

NATURAL HISTORY OF CURTIS ISLAND, BASS STRAIT

5. BIRDS, WITH NOTES ON MAMMAL TRAPPING.

by I.J. Abbott

Biology Department, McGill University, Montreal, Canada formerly  
Department of Zoology, Monash University.

(with one table)

ABSTRACT

Sixteen species of birds were seen on or near Curtis Island. Only four species were found breeding. The avifauna of Curtis Island is compared with that of nearby small islands in Bass Strait. A hypothesis is proposed to account for the number of heath/forest passerine species that breed on Curtis, Great Glennie, Rodondo, Hogan, Long and Deal Islands.

No mammals were trapped on Curtis Island.

BIRDS

All accessible areas on the island were covered at least once during the expedition's stay on the island.

The following species of birds were found on, or near to, Curtis Island. An asterisk indicates a species was found breeding.

Family Spheniscidae

\**Eudyptula minor* (Forster), Little Penguin. This species was just finished breeding. Many hundred returned to that part of the island near the campsite at dusk every night.

Family Procellariidae

\**Puffinus tenuirostris* (Temminck), Mutton Bird. Breeding; Many thousands of individuals returned to the island at dusk each night.

Family Sulidae

*Sula bassana* L., Australian Gannet. One seen fishing offshore.

Family Phalacrocoracidae

*Phalacrocorax fuscescens* (Vieillot), Black-faced Cormorant. Four seen resting on a rock on north side of the island.

Family Ardeidae

*Ardea novaehollandiae* Latham, White-faced Heron. Up to four seen in grass near the camp; seen only once.

Family Anatidae

*Tadorna tadornoides* (Jardine and Selby), Mountain Duck. Four seen offshore, flying southwest. Not seen again.

*Cereopsis novaehollandiae* Latham, Cape Barren Goose. About twenty individuals were observed over the whole island in a few hours on one day. They were found feeding amongst the *Poa* tussocks. No evidence of breeding was found, though doubtless they do (Our visit was too early for the breeding season - winter). One pair were seen to leave the island and fly in the direction of the Kent Group.

Family Falconidae

*Falco cenchroides* Vigors and Horsfield, Nankeen Kestrel. One was observed soaring over the east side of the island.

Family Haematopodidae

*Haematopus fuliginosus* Gould, Sooty Oystercatcher. A pair was seen along the northern

shore of the island.

Family Laridae

*Larus novaehollandiae* Stephens, Silver Gull. Up to about fifty individuals were observed over the island every day. There was no evidence that they breed on Curtis. It is more likely they breed on nearby Cone Island and Sugarloaf Rock, since Silver Gulls rarely breed on the large accessible islands in Bass Strait.

\**Larus pacificus* Latham, Pacific Gull. About fifty individuals were seen every day. Many of these were juveniles which had recently left the nest. Breeding was nearly over.

Family Motacillidae

*Anthus novaeseelandiae* (Gmelin), Pipit. One seen in *Poa* grassland by a member of the party (not confirmed by me). It is surprising Pipits were not commoner.

Family Turdidae

\**Turdus merula* L., Blackbird. Found in the *Melaleuca* thickets only. No more than ten individuals were seen on the island. An old nest was found close to the ground on the top of the northern ridge.

Family Zosteropidae

*Zosterops lateralis* (Latham), Silvereye. About thirty individuals were seen, almost all in the *Melaleuca/Solanum* thickets up from the camp. They were feeding on some secretion from the leaves of *Solanum vescum*, and in the foliage of *Melaleuca*. No evidence of breeding. This species may not be resident, since their numbers fluctuated from day to day. (In Autumn, many individuals of the Tasmanian subspecies move to the mainland for the winter).

Family Sturnidae

*Sturnus vulgaris* L., Starling. A flock of over twenty birds was observed near the highest peak and also near the camp. Not observed every day.

Family Corvidae

*Corvus* sp., Raven. One pair were seen perched in dead *Melaleuca* trees near the highest peak. No nest was located.

The list can be made more meaningful if similar lists were available from other comparable islands. The avifauna of Rodondo Island is very poorly known. Bechervaise (1947) visited the island in January and recorded the Fork-tailed Kite (*Milvus migrans* (Boddaert)), Crimson rosella (*Platycercus elegans* (Gmelin)), an unidentified parrot species, Blackbird, Grey Fantail (*Rhipidura fuliginosa* (Sparrmann)), Silvereye, and the Goldfinch (*Carduelis carduelis* (L.)). However he did not state which of these were breeding. Rodondo Island (Bechervaise 1947) supports species of sea birds similar to those found on Curtis Island.

The birds of Great Glennie Island are better known. D.F. Dorward, who has visited Great Glennie at all times of the year, has recorded twelve species breeding: Little Penguin, Mutton Bird, Crested Tern (*Sterna bergii* Lichtenstein), Cape Barren Goose, White-breasted Sea Eagle (*Haliaeetus leucogaster* (Gmelin)), Sooty Oystercatcher, Silver Gull, Pacific Gull, Blackbird, Olive Whistler (*Pachycephala olivacea* Vigors and Horsfield), Silvereye, and the Raven.

In the Kent Group, Deal Island supports about 24 breeding land species of birds (personal observation and Whinray 1971). It has similar sea birds to Curtis Island, except that Mutton Birds and Cape Barren Geese are absent.

