in kg, between the years 1940 and 1968.
 Source: INE, National Institute of Statistics, Lisbon.

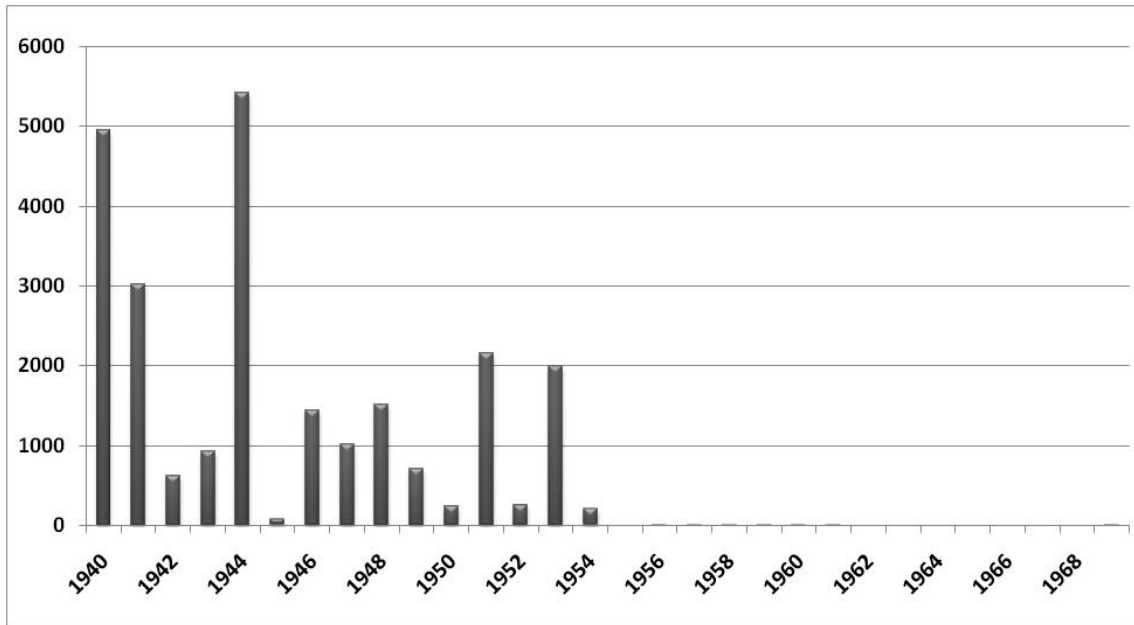


Table I – Amounts (in kg) of captures of “toninhas” obtained from the fishing statistics books and the estimated numbers of captured dolphins (minimum, maximum and average estimates) for each year.

Year	Amounts (kg)	Nº dolphins (min)	Nº dolphins (max)	Nº dolphins (ave)	SD
1940	4952	33,01	66,03	44,02	16,51
1941	3021	20,14	40,28	26,85	10,07
1942	612	4,08	8,16	5,44	2,04
1943	927	6,18	12,36	8,24	3,09
1944	5415	36,10	72,20	48,13	18,05
1945	71	0,47	0,95	0,63	0,24
1946	1435	9,57	19,13	12,76	4,78
1947	1018	6,79	13,57	9,05	3,39
1948	1518	10,12	20,24	13,49	5,06
1949	706	4,71	9,41	6,28	2,35
1950	245	1,63	3,27	2,18	0,82
1951	2151	14,34	28,68	19,12	7,17
1952	252	1,68	3,36	2,24	0,84
1953	1995	13,30	26,60	17,73	6,65
1954	203	1,35	2,71	1,80	0,68
1955	0	0,00	0,00	0,00	0,00
1956	5	0,03	0,07	0,04	0,02
1957	5	0,03	0,07	0,04	0,02
1958	1	0,01	0,01	0,01	0,00
1959	1	0,01	0,01	0,01	0,00
1960	5	0,03	0,07	0,04	0,02
1961	1	0,01	0,01	0,01	0,00

1962	0	0,00	0,00	0,00	0,00
1963	0	0,00	0,00	0,00	0,00
1964	0	0,00	0,00	0,00	0,00
1965	0	0,00	0,00	0,00	0,00
1966	0	0,00	0,00	0,00	0,00
1967	0	0,00	0,00	0,00	0,00
1968	0	0,00	0,00	0,00	0,00
1969	1	0,01	0,01	0,01	0,00

Figure 3 – Amounts of captured dolphins (“toninhas”), between 1940 and 1969 excluding years without captures. In the y axis it is presented estimated average numbers of captured individuals.

