

Chapter 4

Bats of the Nakorotubu Range, Ra and Tailevu Provinces, Fiji.

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SUMMARY

Three main survey techniques were used: general observations, bat detector, mist nets and harp trap. Only three species of bats were recorded: *Pteropus tonganus*, *P. samoensis* and *Emballonura semicaudata*. The latter two species are listed in the IUCN Red List 2007 as Near Threatened and Endangered respectively. At least three large roosts of *P. tonganus* were recorded within the area covered during the survey. More surveys are needed to locate possible roosting sites and monitor the presence of other bat species that forage within the area.

INTRODUCTION

There are fifteen species of mammals native to Fiji, of which six are terrestrial (bats belonging to the order Chiroptera) and nine are marine (whales belonging to the order Cetacea) (IUCN 2007). There are fourteen non-native species of mammals present in Fiji, all of which are terrestrial and have been introduced to Fiji in the last 3000 years since the arrival of humans (Pernetta and Watling 1978). This survey focused on the native bat species present in the Nakorotubu Range.

To date there has been no record of terrestrial mammal research conducted in the Nakorotubu Range area, apart from the limestone caves near the villages of Wailotua and Nasau which have been visited in the past to survey the Fiji blossom bat (*Notopterus macdonaldi*). Fiji's native bats are poorly studied, yet this group should be of high conservation importance as they include an endemic monospecific genus (*Mirimiri acrodonta*) and several near endemic species. Additionally, Fiji's bats play an essential role as seed dispersers, pollinators of flowers and in controlling nocturnal insect populations in rainforest and other terrestrial ecosystems (Manueli 2001, Palmeirim et al. 2007).

Some previous work on bats in Fiji includes a collecting trip in 1990–1991 by the Australian Museum, the results of which is published in Flannery (1995); work by Dr. Jorge Palmeirim (Universidade de Lisboa, Portugal) in 2000–2001 (Palmeirim et al. 2007); and studies on *Pteropus samoensis* by Dr. Ruth Utzurrum (Department of Wildlife and Marine Resources, American Samoa, Pagopago) in 2002. The work by the Australian Museum and Palmeirim provide good baseline data for bat research in Fiji.

The main objectives of this survey were to:

- a) produce a checklist of the bat species found in the Nakorotubu Range and
- b) focus on the conservation status of the rare and endangered species and their

habitats.

METHODS

Three main methods were used to survey the bat fauna of Nakorotubu:

- 1) Mist nets and harp trap,
- 2) Bat detectors and
- 3) General observation.

The location of sites and surveys are shown on Map 6.