

IMMATURE NORTHERN GIANT PETRELS *MACRONECTES HALLI* VISITING THE COAST OF PERU

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SUMMARY

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Northern Giant Petrels *Macronectes halli* breed on sub-Antarctic islands located north of the Antarctic Polar Front, with juveniles dispersing widely throughout the southern Pacific and Indian Oceans. We report the sightings at sea of 11 immature Northern Giant Petrels off the central and southern Peruvian coast, including the northernmost sighting of this species off the port of Callao (12°6.8'S, 77°36.5'W). All the sightings occurred between August and December. We also recovered the band of a 2.5-year-old Northern Giant Petrel that was captured incidentally in a longline in northern Chilean waters. This bird was banded as a chick on Macquarie Island and had traveled at least 10 700 km from its breeding site. Regular sightings suggest that Northern Giant Petrels have been regular non-breeding visitors to the coast of southern and central Peru during the last decade.

Key words: *Macronectes halli*, Northern Giant Petrels, sightings, band recovery, Peruvian waters

INTRODUCTION

The Northern Giant Petrel *Macronectes halli* has a circumpolar distribution in the Southern Ocean, with breeding colonies occurring on few sub-Antarctic islands: South Georgia (UK jurisdiction); the Prince Edwards and Marion (South Africa); Crozet and Kerguelen (France); Macquarie (Australia); and Chatham, Auckland, Antipodes and Campbell (New Zealand) (Harrison 1985, del Hoyo *et al.* 1992, Onley & Scofield 2007; Fig. 1). Various aspects of the breeding and foraging ecology of these birds have been described (e.g. Hunter 1984, Voisin 1988, González-Solís *et al.* 2000); however, post-breeding dispersal has not been thoroughly documented. Band recovery surveys have shown that juveniles disperse widely throughout the southern Pacific and Indian oceans between 25°S and 55°S (Voisin 1990, Patterson & Hunter 2000, Keith *et al.* 2002), but most have been recovered in Australia and New Zealand (Voisin 1990, Patterson & Hunter 2000), a pattern probably associated with proximity of land masses, weather (Woehler & Johnstone 1988) and higher observer interest in those areas (Patterson & Hunter 2000). This distribution can also probably be the result of eastward movement from colonies to the recovery sites associated with the predominant wind direction at those latitudes (Voisin 1990). A small number of juveniles have ventured further north, occasionally reaching the coasts of South America (Moore & Battam 2000, Otley *et al.* 2007) and South Africa (Voisin 1990), with the northernmost sighting of a Northern Giant Petrel having been reported in southern Peru (Ayala 2007). The present note reports sightings of immature Northern Giant Petrels off the

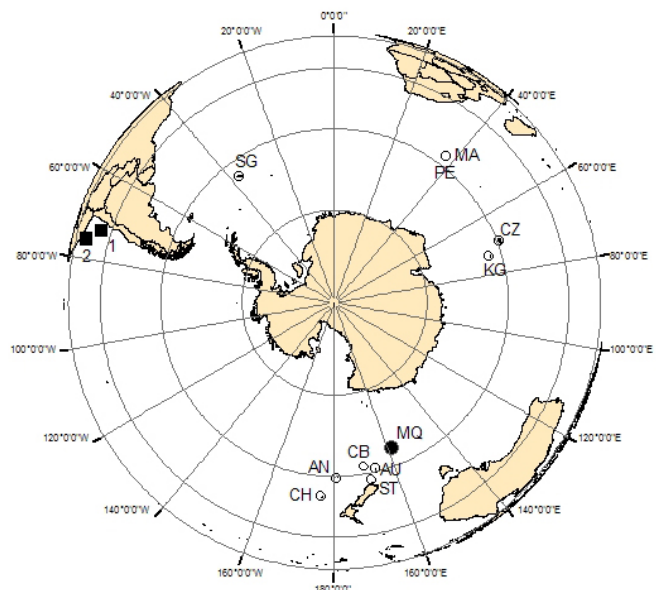


Fig. 1. Breeding islands of Northern Giant Petrels *Macronectes halli* (in open circles: SG = South Georgia, MA = Marion, PE = Prince Edwards, CZ = Crozet, KG = Kerguelen, CB = Campbell, AU = Auckland, ST = Stewart, AN = Antipodes, CH = Chatham; in filled circle: MQ = Macquarie) and sighting locations recorded in western South America (filled squares: 1 = band recovery in northern Chile, 2 = sightings in Peru).

southern and central Peruvian coast, and the incidental capture in Chilean waters of a 2.5-year-old Northern Giant Petrel banded as a chick on Macquarie Island.

