Report on the collision between a spinner dolphin and a boat in the Fernando de Noronha Archipelago, Western Equatorial Atlantic, Brazil

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Abstract

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This paper reports a case of collision between an individual spinner dolphin and a boat in the Fernando de Noronha Archipelago, as an example of disturbance potentially caused by tourism industry activities. Photos illustrating the inflicted injuries on the animal are presented, and preventive measures to avoid this kind of accidents are proposed. This is the first report on a collision between spinner dolphins and boats.

Keywords: *spinner dolphins, Stenella longirostris, collision, disturbance, Fernando de Noronha.*

Resumo

Camargo, F.S. & Bellini, C. **Relato de colisão entre um golfinho-rotador e uma embarcação no Arquipélago de Fernando de Noronha, Atlântico central equatorial, Brasil**. *Biota Neotrop*. Jan/Apr 2007 vol. 7, no. 1 http://www.biotaneotropica.org.br/v7n1/pt/abstract?short-communication+bn00807012007 ISSN 1676-0603.

Neste artigo, um caso de colisão entre um golfinho-rotador e uma embarcação é registrado no arquipélago de Fernando de Noronha, como um exemplo de perturbação causada potencialmente por atividades turísticas. São apresentadas fotografias ilustrando os ferimentos causados no animal e o uso de medidas de prevenção para evitar este tipo de acidentes é proposto. Este é o primeiro registro de colisão entre golfinhos-rotadores e embarcações.

Palavras-chave: *golfinhos-rotadores, Stenella longirostris, colisão, perturbação, Fernando de Noronha.*

Introduction

Boat traffic is widely believed to cause disturbance to cetaceans and sirenians and is frequently reported as an important threat to their welfare and conservation (Goodwin & Cotton 2004). Many interactions between cetacean and boats are presumably explained as a reaction of these animals to sound, as boat engines produce high levels of underwater noise, which results in behavioral changes, short and long term displacement, masking of echolocation signals, and physiological stress (Evans et al. 1992, Richardson et al. 1995, Richardson & Würsig 1997).

Collisions, on the other hand, can cause direct physical injury and death (Nowacek et al. 2001; Wells & Scott 1997). Several species of cetaceans including the humpback whale (*Megaptera novaeangliae*) (Smultea 1989, Swingle et al. 1993), right whales (*Eubalaena glacialis* and *Eubalaena australis*) (Colborn et al. 1998, Laist et al. 2001), bottlenose dolphins (*Tursiops truncatus*) (Fertl 1994, Wells & Scott 1997) and killer whales, *Orcinus orca* (Ford et al. 1994, Visser 1999), have been documented as being hit by vessels. In some instances, the occurrence of an accidental collision between cetaceans and boats can be identified by scars, which are usually found on the dorsal surface of the animal (if the animal was hit while alive). Damage due to strikes of propeller blades usually results in a series of large parallel cuts along the dorsal surface of the animal (Angliss & DeMaster 1997). Wells and Scott (1997) have studied bottlenose dolphins in Florida, and have reported a number of individuals showing straight and deep cuts into the dorsal fin or body. The multiple cuts are parallel and evenly spaced, with the spacing similar to that recorded for propeller scars on manatees, *Trichechus manatus*, in the same area (Wright et al. 1995).

This article aim to report a case of collision between an individual spinner dolphin and a boat that occurred in the Archipelago of Fernando de Noronha off Brazil, using photographs to evidence injuries suffered by the animal.

Material and Methods

Our record was made at the Fernando de Noronha Archipelago (3° 51' S and 32° 25' W), off Brazil. Most of the archipelago is included in the National Marine Park of Fernando de Noronha, where human activities including visitation are controlled.

Photographs of spinner dolphins, *Stenella longirostris* (Gray 1828) at the Baía dos Golfinhos, Fernando de Noronha Island, were used to identify injuries. The Baía dos Golfinhos is a cove that carries this name because is visited daily by groups of spinner dolphins (Lodi & Fiori 1987). It is an intangible inlet inside the marine park, in which the regular access of people and boats is prohibited. Although a series of protection laws has been already created to preserve organisms and their environment, especially spinner dolphins, the long-term effects of tourism activities are still unclear (for example: Silva et al. 1999; Silva & Silva Jr. 2002).

Results and Discussion

On April 26, 2006 we photographed a spinner dolphin inside the cove "Baia dos Golfinhos", which presented the two jaws broken and parallel cuts along its body (Figure 1). Both injuries were strongly indicative that the dolphin had been hit by a boat. As the dolphin was very emaciated and moved arduously, we considered the accident as a fatal one. However, as we don't know how far spinner dolphins move around the archipelago, we are thus unable to say that the accident happened close to the Marine Park, and, thus, inside the protected areas. Considering that (i) the tourism industry has remarkably increased during the last decade; (ii) tourism is nowadays the most important economic activity in the archipelago and (iii) even occasional mortality of a few dolphins as a result of disturbance is undesirable and often illegal, we believe that use of simple preventive tools -such as educating local people and visitors and installing propeller guards on boats that are in regular contact with cetaceans (Visser 1999) - is strongly recommended in order to avoid these kinds of accident.

(a)

(b)

Figure 1. A spinner dolphin (*Stenella longirostris*) with its two jaws broken as a result of boat propeller strike a); the same individual showing two parallel cuts in the body b).

Figura 1. Um golfinho-rotador (*Stenella longirostris*) com as duas maxilas quebradas como resultado de uma colisao com a helice de um barco a); o mesmo individuo mostrando dois cortes paralelos no corpo b).

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