



## Surface observation of a birth of a humpback whale (*Megaptera novaeangliae*) on the northeast coast of Brazil

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The humpback whale, *Megaptera novaeangliae* (Borowski, 1781), is a cosmopolitan species commonly found in coastal and shallow waters in the breeding grounds (Clapham and Mead, 1999). The reproductive areas for this species are characterized by shallow waters, preferably in banks of less than 60m (Whitehead and Moore 1982), with water temperatures ranging from 19-20°C to 24-28°C (Naughton, 1997; Rassmussen *et al.*, 2007). A breeding population of the species migrates from the Antarctic region and stays in the northeast coast of Brazil, mainly in Abrolhos Bank, in winter and spring (from June through December) for mating and calving (Martins *et al.*, 2001).

Observations of cetacean births are rare as well as are reports of the mother and calf behaviors immediately after birth. Scientists have observed the births of just five species in the wild: *Orcinus orca* (Jacobsen, 1981)<sup>1</sup>, *Physeter macrocephalus* (Weilgart and Whitehead, 1986), *Delphinapterus leucas* (Béland *et al.*, 1990), *Pseudorca crassidens* (Sciara *et al.*, 1997) and *Eschrichtius robustus* (Balcomb, 1974; Leatherwood and Beach, 1975; Mills and Mills, 1979). There have also been a few published accounts of cetacean births in captivity (e.g. Asper *et al.*, 1988). The humpback whale is the most studied baleen in the world, however no birth has ever been witnessed (Clapham and Mayo, 1990; Clapham *et al.*, 1999). In the Hawaiian Islands, placentas suspected of belonging to humpback whale have been collected in two different occasions (Silvers *et al.*, 1997; Silvers *et al.*, 2002). These placentas were analyzed, but just one of them was confirmed as originating from a humpback whale (Silvers *et al.* 2002).

This note describes the birth of a humpback whale on the coast of Barra Grande, Bahia, in the Northeastern of Brazil,

as well as the post-birth behavior of the mother and the calf, as observed from the surface. The observations presented here were made during the monitoring of the marine biota and fishing boats conducted from January to November 2007, in the area near an oil drilling activity on the coast of Barra Grande (Camamu Bay). The study area is within the known breeding range of the humpback whale population that winters in Brazil (Rossi-Santos *et al.*, 2006<sup>1</sup>; Andriolo *et al.*, 2010). However the area does not represent the main breeding concentration of humpback whales of this population and is characterized by a narrow continental shelf, instead of the wide continental shelf observed in the Abrolhos Bank. The work was carried out daily between 7:00h and 17:00h using a 32-ft fiber boat that covered 45.6 nautical miles each day. Behavioral observations, geographic coordinates and environmental data were recorded.

The birth was observed on 27 August 2007, at the coordinates 13.83°S, 38.99°W. The whales were observed for 4.5h in a total of more than eight hours of monitoring (from 08:45h to 17:00h). Observations were made at distances usually ranging from 3m to 50m. The female, a large adult animal, was observed for the first time at 08:45h. The animal kept itself at the surface for most of the time, arching the body as if diving but submerging for only a short period of time. Probably, by that time, the birth was already in process.

<sup>1</sup>Rossi-Santos, M., Cipolotti, S. R. C., Baracho, C., Neto, E. and Marcovaldi, E. (2006) Resultados preliminares sobre a ocorrência e uso de habitat da baleia jubarte (*Megaptera novaeangliae*) na região de Itacaré, Estado da Bahia, Brasil. Resumo: 7º Congresso Internacional sobre Manejo de Fauna Silvestre na Amazônia e América Latina, Ilhéus, Brazil, 3-7 September 2006.



**Figure 1.** Stain of blood in the water soon after birth of the humpback whale.

**Figure 2.** A piece of tissue, probably the placenta, floating a few meters from the mother and the calf.



**Figure 3.** The calf and its color pattern.

The individual remained between the Quiepe's Island reefs and the Sorocuçu mud (a fishing area) in depths that varied between 7.7m and 9.5m, about 4km from the coast. The water temperature at the time was about 25°C and the wind was weak, blowing from northwest.

At 09:40h the water was blood colored (Figure 1) and the neonate emerged a few seconds later showing the rostrum around the bloodied water. As soon as the neonate emerged, a piece of tissue that could be the placenta (Figure 2) floated a few meters away from the mother and calf. No other marine animals were observed in the area prior to or after the birth; not even fish or seabirds were attracted by the bloody water.

The calf was about three times smaller than the size of the female, with a dark gray coloration on the upper rostrum extending backward to peduncle, and a white color on the flanks and ventrally (Figure 3). The caudal fin was entirely white; the flukes were white with a few parts in light gray, and the dorsal fin was folded over indicating the recent birth (Scheidat *et al.*, 2000). It came very close to the researcher's boat, reaching less than one meter of it. The individual was breathing with difficulty, with the rostrum emerging before the blowholes. In the next few moments, the mother, using her head, kept the calf at the surface. This was the most observed behavior soon after the birth. Cartwright and Sullivan (2009) observed that the youngest calves of the species

spend little time alone at the surface and the breathing regime include intermittent breaths.

The mother and calf moved slowly towards the north. The female did not present any apparent signs of stress from the presence of the researcher's boat; nevertheless, both animals sometimes avoided getting closer to the boat. The neonate was observed side by side to the mother most of the time; however occasionally it was also observed a few meters in front of her. The calf sometimes attempted to dive revealing only the peduncle. It did not execute any deep dives, staying usually just below the surface. The mother dived more frequently than the calf staying underwater for about four minutes while the calf only submerged for about a minute or less.

There was a time when both animals were observed swimming close to a drift gillnet set to catch rays (Elasmobranchii). The calf was trapped in the net for a few seconds, but soon it managed to set itself free. Many cetaceans die annually caught in fishing gillnets along the Brazilian coast (Di Benedetto *et al.*, 2001). Clapham and Mead (1999) consider the entanglement in fishing gear one of the threats to the humpback whale in coastal waters.

The observations ended at 17:00h and, at that point, the whales were about 8.4 nautical miles away from the birth site (13.76°S, 38.89°W). Fifteen groups of humpback whales (approximately one per day) were observed at the same region

between 20 August and 3 September 2007. Ten of these groups consisted of females with their calf. Thus, the area appears to be important to mothers with young calves.

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