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Revisión de registros y notas de Pingüino Rey (*Aptenodytes patagonicus*) y el Pingüino Penacho Amarillo (*Eudyptes chrysocome*) en Brasil

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REVIEW OF RECORDS AND NOTES ON KING PENGUIN (*APTENODYTES PATAGONICUS*) AND ROCKHOPPER PENGUIN (*EUDYPTES CHRYSOCOME*) IN BRAZIL

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ABSTRACT.— A review of previous findings and new records of King Penguin (*Aptenodytes patagonicus*) and Rockhopper Penguin (*Eudyptes chrysocome*) on the Brazilian coast is presented. In total there are six records of the King Penguin and ten records of the Rockhopper Penguin. Juvenile and adults of both species were found stranded mostly on Rio Grande do Sul coast, southern Brazil. Records of King Penguins are restricted to the summer season, while records of Rockhopper Penguins are mostly during winter. Rockhopper Penguin appears to displace more regularly to the Subtropical Convergence area, while King Penguins appear to be vagrant in Brazil, following the Malvinas Current.

KEY WORDS: Aptenodytes patagonicus, *Brazilian coast,* Eudyptes chrysocome, *penguins, records.*

RESUMEN. REVISIÓN DE REGISTROS Y NOTAS DE PINGÜINO REY (*APTENODYTES PATAGONICUS*) Y PINGÜINO PENACHO AMARILLO (*EUDYPTES CHRYSOCOME*) EN BRASIL.— En este estudio se presenta una revisión de hallazgos previos y nuevos registros del Pingüino Rey (*Aptenodytes patagonicus*) y del Pingüino Penacho Amarillo (*Eudyptes chrysocome*) en la costa de Brasil. En total se registraron seis individuos de Pingüino Rey y diez de Pingüino de Penacho Amarillo. Tanto juveniles como adultos de las dos especies fueron encontrados en las playas, especialmente en Rio Grande do Sul, sur de Brasil. Los registros de Pingüino Rey están restringidos al verano, mientras que los de Pingüino de Penacho Amarillo ocurrieron en su mayoría en invierno. Aparentemente, la presencia del Pingüino de Penacho Amarillo es más regular en la zona de la Convergencia Subtropical, mientras que el Pingüino Rey es visitante ocasional para la costa de Brasil, siguiendo la Corriente de Malvinas.

PALABRAS CLAVE: Aptenodytes patagonicus, *costa de Brasil,* Eudyptes chrysocome, *pingüinos, registros.*

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King Penguin (*Aptenodytes patagonicus*) and Rockhopper Penguin (*Eudyptes chrysocome*) have a Sub-Antarctic circumpolar distribution, breeding in several Sub-Antarctic islands (Harrison 1985), with rare records in subtropical waters. Rockhopper Penguins are considered Vulnerable in the IUCN Red List, because it is inferred that the population has decreased by at least 30% over the last 30 years based on declines of several sites and a variety of threats (BirdLife International 2004). In this study we present new data and a review of all Brazilian records from 1979 until 2005 (Tables 1 and 2).

The northernmost record for the King Penguin in Brazil and the only one outside Rio Grande do Sul (southernmost Brazilian state) was a female found alive in Rio de Janeiro in January 1995 (Pacheco et al. 1995). This bird is currently in the Museu Nacional do Rio de Janeiro. Another two live juvenile birds were photographed in Arroio do Sal Beach, in 1995 (Roman and Soto, unpublished data). In addition, two other King Penguins were found 40 km north of the Uruguayan border in Hermenegildo Beach, in January 2003. One was a live immature male (Soto et al., unpublished data), which died after 24 days at the Centro de Recuperação de Animais Marinhos (Rio Grande, Rio Grande do Sul), and the other was dead, in advanced decomposition.

Table 1. Records of King Penguin (*Aptenodytes patagonicus*) on the Brazilian coast.

	Locality	Coordinates	Date	Record [a]	Reference
1	Saquarema Beach, Rio de Janeiro	22°56'S, 42°30'W	5 January 1995	MNRJ 43371 skin	Pacheco et al. (1995)
2	Arroio do Sal, Rio Grande do Sul	29°28'S	18 March 1995	MOVI 05485-6 photo	Roman and Soto, unpublished data
3	Arroio do Sal, Rio Grande do Sul	29°28'S	18 March 1995	MOVI 05485-6 photo	Roman and Soto, unpublished data
4	Hermenegildo Beach, Rio Grande do Sul	33°36'S	3 January 2003	MOVI 37391 photo	Soto et al., unpublished data
5	Hermenegildo Beach, Rio Grande do Sul	33°36'S	January 2003	visual	This study
6	Tavares, Rio Grande do Sul	31°17'S, 50°57'W	December 2003	photo	Mohr (2004)

[a] MNRJ: Museu Nacional do Rio de Janeiro, MOVI: Museu Oceanográfico do Vale do Itajaí.

Measurements are shown in Table 3. Finally, another King Penguin (a live adult) was photographed in Tavares, Rio Grande do Sul, in 2003 (Mohr 2004).

