ISSN (impresso) 0103-5657
ISSN (on-line) 2178-7875

Revista Brasileira de Ornitologia

Volume 19
Número 4
Dezembro 2011

www.ararajuba.org.br/sbo/ararajuba/revbrasorn

Publicada pela
Sociedade Brasileira de Ornitologia
São Paulo - SP

Revista Brasileira de Ornitologia, 19(4), 545-551
Dezembro de 2011

NOTA

New records of "shy-type" albatrosses *Thalassarche steadi/cauta* in Brazil

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Recebido em: 10/07/2011. Aceito em: 26/10/2011.

RESUMO: Novos registros documentados de *Thalassarche steadi/cauta* no Brasil. Segundo a taxonomia recente, a espécie de albatroz anteriormente conhecida como *Diomedea cauta cauta* compreende duas espécies: *Thalassarche steadi* e *T. cauta.* Esses albatrozes, por serem morfologicamente indistinguíveis, são referidos frequentemente como *T. steadi/cauta,* e estão entre os albatrozes menos conhecidos no Atlântico Sul Ocidental. No Brasil, há apenas três registros, todos de indivíduos encontrados mortos. O presente estudo apresenta novos registros documentados de *T. steadi/cauta* no Brasil, obtidos a bordo de barcos espinheleiros no sul do país. Entre 2005 e 2011 sete *T. cauta/steadi* foram observados e fotografados no mar, e um foi capturado incidentalmente por um espinhel e teve sua cabeça depositada no Museu de Zoologia da Universidade de São Paulo. Quatro registros foram efetuados em setembro, um em maio e dois em agosto, todos na região do talude continental, ao largo do Rio Grande do Sul ou Santa Catarina. A maioria dos albatrozes observados era de imaturos, com exceção de um adulto registrado em agosto de 2011. Em águas uruguaias, imaturos de *T. steadi/cauta* vêm sendo observados regularmente, portanto sua ocorrência ao largo do Rio Grande do Sul era esperada. Os registros aqui apresentados somam-se ao recente corpo de evidencias demonstrando que indivíduos de *T. steadi/cauta,* principalmente os imaturos, freqüentam o Atlântico Sul Ocidental, onde são vítimas de capturas incidentais em espinhéis pelágicos do Brasil e Uruguai.

PALAVRAS-CHAVE: Brasil; captura incidental; espinhel pelágico; *Thlalassarche cauta; Thalassarche steadi.*

KEY-WORDS: Brazil; bycatch; pelagic long-line; *Thlalassarche cauta; Thalassarche steadi.*

The waters of south and southeast Brazil represent an important foraging area for albatrosses from distant breeding sites on islands of the South and Central Atlantic, Sub-Antarctic, and New Zealand region (Vooren 1989, Neves *et al.* 2006a). Although ten albatross species are confirmed to occur in Brazil (CBRO 2011), only Black-browed (*Thalassarche melanophris*), Atlantic Yellow-nosed (*T. chlororhynchos*), Wandering (*Diomedea exulans*) and Tristan (*D. dabbenena*) albatrosses occur regularly (Neves *et al.* 2006a, b, Olmos and Bugoni 2006, Bugoni *et al.* 2008, Carlos 2008). The other six species are poorly known in Brazilian waters, in most cases owing to birds caught on long-lines or found dead or debilitated ashore. Among these species is the Shy Albatross *T. cauta* (*sensu lato*), which is not generally known to occur in Brazilian waters (Harrison 1983, Onley and Scofield 2007, Fitter 2008, IUCN 2010).

According to Robertson and Nunn (1998) the "shy albatross complex" comprises four species: Chatham (*Thalassarche eremita*), Salvin's (*T. salvini*), Shy (*T. cauta*) and White-capped (*T. steadi*) albatrosses. The Shy and White-capped albatrosses, formerly considered a single species, can only be differentiated using molecular analysis (Abbot and Double 2003a, b). Given the phenotypic similarity between both species, they have been frequently referred to in the literature as "shy-type albatrosses" (Abbot and Double 2003a, Abbot *et al.* 2006, Baker *et al.* 2007, Carlos 2008, Jiménez *et al.* 2009a).

