

# GREAT SHEARWATERS *ARDENA GRAVIS* IN THE EASTERN INDIAN OCEAN: A PHOTO-DOCUMENTED RECORD AND SUMMARY OF RECENT SIGHTINGS

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## ABSTRACT

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A Great Shearwater *Ardenna gravis*, observed and photographed off Amsterdam Island, on 2 February 2017, was a rare but not exclusive sighting of this species from the eastern Indian Ocean. We summarize the occurrence of this species in the southern Indian Ocean based on surveys conducted during the period 1985–2017.

**Key words:** eastern Indian Ocean, extra-limital occurrence, Great Shearwater, *Ardenna gravis*

The Great Shearwater *Ardenna gravis* is a trans-equatorial migrant that breeds on islands in the South Atlantic Ocean and winters in the North Atlantic. We report a rare sighting from the southeastern Indian Ocean and summarize other recent sightings in the region.

On 2 February 2017, we anchored 300 m northeast of Amsterdam Island (37°49'33"S, 77°33'17"E), in the Indian Ocean, while on the vessel *Marion Dufresne II* (operated by Institut Paul Emile Victor [IPEV]). Large numbers of seabirds, principally White-chinned Petrels *Procellaria aequinoctialis* and Indian Yellow-nosed Albatrosses *Thalassarche carteri*, were flying near or forming rafts behind the vessel. Among the flying birds, MQ and AF independently sighted and recognized a Great Shearwater. The bird was identified by its large size relative to other shearwaters, slender

black bill, and plumage markings. It was dark brown dorsally, with darker brown remiges and rectrices, and with a narrow white band across the base of the tail (Fig. 1). The pure white under-parts, breast, and cheeks contrasted strikingly with the dark blackish-brown cap. The bird was observed briefly within 10 m and photographed before it flew away; it was not observed subsequently.

Great Shearwaters breed in the southern Atlantic Ocean, primarily on three islands in the Tristan da Cunha archipelago and on Gough Island, with a small number of birds on Kidney Island in the Falklands Islands (Brooke 2004). Breeding occurs from late September to mid-April (Brooke 2004), eggs are laid in November, and chicks fledge in April. They migrate from the Southern Hemisphere in May/June to non-breeding areas in the North Atlantic Ocean, returning south along the coast of Africa in September–November (Ronconi 2010).

Although Great Shearwaters range mainly in the Atlantic Ocean, and around South Africa in the southwest Indian Ocean (Marchant & Higgins 1990), occasionally individuals stray into the southeastern Indian Ocean and the Pacific Ocean. During the last four decades, there have been 11 other records in the southern Indian Ocean during systematic at-sea surveys undertaken by IPEV (Fig. 2, Table 1). Since 1978, during logistic or oceanographic cruises of *Marion Dufresne I* and *II* in the southern Indian Ocean, seabirds were systematically recorded, with a survey effort maintained throughout daylight hours. Surveys followed a standardized protocol (Péron *et al.* 2010) representing approximately 16 000 stations. Over the past 15 years, there have also been multiple records of Great Shearwaters in the Pacific Ocean, mainly since the 1990s, from Alaska south to California (Pearce 2002, Ratcliffe & Barbraud 2010, Howell 2012), around New Zealand (e.g., Gaskin *et al.* 2008; Miskelly *et al.* 2013, 2017), and around Australia (reviewed by Rogers & Hull 2016), highlighting its capability for long-distance vagrancy. As suggested by Rogers & Hull (2016), to reach Australian and New Zealand waters, Great Shearwaters could either move east to west across

