

## Unusual bird records from the Antipodes Islands in 1978-1995, with a summary of other species recorded at the island group

ALAN TENNYSON

Museum of New Zealand Te Papa Tongarewa, P.O. Box 467, Wellington  
alant@tepapa.govt.nz

ROWLEY TAYLOR

22 Waterhouse Street, Nelson

GRAEME TAYLOR

Department of Conservation, P.O. Box 10-420, Wellington

MIKE IMBER

Department of Conservation, P.O. Box 10-420, Wellington

TERRY GREENE

Department of Conservation, Private Bag 4715, Christchurch

**Abstract** Unusual bird records at the sub-antarctic Antipodes Islands from 1978 to 1995 increased the number of bird species recorded previously at the group by 15. The total avifauna now consists of 29 breeding species and 26 vagrant species.

Tennyson, A. Taylor, R.; Taylor, G.; Imber, M.; Greene, T. 2002. Unusual bird records from the Antipodes Islands in 1978-1995, with a summary of other species recorded at the island group. *Notornis* 49(4): 241-245.

**Keywords** Antipodes Islands; subantarctic islands; seabirds; vagrants

### INTRODUCTION

The Antipodes Islands are a small subantarctic island group (49°42'S 178°47'E) with a large and diverse breeding seabird fauna and 4 endemic land birds. In 1979, Warham & Bell (1979) gave a comprehensive account of birds at the Antipodes Islands. Since then, the status of the smaller petrels has been reviewed by Imber (1983) and that of the smaller albatrosses by Clark & Robertson (1996) and Tennyson *et al.* (1998). An update of most of the rarer and unusual bird records for the island group is overdue.

### METHODS

We present recent records of rare and unusual birds, primarily based on visits to the island group from 8 Nov to 6 Dec 1978, 1-4 and 8 Mar 1985, 3-8 Dec 1989 and 30 Oct to 26 Nov 1995. Recent observations of common breeding species are not discussed in detail here, however, a summary of all bird taxa recorded at the Antipodes Islands until

1995 and not discussed in our main text, is presented in a separate list. For place names mentioned in the text see Warham & Bell (1979). Bird names follow Checklist Committee (1990), modified by Holdaway *et al.* (2001). Registration numbers are given for specimens held in the American Museum of Natural History, New York (AMNH), the Museum of New Zealand Te Papa Tongarewa, Wellington (MNZ) and the Otago Museum, Dunedin (OM). Initials of observers other than the authors are: BB, Brian Bell; RC, Reg Cotter; AC, Andy Cox; AG, Andrew Grant; JK, John Kendrick; PM, Pete McClelland.

### SYSTEMATIC ACCOUNT

An asterisk indicates that the species was not recorded from the Antipodes Islands by Warham & Bell (1979).

#### \*Sooty albatross *Phoebastria fusca*

One was present in Anchorage Bay throughout the 1995 trip. This record has been accepted by the Rare Birds Committee as the 3rd New Zealand record of the species (Medway 2001).

**\*Blue petrel *Halobaena caerulea***

A single wing of a fairly-recently skua-eaten bird was found on the south coast on 17 Nov 1995 (AT, MNZ 26847).

**\*Gentoo penguin *Pygoscelis papua***

One was observed in Hut Cove, near Reef Point, on 16 Nov 1978 (RT) (Soper 1984: photo 4). One was seen by most members of the party in Anchorage Bay on 18-19 Nov 1995.

**\*Chinstrap penguin *Pygoscelis antarctica***

One was seen in Anchorage Bay on 17-18 Nov 1978 (RT, BB) (Soper 1984: photo 6). This was the 1st bird recorded in the New Zealand area, although there have now been 2 subsequent records (Heather & Robertson 2000).

**Snares crested penguin *Eudyptes robustus***

One was in Stella Bay on 23-24 Nov 1995 (AT, GT). Its bill shape index of 1277 (calculated using culmen length 54.5, culmen width 10.8, bill depth 21.7 mm) and relatively short crests (longest feather 28.4 mm) indicated that it was an immature female (Warham 1974). Previous records are of single birds, both probably males, ashore in 1923 and 1950 (Warham & Bell 1979).

