

NOTES ON SOME MACQUARIE ISLAND BIRDS

By JOHN WARHAM

These observations were made between 29 December 1959 and 12 March 1961 while I was a member of the Australian National Antarctic Research Expedition (A.N.A.R.E.) stationed at Macquarie Island. The main lines of bird research undertaken then have already been published and the present paper brings together other observations during that 15 months, when over a hundred ascents to the plateau were made.

The island is about 21 miles long and two to three miles wide with its long axis lying roughly north and south. It is about 800 miles S.S.E. of Tasmania and 900 miles N. of Antarctica. A wide moss-clad raised beach terrace extends down much of the western coast but elsewhere the terrace is narrow or absent and from this the ground rises steeply to an undulating plateau averaging about 800 feet above sea level. The slopes are dominated by tussock grasses, the tops mainly bare wind-swept gravel with scattered cushion and mat plants. The outfalls of numerous large lakes on the plateau cut their way through the peaty ground of the terraces on their way to the sea. The climate is windy and wet but heavy rain is exceptional. For an account of the island's history, geology and natural history see Law and Burstall (1956) and for the flora that of Taylor (1955). The island is politically part of Tasmania but the Antarctic Division of the Commonwealth Department of External Affairs (now of the Department of Supply) has maintained a party, changed annually, since 1948 and in recent years this has usually included at least one biologist:

I. NEW SPECIES

Short-tailed Shearwater *Puffinus tenuirostris*

A recently killed specimen only slightly damaged on the breast, presumably by Southern Skuas *Stercorarius skua*, was picked up near Flat Creek on 19 November. It had the following dimensions (in mm) when measured while still fresh: wing 274; tail 79; tarsus 52; culmen 31; mid toe and claw 63.

Spine-tailed Swift *Chaetura caudacuta*

A single bird was shot on 11 January 1960. This record has already been published (Warham, 1961).

Blackbird *Turdus merula*

Unconfirmed reports by members of previous parties as far back as 1951 refer to Blackbirds at Macquarie Island. If those previously encountered were as timid as those seen by me it is not surprising that adequate descriptions have not been available hitherto. The first proper view gained was of a male momentarily glimpsed on 31 March. The bird was flushed from a small gully on the south side of Bauer Bay but shot round a corner and vanished. It had been glimpsed previously in this area but never for long enough for certain identification. Better sightings were gained at the same place on several occasions during September but only once did the bird utter a sound — a muted alarm. At various times and places probable

female Blackbirds were seen but never long enough for positive identification. The species shows a similar timidity on some of the other southern islands to which it has spread and where it seldom encounters man (Warham, 1967a).

II. RARE SPECIES

Keith and Hines (1958) listed a number of new and rare species of birds for the island additional to those given in the list of Law and Burstall (1956). The former's notes included four penguins and seven petrels. They were able to entice five species of petrel within range on foggy nights using a strong light. Although I had a more powerful light than theirs it proved ineffective: very few petrels were seen in the beam and none came down it. No examples of Fairy Prions *Pachyptila turtur*, Blue Petrels *Halobaena caerulea* or Grey-backed Storm petrels *Garrodia nereis* were handled by me. The only storm petrel sighting was of an unidentified bird seen at long range from the edge of the plateau on 30 August. It was fluttering over an oil-slick originating from a dead Elephant Seal.

The apparent absence of these small petrels during my 15 months stay is difficult to explain considering the amount of time I spent on the high ground after dark working on other petrel species. Small holes that might originally have been dug by small petrels were seen at various places but occupants, apart from Antarctic Prions *Pachyptila desolata*, were absent.

The only unusual penguin noted apart from occasional "Macaroni" type Royal Penguins *Eudyptes chrysolophus schlegeli* with black throats, was the following:

Erect-crested Penguin *Eudyptes pachyrhynchus sclateri*

All my records, totalling 11 birds (8 adults and 3 yearlings) were made in February 1961, this being the time of moult for the species. Previous sightings have also been during this period except for one on 22 November 1955 (Keith and Hines, *loc.cit*). Five birds at Flat Creek on 5 February were about to start or had started to moult and one had completed its body moult five days later. An adult at Aerial Cove on 24 February was in completely new feather but another bird 4 days later still had some old contour feathers to shed.

