

OCCURRENCE OF FRANCISCANA (*PONTOPORIA BLAINVILLEI*) IN BAÍA NORTE, SOUTHERN BRAZIL¹

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The franciscana (*Pontoporia blainvillei*) occurs in coastal waters of the western South Atlantic from the State of Espírito Santo (18°25'S, 30°42'W), Brazil, to Península Valdés (42°35'S, 64°48'W), Argentina (Crespo, 2002; Bordino *et al.*, 2002). Most information on the species comes from stranding and bycatch records (see reviews by Crespo, 2002, and by Bordino *et al.*, 2002). Although sightings have been reported for Argentina (see review in Bordino *et al.*, 2002) and Brazil (Bordino *et al.*, 2002; Di Benedetto *et al.*, 1998; Flores *et al.*, 2000³; Moreno *et al.*, 2003; Santos *et al.*, 2007), it appears that in only three areas it is possible to conduct systematic observation of franciscanas: Bahia Anegada (40°30'S, 62°10'W), Argentina (Bordino *et al.*, 1999; Bordino, 2002), Baía de Babitonga (27°32'S, 48°20'W), southern Brazil (Cremer and Simões-Lopes, 2005) and Baía das Laranjeiras (25°25'S, 48°21'W), also in southern Brazil (Santos *et al.*, 2009). Herein, information is presented on distribution,

occurrence, group size and composition of franciscanas in Baía Norte, Santa Catarina State, Brazil, based on six sightings made between 1996 and 2003 during ongoing research on the Guiana dolphin (*Sotalia guianensis*) and bottlenose dolphin (*Tursiops truncatus*) (Flores, 1999; Flores and Bazzalo, 2004; Flores and Fontoura, 2006). These sightings add to two previous ones reported for Baía Norte by Flores *et al.* (2000)³.

Baía Norte and surrounding waters (27°23'-27°35'S, 48°33'-48°30'W) is located on the southern Brazilian coast (Figure 1). This is a shallow bay with bottom depths usually less than 12m except in the North Channel, where the bottom depth is approximately 14m, and in the strait connecting to South Bay, where bottom depth is greater than 25m. Strandings and by-catches of franciscanas have been recorded in Baía Norte as well as along the adjacent open shore to the Atlantic Ocean (Simões-Lopes and Ximenez, 1993; Cherem *et al.*, 2004).

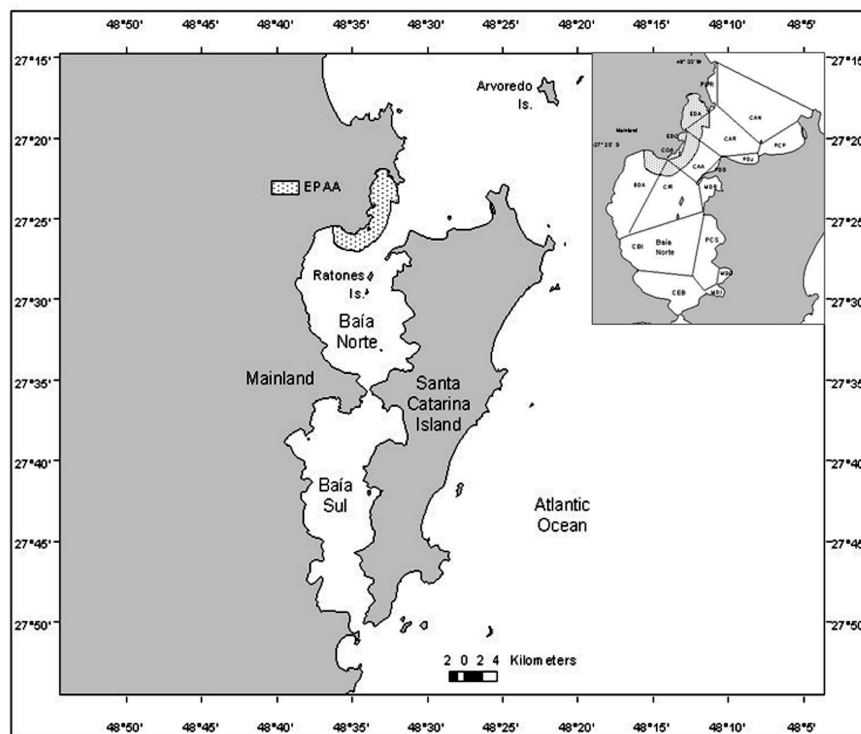


Figure 1. Map of the Baía Norte study area, southern Brazil. EPAA: Environmental Protection Area of Anhatomirim.