**Shag (Phalacrocoracidae)**

On 5 Nov 1995 a bird thought to be a shag was seen in flight near Orde Lees Islet, on the west coast (PM). Although Bollons Island and the eastern and southern coasts of Antipodes Island were visited by boat during the 1995 expedition, no other sightings of shags were made. Only 3 other shags have been confirmed from the Antipodes Islands (see below).

**Mallard *Anas platyrhynchos***

Four or 5 mallards were seen on the south coast on 22 Nov 1978 (RT) and 2 were seen in South Bay on 29 Nov 1978 (MI). One was seen in Stella Bay on 3 Mar 1985 (RT). In 1989, 4, including 2 drakes, were seen in Ringdove Bay on 3 Dec and 2 were seen in a stream north of Orde Lees Islet on 6 Dec (RT). Two drakes were recorded on 12-16 Oct 1990 around the northern coast (Miskelly *et al.* 1990). One female was seen flying along the eastern coast on 8 Nov 1995 (GT). Five birds including 2 males and 2 females were seen by penguin colonies on the south coast on 15 Nov 1995 and 1 bird was seen there on 16 Nov (AT). Two ducks, probably mallards, were flying over the southwest of the island on 18 Nov 1995 (AT). Warham & Bell (1979) recorded 2 birds in 1969. It appears that mallards are now resident on the Antipodes Islands.

**\*Grey duck *Anas superciliosa***

One was seen in a stream above Alert Bay on 1 Dec 1978 (BB, RT).

**\*Spur-winged plover *Vanellus miles***

One dried corpse was found on Reef Point on 9

Nov 1995 (GT, AT, TG, MNZ 26391).

**\*Turnstone *Arenaria interpres***

A flock of 15 was seen on the northeast coast by several expedition members in Nov 1978 and 3 were seen at Reef Point on 4 Dec 1978 (MI).

**Kelp gull *Larus dominicanus***

During a boat trip down the entire western coast of Antipodes Island on 12 Dec 1978, the species was noted as plentiful (RT). On 29 Nov 1978, 3 were seen on Bollons Island (RT). On 3 Dec 1989, 2 juveniles were ashore in Ringdove Bay (RT). Three Kelp Gull nests were found at the end of Reef Point on 4 Dec 1989 – 2 were empty and the 3rd contained 1 egg (RT). Three days later, 2 nests were still empty but the 3rd contained 2 eggs (RT). Four adult and 2 immature-plumaged birds were recorded around the northern coast on 12-16 Oct 1990 (Miskelly *et al.* 1990). This species was noted on all coasts in small numbers throughout the 1995 trip. A maximum of 20 birds (18 adult, 2 1st-year-plumaged birds) were seen in Stella Bay on 26 Nov (AT). In 1995, no nests were found and the only immature-plumaged birds seen were 1 or 2 1st-year birds noted on several occasions around the northern coast throughout the trip. Warham & Bell (1979) noted that the species occurred in 2s and 3s around the coast with a maximum of 8 at once and did not record breeding. These new observations show that small numbers of this species breed at the Antipodes Islands.

**Antarctic tern *Sterna vittata***

This species was seen around Reef Point in 1978 (MI, BB). In Mar 1985, 12 nests and 34 adults were seen on Reef Point and fledged young were flying around other colonies to the south of Leeward Island (Sadlier *et al.* 1986; RT). In 1989, nesting was recorded on the eastern side of Reef Point: at least 15 adults noted on 3 Dec; 6 1-egg nests found on 4 Dec; 2 newly-laid 1-egg nests found on 5 Dec; still 8 1-egg nests present on 7 Dec (RT). Three pairs in breeding plumage were noted on Reef Point on 12-16 Oct 1990 but no nests were found (Miskelly *et al.* 1990). This species was uncommon in 1995, with no sign of breeding noted. Along the north coast 2 birds were regularly seen throughout the trip. The notable exception was on 8 Nov 1995 when a flock of about 50 terns was roosting on Reef Point (RC). The next day only 8 birds were present there (6 in breeding plumage and 2 in non-breeding plumage) (AT, GT, TG). On 26 Nov at least 12 terns were flying around Reef Point, including 2 in breeding plumage and 1 with a red bill and a nearly fully black cap (AT). The only sightings away from the northern coast in 1995 were: 1 bird at sea off the south coast of Bollons Island on 30 Oct (AT); 5 birds along the southern coast on 15 and 17 Nov (AT); 3 birds in breeding plumage on the southwestern coast on 16 Nov (AT, GT); 1 bird

flying off the northwestern coast on 20 Nov (AT). In 1969 breeding was noted from January-Mar with the largest flock being 27 birds (Warham & Bell 1979). It seems that laying occurs after Nov on the Antipodes Islands. Sagar (1978) noted marked differences in the breeding timetable of Antarctic terns between localities and our observations support this view, rather than that of Sadlier *et al.* (1986) who suggested that the differences reflected the fact that there were few published field observations. The late breeding season at the Antipodes Islands presumably accounts for the general lack of activity noted during 1995.