Blue Petrel *Halobaena caerulea*

Although Keith and Hines reported this species as being very numerous at night during September and October it was not seen by me over land although sought for. A single bird at sea on 22 December 1959 was the only sighting. Two wings found on 10 September on the moss near Mawson Point and measuring 215 and 220 mm. may also have been of this species.

Grey Petrel *Procellaria cinerea*

This is a winter breeder and four birds were seen under rather perplexing circumstances between 25 March and 27 July 1960 and again in March 1961.

The first sighting was in the late afternoon of 25 March when a bird flew repeatedly over the isthmus at Buckles Bay, coming in to the teeth of a strong westerly and following a course that took



Plate XXX — Grey Petrels above the Isthmus, Macquarie Island.

it over the engine shed of the A.N.A.R.E. station. While over the engine shed it tended to hover and "back pedal" as if to alight there. There was time to film this activity and to record the characteristic duck-like wing action well described by Murphy (1936). Presently, and still in daylight, the bird did alight, settling quietly down about a metre from the shed and directly below the exhaust pipe protruding through the wall. The engines were running and the spot was very noisy. The bird was captured, measured, colour banded and held indoors during the night and the following day. It had no brood patch and the cloaca was not distended. When presented with grasses it placed them to one flank as petrels often do when nesting but otherwise did nothing but rest during its time in captivity and uttered no calls. It was very tame.

Another bird was also seen that evening near the engine shed and on the following evening after dark I found a second Grey Petrel sitting about 4 metres from where the first had alighted. This bird was also caught, banded and measured and turned loose with the first. There was no reaction between the two and both were released the following evening to be re-sighted at the same place on seven occasions up to 21 April. On the evening of 8 April these two sat quietly below the engine exhaust for about five hours, apparently without reacting to one another's proximity. On 21 April four Grey Petrels were found near the shed, including two newcomers. One settled on the iron roof above the exhaust pipe. The newcomers were caught, measured and banded and at that date none had brood patches.

Thereafter one or more of this quartet continued to appear in the late afternoon by the engine shed and occasionally a bird was reported by other members of the A.N.A.R.E. team as flying over in the morning. By 28 May all had acquired brood patches. Sightings now began to be less frequent and tailed off during July when the birds tended to circle or make a single run over the isthmus without alighting. The following year the first and only sighting before I left the island was on 4 March. The bird concerned was the first one to have appeared the previous year and it had no brood patch.



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Why these four birds should so persistently re-appear by the engine shed was a mystery. It still is. Were they attracted to the noise or rhythm of the exhaust, by the heat radiating from it and from the shed roof, or were these birds that had been born in burrows located here and no longer available? The shed was not a new innovation and was set on a concrete pad. Although there were places where the petrels could have worked their way underneath, the fitting of a loose fence of vertical wires established that the birds did not do this. Nor were they attracted to an artificial burrow which I constructed by the shed. Furthermore, while their circuits often took them out of sight round the slopes of North Head, repeated attempts to see where they went failed and very few burrows large enough to house this species were found in the area.

Grey Petrels are conspicuous when sailing along in late afternoon and an unsuccessful lookout was kept for them during winter trips down the island. Grey Petrels are also conspicuous at sea and single birds were noted out in Buckles Bay on several occasions. Whenever this happened at least one petrel would be overland or on shore that evening.

The dimensions of the four birds in mm. were:

Band No.	Wing	Tail	Culmen	Tarsus	Mid Toe & Claw	Weight (g)
160-						
11121	344	129	45	61	76	510
11122	338	114	45	65	79	600
11123	342	113	47	64	77	450
11124	336	122	48	64	79	540

Cape Pigeon *Daption capensis*

Present in small numbers around the coasts and offshore particularly in spring and summer. They were seen to alight at various places around North Head and have been reported as probably nesting on Anchor Rock on the western side of North Head. However, a flight by helicopter on 12 March 1961, that enabled me to look down into the crevices on Anchor Rock and on Gorilla Rock not far away, showed that no birds or chicks were present. If breeding had occurred some chicks should still have been evident on that date. A likely nesting place would seem to be the Bishop and Clerks Islets 23 miles off the southern end of the island but in a brief visit on 25 February 1965 (MacKenzie, 1968), this species was not seen.

