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Breeding pattern in the Banded Rail (*Gallirallus philippensis*) in Western Samoa

The Banded Rail (*Gallirallus philippensis*), or Vea as it is known in Samoa, occurs from the Cocos-Keeling Islands in the Indian Ocean, through South-east Asia, north to the Philippines, south through Australia and New Zealand and Macquarie Island and from Fiji eastward through Polynesia. Twenty-six subspecies were recognised by Ripley (1977), though a recent review by Schodde and de Naurois (1982), combined several and created one new one. The Banded Rails of American and Western Samoa belong to the subspecies *Gallirallus philippensis godsoni* and they are widespread, common and easily observed along the roads of Western Samoa.

From October 1992 to August 1994 I lived in Fagalii Uta on the south-east edge of Apia, Western Samoa, which is on the north central coast of the island of Upolu. A banana plantation with a dense grass understorey adjoined the northern boundary of the property and a large four-sided man-made mound (part of Samoa's virtually unknown archaeological heritage), densely covered in long grass bordered the property to the east. A pair of Banded Rails had a territory in this area and made regular foraging trips to the lawns and gardens surrounding my house.

From January 1993, regular observations were made of the pair of rails in my garden. I was unable to distinguish reliably the sexes of these birds and they were not marked in any way, but I am confident that the same pair occupied the area from January 1993 to February 1994, when one of the pair disappeared. During this period, the first appearance of chicks, their numbers and their progress until they were chased from the garden by their parents, were recorded.

During the study period this pair of rails produced five broods, one each in February, April, August and December. The number of chicks per clutch ranged from 3-5 with a mean of 4.2. The interval between hatching and the eviction of the fully fledged young from the area ranged from 34-63 days with a mean of 44 days. Survival of chicks to fledging ranged from 1-3 with

a mean of 1.4. It seems most likely that they were taken by feral cats that regularly patrolled the area and were twice seen stalking the adults and chicks in the garden.

The most comprehensive and up-to-date biological information on the Banded Rail is in Marchant and Higgins (1993) and they conclude that breeding is 'poorly known'. They suggest, on the basis of a literature review that breeding is seasonal from August to February and that up to three broods per year have been recorded from a pair (Dunlop 1970). In more tropical areas there is a suggestion that this seasonality breaks down with Gill (1970) recording eggs and chicks in all months of the year around Innisfail in tropical Queensland, Australia.

The data most directly comparable with Western Samoa are two observations from nearby American Samoa. Amerson *et al.* (1982a,b) who carried out a biological survey of American Samoa in 1975 and 1976 stated that Banded Rails breed twice a year with chicks appearing from March-April and from August - September. Banks (1984) examined the reproductive condition of 65 Banded Rail museum specimens, most of which were collected from November to February 1923 and others from March, April and July. He records chicks in these collections taken in July and January which suggests a more extended breeding season than that suggested by Amerson *et al.* (1982a). The present study, although confined to a single pair of birds, suggests that in Samoa this species is capable of breeding throughout the year with a possible break between May and July.

The only data on breeding success in the Banded Rail come from a study by G.P. Elliott in New Zealand (Marchant and Higgins 1993) which found that in eight clutches of a total of 38 eggs only 13 hatched and left the nest, an average of 1.6 young per nest. Although not recorded, it is likely that survival to independence would have been lower than this. In the five nests followed during the present study 1.4 young per nest survived to independence.

In the tropical climate of Western Samoa it therefore appears that Banded Rails breed throughout the year with an established pair capable of producing at least five clutches. Only 1.4 chicks from each clutch survive to independence from their parents with the most likely cause of chick loss being due to feral cat predation.

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Could the Black-toed Petrel (*Procellaria melanopus*) have been Murphy's Petrel (*Pterodroma ultima*)?

Medway (1993) has performed a useful service assembling descriptions of the Black-toed Petrel of Latham (1785), later given the scientific name *Procellaria melanopus* by Gmelin (1789). Unfortunately his identification of this lost specimen as a Mottled Petrel *Pterodroma inexpectata*, and indeed almost any other identification, presents a problem for seabird nomenclature, since technically this old name would usually take priority over any other for the species concerned. Such problems have provided much business for the International Commission for Zoological Nomenclature in recent years; it includes measures to preserve the names *Hydrobatidae* for all the storm-petrels, *Macronectes giganteus* for the Southern Giant Petrel, and *Catharacta (skua) lonnbergi* for the most widespread form of large southern skua, which one might have expected to receive more support from New Zealand.

In point of fact the name *P. melanopus* first appears to have been applied by D.C. Solander in MS Z4 in the British Museum (Natural History) to Kermadec Petrels *Pterodroma neglecta* collected in the South Pacific during Cook's first voyage of 1768-1771 (Lysaght 1959: 361). Unfortunately this description was not published at that time, however, and another species said to have been taken off North America during Cook's third voyage of 1776-1780 across the whole width of the Pacific between New Zealand and the Bering Strait (Lysaght 1959: Appendix C) called the Black-toed Petrel by Latham (1785) was eventually also named *Procellaria melanopus* by Gmelin (1789). It was thirteen inches long, with a bill of 1½ inches, dusky black upperparts and pale hoary lead underparts, a pale, finely-speckled, face and throat, and pale legs with the final third of the toes black.