**\*Arctic tern *Sterna paradisaea***

One juvenile was seen at Reef Point on 19 Nov 1978 (BB). It is possible that Arctic terns resting on their southern migration made up part of the Antarctic tern flock seen on 8 Nov 1995, although all birds seen there the next day were typical Antarctic terns.

**\*Rock pigeon *Columba livia***

On 20 Nov 1995 most members of the party saw 1 being chased around the north and northwest of the island by up to 10 subantarctic skuas (*Catharacta skua lonnbergi*). A red or orange colour band, with the letter 'K' printed on it, was noted on its right leg when it landed at Reef Point. The skuas evidently caught and ate the pigeon, as a pile of feathers and pieces of flesh were found on Reef Point on 23 Nov (RC, AT).

**\*?Long-tailed cuckoo *Eudynamis taitensis***

An unusual raspy 'hoik' call was heard several times over Reef Point from 2230 to 2330 h on the night of 24 Nov 1995 by several trip members. Although a consensus was not reached on the bird's identity, the call was similar to the harsh call of this species.

**\*Skylark *Alauda arvensis***

Two dried corpses identified by AT were found on the North Plains: 7 Nov 1995 (PM, AG, MNZ 26849) and 18 Nov 1995 (AG, MNZ 26850).

**Dunnock *Prunella modularis***

In 1978, this species was seen and heard regularly between the north of the island and Ringdove Bay (RT, MI, BB) and 4 were seen on Bollons Island on 29 Nov (RT). Two were seen near Reef Point on 3 Dec 1989 (RT). The species was common on 12-16 Oct 1990 in the northern part of the island (Miskelly *et al.* 1990). About 20 sightings were made by expedition members in the northern half of the island throughout the 1995 trip and calls were heard on Bollons Island on 30 Oct (AT). Regular singing, some courting behaviour and food carrying (1 Nov) and a juvenile (17 Nov), indicated that birds were breeding in 1995 (TG). Warham & Bell (1979) recorded about 10 sightings in 1969 and it is clear that this species is a well-established resident breeder.

**\*Blackbird *Turdus merula***

In 1978 there were 4 sightings: on 12 Nov, 1 near North Cape (RT) and 1 male near the huts, behind Reef Point (BB); on 14 Nov, 1 near the huts (RT); on 1 Dec 1 was heard singing in Ringdove Valley (MI). One was seen near Reef Point on 3 Dec 1989 (RT). A female was seen amongst tussock south of North Cape on 20 Nov 1995 (AT).

**Song thrush *Turdus philomelos***

One dried corpse was found by the main hut behind Reef Point on 31 Oct 1995 (AT, MNZ 26848). Warham & Bell (1979) recorded 2 live birds in 1969.

**Silvereye *Zosterops lateralis***

In 1978, 2 were seen above Alert Bay on 1 Dec (RT) and at least 2 were seen in the valley opposite the Orde Lees Islet on 3 Dec (MI). Only 2 sightings were made in 1995: 2 in the main crater above Crater Bay (south of Stella Bay) on 6 Nov (MI) and 1 in Stella Bay on 7 Nov (TG). Warham & Bell (1979) recorded about 10 sightings in 1969.

**\*Chaffinch *Fringilla coelebs***

One female was seen near Reef Point and Stella Bay on 3 Dec 1989 (RT).

**Redpoll *Carduelis flammea***

For 1978 we have 10 sightings: several near North Cape (RT) and 2 on the North Plains (BB) on 12 Nov; 1 seen plus 2 heard near the huts at the base of Reef Point on 15 Nov (BB); 3-4 near the huts and 3 over Anchorage Bay on 17 Nov (BB); 1 near the huts and 5 on the North Plains on 27 Nov (RT); 1 near the huts on 28 Nov (RT); 1 on Bollons Island on 29 Nov (RT); several above Alert Bay on 1 Dec (RT). Only 3 sightings were made in 1995: 4 on the North Plains on 1 Nov (TG, AT); 2 over the huts on 3 Nov (TG); 2 opposite Leeward Island on 17 Nov (MI). Warham & Bell (1979) noted scattered sightings in 1969, including 3 fledglings. It appears that this species is resident and breeding in small numbers.