Common Diving Petrel *Pelecanoides urinatrix*

Much effort was expended trying to locate burrows of this and of *P. georgicus* to no avail. The only bird handled was an adult with a brood patch which was killed by hitting one of the station radio aerials on 14 October. The position of the nasal septum established its identity as *urinatrix*.

III. SOME COMMON SPECIES

Antarctic Prion *Pachyptila desolata*

These petrels seemed to suffer heavy predation by cats which patrolled the colonies after dark. This, and rabbit-induced erosion of some of the hillside nesting areas together with normal skua predation, seems to be causing a population decline (Warham, 1967b).

Some birds had returned by 2 November and eggs were laid during December. There were chipping eggs and small chicks in nests examined on 24 January and some unhatched eggs on 28 January. One marked chick had left by the end of March and all the birds seemed to be absent from land and from the surrounding seas after that time. Thus the breeding cycle seems to parallel that at Signy Island described by Tickell (1962).

From about mid-November to mid-February prions were often seen at sea, usually flying but occasionally settled, but seldom in large numbers. During this period small parties sometimes flew over-land by day. Only once was a prion (at sea) seen chased by a skua which failed to catch the petrel. This was on 23 January 1960. Six days later a prion was seen in the reverse role — chasing a skua.

Marked birds were examined on the colony on the slopes of Mt. Elder just below its summit. The dry gravelly peak of this mountain was the nightly resting place for small aggregations of prions which quickly disappeared into the night whenever a torch beam was directed onto them.

Grey Duck *Anas superciliosa*

These birds were common at the small lakes and coastal mosses, the largest numbers being found at the brackish Duck Lagoon south of Mawson Point. Here the numbers reached a post-nuptial peak during June and July when at least 54 birds were counted some days. Numbers declined to one or two during November and December when breeding was in progress. Small broods of ducklings were then seen around the pools and streams south of Mawson Point and a clutch of 7 eggs on North Head on 1 December. These figures do not suggest any movement away from the island during the winter.

No Grey Teal *Anas gibberifrons* were seen during my stay although sought for: I doubt whether they would have been overlooked if present.

Australian Harrier *Circus approximans*

One was present in the area between Mawson and Aurora Points (usually near Duck Lagoon) between 26 June and 6 July. What was believed to be a different animal — it was darker than the first — was flushed near Mawson Point on 16 September sending a mob of Dominican Gulls *Larus dominicanus* swirling to the air. The harrier escaped the attentions of a pair of skuas by soaring upwards until lost to sight.

Southern Skua *Stercorarius lonnbergi*

Skuas breed plentifully on the coastal mosses and less plentifully on higher ground. Frequent trips down the centre of the island throughout the year enabled me to keep a note of variations in numbers at an assembling and bathing area at the southern end of Island Lake. Changes in numbers before and after the winter of 1960 are shown in Figure 1. The last sighting of the species in the autumn was on 11 May, the first sighting of the subsequent season on 25 July so that skuas were absent from the island for not more than about 75 days. The decline in numbers after 23 September appears to reflect the dispersal of birds to the breeding territories.

