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## New records of vagrant birds in the South Atlantic and in the Antarctic

**ABSTRACT:** The presence of some species out of their commonly known distribution areas may not be due to the occurrence of only one single factor but of several related ones such as storms, strong winds, droughts, and the migratory behaviour of some species. Records of birds far from their usual distribution area in the Antarctic and the South Atlantic Ocean have been reported by many authors. The aim of this study is to contribute to observations of birds out of their normal distribution areas at the South Atlantic Ocean and Antarctica. Observations were made from ships, and some meteorological data for each observation were recorded as well. Species were classified into two groups: a) birds observed in their habitat which had moved from their known distribution area; b) birds observed in habitats ecologically different from their natural habitat.

**Key words:** Antarctica, South Atlantic, vagrant birds.

### Introduction

Although some seabirds are closely related to particular kinds of seawater, different environmental variables interact, promoting wanderings of some species from their normal distribution area (Visbeek and Fontana 1983, Hunt *et al.* 1990).

The southern part of South America shows a close geographic relationship with the Antarctic Continent. Despite the fact that both continents are separated by waters of well-defined properties, there are environmental affinities between the tips of continents that allow some species to move from one continent to another

(Veit 1995). In the forties, south of the Argentinian patagonian coasts, NW winds of varying force are most prevalent (Piccolo 1982).

Records of birds out of their usual distribution area in Antarctica and the South Atlantic Ocean have been reported by many authors (Rootes 1988; Aguirre 1995; Silva *et al.* 1995; Reinhardt *et al.* 1997; Favero and Silva 1998; Montalti and Orgeira 1997, 1998). The frequent explanation for these phenomena has been the typical occurrence of storms and strong winds (Lazo and Yáñez 1989, Parmelee and Fraser 1989) in Antarctica and the South Atlantic Ocean. Only in a few occasions have local factors such as droughts or migratory behaviour of some species been taken into account (Orgeira 1995).

The importance of our records is to contribute to a better understanding of the distribution of some species, their biology, and the environmental factors that regulate their movements. The objective of this work is to contribute to the observations of birds out of their distribution areas and usual habitats in the South Atlantic Ocean, Drake Passage, and Antarctica.

## Methods

Observations were made from ships in the South Atlantic Ocean and Drake Passage (between 35°S to 59°S, and between 27°W to 65°W) and Antarctica (between 60°S to 69°S and 20°W to 65°W) on board *Bahia Paraiso*, *Almirante Irizar*, and *Nathaniel B. Palmer*.

Species records, date, position, water temperature (°C) and distance to the coast (nautical miles) were obtained for each observation (Table 1). Species were classified into two groups. The first consisted of birds that were observed in their normal habitat but had been displaced from their known distribution area (Watson 1975, Harrison 1987, del Hoyo *et al.* 1992, and own data) the second group consisted of birds that were observed in habitats ecologically different from their usual living sites, that is, terrestrial birds seen at sea far away from the coast.

## Results and discussion

Species recorded among the first group (birds displaced from their known distribution area) included the following:

**Magellanic penguin** – *Spheniscus magellanicus* (J.R. Forster, 1781). — Its southernmost distribution reaches the south of Drake Passage (Harrison 1987), from the centre of Argentina and Chile to Cabo de Hornos. It usually nests in Malvinas Is. (= Falkland Is.) (del Hoyo *et al.* 1992). Vagrants have occurred at South Georgia (Woods 1988) and there are records for South Orkney Is. (Rootes

1988). We recorded one individual in December 1991, near the South Shetland Islands (Table 1).

Table 1

Records of vagrant birds in the South Atlantic Ocean and in the Antarctic. SST: sea surface temperature; DC: distance from the coast. Species marked with an asterisk were recorded several times; in these cases in the table the southernmost record is indicated. Parentheses in the number column indicate the total number of observed individuals in this study.