**\*House sparrow *Passer domesticus***

There is 1 record of this species being seen briefly by the huts at the base of Reef Point in Nov 1978 (AC).

**Starling *Sturnus vulgaris***

For 1978 we have several records: singles near Orde Lees Islet (RT), Stella and Stack Bays (BB) on 12 Nov 1978; 2 at Reef Point on 14 Nov (BB); 2 at Anchorage Bay on 15 Nov (RT); 1 by the huts at the base of Reef Point (BB) and several at Stella Bay (JK) on 17 Nov; up to 5 between Anchorage and Stella Bays on 18 Nov (RT); 1 flock of 8 and numerous singles and pairs on Bollons Island on 29 Nov (RT); several seen and a large, dry, well-used roost on ledges towards the western end of Archway Island on 2 Dec (RT). Starlings were seen along the northern coast each day on 12-16 Oct 1990, with a maximum of 4 birds together (Miskelly *et al.* 1990). On Bollons Island, 5-10 were

seen on 30 Oct 1995 (AT). Several birds were recorded on Antipodes Island in 1995, mainly around the northern coast with a maximum of 3 in Stella Bay on 10 Nov (AT). One bird was seen flying from the adjacent mainland to the Windward Islands on 16 Nov (AT). Warham & Bell (1979) noted 4 previous sightings with a maximum flock of 6 birds. This species appears to be resident in small numbers, although breeding has not been confirmed.

#### Summary of other bird taxa recorded at the Antipodes Islands

The population estimates and distributions given below are from the 1995 expedition unless otherwise noted. Burrowing petrel population sizes are based on observed burrow densities and night surveys using spotlights. Although many figures are only estimates, they are presented because of the lack of existing information available for many species at the Antipodes Islands.

**Wandering albatross *Diomedea exulans*:** An average of 5,136 pairs nested on the main island in the 4 summers from 1994-1997 (Walker & Elliott 1997).

**Northern royal albatross *Diomedea sanfordi*:** One at sea (Warham & Bell 1979).

**\*Black-browed albatross *Thalassarche melanophris*:** 115 nesting pairs counted on Bollons Island (Tennyson *et al.* 1998).

**Campbell Island albatross *Thalassarche impavida*:** A few at sea (Tennyson *et al.* 1998).

**\*White-capped albatross *Thalassarche cauta*:** About 20 nesting pairs counted on Bollons Island (Tennyson *et al.* 1998).

**Salvin's albatross *Thalassarche salvini*:** Two possible at sea (Warham & Bell 1979).

**Grey-headed albatross *Thalassarche chrysotoma*:** Ashore on Bollons Island in 1950 and a few at sea (Tennyson *et al.* 1998).

**Light-mantled sooty albatross *Phoebastria palpebrata*:** 96 nests counted on the main island and Bollons and Leeward Islands (there were probably 200-300 pairs breeding; many probable nest sites could not be seen in the inaccessible terrain). Three nests with eggs on Archway Island on 2 Dec 1978 (RT).

**Sooty shearwater *Puffinus griseus*:** About 1,000 nesting pairs on the main island.

**Subantarctic little shearwater *Puffinus elegans*:** 10,000-100,000 nesting pairs on Bollons, Archway, and Inner Windward Islands (1995 & MI's 1978 notes), contra Imber (1983) who stated that the breeding population is "some multiple of  $10^5$  pairs".

**Subantarctic diving petrel *Pelecanoides urinatrix exsul*:** Tens of thousands, possibly a few 100,000s of nesting pairs on the main island.

**Grey petrel *Procellaria cinerea*:** 10,000-50,000 nesting pairs on the main island and on Bollons Island.

**White-chinned petrel *Procellaria aequinoctialis*:** About 100,000 nesting pairs on the main island.

**Cape petrel *Daption capense*:** About 300 breeding pairs on the main island and Archway, Leeward, and Inner Windward Islands (Imber 1983).