The White-capped Albatross is endemic to New Zealand sub-Antarctic islands, with some 110,000 pairs nesting on Disappointment Island (95%) and the remainder on Adams and Auckland Islands, plus 20 pairs on Bollons Island near the Antipodes (Fitter 2008). Including non-breeders, the global population is estimated to comprise 350,000-375,000 individuals (Birdlife International 2011a). The Shy Albatross breeds on only three islands off Tasmania. The breeding population is estimated to be around 12,200 pairs, with 98% on Albatross Island and Mewstone, and only 2% on Pedra Branca (Fitter 2008). The global population including non-breeders is estimated at 50,000-60,000 individuals (Birdlife International 2011b). Both species are considered as "near threatened", especially due to the high mortality rates as a result of interactions with long-line and trawl fisheries in south Indian and south-eastern Atlantic oceans (Baker *et al.* 2007, IUCN 2010).

The first shy-type albatrosses recorded in Brazil were immature individuals found dead on the shores of Rio Grande do Sul (Petry *et al.* 1991) and Bahia (Lima *et al.* 2004) in April 1990 and September 2003, respectively.

Additionally, a skull of one specimen caught on a long-line off the coast of Rio Grande do Sul in 1997-1998 was deposited in the *Museu Oceanográfico do Vale do Itajaí* (MOVI) as a *D. exulans* (MOVI 33262), and later re-identified as *T. cauta* (Dénes *et al.* 2007). This specimen, however, was caught in international waters beyond the limit of the 200 nautical miles of Brazilian Exclusive Economic Zone (EEZ). These Brazilian records, in addition to the confirmation of one White-capped Albatross visiting a Black-browed colony in South Georgia in 2003 (Phalan *et al.* 2004), represents all the shy-type albatrosses recorded for the south-western Atlantic before the study of Jimenez *et al.* (2009a). These authors showed that during 2005 shy-type albatrosses were regularly observed in