SIGHTINGS

On 29 September 2002, four Giant Petrels *Macronectes* spp. were sighted at sea by GE and the professional staff of the Birding Tour Agency Kolibri Expeditions (www.kolibriexpeditions.com) aboard a boat approximately 20–35 nautical miles west of the port of Callao, Peru ($12^{\circ}04'S$, $77^{\circ}10'W$) at a depth of 800–1400 m. One of the petrels had a metal band (the number could not be read) on one of its tarsi and exhibited an evenly dark brown plumage (Fig. 2). The birds were spotted with the aid of 10×42 binoculars at a distance of 30 m and were photographed using a digital camera (Canon Powershot S3 IS: Canon, Tokyo, Japan). Another bird flew over the boat at close range. The photographs revealed that at least two of the four birds were Northern Giant Petrels, because they displayed reddish color of the bill tip, a feature used to discriminate Northern from Southern Giant Petrels *M. giganteus* (Johnstone 1974). The other two birds were also dark, but we could not discern



Fig. 2. Banded immature Northern Giant Petrel *Macronectes halli* 25 nautical miles offshore from the port of Callao, Peru, on 29 September 2002. Note the dark brown plumage and the reddish color of the unguis. Photograph by K. Knudsen.

the color of the bill tip because they were too far away. After this first sighting, and by using the same identification criteria described earlier, nine more Northern Giant Petrels were sighted in Peruvian waters between 2002 and 2007 (Table 1, Figs. 3 and 4).

BAND RECOVERY

In June 2002, a permanent, shore-based observer working for the Pro Delphinus seabird bycatch monitoring program (www.prodelphinus.org, Mangel *et al.* 2006) in the port of Morro Sama, Peru ($17^{\circ}59'S$, $70^{\circ}53'W$), recovered a metal band (no. 132–03532 with the return information: INFORM WILDLIFE GPO BOX 8, CANBERRA 2601, AUSTRALIA) from one of the fishermen who had just returned to port after fishing. The bird had been incidentally hooked in June 2002 during a longline set targeting sharks. This fishery operates in small-to medium-scale vessels (<32.6 m³ capacity), conducts one set daily and deploys approximately 1500 hooks per set during trips lasting from 15 days to 20 days (Gilman *et al.* 2008). Gear is typically set during the morning and recovered in the late afternoon or following morning. The exact coordinates of the catch were not recorded, but the fisherman pinpointed the location of the bird with a GPS as 260 nautical miles and a bearing of 15 degrees to the port of Ilo, Peru ($17^{\circ}39'S$, $71^{\circ}22'W$). Based on this information, the approximate coordinates of the bird at the time of capture were $21^{\circ}50'S$, $72^{\circ}28'W$ (approximately 150 km offshore Tocopilla, Chile). The fate of the bird was unknown, but the fisherman described it as a large, dark bird. After contacting the Australian Bird and Bat Banding Scheme, we could identify the bird as a 2.5-year-old Northern Giant Petrel banded as a chick in January 2000 on Macquarie Island ($54^{\circ}37'S$, $158^{\circ}51'E$; Fig. 1). The description of the fisherman matched the brown-black plumage of juvenile Northern Giant Petrels (Johnstone 1974). The great circle distance (minimum distance traveled) measured between the banding and recovery locations was 10 700 km.

We used the identification criteria described by Johnstone (1974) to identify the birds sighted at sea as immature Northern Giant Petrels. This species can be separated from the Southern Giant Petrel by the reddish color of the unguis, which is present at all age stages only in the Northern Giant Petrel. The bill tip of Southern Giant Petrels is

Table 1
Sighting of Northern Giant Petrels *Macronectes halli* along the southern and central coast of Peru