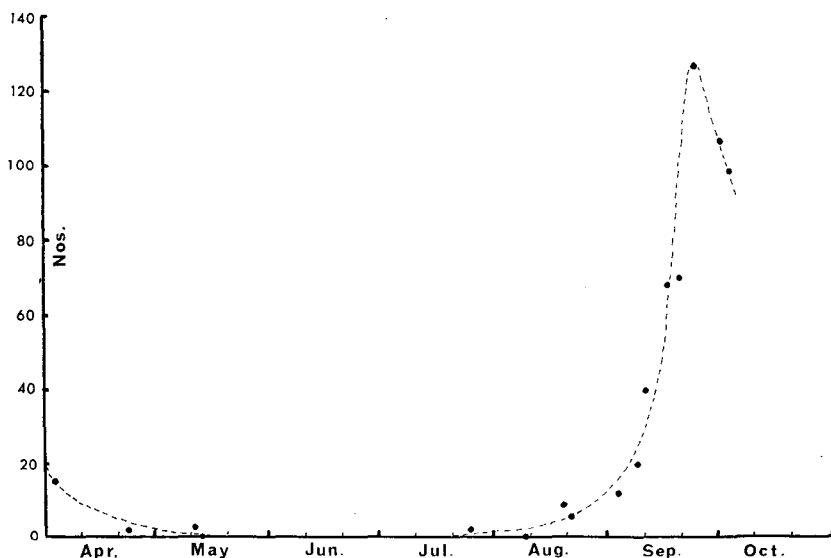


Figure 1 — Southern Skua counts at Island Lake, Macquarie Island, autumn to spring 1960

Terns *Sterna* spp.

Antarctic Terns *Sterna vittata* breed in spring and summer at various points around the coast, laying clutches of one, or more rarely, two eggs in hollows among moss and *Cotula* on offshore stacks. Breeding birds were black capped but progressively lost these caps in the winter. Thus in summer, terns with white foreheads could be easily confused with migrant Arctic Terns *Sterna paradisaea* from the northern hemisphere in eclipse plumage. None was positively identified during my stay and I was unable to follow the matter up by collecting specimens. Nevertheless two sightings seemed suggestive. The first was a group of 16 terns seen on 9 September flying as a close-knit group in a straight line and on a southerly course. Purposeful-appearing movements such as this were never seen from birds known to be Antarctic Terns and these may have been Arctics during their southerly migration. The second was a larger group of some 50 terns, many with white foreheads, seen at Eagle Point on 10 March 1961. These were circling around and resting and may have been Arctics on their way north.

IV. INTRODUCED SPECIES

It seems that the sub-Antarctic islands afford only marginally tolerable conditions for self-introduced species such as the Goldfinch *Carduelis carduelis* and Eastern Silvereye *Zosterops lateralis* recorded at Macquarie previously but never sighted during my stay. However, the Redpoll *Carduelis flammea* with its Arctic affinities, and the Starling *Sturnus vulgaris* with its great adaptability, are able to breed and perhaps maintain themselves without further immigrants.

Starling Sturnus vulgaris

Pairs bred in crevices and caves at many points around the island from rocks at the extreme southern tip to those round North Head. Young birds were heard calling from these nests mainly during November. Feeding was chiefly on the coastal mosses particularly south of Mawson Point on the west coast and between Green Gorge and Lusitania Bay on the east coast. The birds also probed the kelp jetsam on the beaches apparently to catch kelp flies. Flocks of about 100 birds were commonly seen from January onwards through the winter. The largest flock noted contained about 250 birds. This was south of Green Gorge on 16 January 1961 where another flock of about 150 was also present on the same occasion. A well known roosting place was on the rocks flanking Green Gorge beach. Starlings were very shy and fled with noisy alarms when anyone appeared on the mosses where they were feeding.

Redpoll Carduelis flammea

These birds were seen in small numbers at many points. During autumn and winter small flocks formed and the birds were seen to feed on *Cotula* and *Pleurophyllum* seed heads. At this season the birds were often encountered on the arid plateau apparently searching for seeds of cushion plants but in spring and summer they seemed to feed at lower altitudes. Flocking continued to mid-September but towards the end of that month pairs were formed and in early October song was heard. Aerial display flights were noted in early December but no direct evidence of breeding was obtained. An old nest, almost certainly of this species, was found in a clump of tussock at Bauer Bay on 19 March.

It is interesting to note the species recorded previously that were not seen during my stay. The Grey Teal, White-faced Heron *Ardea novaehollandiae*, White Egret *Egretta alba* and Coots *Fulica atra* reported by Keith and Hines were missing as were Fork-tailed Swifts *Apus pacificus* seen by Gibson (1959). Presumably all these had reached their points of no return on attaining their Macquarie landfalls and have been unable to sustain themselves there. Waders were completely absent except for one probable sighting of a Hardwick's Snipe *Gallinago hardwickii* which rocketed up from the grass at North Head on November 17, called a clear soft "wheet" once per second as it departed, but gave no proper view. This species was tentatively identified at the island, also in November, by Gwynne (1953).

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