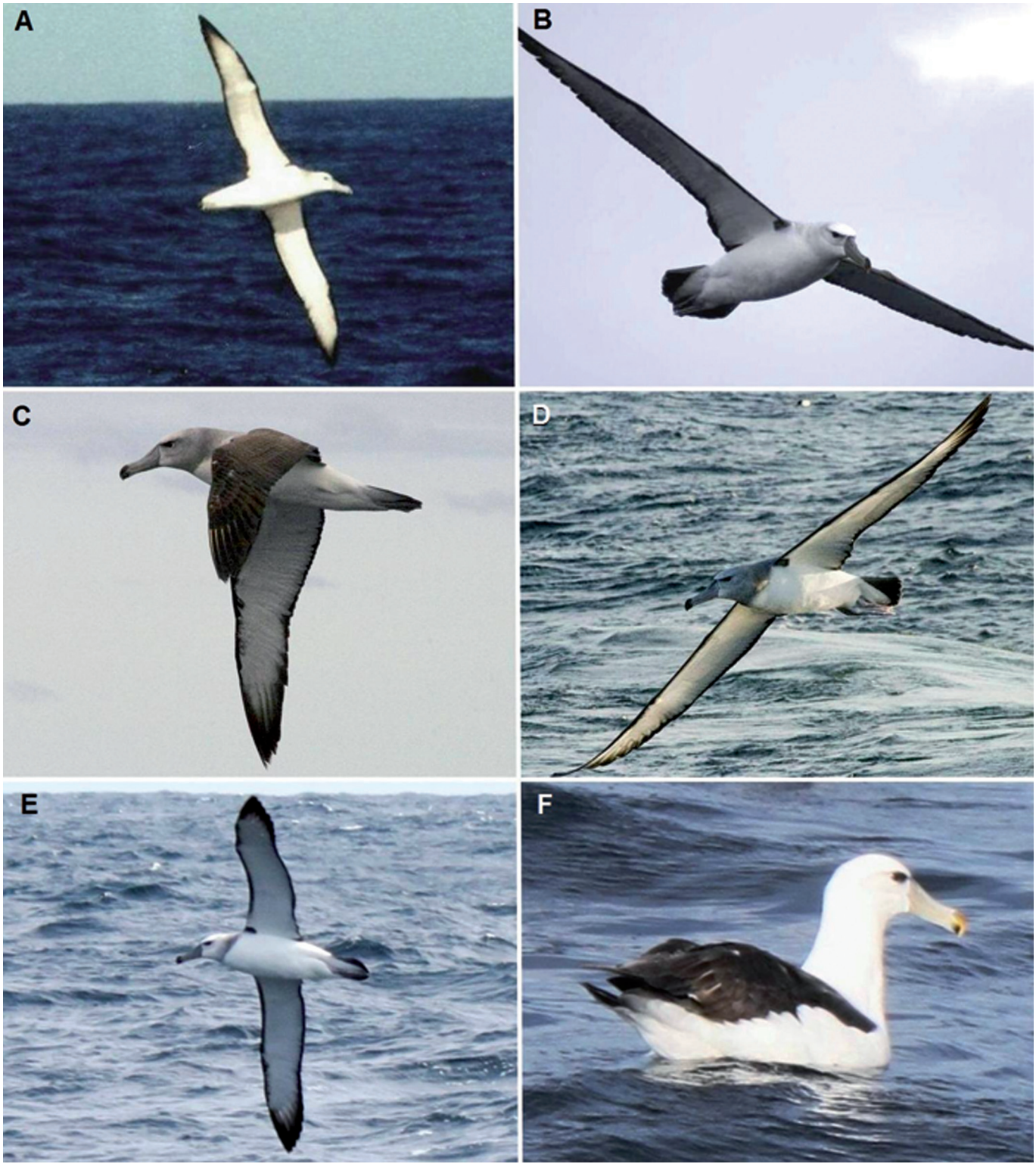

FIGURE 1: Documented records of "Shy-type" Albatrosses on the southern Brazil continental slope, taken in 03 May 2005 (A), 02 September 2008 (B), 10 September 2009 (C), 26 September 2010 (D) and 31 July 2011 (E-F) (Photos: F. V. P. and D. G.).

seabird aggregations around long-liners in Uruguayan waters, reaching abundances of up to 20 individuals. Additionally, they identified (by molecular analysis) that all five shy-type albatrosses caught by Uruguayan pelagic long-liners were White-capped Albatrosses (Jiménez *et al.* 2009a). This note presents new records of shy-type albatrosses off Brazil, confirming their regular occurrence in Brazilian waters, and reports that shy-type albatrosses are killed by pelagic long-liners in this area.

The sightings reported in this study were obtained during at sea campaigns of *Projeto Albatroz* aboard pelagic long-liners of the southeast and southern Brazilian fleet, based on the ports of Santos (SP), Itajaí (SC) and Rio Grande (RS). This fleet operates within the Brazilian Exclusive Economic Zone (EEZ) and in adjacent international waters, mainly from 200 to 3000 m deep, and from 25° to 35°S, concentrated along the continental slope.

Between 2005 and 2011, seven sightings of shy-type albatrosses were made (Figure 1), and one was caught on a pelagic long-line and returned to port by Captain Celso Oliveira of F/V *Akira V.* This specimen was received by staff of NEMA (*Núcleo de Educação e Monitoramento Ambiental*) and sent to *Projeto Albatroz* for processing. Its head was deposited in the Museu de Zoologia da Universidade de São Paulo in São Paulo, Brazil (MZUSP 5329; Figure 2). Most birds were immature, due to grey bills with dark tips. The albatrosses observed in 2005 and 2008 had pale heads, with partial grey collars, typical of older immature birds, whereas the ones observed in 2009 and 2010 had dark grey colouring on the sides of the neck and head, typical of fresh-plumage juveniles (Onley and Scofield 2007). In 2011 the presence of an adult shy-type albatross was confirmed in Brazil. Adults have a bill pale grey on sides, yellow on top and a small dark spot on the tip of lower mandible (Fitter 2008), in addition to an orange skin at the base of lower mandible (Figure 1f). They were distinguished from Salvin's and Chatham Albatrosses by the pale base to the primaries (Onley and Scofield 2007).