Date	Locality	Approximate coordinates	Birds (n)	Observer	Plumage description	Additional observations
29 Sep 2002	<35 nmi off Callao	$12^{\circ}6.8'S$, $77^{\circ}36.5'W$	2	G. Engblom	Both birds dark brown	On the water and over-flying; one banded
4 Aug 2004	70–130 nmi off Ilo	$17^{\circ}45.5'S$, $73^{\circ}11.4'W$	1	P. Diaz (Pro Delphinus)	Dark brown	Following longline vessel
Nov–Dec 2004	55–90 nmi off Ilo	$17^{\circ}42.7'S$, $72^{\circ}54.2'W$	1	M. Mamani (Pro Delphinus)	Dark brown	Hooked in a longline, but released alive
27 Aug 2005	<35 nmi off Callao	$12^{\circ}6.8'S$, $77^{\circ}36.5'W$	2	G. Engblom	Dark brown	No records
2 Aug 2007	<35 nmi off Callao	$12^{\circ}17.0'S$, $77^{\circ}36.0'W$	3	G. Engblom	Two birds dark brown, and another brown blotted with white	On the water
16 Sep 2007	<35 nmi off Callao	$12^{\circ}4.95'S$, $77^{\circ}11.5'W$	1	G. Engblom	Dark brown, but very worn	On the water eating dead bird
17 Nov 2007	<35 nmi off Callao	$12^{\circ}8.2'S$, $77^{\circ}40.6'W$	1	G. Engblom	Dark brown	On the water, possibly interested in the chum

green and usually does not show contrast with the rest of the bill at distance. Unlike breeders, immature birds exhibit a uniformly brown-black plumage; adults have a mottled brown crown and nape with ill-defined whitish face and throat (Onley & Scofield 2007). When available, photographs of the Giant Petrels sighted in this study were posted online (www.birdingperu.com) to receive peer opinions, and the identification of the birds as Northern Giant Petrels was confirmed by experienced observers (Alvaro Jaramillo, Mark Pearman).

Ayala (2007) reported the presence of seven juvenile Northern Giant Petrels at three localities in southern Peru during July and August 2004. Our sightings confirm Ayala's reports and also show that immature Northern Giant Petrels, occasionally at least, visit the inshore waters of central Peru. Thus, all these records suggest that Northern Giant Petrels have been regular non-breeding visitors to the coast of southern and central Peru, at least since 2002, and that their presence in Peruvian waters occurs mainly during the austral winter/spring (June–December, Table 1). Pelagic tours off the Callao coast are scheduled year round, but Northern Giant Petrels were sighted only between August and December. This seasonality in the occurrence of these birds in Peru may be the result of a more pelagic lifestyle of immatures between the summer and autumn, and consequently, the birds are not seen by observers. Likewise, to date, the inshore waters of Callao can be considered the northernmost locality in which Northern Giant Petrels have been sighted.

The recovery of a band of an immature Northern Giant Petrel by a Peruvian longline vessel operating in Chilean waters highlights the susceptibility of these birds to incidental capture during fishing activities in the southeastern Pacific Ocean. Moore & Battam (2000) also suggest that banded immatures can be deliberately captured and killed to collect their bands, presumably to keep as curiosities. It is speculated that the recent decrease in numbers of Northern Giant Petrel on Marion Island may be linked to bycatch mortality during longline fishing for Patagonian Toothfish *Dissostichus eleginoides* in the vicinity of the island (Nel *et al.* 2002). Other Northern Giant Petrel populations may be also at risk with an increase in longline fisheries on the Southern Patagonian shelf (Otley *et al.* 2007), the Indian Ocean (Ryan & Watkins 2002) and around the Falkland Islands (Sullivan *et al.* 2006). Northern Giant Petrels are easily attracted to ships (Johnstone 1974) and usually follow discharge factory wastes from trawlers or discarded

offal, bycatch species and squid bait from longlines (Otley *et al.* 2007). The extent of interactions between Northern Giant Petrels and longline fisheries in Peru is unknown, in part because scientists were unaware of the birds' occurrence. As a species listed in the Agreement on the Conservation of Albatross and Petrels [ACAP (Cooper *et al.* 2006)], special attention must be paid to the identification of petrels that interact or are killed during longline fishing operations in Peru.

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Fig. 3. Immature Northern Giant Petrel *Macronectes halli* 25 nautical miles offshore from the port of Callao, Peru, on 2 August 2007. Note the dark plumage blotted with white and the reddish color of the unguis. Photograph by G. Engblom.



Fig. 4. Immature Northern Giant Petrel *Macronectes halli* 25 nautical miles offshore from the port of Callao, Peru, on 2 August 2007. Note the dark brown plumage and the reddish color of the unguis. Photograph by G. Engblom.

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