Species	Date	Position	Number	SST (°C)	DC (nm)
Magellanic penguin <i>Spheniscus magellanicus</i>	26.12.91	62°13'S 58°12'W	1	-1.5	15
Great grebe * <i>Podiceps major</i>	03.11.94	38°20'S 53°44'W	6 (7)	16.7	190
Northern giant petrel <i>Macronectes halli</i>	28.11.96	44°45'S 64°53'W	1	14.8	22
Soft plumage petrel * <i>Pterodroma mollis</i>	03.03.90	59°17'S 51°57'W	4 (45)	0.0	130
Great winged petrel * <i>Pterodroma macroptera</i>	13.02.94	69°05'S 21°24'W	1 (64)	-1.0	300
Little shearwater <i>Puffinus assimilis</i>	29.11.96	47°30'S 65°27'W	2	8.0	22
Cory's shearwater * <i>Calonectris diomedea</i>	10.06.95	39°17'S 61°34'W	2 (9)	9.0	18
Grey backed storm petrel <i>Garrodia nereis</i>	22.12.95	62°50'S 60°10'W	1	-1.0	6
White bellied storm petrel * <i>Fregetta grallaria</i>	07.12.95	61°28'S 64°37'W	14 (15)	-1.5	12
Coscoroba swan <i>Coscoroba coscoroba</i>	03.11.94	38°50'S 56°34'W	2	13.5	48
Eared dove <i>Zenaida auriculata</i>	10.11.94	41°26'S 60°05'W	2	14.0	80
Fork-tailed flycatcher * <i>Tyrannus savanna</i>	11.03.95	43°59'S 60°30'W	1 (2)	9	180
Bay-winged cowbird <i>Molothrus badius</i>	10.11.94	41°26'S 60°05'W	1	14.0	80

**Great grebe – *Podiceps major* (Boddaert, 1783).** — This species is broadly distributed from Peru, Paraguay, and SE of Brasil down to Tierra del Fuego and also recorded on Malvinas Is. In winter, it migrates to great lakes or remains at the coast (del Hoyo *et al.* 1992). Woods (1988) recorded an individual 40 km away from Cape San Antonio, Argentina (37°S, 56°15'W) (Fig. 1). One individual was seen on November 26, 1996 at 38°05'S – 57°10'W, 20 nautical miles away from the Argentinian coast, and another six were recorded on November 3, 1994, 190 nautical miles away from the coast, together with the Magellanic penguin.

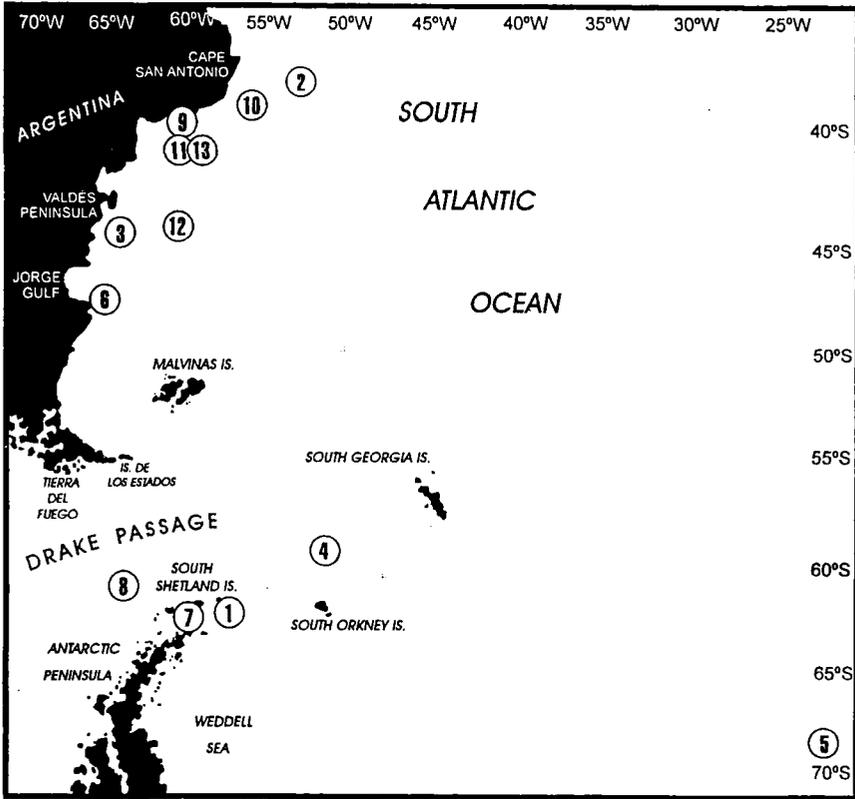


Fig. 1. Geographical localization of the southernmost records of vagrant birds. The numbers are arranged as in Table 1.