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³ Flores, P.A.C., Sousa-Lima, R. S. and Siqueira, G. S. (2000) Avistagens de franciscana (*Pontoporia blainvillei*) na Baía Norte, Santa Catarina, Sul do Brasil. Pages 71-74 in Report of the Third Workshop for Coordinated Research and Conservation of the Franciscana Dolphin (*Pontoporia blainvillei*) in the Southwestern Atlantic, UNEP/CMS publication 112pp. [Available from UNEP/CMS Secretariat,

Methods for data collection included boat surveys, behavioral sampling observations and measurement of environmental variables, as part of a long-term study on Guiana and bottlenose dolphins as noted above. When a group of dolphins was found, time and location were collected with a hand-held GPS. Group size and composition were recorded every 5 minutes following focal group sampling (*sensu* Altmann, 1974, and Mann, 1999). Group composition was defined using two categories: adults and calves, the latter determined when small individuals were observed in echelon position with an adult. The environmental variables recorded were water temperature at 1m depth using a mercury thermometer, water transparency using a Secchi disc and bottom depth with a hand-held depth sounder. Seasons were defined as: Autumn, 21 March - 20 June; Winter, 21 June - 20 September; Spring, 21 September - 20 December; Summer, 21 December - 20 March.

Groups ranged from 3 to 12 individuals in size and were mostly composed of adults (Table 1), which is consistent with the range reported elsewhere for the species (Bordino *et al.*, 1999; Bordino, 2002; Secchi *et al.*, 2001;

Crespo *et al.*, 1998; Di Benedetto *et al.*, 2001; Moreno *et al.*, 2003; Santos *et al.*, 2009). Franciscanas occurred in waters ranging in temperature from 16.5 to 23°C, depth from 4 to 8.6m and turbidity from 61 to 150cm (Table 1). These environmental conditions are similar to those typically reported for Guiana and bottlenose dolphins reported in this area (Flores, 1999; Flores and Bazzalo, 2004; Flores and Fontoura, 2006). One half of all franciscana sightings occurred in Winter and none were recorded in Autumn (Table 1). Four franciscana sightings occurred within the local distribution range of the Guiana dolphin as reported by Flores (1999), Flores and Bazzalo (2004), and Flores and Fontoura (2006), while two sightings were recorded inside the local range of the bottlenose dolphin (Flores and Fontoura, 2006). However, no dolphins of these species were seen close to the franciscanas at the time of the sightings.

Five of the six sightings (83%) occurred inside the Environmental Protection Area of Anhatomirim (EPAA), a multiple-use, federal marine protected area created in 1992 mainly to ensure protection of the wild resident population of Guiana dolphins (Figure 2).

Table 1. Summary information on franciscana groups sighted in Baía Norte, Santa Catarina State, Brazil, 1996-2003.

SIGHTING #	DATE	SEASON	GROUP SIZE	GROUP COMPOSITION	WATER TEMPERATURE (°C)	SECCHI DISK (cm)	DEPTH (m)
1	14-Feb-96	Summer	10	Adults + Calf	-	-	4 to 6.4
2	12-Jul-97	Winter	6-8	Adults	-	-	6.7 to 8.6
3	28-Jun-02	Winter	10-12	Adults	16.5	150	5.7
4	09-Jul-03	Winter	7	Adults + Calf?	19	110	6.8
5	21-Nov-03	Spring	6-7	Adults	22	61	5.3
6	25-Nov-03	Spring	3-4	Adults	23	68	6.2

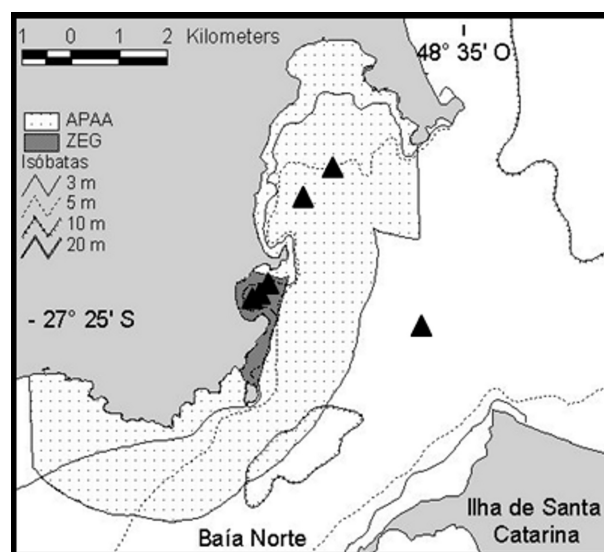


Figure 2. Sighting locations of franciscanas (▲) with limits of the Environmental Protection Area of Anhatomirim (APAA, stippled area) and the Dolphin Exclusive Zone (ZEG, dark gray area).

Therefore, it appears that protection measures aimed at Guiana dolphins, such as closure of areas to tourism boats as already applied in a Dolphin Exclusive Zone (ZEG, Figure 2) and fishery restricted zones and/or restrictions of fishing net types, may help protect franciscanas and bottlenose dolphins in this area as well. The occurrence of a cetacean species vulnerable to extinction (Ministério do Meio Ambiente, 2003⁴; IUCN, 2010⁵) inside the EPAA reinforces its importance in terms of further investments in its protection.

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⁴ Ministério de Meio Ambiente (2003) Lista Oficial das Espécies da Fauna Brasileira Ameaçadas de Extinção. Instrução Normativa No. 3, de 27 de maio de 2003. *Diário Oficial da República Federal do Brasil, Brasília, DF*. Seção 1, 101:88-97.

⁵ IUCN (2010) IUCN Red List of Threatened Species. Version 2010.1. Available online at <www.iucnredlist.org>. Consulted on 12 May 2010.