Four of the seven records were in September, one in May, one in July and two in August (Table 1). The seven sightings occurred on the continental slope, between 180-2,200 m deep, and 27°11'-34°16'S (Figure 3). The observations occurred during long-line hauling, when seabirds are attracted by offal discharge (Figure 4). Shy-type albatrosses were observed in 25% (n = 132 counts) of seabird flocks attending long-liners in Uruguay, occurring from at least July to December. Some counts of up to 20 shy-type albatrosses were made near to Brazilian waters (Jiménez *et al.* 2009a). Given such frequency and abundance of shy-type albatrosses in Uruguayan waters immediately adjacent to Brazil, their occurrence in south Brazilian waters was expected, perhaps in higher frequency and abundance than the observed. Most shy-type albatrosses recorded in Brazil that could be aged, including those reported previously (Petry *et al.* 1991, Lima *et al.* 2004) were immature, in agreement with the pattern observed in Uruguay, where adults were observed only twice (Jiménez *et al.* 2009a).

FIGURE 2: Head of the shy-type albatross caught in a pelagic long-line in 16 September 2008, deposited in the ornithological collection of the *Museu de Zoologia da Universidade de São Paulo, USP,* under the register MZUSP 5329 (Photo: F. V. P.).

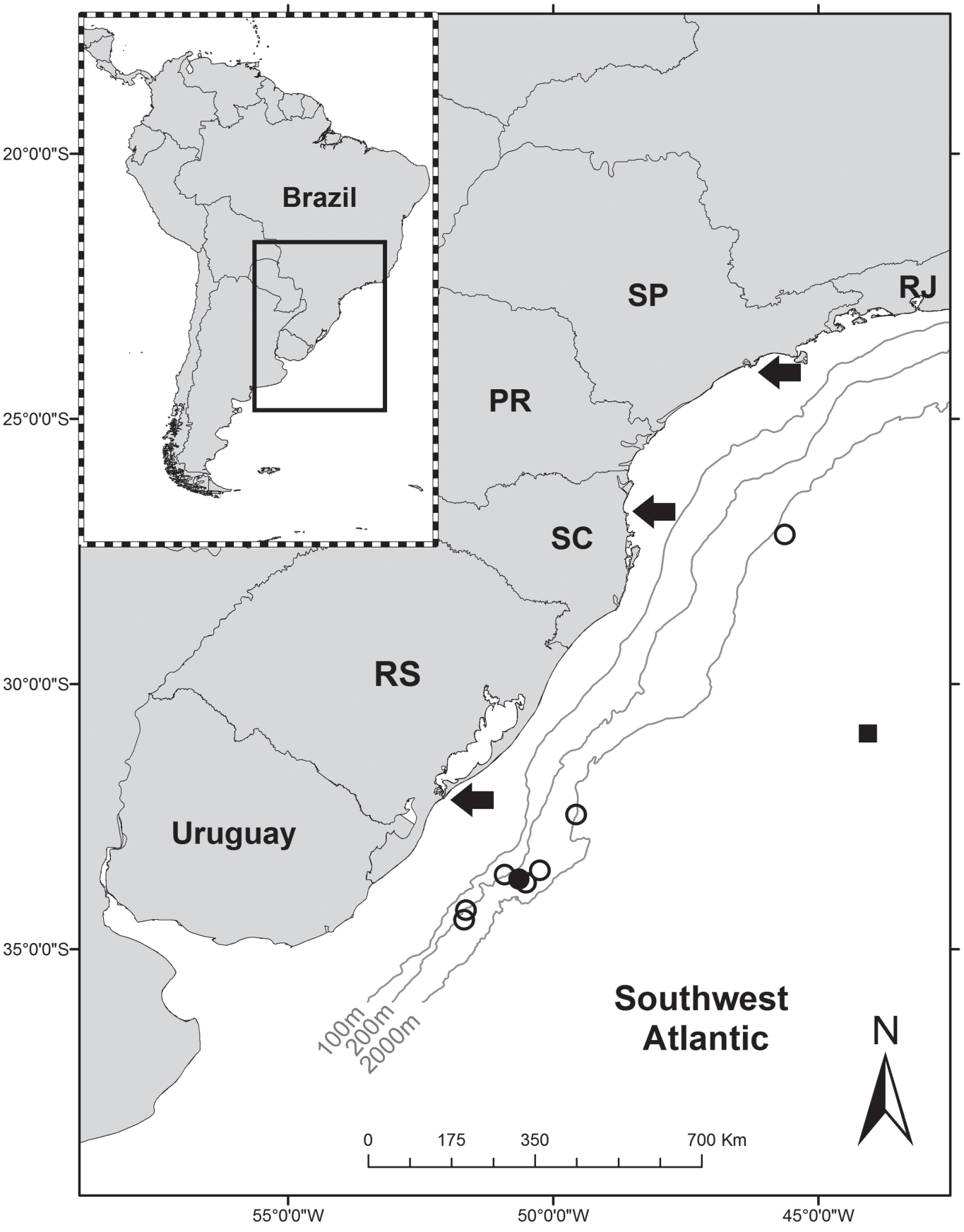

FIGURE 3: Positions of the encounters with free living "shy-type" albatrosses (open circles), and the event of incidental capture (black circle) reported in this study, plus the position of the shy-type albatross caught in 1997-1998 (black square), deposited in the Museu Oceanográvico do Vale do Itajaí (Dénez *et al.* 2007). The black arrows indicate, from south to north, the ports of Rio Grande (Rio Grande do Sul), Itajaí (Santa Catarina) and Santos (São Paulo).

