

MASS STRANDING OF *PEPONOCEPHALA ELECTRA* (CETACEA, GLOBICEPHALINAE) ON PIRACANGA BEACH, BAHIA, NORTHEASTERN BRAZIL

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ABSTRACT

On 16 April 1987 a pod of over 240 melon-headed whales, *Peponocephala electra* (Gray, 1846), stranded on Piracanga Beach, Bahia, northeastern Brazil (14°14'S, 39°00'W). A total of 182 whales were examined 8 days after the stranding period had started. Data on body length and/or sex ratio from 123 specimens were collected. The group of animals examined included 81 females and 44 males; 57 individuals could not be sexed due to decomposition and damage caused by vulture feeding.

Key words: *Peponocephala electra*, mass stranding, northeastern Brazil

INTRODUCTION

On 16 April 1987 a group of melon-headed whales, *Peponocephala electra*, was observed stranding on Piracanga Beach (14°14'S, 39°00'W), Itacaré County, approximately 423 km south of Salvador, State of Bahia, Brazil. Because of the remoteness of the stranding site, news of the event took several days to reach the authors. Although melon-headed whales have a world-wide distribution in tropical and subtropical seas (Leatherwood and Reeves, 1983), we here report on the first known mass stranding of the melon-headed whale, for the Atlantic Ocean. This species has only recently been recorded for the Brazilian coast, based on a skull collected at Caravelas, southern Bahia, in July 1985 (Siciliano, Fiori, Lodi and Borobia, 1987).

THE STRANDING

Piracanga is a 14.5 km sandy beach, with widths varying from 11 and 18.5 m.

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Two rivers flow into the ocean, the Piracanga and Aibim de Melo, which are lined with mangrove swamps.

For three days preceding the stranding, winds from the south and south-east with speeds varying between Beaufort scale 1 and 6 were recorded. Such winds were coupled with heavy rain and air temperatures averaging 26°C. During the stranding, the rains continued and winds generally from the south, varied between Beaufort scale 1 and 3 (National Institute of Meteorology, VI District, Station 83348, Ilhéus, Bahia). The stranding occurred during a full moon period.

Information on the circumstances of the stranding was obtained from local fishermen. The whales stranded on the beach in groups, starting on 16 April and continuing until 19 April, when the last group came ashore. Local people tried unsuccessfully to push some of the whales back into the water. Certain individuals arrived bleeding, probably after being injured by the coral reef off Piracanga Beach. Some females reportedly aborted on the beach, although we found no foetuses on the beach upon our arrival. The actual number of whales stranded was probably higher than that reported here since some of them were removed and consumed by local people. In this case smaller animals were selected as they were easier to transport. Other whales were observed washing away with the tide. On 23 April we counted 240 whales, however during the period from 24 to 27 April, due to continued high tides, we were able to examine only 182 specimens. Most of the carcasses were in a state of advanced decomposition and heavily damaged due to feeding by vultures (*Coragys atratus*). Photographs, data on stomach contents, internal parasites (da Silva, Thatcher and Capistrano, 1987), skulls and complete skeletons were collected for further studies.

DISCUSSION

Our findings refer to the second mass stranding of cetaceans reported for the Brazilian coast. On 1 December 1972 a herd of 33 sperm whales, *Physeter macrocephalus*, stranded on Bojurú Beach, State of Rio Grande do Sul (Castello and Piñero, 1974). Large areas of the Brazilian coast are sparsely inhabited, and interest in reporting and recording strandings is very low. It is only in the last 10 years that the situation has begun to change as researchers have increased their efforts to study marine mammals in Brazil.

During the stranding reported here, whales were found within a 5 km section of the beach (Figs 1 and 2). We divided the 5 km stretch of beach into 3 sections for collecting data: section I, the portion of the beach on the south side of the Piracanga River (46 animals); section II, along the Piracanga River (18 animals); and section III, the portion of the beach on the north side of the Piracanga River (118 animals) (Fig. 3).

Of the 125 animals that could be sexed, 81 (64.8%) were females and



Fig. 1. Stranded melon-headed whales on Piracanga Beach, April 1987. Photo by S. Siciliano.



Fig. 2. Head of a melon-headed whale showing its coloration a few days after death. Photo by S. Siciliano.

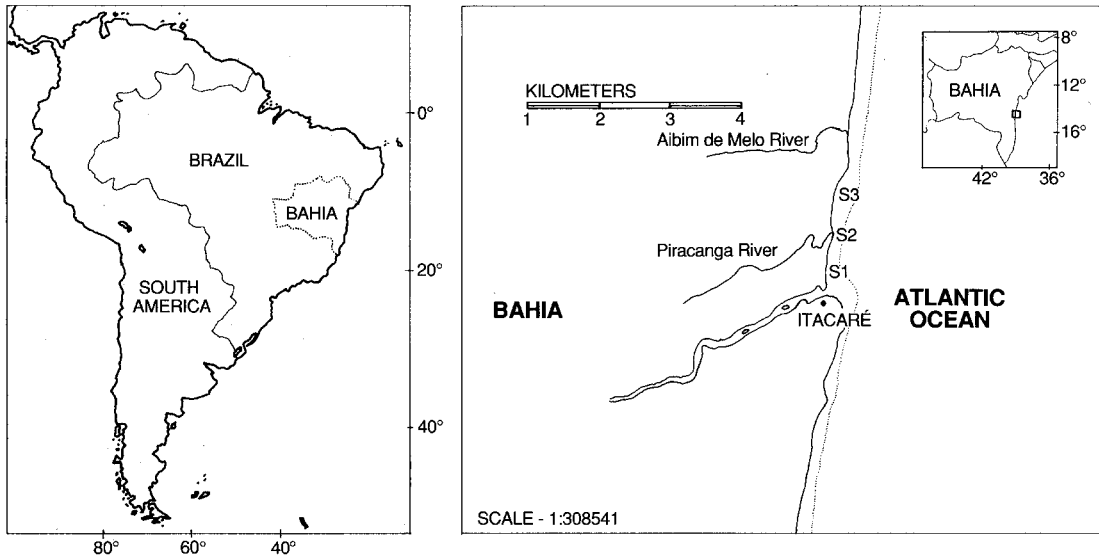


Fig. 3. Map of Piracanga Beach, Bahia State, showing the stranding site and the sections of beach where the melon-headed whales were collected.

