

Remains of the Extinct Banded Rail at Macquarie Island

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Summary

The Macquarie Island Rail (*Rallus philippensis macquariensis*) was exterminated by introduced predators towards the end of the nineteenth century; only three museum specimens exist. Search among bone deposits in two caves formerly occupied by sealers or castaways has revealed one complete skull, two nearly complete skulls and one cranium of this subspecies.

The Macquarie Island Banded Rail (*Rallus philippensis macquariensis* Hutton) was described in 1879 from an adult female in the Otago Museum. Two other specimens collected about the same date are in the British Museum (Oliver 1955). At that time the rail was still common at Macquarie I. (Scott 1882), but by 1894 it was much reduced in numbers or already extinct, for it was not seen by Hamilton (1894) or by any later biologist. Predation by introduced rats and by Wekas (*Gallirallus australis scotti* (Ogilvie-Grant)) was probably responsible for its extinction.

A mandible of *Rallus* was found among a collection of bones made in Aurora Cave, Macquarie Island, by K. Keith of the 1956 ANARE party. In December 1957, Dr. R. A. Falla found a complete skull in the same cave, but it was unfortunately mislaid before leaving the island. Dr. Falla asked the writer, a member of the 1962 Australian National Antarctic Research Expedition to Macquarie Island, to make a more extensive search for bones of this species.

The search was made in two caves, both in isolated rocky stacks on the western coastal terrace, and both showing traces of occupation by nineteenth-century sealers or castaways, such as smoke stains on walls and roof, and extensive deposits of bird bones on the floor. Eagle Cave is described by Ainsworth (1915); Aurora Cave was re-discovered in 1949 (unpublished ANARE record by Dr. A. M. Gwynn).

Aurora Cave was searched on January 5, 1962. After a preliminary investigation of the whole floor of the cave, which was littered with decayed tussock grass, *Poa foliosa*, and bird feathers and bones, mostly of the Wandering Albatross (*Diomedea exulans* L.), search was concentrated in three areas 13-35 feet from the eastern entrance. Here three skulls of *Rallus* were found; one, lacking the premaxilla, about 2 in. deep under an overhang of the south wall; another, complete, about 12 in. deep in a two-foot-deep deposit against the south wall; the third, lacking mandibles but with some feathers still attached, under a fallen rock. A white fungus glued together all the bones in the deposit, some of which were very damp and fragile: this may account for the absence of smaller bones.

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Eagle cave was visited on January 16. Most of the floor was very wet, and only an area of 9 x 3 ft, about 17 feet from the entrance, was worth investigation. Deposits up to 12 in. deep on the cave floor contained no rail bones, but a deep crack by the wall contained part of a cranium.

The two most complete specimens were compared in detail with a skull of the New Zealand banded rail, *R.p. assimilis* Gray. The premaxilla, nasal, jugal, palatine, tympanic cavity, foramina for cerebral nerves and foramen magnum were identical. The bill was shorter than that of *R. p. assimilis*, in agreement with known measurements of *R. p. macquariensis* (Oliver 1955).

The feathers attached to the third Aurora Cave skull were carefully removed and washed: they proved to be blackish brown (Palmer and Reilly 1956).

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TABLE 1

Measurements of two skulls of *Rallus philippensis macquariensis*

Length	Dorsal width	Ventral width	Bill length	Bill width
58.0	18.8	17.5	29.5	6.1
60.0	19.0	18.0	30.2	6.8