TABLE 1: Detailed information on the records of shy-type albatrosses obtained on board pelagic long-liner in southern Brazil, including the specimen caught in a long-line and brought to land by the FV *Akira V* captain.

Number	**Age**	**Date**	**Latitude**	**Longitude**	**Documentation**	**F/V***
1	Immature	03 May 2005	27°11'	45°38'	Photo	IMA
1	Immature	02 Sep 2008	34°16'	51°39'	Photo	AKI
1	Juvenile	16 Sep 2008	33°41'	50°39'	Head	AKI
1	Juvenile	10 Sep 2009	32°28'	49°34'	Photo	CAP
1	Juvenile	26 Sep 2010	33°36'	50°55'	Photo	AKI
2	Adult; immature	31 Jul 2011	33°31'	50°15'	Photo	MAR
1	Juvenile	01 Aug 2011	34°27'	51°41'	Photo	ANA
2	Adult; immature	05 Aug 2011	33°45'	50°31'	Photo	MAR

* Fishing Vessels: *Imaipesca* (IMA), *Akira V* (AKI), *Capitão São Lucas* (CAP), *Maria* (MAR) and *Anarthur* (ANA).

FIGURE 4: A juvenile "shy-type" albatross (indicated by an arrow) amongst juvenile Black-browed Albatrosses, disputing offal discharges of the pelagic long-liner *Akira V,* on 26 September 2010 (Photo: F. V. P.).

The bycatch episode reported in this study is the second record of incidental capture of shy-type albatrosses by the Brazilian pelagic long-line fleet. The first record was the specimen captured in 1997-1998 (Dénes *et al.* 2007), which was also the first in the Southwest Atlantic. Other records of shy-type albatrosses captured in the Southwest Atlantic were five birds killed by Uruguayan pelagic long-liners between 2004-2005 (Jiménez *et al.* 2009a).

