

Evidence of epimeletic behavior involving a *Pontoporia blainvillei* calf (Cetacea, Pontoporiidae)

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Resumo

O presente trabalho constitui o segundo registro de comportamento epimelético para a toninha, *Pontoporia blainvillei*. A carcaça de um filhote de toninha foi recuperada na praia de Enseada, São Francisco do Sul, sul do Brasil (26°13'S - 48°31'W) em 9 de outubro de 2001. Seu comprimento total indicou que se tratava de um neonato ou de um filhote prematuro. O filhote apresentava vários arranhões paralelos, aparentemente muito recentes e produzidos pela dentição de um adulto. Havia arranhões na nadadeira dorsal, nas peitorias e na caudal, sendo que a posição e tamanho dos arranhões indicavam a intenção do adulto em salvar o filhote. A porção anterior do corpo apresentava marcas de rede, sugerindo que o filhote tenha sido acidentalmente emalhado. O comportamento epimelético evidenciado pelas marcas pode ter ocorrido durante o emalhamento e/ou após sua liberação da rede e sugere-se que a *causa mortis* do filhote tenha sido por afogamento.

Unitermos: *Pontoporia blainvillei*, comportamento epimelético, captura acidental, sul do Brasil

Abstract

Evidence of epimeletic behavior involving a *Pontoporia blainvillei* calf (Cetacea, Pontoporiidae). The present paper constitutes the second record of epimeletic behavior for the toninha, *Pontoporia blainvillei*. A toninha calf carcass was recovered at Enseada Beach, São Francisco do Sul, southern Brazil (26°13'S - 48°31'W) on October 9, 2001. Its total length indicated that it was a neonate or a premature calf. The calf had many parallel scratches on it, which were freshly made and produced by adult teeth. There were scratches on the fin, flukes and flippers, and the position and size of the marks demonstrated the intention of the adult to rescue the calf. The anterior region of the body showed net marks, suggesting that the calf had been accidentally entangled. The epimeletic behavior evidenced by the tooth marks could have occurred during the entanglement and/or after its liberation, and we suggest that the *causa mortis* of the calf was drowning.

Key words: *Pontoporia blainvillei*, epimeletic behavior, accidental capture, southern Brazil

Epimeletic behavior, or care-giving behavior, occurs when an individual cares or helps another individual. When attention is direct by a mother towards a calf in difficulty, it is known as 'nurturant' behavior (Caldwell and Caldwell, 1966). Another form of epimeletic behavior is when a dead dolphin is supported at the surface by an adult (Félix, 1994). Occasionally, descriptions of epimeletic behavior appear in the literature, and in the majority of cases they are interspecific (Pilleri, 1984). Most of the cases of intraspecific epimeletic behavior in cetaceans are of adults (presumably the mother, in most cases) that maintain dead calves on the surface, as described for bottlenose dolphins, *Tursiops truncatus* (Cockroft and Sauer, 1990; Harzen and Santos, 1992; Félix, 1994; Fertl and Schiro, 1994), gray dolphins, *Sotalia fluviatilis* (Santos et al., 2000), and the rough-toothed dolphins, *Steno bredanensis* (Lodi, 1992). A revision of epimeletic behavior amongst cetaceans is presented in Caldwell and Caldwell (1996) and Félix (1994). The present paper constitutes the second record of epimeletic behavior for the toninha, or franciscana dolphin, *Pontoporia blainvillei*, the first being described by Pilleri (1971) for Uruguayan waters. The species is considered to be under threat of extinction in Brazil (IBAMA, 2003), while the World Conservation Union classify it as "data deficient" (Reeves et al., 2003). The high number of accidental captures of this species in fishing nets throughout its distribution range has led to general agreement in

considering the toninha to be the most threatened small cetacean of the southwest Atlantic Ocean (Praderi et al., 1989; Pinedo, 1994; Siciliano, 1994). On October 9, 2001, a *P. blainvillei* calf carcass was recovered at Enseada Beach, São Francisco do Sul, southern Brazil (26°13'S - 48°31'W). According to local residents, the calf was stranded alive on the beach at 11:00 am. When it was recorded at 2:00 pm, the animal's state confirmed that it had died recently, and it had many parallel scratches on it, which were freshly made. The individual was taken to the laboratory and frozen. It was a male, 62.9cm in total length, indicating that it was a neonate or premature calf, not presenting the umbilical cord. Rosas and Monteiro-Filho (2002) estimate the average neonatal length to be 71.2cm for Paraná state (25°58'S - 48°35'W), and Danilewicz (1996) estimate it to be between 70 and 85cm for the Rio Grande do Sul coast. There are no data on reproductive parameters for Santa Catarina state. According to the explanation of Rosas and Monteiro-Filho (2002) and Danilewicz et al. (2000), the births in southern Brazil occur at the end of the spring and beginning of summer (October to December). Although the animal was smaller, its birth must have occurred in spring (October). The parallel scratches on the animal were numerous (Figure 1). The distance between the scratches corresponded to the distance between the teeth of an adult *P. blainvillei*. Most of the



FIGURE 1: Lateral view of *Pontoporia blainvillei* calf with scratches caused by the teeth of an adult individual of the same species, indicating epimeletic behavior.

scratches were on both sides of the posterior region of the body. Many marks were apparent on the fin, flukes and flippers, and the position of the marks suggested the intention of the adult to rescue the calf. The anterior region of the body showed net marks, visible in the melon and beneath the pectoral fins.

Enseada Beach has an artisanal fishing community that uses bottom and drift gillnets, and they are mainly responsible for the captures of this species along the Brazilian coast (Pinedo, 1994; Bertozzi and Zerbini, 2002; Rosas et al., 2002; Santos et al., 2002). We suggest in this case that an adult, perhaps the mother because of the calf's small size, had insistently tried to retrieve it from the net. This hypothesis is supported by the fact that the calf had fresh tooth marks mainly on the posterior region of the body and that the anterior region showed net marks. Di Benedetto et al. (2001) attributed conspecific tooth marks on the body of *P. blainvillei* specimens accidentally caught on the northern Rio de Janeiro coast to rescue attempts by one or more members of the group. Although the local Enseada residents said that the calf had been stranded alive, we consider the possibility that it had drowned before being stranded because of the reduced respiration capacity that is typical of a neonate. It is possible that the calf was retrieved from the net by the adult, producing the marks, similar to the first case described by Pilleri (1971) for *P. blainvillei*, in Uruguayan waters. Another possibility is that the fishermen retrieved the dead calf from the net and an adult produced the tooth marks by trying to maintain the calf on the surface, as described in the majority of the cases reported (Cockroft and Sauer (1990), Harzen and Santos (1992), Félix (1994) and Fertl and Schiro (1994) for bottlenose dolphins, *Tursiops truncatus*; Santos et al. (2000) for gray dolphins, *Sotalia fluviatilis*; and Lodi (1992) for rough-toothed dolphins, *Steno bredanensis*). This constitutes the second record of epimeletic behavior for *P. blainvillei*.

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