**Northern giant petrel *Macronectes halli*:** 127 nests counted on the main island at 21 different sites, excluding Cave Point which was not searched.

**Fairy prion *Pachyptila turtur*:** 1,000-5,000 nesting pairs on the main island (1995), Bollons Island (Imber 1983) and Archway Island (1978, RT).

**\*Antarctic prion *Pachyptila desolata*:** One male collected offshore on 16 February 1926 (AMNH 334604; Bourne 1980; Le Croy 1981).

**Mottled petrel *Pterodroma inexpectata*:** Offshore (Warham & Bell 1979).

**White-headed petrel *Pterodroma lessonii*:** 100,000-300,000 nesting pairs on the main island (no breeding records from offshore islands; MI unpubl. data).

**Soft-plumaged petrel *Pterodroma mollis*:** 1,000-5,000 nesting pairs on the main island.

**Grey-backed storm petrel *Garrodia nereis*:** Tens of thousands of nesting pairs on the main island.

**Black-bellied storm petrel *Fregatta tropica*:** Tens of thousands of pairs on the main island, although a nest has yet to be seen.

**King penguin *Aptenodytes patagonicus*:** Three records (Warham & Bell 1979).

**Eastern rockhopper penguin *Eudyptes filholi*:** 4,000 breeding pairs counted on the main island, Bollons and Archway Islands.

**Erect-crested penguin *Eudyptes sclateri*:** 52,000 breeding pairs counted on the main island, Bollons, and Archway Islands. One colony (about 20 birds) on Inner Windward Island in 1978 and 1989 (RT).

**Bounty Island shag *Leucocarbo ranfurlyi*:** Two on Bollons Island (Warham & Bell 1979).

**\*Campbell Island shag *Leucocarbo campbelli*:** One male specimen in the Otago Museum labelled Antipodes Islands and identified as *Leucocarbo* cf. *campbelli* by G. van Tets (OM AV.184, AT pers. obs.); presumably the same specimen noted by Buller (1888, 1893); possibly the shag noted on 2 Feb 1888 by Reischek (1889).

**Antipodes Island snipe *Coenocorypha meinerzhagenae*:** 8,000 birds on the main island and Bollons, Archway, and Inner Windward islands (Miskelly *et al.* 1990; Higgins & Davies 1996).

**Subantarctic skua** *Catharacta skua lonnbergi*: 59 breeding pairs counted on the main island and Bollons Island (no trios or breeding groups noted), plus 4 clubs, the largest contain 42 birds. About 100 pairs could have been present in 1995 because several sites were not surveyed. Four nests on Archway Island on 2 Dec 1978 (RT).

**Arctic skua** *Stercorarius parasiticus*: One offshore (Warham & Bell 1979).

**Antipodes Island parakeet** *Cyanoramphus unicolor*: 2,000-3,000 birds on the main island and Bollons, Leeward, Inner Windward, and Archway Islands (Taylor 1985).

**Reischek's parakeet** *Cyanoramphus novaezealandiae hochstetteri*: 4,000-5,000 birds on the main island and Bollons, Leeward, Archway, and the Windward Islands (Taylor 1985).

**Antipodes Island pipit** *Anthus novaeseelandiae steindachneri*: 1,000-4,000 birds on the main island and Bollons Island (1995) and Archway Island (1978, RT).

**Goldfinch** *Carduelis carduelis*: Two on Bollons Island (Warham & Bell 1979).

## DISCUSSION

Our observations, with 2 additional historical records, exceed by 17 the number of bird species recorded at the Antipodes Islands reported by Warham & Bell (1979). The confirmed bird fauna can now be summarised as follows: 21 breeding seabirds (4 albatrosses, 2 penguins, 12 other petrels, 1 skua, 1 gull, 1 tern), 15 vagrant seabirds (4 albatrosses, 3 other petrels, 4 penguins, 2 shags, 1 skua, 1 tern), 4 endemic land birds (1 snipe, 2 parrots, 1 pipit), 4 resident introduced land birds (1 duck, 3 passerines), 11 vagrant land birds (1 duck, 2 waders, 1 pigeon, 7 passerines). It is possible that some birds (e.g., silvereye, blackbird) presently classified as vagrants are resident and breeding in small numbers. Breeding was confirmed for the first time for kelp gull.