Studies on seabird assemblages associated with fishing vessels, as well as on seabird bycatch, have been conducted in oceanic waters of the Southwest Atlantic since the 1990s, from south Argentina to southeast Brazil (see Bugoni *et al.* 2008, Jiménez *et al.* 2009b, Jiménez *et al.* 2010). Despite this effort, all the at sea observations and incidental captures of shy-type albatrosses occurred off the southern Brazilian and Uruguayan coasts, almost all from 2005 to 2010, with the exception of the bird caught off southern Brazil (Dénes *et al.* 2007). The results of this study reinforces the evidence (Jiménez *et al.* 2009a) indicating that shy-type albatrosses, specially the immatures, visit the Southwest Atlantic, particularly the southern Brazil and Uruguayan slope, where they are prone to capture by pelagic-long-liners.

According to Denés *et al.* (2007), the identity of the two Brazilian specimens, identified as *"Diomedea cauta cauta"* (Petry *et al.* 1991, Lima *et al.* 2004) should be investigated, and the bill length of the MOVI skull (127.3 cm) places it within the known range for the four species of the shy albatross complex. Although the specific identity of the shy-type albatrosses recorded in Brazil remains unknown, in the official list of the Brazilian birds Shy Albatross appears in the primary list (*i.e.,* species with documented record), while White-capped is not mentioned (CBRO 2011). However, White-capped Albatrosses are more likely to occur in Brazilian waters than Shy Albatrosses (*sensu stricto*). According to studies based on banding recovering, colour-marked birds, satellite tracking and molecular identification of bycatch specimens (Hedd and Gales 2005, Brothers *et al.* 1998, BirdLife 2004, Abbott *et al.* 2006, Petersen *et al.* 2009, Aldeman 2010), Shy Albatrosses have a more limited distribution than White-capped. Both species, especially immature and sub-adult birds, disperse across the Indian Ocean to southern Africa, with some individuals reaching the central Atlantic (*e.g.,* around Tristan da Cunha). However, only the White-capped is known to move across the Pacific Ocean to waters off Chile and Peru. In addition, the total population of White-capped is roughly ten times that of Shy (Fitter 2008), so it can be expected that a higher frequency of White-capped are observed at sea within areas of distribution overlap for the two species, as observed in Southern Africa, where 95% of the shy-type albatrosses captured by long-liners were White-capped (Petersen *et al.* 2009). In agreement with these premises, all shy-type albatrosses identified by molecular analysis in Uruguay (Jiménez *et al.* 2009a), as well as in South Georgia (Phalan *et al.* 2004), were White-capped Albatrosses, thus there were no confirmed records of Shy Albatrosses in the Southwest Atlantic.

Continued work on long-liners may help to understand whether shy-type albatrosses are becoming more frequent in Brazilian waters, and molecular identification of bycatch specimens, as well as live birds trapped at sea, is necessary to clarify the specific identity of the shy-type albatrosses visiting this area.

AKNOWLEDGMENTS

The authors thanks to the captains and the crew of the F/V *Akira V, Cap. Lucas, Imaipesca, Maria* and *Anarthur* for allow *Projeto Albatroz* team going on board. They thank to Celso Oliveira, *Akira V* captain, for bring the shy-type albatross incidentally caught to land, and to NEMA staff for receive the specimen and forward to *Projeto Albatroz.* Sebastián Jiménez and Fábio Olmos helped with the identification of shy-type albatrosses, and Sebatián, as well as Leandro Bugoni, provided relevant references. Luís Fábio Silveira received the specimen and provided its inclusion in the Museu de Zoologia da USP, Luigi Fadanelli Roncone helped to produce the map, and Oliver Yates revised the English language. This research was conducted by *Projeto Albatroz,* with support of *Petrobras Ambiental* Program, Albatross Task Force Program (BirdLife/RSPB) and Ministry of Fisheries and Aquiculture of Brazil.

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