**Northern giant petrel – *Macronectes halli* Mathews, 1912.** — Its distribution ranges from north of Antarctic Convergence out of South American coasts (Watson 1975). It is habitually present on Malvinas Is. and breeds in South Georgia (Woods 1988). One individual was seen on November 1996, twenty two miles from the Patagonian coast, north of San Jorge Gulf (Fig. 1).

**Soft plumage petrel – *Pterodroma mollis* (Gould, 1844).** — The species is patchily distributed in the South Atlantic Ocean (Harrison 1987); its migrating movements, poorly known, reach between latitudes 25 to 60°S in the South Atlantic Ocean (Woods 1988). It was occasionally seen in Antarctic waters in summer. In March 1990, we recorded one individual south of 59°S.

**Great winged petrel – *Pterodroma macroptera* (A. Smith, 1840).** — Distributed along South Atlantic Ocean northward of 50°S (Harrison 1987), this species has been recorded near Cabo de Hornos, although their circumpolar dispersion is poorly known (Woods 1988). It occasionally strays into the Antarctic zone (del Hoyo *et al.* 1992). In February 1994, we observed 64 individuals in flocks of one to

five birds in eastern Weddell Sea, between 64 and 69°S, where the southernmost record was noted at 69°05'S and 21°24'W.

**Little shearwater** – *Puffinus assimilis* Gould, 1838. — Habitually present in eastern part of South Atlantic Ocean reaching the Patagonia coasts (Harrison 1987); this species has been recorded off the coast of Argentina, with one record of a single bird seen at 140 km (85 nautical miles) northeast of Malvinas Is. (Woods 1988). We recorded 2 individuals in November 1996, 22 miles from the coast, out of its known distribution range.

**Cory's shearwater** – *Calonectris diomedea* (Scopoli, 1769). — In boreal summer, this species is broadly distributed in the North Atlantic Ocean; in the austral hemisphere it is located along the South Atlantic Ocean down to south of Brasil (Harrison 1987). A vagrant at the southern edge of pelagic range in the South Atlantic, one record of a single bird was obtained at 8 km (about 5 nautical miles) off east Malvinas Is. (Woods 1988). We recorded 9 individuals between 37°S and 39°S in June, a period in which this species normally breeds in the northern hemisphere.

**Grey-backed storm petrel** – *Garrodia nereis* (Gould, 1841). — This species breeds at Malvinas Is., South Georgia, Gough, Crozet, Kerguelen, Chatham, Auckland, and Antipodes Islands (Harrison 1987). Its circumpolar, pelagic range is not well known (Woods 1988). It has been recorded at Tierra del Fuego and Isla de los Estados (Humphrey *et al.* 1970). One individual was recorded near Deception Island (South Shetland Is.) in December, 1995. No previous records of this species in Antarctica are known.

**White-bellied storm petrel** – *Fregetta grallaria* (Vieillot, 1817). — The species nests on Tristan da Cunha, Gough, Saint Paul, Lord Howe, Kermadec, Rapa, Austral, and Juan Fernández (Harrison 1987). It is habitually distributed southwards up to 40°, and apparently dispersed north to lower latitudes. Its movements are poorly known (del Hoyo *et al.* 1992). We obtained records of this species from 52°S (south of Malvinas Is.) to 61°S (Antarctica).

Species belonging to the second group (birds observed in habitats ecologically different from their habitual sites) included the following:

**Coscoroba swan** – *Coscoroba coscoroba* (Molina, 1782). — This species is distributed from south-east of Brasil to Tierra del Fuego, preferably in freshwater lakes with shrubby areas (del Hoyo *et al.* 1992). It has been occasionally noted on Malvinas Is. (Woods 1988). A couple was seen flying at 48 nautical miles from the coast on November 3, 1994.

**Eared dove** – *Zenaida auriculata* (Des Murs, 1847). — The species ranges from northern South America down to Tierra del Fuego, in woodlands and shrubby areas (Olrog 1979). Two individuals were spotted on November 10, 1994 associated with fork-tailed flycatcher and bay-winged cowbird 80 nautical miles from the coast.