The most notable point that can be made about Curtis, Rodondo, Great Glennie and Deal Islands is that each supports a very different number and kind of breeding species of forest/heath birds (the passerine families considered here are listed in table 1). Only Deal Island supports any honeyeaters (Meliphagidae) (two species) whereas the Olive Whistler occurs on Glennie but not on Curtis, Rodondo or Deal. The Golden Whistler (*Pachycephala pectoralis* (Latham)) instead occurs on Deal only. Similarly, *Sericornis frontalis* (Vigors and Horsfield) and *Acanthiza pusilla* (Shaw) are known only from Deal Island; and yet suitable habitats exist on Curtis and Rodondo Islands.

Why do such differences exist? The islands, while superficially similar, have very different environments. These reflect differences in history (Curtis and Rodondo were isolated probably a thousand years before Glennie and Deal and thereby have had longer for extinctions to occur); size (Curtis, Glennie, Hogan, Long and Rodondo are less than 2.6 km<sup>2</sup> in area - hence they have been more unstable and vulnerable than the larger Deal); shape (the higher islands have a high rainfall, which with the presence of valleys enables a richer vegetation to be supported) and position (islands closer to Wilson's Promontory have a higher rainfall). Because of such differences, each island supports a different assemblage of plant species. In Australian forests and heaths, the vegetation is chiefly made up of species belonging to the Families Proteaceae, Mimosaceae, Myrtaceae, and Epacridaceae.

TABLE 1

## NUMBERS OF PLANT AND PASSERINE BIRD SPECIES ON THE SMALLER BASS STRAIT ISLANDS

Island	Area and greatest elevation	Number of Plant Species <sup>1</sup>	Number of breeding Passerine bird Species <sup>2</sup>
Curtis	1.66 km <sup>2</sup> , 330 m	3	0
Long	0.13 km <sup>2</sup> , 65 m	2	0
Hogan	1.12 km <sup>2</sup> , 129 m	4	0
Rodondo	1.19 km <sup>2</sup> , 345 m	6	1 probably breeding
Great Glennie	1.01 km <sup>2</sup> , 137 m	c.7	1
Deal	11.40 km <sup>2</sup> , 300 m	14	8

1. Species belonging to Proteaceae, Mimosaceae, Myrtaceae and Epacridaceae.
2. Families Meliphagidae, Dicaeidae, Climacteridae, Neosittidae, Acanthizidae, Maluridae, Rhipiduridae, Monarchidae, Muscicapidae, Pachycephalidae, and Falcunculidae.

Those islands (table 1) which have fewer than six plant species belonging to the families Proteaceae, Mimosaceae, Myrtaceae and Epacridaceae, do not support any breeding forest/heath bird species. The two islands (Great Glennie and Rodondo) with six or seven of these plant species, support only one such bird species. The largest of the islands considered here (Deal) has many more plant species and bird species. It thus appears that more passerine species breed on an island where there are more of the "right" plant species, and that the "threshold" number of plant species is less than six, below which no passerines breed.

Probably this correlation between numbers of plant species and bird species is dependent on two other relations: the number of arthropod species found on the plant species; and the number of bird species that this number of arthropod species can support. Intuitively, one would expect an island with many plant species to support more arthropods than an island with only a few plant species. It is not clear, however, just why fewer than six plant species do not support enough arthropods (either considered as number of species or biomass) to support one breeding passerine species. Possibly this absence of even one breeding passerine species is a result of species present on the adjacent Victorian mainland not reaching these islands.

## MAMMAL TRAPPING

Forty Elliott traps were laid out in the north-eastern part of the island every night for four nights, by Rawlinson and myself. Standard bait and walnuts were used.

On the first night, the traps were set out in *Stipa* grassland above high water mark and in *Poa* grassland at a higher elevation. On the other three nights, the traps were positioned in *Melaleuca* scrub and adjacent *Poa* grassland, about 60 m above

sea level.

No mammals were trapped, and no member of the expedition reported seeing any during the day.

A sample of faeces which looked somewhat mammalian was collected from the main ridge. However, upon examination in the laboratory it is referable to the faeces of the Cape Barren Goose (N.A. Wakefield, personal communication).

It appears, therefore, that there are no mammals on Curtis Island. In comparison, no mammals are known to exist on Rodondo Island (Bechervaise 1947; J. Kirkpatrick, personal communication), but *Rattus fuscipes* and *Antechinus minimus* have been recorded from Great Glennie Island, (Hobbs 1971), and from Hogan Island (Hope 1969).

#### ACKNOWLEDGMENTS

I thank the following for unpublished information: Dr. D. Dorward (Birds of Great Glennie Island), Mr. J. Kirkpatrick (Flora of Curtis and Rodondo Islands), Dr. R. Parsons (Flora of Curtis Island), Mr. N. Scarlett (Flora and Birds of Hogan and Long Islands), Mr. J. Whinray (Flora and Birds of Deal Island), and Mr. J. Willis (Flora of Great Glennie and Deal Islands).

#### REFERENCES

- Bechervaise, J. 1947: Plant and Animal Life on Rodondo Island. *Wildlife*, 9, 129-137.
- Hobbs, R., 1971: Studies on an Island Population of *Rattus fuscipes*. *Vict. Nat.*, 88, 32-8.
- Hope, J.H., 1969: Biogeography of the Mammals on the Islands of Bass Strait with an account of variation in the genus *Potorous*. Unpublished Ph. D. thesis, Department of Zoology, Monash University.
- Whinray, J., 1971: A List of Birds of the major Kent's Group Islands. *Tasm. Nat.*, 24, 2-3.