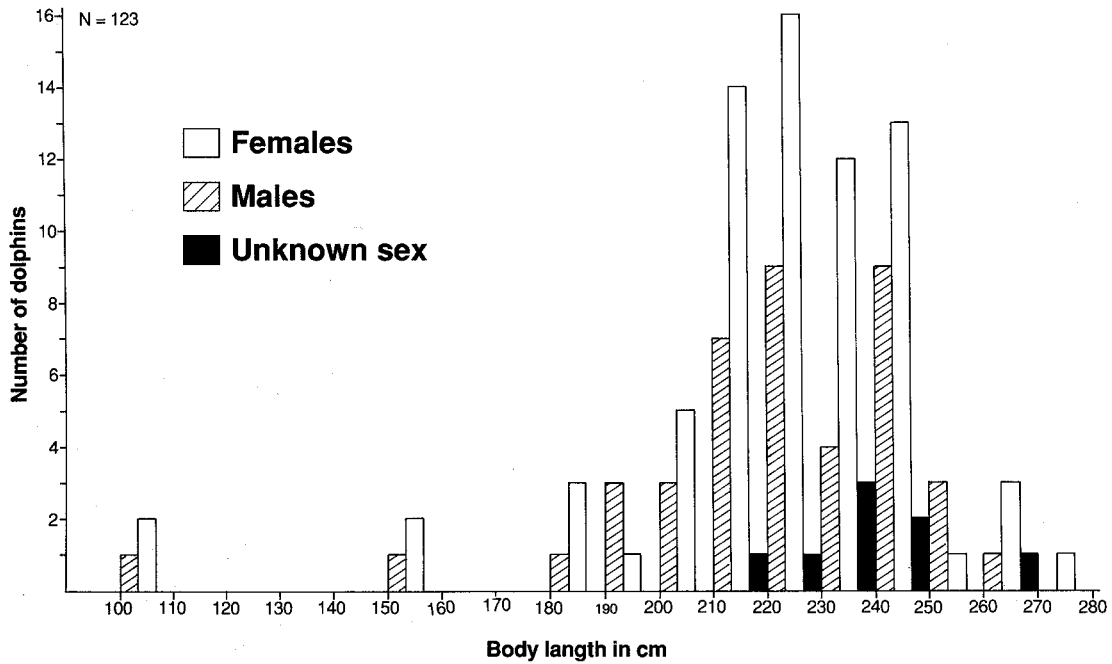


Fig. 4. Body-length frequency distribution for 123 melon-headed whales, *Peponocephala electra*, mass stranded on Piracanga Beach, Bahia, Brazil.
 □ Females (n = 73), ▨ males (n = 42), ■ unknown sex (n = 8).

TABLE 1. MASS STRANDINGS OF *PEPONOCEPHALA ELECTRA* KNOWN TO DATE

Date	Locality	Remarks	Number of animals	Reference
April 1987	Piracanga Beach, Itacaré, Bahia, Brazil		240+	Present paper
November 1972	Malékoula Is., Vanuatu, Melanesia		231	Rancurel, 1974
October 1976	Tambor Village, Costa Rica	Approx. 2,000 animals observed in Ballenas Bay before the stranding	180	James G. Mead, pers. comm. 1987
January 1982	Aoshima, Miyazaki Prefecture, Japan		160	Miyazaki, 1983
August 1958	Crowdy Heads, Australia	Large herd observed off Port Macquarie a day before the stranding	150-250	Dawbin <i>et al.</i> , 1970
August 1976	Moreton Is., Australia	Approx. 300 sighted near the stranding area	53	Bryden <i>et al.</i> , 1977

44(35.2%) were males, for a sex ratio of approximately 2:1. This agrees with results for a mass stranding of this species on Moreton Island, Australia, where 35 females and 16 males were found (Bryden, Harrison and Lear, 1977) and for a mass stranding in Costa Rica (Pacific coast) where the ratio was approximately two to one (J. Mead, pers. comm., Dec. 1987).

Body-length frequencies were computed based on sexed and/or measured animals ($n = 123$) and are shown in Fig. 4. Frequency distribution for both sexes indicate that a wide range of size classes were involved in the stranding. The longest animal, a female, was 275 cm, and the shortest, also a female, 106 cm; 21.4% of the males and 21.9% of the females were between 221 and 230 cm long. The longest and the shortest males were 261 and 110 cm long, respectively. Females in the Pacific Ocean have been reported to reach sexual maturity at somewhere between 225 and 257 cm (Bryden *et al.*, 1977), and males between 248 (Best and Shaughnessy, 1981) and 268 cm (Bryden *et al.*, 1977).

Mass strandings of melon-headed whales have been reported to involve from 53 to 250 individuals (Table 1). Sightings (van Bree and Cadenat, 1968; Dawbin, Hoble and Fraser, 1970; Bryden *et al.*, 1977; Miyazaki and Wada, 1978; Pilleri, 1982) and observations in conjunction with captures (Nishiwaki and Norris, 1966) show that *P. electra* is highly gregarious and occurs in large groups.

The reasons for this mass stranding could not be determined.

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