The Rockhopper Penguin is known in Brazil based only on records from Rio Grande do Sul. The first one was found alive on an unknown date in Cassino Beach, which died in 1956 (Belton 1994, Mascarenhas et al. 2004), now exposed at the Museu da Universidade Federal de Pelotas. Other two were also found, one dead adult in 1980, between Mostardas and Quintão Beaches, and one individual dead in Cassino Beach, in 1981 (Belton 1994). Furthermore, another two birds were observed at sea in winter, one in 1979 and the other in 1982 (Vooren et al. 1982).

New records of Rockhopper Penguin presented in this study are two stranded, dead individuals in Cassino Beach, one juvenile in 1982 and one adult in 1984. The measurements are presented in Table 3. In addition, one dead

Table 2. Records of Rockhopper Penguin (*Eudyptes chrysocome*) on the Brazilian coast. All localities are from Rio Grande do Sul state.

	Locality	Date	Record [a]	Reference
A	Cassino Beach	1956	UFPel skin	Belton (1994), Mascarenhas et al. (2004)
B	Adjacent coast of Cassino Beach	Winter 1979	visual	Vooren et al. (1982)
C	Between Mostardas and Quintão Beaches	August 1980	MCN 612 skin	Silva in Belton (1994)
D	Cassino Beach	6 June 1981	visual	Silva in Belton (1994)
E	Adjacent coast of Cassino Beach	Winter 1982	visual	Vooren et al. (1982)
F	Cassino Beach	21 August 1982	CA FURG 00319 skull	This study
G	Cassino Beach	2 August 1984	CA FURG 00205 skin	This study
H	Cassino Beach	Winter 1995	photo	This study
I	Cassino Beach	29 January 2003	photo	This study
J	Mostardas Beach	February 2005	photo	Mohr, unpublished data

[a] UFPel: Museu de Ciências Carlos Ritter, Universidade Federal de Pelotas; MCN: Museu de Ciências Naturais, Fundaçâo Zoobotânica do Rio Grande do Sul; CA FURG: Coleção de Aves da Fundação Universidade Federal do Rio Grande.

Table 3. Measurements of individuals of King Penguin (*Aptenodytes patagonicus*) and Rockhopper Penguin (*Eudyptes chrysocome*) recorded on the Brazilian coast. Numbers and letters are the same as in tables 1 and 2.

	Species	Body mass (kg)	Flipper length (mm)	Foot length (mm)	Bill length (mm)	Bill depth (mm)	Total length (mm)
5	*Aptenodytes patagonicus*	18.80	272	90	91	30	730
F	*Eudyptes chrysocome*	-	-	-	41	-	-
G	*Eudyptes chrysocome*	-	132	-	47	-	-
I	*Eudyptes chrysocome*	2.66	131	106	46	17	-
J	*Eudyptes chrysocome*	2.17	125	100	41	16	-

oiled adult was photographed in Cassino Beach in the winter of 1995, but no further details are known for this specimen. Furthermore, another bird was found in Cassino Beach in 2003. This bird, a live immature, was molting when arrived, and was released at sea in June 2004, weighing 2.6 kg. Besides, another one (a live, female adult) was found in Mostardas Beach in 2005 (Mohr, unpublished data). Measurements of these birds are presented in Table 3.

In addition to these records mentioned here, there is a record of a flock of 11 Macaroni Penguins (*Eudyptes chrysolophus*) at sea, near Uruguayan border (Sick 1997). Furthermore, stranded juvenile Magellanic Penguins (*Spheniscus magellanicus*) are quite common along the southern Brazilian coast during winter and spring up to Rio de Janeiro, with scattered records to Alagoas (Belton 1994, Sick 1997).

According to Harrison (1985), fledglings depart from colonies from November to April, depending on hatching period. Most individuals of King Penguin recorded on the Brazilian coast were juveniles or non-breeders, which usually wander more extensively than adults, as in other seabirds (Bourne 1967). Breeding King Penguins from Malvinas Islands perform large foraging trips north of 39°S (Pütz 2002).

Two Rockhopper Penguins were recorded in the breeding period (December and January; Harrison 1985) and are probably non-breeders. On the contrary, both juvenile and adult Rockhopper Penguins were recorded in winter (June-August). This species is a regular visitor in Uruguayan waters during winter (Escalante 1970, Aspiroz 2003), and displaces northward along the Patagonian continental shelf up to 39°S during winter months (Pütz et al. 2002).

All penguin species arrive in Brazil following the cold waters of the Malvinas Current, which commonly reach around 28°S, sometimes extending to 23°S (Campos et al. 1996), what could explain most records from Rio Grande do Sul. The Brazilian Shelf is extensively used as a foraging area by Sub-Antarctic seabirds, such as Black-browed (*Diomedea melanophris*) and Yellow-nosed (*Diomedea chlororhynchos*) Albatrosses and Southern Giant-Petrels (*Macronectes giganteus*) (Neves and Olmos 1997) breeding in the Malvinas, South Georgia, Gough and other Antarctic and Sub-Antarctic islands (Harrison 1985). The penguins recorded in Brazilian waters breed in the same islands, and probably use southern Brazilian waters as feeding grounds. The Rockhopper Penguin appears to be a regular visitor in the Subtropical Convergence area, while King Penguins appear to be vagrant in Brazil, moving north along the Malvinas Current.

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