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GOULD'S PETREL *PTERODROMA LEUCOPTERA* OFF SOUTH-WESTERN AUSTRALIA

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Gould's Petrel *Pterodroma leucoptera* is a gadfly petrel that, within Australia, breeds only at Cabbage Tree Island, New South Wales. Other races breed in New Caledonia, Fiji and farther afield (Marchant & Higgins 1992). Australian breeding birds are rarely recorded far from their breeding island (Blakers *et al*. 1984) and their foraging range during breeding is thought to be restricted to the Tasman Sea and the tropical southwestern Pacific Ocean. However, some individuals of unknown subspecies and reproductive status have been recorded as far south as 49ºS off Tasmania and as far west as 140ºE (Marchant & Higgins 1992, D.W. Eades pers. comm.), as well as in the southern Indian Ocean (Woehler *et al*. 1990). One dead Gould's Petrel was found near Eyre, Western Australia (126ºE) in December 1990 (Johnstone 1994).

Seabird observations were made during the course of CSIRO Research Vessel *Franklin* oceanographic cruise 11/94 from Port Lincoln, South Australia to Fremantle, Western Australia, as part of an investigation into the distribution and density of seabirds in the Southern Ocean (C.A. Surman *et al.* unpubl. data). All seabirds within a 150-m radius forward of the ship were counted during each 10-minute count (see Tasker *et al.* 1984). Three 10-minute counts were completed during each hour from 04h20 to 19h00 local time.

During this survey, a total of 26 Gould's Petrels was observed on 22 separate occasions from 05h21 on 13 December 1994 to 18h44 on 14 December 1994 between 37º13'S, 118º51'E and 37º28'S, 115º09'E by two observers, CAS and NGC. The latter

has extensive prior experience with Gould's Petrel as well as recent experience with superficially similar species such as Barau's Petrel *P. baraui*. The birds observed had a typically fast, low flight with periodic low arcs. They had dark, grey-brown upperparts with a dark 'M' across the wingspan, a black crown and nape, white frons and a dark tip to the tail. The extent and pattern of black on the head allowed these birds to be distinguished from Barau's Petrel, Stejneger's Petrel *P. longirostris* and other similar species.

Most birds observed were alone but on four occasions they were observed in twos. None showed any interest in the ship or its wake. Their distribution was well-defined by an intrusion of cold, sub-Antarctic water into warmer waters, approximately 150-km wide, moving north-west from 38ºS, 120ºE to 36ºS, 118ºE (G. Cresswell pers. comm., C.A. Surman unpubl. data). A major circumpolar current flows well south of Tasmania (Hamon 1990) but its impact on waters nearer Australia is unclear and may be affected by the warmer Leeuwin Current (Cresswell 1990). All sightings occurred in oceanic waters between 4400 and 5500 m deep.

The breeding population of Gould's Petrel on Cabbage Tree Island has decreased from around 2000 in 1970 to less than 1500 birds in 1992 (Priddel & Carlile 1995, Priddel *et al.* 1995). Adults return to breed in October, lay a single egg in late November/early December and depart sometime in late March – early April (Priddel *et al.* 1995). At the time of the observations, breeding birds would have been incubating, most partners changing shifts about every 10 days (max. 2–3 weeks) (Warham 1990). Thus, it seems unlikely that the birds observed were breeding adults foraging approximately 3700 km from their nests at this time. Similar species do not start to breed until up to seven years of age (Warham 1990) and no Gould's Petrel younger than 12 years has yet been recorded breeding (Priddel *et al.* 1995). A substantial proportion of the population on Cabbage Tree Island appeared to consist of individuals that did not attempt to breed (Priddel *et al.* 1995). Thus, the birds we recorded were likely to have been prebreeding or nonbreeding individuals. These may move from the tropical and warmer subtropical waters, where the species breeds, into the cooler, more productive waters farther south.

There have been many observations of Gould's Petrels in the South Tasman Sea, especially near the Subtropical Convergence, in recent years (Blaber 1986, D.W. Eades pers. comm.) and further investigations may reveal that Gould's Petrel visits these waters regularly each year. Our observations suggest that, if oceanographic conditions permit, substantial numbers of Gould's Petrel may penetrate into the waters off Western Australia.

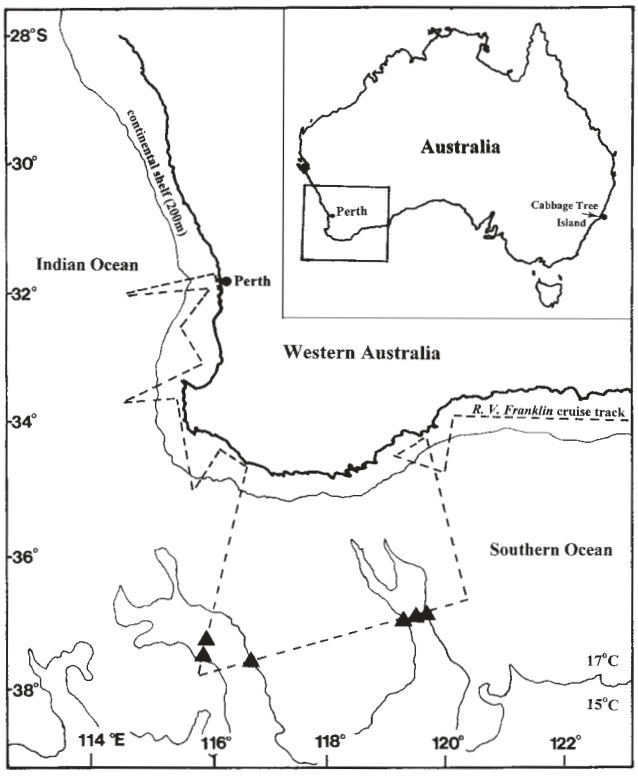

Fig. 1. *The distribution of Gould's Petrels (triangles) in the Southern Ocean with respect to the cruise track of the R.V.* Franklin *(broken line) and the 15°C sea surface isotherm.*

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