

Conservation of the Fijian Crested Iguana (*Brachylophus vitiensis*) through diet and habitat studies.

BY CLARE MORRISON

The Fijian Crested Iguana, *Brachylophus vitiensis*, which is endemic to the Fiji Islands is currently listed as Critically Endangered under current IUCN criteria (2006) and is the only Fijian reptile listed as Endangered in the Fiji Biodiversity and Action Plan (1998). The species is restricted to dry forest habitats (one of the most threatened vegetation types in the Pacific) and has experienced several local extinctions in the recent past due to extensive destruction of this habitat. It was once known from 14 islands in the western part of Fiji however, recent surveys in the past two years have only confirmed the species on three islands - Yadua Taba, Monuriki and Macuata. Yadua Taba is the stronghold for the species, containing approximately 98% of all individuals (estimated to be > 8,000 animals) and is the only legally protected population (Yadua Taba is a National Trust of Fiji reserve).

In November 2004 a Conservation and Management Plan Workshop for the Fijian Crested Iguana was co-hosted by the National Trust of Fiji and the IUCN Iguana Specialist Group. Due to the declining nature of many of the populations of *B. vitiensis* (other than Yadua Taba) as a result of the continuing degradation of dry forest habitat and predation by exotic predators (mainly cats), members of the workshop identified a critical need for the implementation of immediate and effective conservation actions. Conservation progress however, was severely impeded by the acute lack of basic biological information including iguana abundance, diet and reproductive biology.

While the population of *B. vitiensis* on Yadua Taba is currently secure, there is always the threat of "having all your eggs in one basket". The introduction of disease, wild-fire, or the threat of invasive alien plant species are potential real threats and are capable of decimating this population in worst-case scenarios. As such, participants of the Iguana

Workshop recognised the need to consider translocations of some of the iguanas on Yadua Taba to other islands in the region including those which were once home to this species. The translocation of any species including *B. vitiensis* requires selecting sites with suitable habitat (for both diet and other ecological factors) however as previously mentioned, the local extinction of *B. vitiensis* from many of the other islands was primarily due to habitat destruction. Consequently, reintroducing iguanas to these islands will involve ensuring that suitable plant species are reintroduced to these islands and the original threats are removed. This is currently not possible as there is little documented and substantiated evidence as to the specific plant species requirements of *B. vitiensis*.

The primary aims of this project were to (a) identify preferred plant species in the diet of *B. vitiensis* on Yadua Taba, (b) compile list of plant species needed for any potential translocation sites and (c) provide training to National Trust rangers and local villagers in iguana survey techniques.

Yadua Taba is a small (70ha), uninhabited volcanic island located in the north west of

the Fiji Islands. It reaches over 100m in height and lies 120m off the much larger inhabited island of Yadua (1360ha). The island was declared a sanctuary in 1981 and today the forest on the island is one of the best remaining examples of dry forest and coastal strand vegetation in the Pacific.

We conducted four 2-week long surveys between September 2005 and June 2006 on Yadua Taba. Personnel involved included researchers from the University of the South Pacific, rangers and field officers from the National Trust of Fiji, field assistants from Denimanu Village (on nearby Yadua Island) and students from USP and the Australian National University (ANU). Field surveys for iguanas were usually conducted at night as sleeping iguanas are easily spotted in the trees compared to during the day when they are well camouflaged amongst leaves by their cryptic colouration (green with white stripes).

On each of the trips we counted the number of iguanas on six transects, recorded the tree species they were found in and collected information on body size and ratios of males:



females:juveniles. We also captured a number of iguanas each night, kept them overnight in cloth bags and collected their scats in the morning. All captured iguanas were released the next morning in the exact places they were captured. We were then able to analyse data to determine the plant species that the iguanas were eating on each trip as well as their preferred shelter species.

Preliminary analyses of the data suggest that of the 50+ tree species on Yadua Taba the iguanas are found sheltering in about 35 species but only eating about 10 species. These include cevua, kau loa, yagata, wiriwiri, moivi, vesiwai, and qiqila.

Once the analyses are complete we will produce a complete list of the plant species needed for the survival of Fijian crested iguanas (both diet and shelter) and using this list we will be able to select potential translocation sites on other islands in Fiji with appropriate habitat (including the absence of predators). We will however have to study further aspects

of crested iguana biology including reproduction, behaviour and interactions with other dry forest species before any translocations can be made. Some of this work is currently being carried out by PhD students from the Australia National University (see <http://www.fijiancrestediguana.com> for more details).

In addition to scientific research, improved local and international awareness as to the importance and unique nature of the Fijian Crested iguana is needed to highlight the importance of the conservation of this species in Fiji. This is currently being done by the National Trust of Fiji, the University of the South Pacific, Kula Eco Park, The Australian National University and Taronga Zoo. ■

Clare Morrison, Institute of Applied Sciences, University of the South Pacific, PO Box 1168, Suva, Fiji. Email: morrison_c@usp.ac.fj

Top: Adult iguana.
Insert: Yadua Taba Island
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