**Fork-tailed flycatcher – *Tyrannus savana* Vieillot, 1807.** — A gregarious and migratory species which inhabits savannas and woodlands (Olrog 1979), it ranges from north of South America (Rio Negro up to northeast of Chubut, south of Argentina; Ridgely and Tudor 1994). It is a vagrant on Malvinas Is (Woods 1988). On November 10, 1994, an adult was seen together with eared dove and bay-winged cowbird. On March 11, 1995 a juvenile was seen 180 nautical miles from the coast.

**Bay-winged cowbird – *Molothrus badius* (Vieillot, 1819).** — This species is frequent in forest and shrubby areas, from the center of South America as far as Chubut (Ridgely and Tudor 1989). On November 10, 1994 an individual was observed soon after the eared dove and the fork-tailed flycatcher were recorded.

The presence of some species out of their normal distribution areas may be not only a consequence of one factor, but related to a group of them. Usually strong winds and storms are mentioned as the main cause for course deviation in birds, especially in Antarctic and Subantarctic areas and in species that perform long migratory journeys. Among the species spotted out of their usual distribution areas presumably due to the wind, we can mention the cattle egret (*Bubulcus ibis*) recorded in the South Atlantic Ocean in an area of strong west winds (Orgeira 1995). This species has a colonizer behaviour that favours its presence in other habitats, and which could explain the numerous Antarctic and Subantarctic records during the last few years (Prince and Payne 1979, Strange 1979, Prince and Croxall 1983, Trivelpiece *et al.* 1987, Lange and Nauman 1990, Orgeira 1995).

Local droughts are also recognized to have an effect on migratory movements of certain species. In fact, the first record of the black-necked swan in Antarctica was made during a period of severe droughts (Bennett 1922), which were repeated later in 1988/1989 when similar abundant records of this species in the same area were found (Parmelee and Fraser 1989, Orgeira and Fogliatto 1991, Aguirre 1995, to mention a few).

Sea surface temperature and the direction of currents and winds may significantly influence the dispersion of the following species recorded in this research: great-winged petrel, little shearwater, grey-backed storm petrel, white-bellied storm petrel and Cory's shearwater. Observations of great-winged petrel south of the Antarctic polar circle are the southernmost record for this species, whose habitual distribution pattern is still hardly known (Woods 1988). The poorly known distribution pattern of the soft plumaged petrel was also pointed out by Woods (1988).

Among continental species recorded we observed birds whose presence is common in freshwater and seawater environments, like the coscoroba swan and great grebe (Table 1). Their physiological endurance may allow this species to switch to contrasting habitats and their presence at sea may be due to strong winds (mainly from west to east) and drought periods which are frequent along the Argentine Patagonia.

Other interesting dispersion cases among inland species are presented by the eared dove, fork-tailed flycatcher, and bay-winged cowbird, not normally related to water courses and which were recorded at sea due to the presence of strong winds blowing from west to east.

Although the fork-tailed flycatcher was recorded on Malvinas Is., we consider our observations important since this species is not frequent at sea. Its presence far from the coast could be explained by the strong wind from west to east and also by its migratory behaviour. It's difficult to state which factor would best explain this species' dispersions, but winds seem to be the most important factor in most cases. On some occasions, wind may act in combination with other factors such as droughts, currents, and colonizing behaviour, among others. For terrestrial species though, wind is probably the main cause for records out of their limits. For sea-birds, water currents and their properties (direction, temperature, *etc.*) may have a more significant effect than wind.

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**Editorial note.** — According to one referee *Fregatta grallaria* in field observation can be confused with white-bellied morphs of *Fregatta tropica*. The authors, however, insisted that the present record is sure since the birds were flying nearby.

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## Streszczenie

Z pokładu trzech statków: *Bahia Paraiso*, *Almirante Irizar* i *Nathaniel Palmer* w latach 1991–1996 prowadzono obserwacje ornitologiczne w rejonie południowego Atlantyku i w Antarktyce Zachodniej (fig. 1). Stwierdzono 13 gatunków ptaków (tab. 1), dla których obserwowany rejon oceanu był daleki od ich dotychczas stwierdzonych terytoriów występowania. Obserwowane gatunki podzielono na 2 grupy: (a) ptaki stwierdzone w swoim naturalnym habitacie; (b) ptaki znane dotąd z habitatów odmiennych od oceanicznego.

W tabeli 1 podano liczbę obserwowanych osobników, dokładne współrzędne geograficzne, temperaturę wód powierzchniowych oraz odległość od lądu.