## ACKNOWLEDGEMENTS

The Royal New Zealand Navy provided transport for the 1978 and 1985 Antipodes Island visits. The 1989 visit was organised by *Television New Zealand* on board the *Southern Cross*. The 1995 visit to the Antipodes was organised by the Department of Conservation: the Department's Southland Conservancy staff, especially Pete McClelland, organised logistics; Lance Shaw (skipper) and the crew of *Breaksea Girl* provided transport. Thanks to members of the various field teams for providing support, assistance and unpublished observations. Peter Dilks, Andrew Grant, Jaap Jasperse, and Ian West provided helpful comments on the text.

## LITERATURE CITED

Bourne, W.R.P. 1980. The prions collected by R.H. Beck off the Antipodes Islands and the breeding season of the little shearwater. *Notornis* 27: 297-298.

Buller, W.L. 1888. *A history of the birds of New Zealand*. 2nd ed. London, The Author.

Buller, W. 1893. Proceedings – sixth meeting: 26th Oct, 1892. *Transactions and proceedings of the New Zealand Institute* 25: 536-537.

Checklist Committee. 1990. *Checklist of the birds of New Zealand and the Ross Dependency, Antarctica*. 3rd ed. Auckland, Random Century and the Ornithological Society of New Zealand.

Clark, G.; Robertson, C.J.R. 1996. New Zealand white-capped mollymawks (*Diomedea cauta steadi*) breeding with black-browed mollymawks (*D. melanophrys melanophrys*) at Antipodes Islands, New Zealand. *Notornis* 43: 1-6.

Heather, B.D.; Robertson, H.A. 2000. *The field guide to the birds of New Zealand*. Auckland, Viking.

Higgins, P.J.; Davies, S.J.J.F. (ed.) 1996. *Handbook of Australian, New Zealand & Antarctic birds*. Vol. 3. Snipe to pigeons. Melbourne, Oxford University Press.

Holdaway, R.N.; Worthy, T.H.; Tennyson, A.J.D. 2001. A working list of breeding bird species of the New Zealand region at first human contact. *New Zealand journal of zoology* 28: 119-187.

Imber, M.J. 1983. The lesser petrels of Antipodes Islands, with notes from Prince Edward and Gough Islands. *Notornis* 30: 283-298.

Le Croy, M. 1981. Letter. *Notornis* 28: 148.

Medway, D.G. 2001. Rare Birds Committee – report for 2000. *Notornis* 48: 61-62.

Miskelly, C.M.; Carey, P.W.; Pollard, S.D. 1990. Antipodes Island Expedition report 12-16 October 1990. Unpubl. report. Department of Zoology, University of Canterbury, Christchurch, New Zealand.

Reischek, A. 1889. Notes on the islands to the south of New Zealand. *Transactions and proceedings of the New Zealand Institute* 21: 378-389.

Sadler, R.M.S.; Taylor, R.H.; Taylor, G.A. 1986. Breeding of Antarctic terns (*Sterna vittata bethunei*). *Notornis* 33: 264-265.

Sagar, P.M. 1978. Breeding of Antarctic terns at the Snares Islands, New Zealand. *Notornis* 25: 59-70.

Soper, M.F. 1984. *Birds of New Zealand and outlying islands*. Christchurch, Whitcoulls.

Taylor, R.H. 1985. Status, habits and conservation of *Cyanoramphus* parakeets in the New Zealand region. pp. 195-211 In: Moors, P.J. (ed.) *Conservation of island birds – case studies for the management of threatened species*. ICBP technical publication no. 3. Cambridge, International Council for Bird Preservation.

Tennyson, A.; Imber, M.; Taylor, R. 1998. Numbers of black-browed mollymawks (*Diomedea m. melanophrys*) and white-capped mollymawks (*D. cauta steadi*) at the Antipodes Islands in 1994-95 and their population trends in the New Zealand region. *Notornis* 45: 157-166.

Walker, K.; Elliott, G. 1997. Wandering albatross research and monitoring, Auckland and Antipodes Islands 1997. Unpubl. report to the Department of Conservation, New Zealand.

Warham, J. 1974. The breeding biology and behaviour of the Snares Crested Penguin. *Journal of the Royal Society of New Zealand* 4: 63-108.

Warham, J.; Bell, B.D. 1979. The birds of Antipodes Island, New Zealand. *Notornis* 26: 121-169.