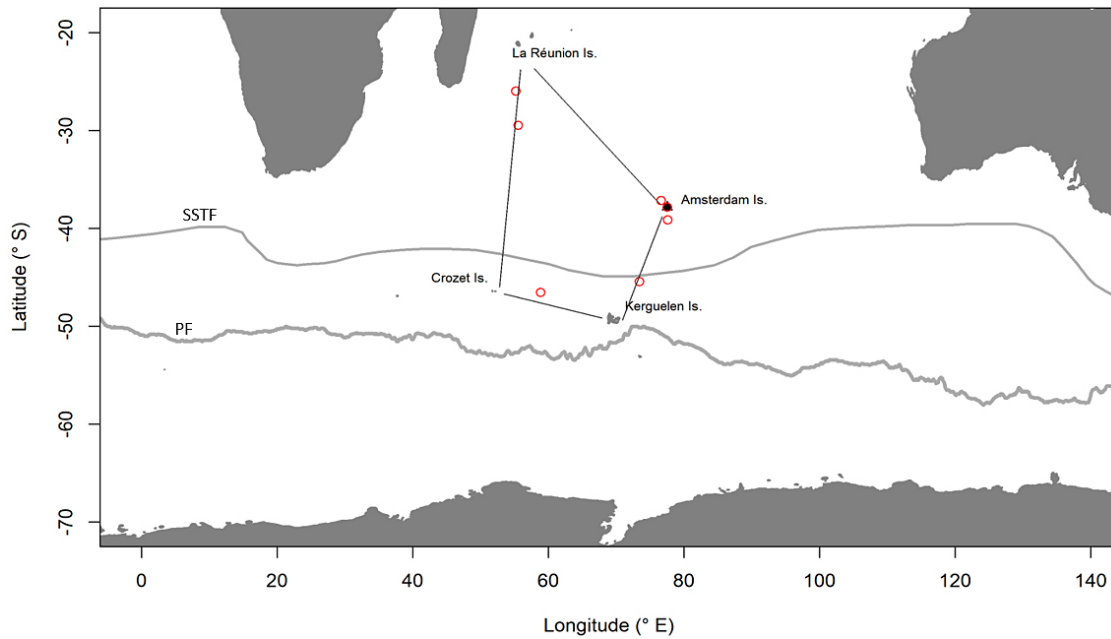


**Fig. 1.** Great Shearwater off Amsterdam Island, eastern Indian Ocean, 2 February 2017. Photo: Aymeric Fromant.

the Pacific from the South Atlantic Ocean or west to east across the Indian Ocean, moving with the predominant west-to-east wind flow. Our summary of observations fits the latter pattern, but the record of a bird off British Columbia (Ratcliffe & Barbraud 2010) indicates that Great Shearwaters can enter the Pacific Ocean from both the southwest and the southeast. All the observations in the Indian Ocean occurred between November and March (Table 1). It is likely, therefore, that these birds were non-breeders or failed breeders that were not constrained by attending eggs or chicks at the colonies in the South Atlantic during the austral summer.

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**Fig. 2.** Records of Great Shearwaters during at-sea surveys (black transects) in the southern Indian Ocean since the early 1980s. If a bird was observed regularly during several consecutive stations, all of the sightings were considered as a single sighting and logged under the geographic coordinates of the first observation (Table 1). SSTF: Southern Sub-Tropical Front, PF: Polar Front.

**TABLE 1**  
Sightings of Great Shearwaters over 40 years during IPEV cruises of *Marion Dufresne I* and *II* in the southern Indian Ocean

Date	Longitude	Latitude	Observation <sup>a</sup>
15 February 1982	–	–	1 sighting
8 January 1984	–	–	1 sighting
7 January 1985	–	–	1 bird observed several times during 3 consecutive days
5 January 1986	–	–	1 sighting
2 December 2002	-25°57'00"S	55°11'00"E	1 bird observed several times during 2 consecutive days
23 December 2002	-37°09'62"S	76°38'23"E	1 sighting
7 January 2003	–	–	1 sighting
6 November 2006	-29°27'00"S	55°32'00"E	1 bird observed several times during 1 day
6 February 2008	-35°51'00"S	20°15'00"E	1 bird observed several times during 1 day
21 March 2011	-39°07'30"S	37°10'04"E	1 bird observed several times during 4 consecutive days
14 February 2013	-46°32'00"S	58°53'00"E	1 sighting
2 February 2017	-37°49'33"S	77°33'17"E	1 sighting (present study) <sup>b</sup>

<sup>a</sup> If a bird was observed regularly during several consecutive stations, all of the sightings were considered as a single sighting and logged under the geographic coordinates of the first observation.

<sup>b</sup> Only photo-documented record.

## REFERENCES

- BROOKE, M. 2004. *Albatrosses and Petrels of the World*. New York: Oxford University Press.
- BirdLife International 2017. *Ardenna gravis* (amended version published in 2016). The IUCN Red List of Threatened Species 2017: e.T22698201A110674071. doi: 10.2305/IUCN.UK.2017-1.RLTS.T22698201A110674071.en.
- GASKIN, C., SHIRIHAI, H. & WOOD, S. 2008. Sightings of Great Shearwater (*Puffinus gravis*) near New Zealand in 2006. *Notornis* 55: 222-223.
- HOWELL, S. N. G. 2012. *Petrels, Albatrosses, and Storm-petrels of North America: a Photographic Guide*. Princeton, NJ: Princeton University Press.
- MARCHANT, S. & HIGGINS, P.J. 1990. *Handbook of Australian, New Zealand and Antarctic Birds. Volume 1A, Ratites to petrels*. Melbourne, Australia: Oxford University Press.
- MISKELLY, C.M., CROSSLAND, A.C., SAGAR, P.M., SAVILLE, I., TENNYSON, A.J.D. & BELL, E.A. 2013. Vagrant and extralimital bird records accepted by the OSNZ Records Appraisal Committee 2011–2012. *Notornis* 60: 296-306.
- MISKELLY, C.M., CROSSLAND, A.C., SAGAR, P.M., SAVILLE, I., TENNYSON, A.J.D. & BELL, E.A. 2017. Vagrant and extralimital bird records accepted by the Birds New Zealand Records Appraisal Committee 2015–2016. *Notornis* 64: 57-67.
- PEARCE, J. 2002. First record of a great shearwater off Alaska. *Western Birds* 33: 121-122.
- PERON, C., AUTHIER, M., BARBRAUD, C., DELORD, K., BESSON, D. & WEIMERSKIRCH, H. 2010. Interdecadal changes in at-sea distribution and abundance of subantarctic seabirds along a latitudinal gradient in the Southern Indian Ocean. *Global Change Biology* 16: 1895-1909. doi: 10.1111/j.1365-2486.2010.02169.x.
- RATCLIFFE, N. & BARBRAUD, C. 2010. The first confirmed record of Great Shearwater *Puffinus gravis* for British Columbia. *British Columbia Birds* 10: 44-45.
- ROGERS, C. & HULL, S. 2016. An irruption of Great Shearwaters, *Ardenna gravis*, into South Australia and adjacent seas during April 2011. *South Australian Ornithologist* 41: 65-70.
- RONCONI, R.A. 2010. Migration and foraging ecology of the Great Shearwater. [Available online at: [http://www.seaturtle.org/tracking/index.shtml?project\\_id=452&dyn=1505440327](http://www.seaturtle.org/tracking/index.shtml?project_id=452&dyn=1505440327). Accessed 15 September 2017].