



JOE BURGESS

Adult Fijian Crested Iguana (*Brachylophus vitiensis*).

Soaking Wet in a Fijian Dry Forest

Peter S. Harlow¹ and Suzi Morrison²

¹Manager, Herpetofauna Division, Taronga Zoo, Mosman, NSW, 2088, Australia (pharlow@zoo.nsw.gov.au)

²School of Botany & Zoology, Australian National University, Canberra, ACT, 0200, Australia (suzfm@yahoo.com.au)

Photographs by Peter S. Harlow unless otherwise indicated.



Just 30 minutes earlier, we had left the Fijian village of Denimanu on Yadua Island in totally calm weather, but with heavily overcast skies, and were now skimming over gray waters. First stop on the 8-km boat trip to Yadua Taba Island is always to get fresh water from the only permanent stream on Yadua, in the small bay of Waisevu (Fijian for “welcoming water”). Because the creek near the village only flows during the wet season, the 120 inhabitants have to rely on tank or well water for most of the year and rarely have enough to spare. On the smaller island of Yadua Taba, no permanent fresh water exists, probably the main reason it has remained uninhabited.

As we left Waisevu Bay with our five precious water containers full to the brim, a strong wind suddenly arrived from nowhere and instantly whipped the sea into angry whitecaps. Ten of us were in ranger Pita Biciloa’s overloaded 18-foot fiber-

glass boat, National Trust staff, a few of us visiting researchers, and a scattering of helpers from the village. We squatted precariously around a huge mound of camping gear, boxes of food, and now enough fresh water to last the first week on the uninhabited Iguana Sanctuary Island of Yadua Taba.

Unlike our previous trips to Yadua Taba during the long dry season when rain never falls, this was our first wet-season trip and we could expect heavy tropical downpours at least several times a week. Sure enough, as we motored the last 5 km to Yadua Taba, a huge angry front of heavy black clouds moved rapidly toward us, while the wind increased and the crests of the small, sharp waves exploded over the boat’s bow to soak us all.

Luckily the high tide allowed us to motor all the way to the beach on Yadua Taba and we quickly began unloading and moving the huge mound of gear to our campsite just inside the for-



B. THAMAN

The Yadua Taba Crested Iguana sanctuary island is surrounded by coral reefs.



Tima, one of our field assistants, up early and making “babakau” (Fijian fried bread) for breakfast.

est. A wall of rain could be seen a few hundred meters out to sea, moving quickly toward us, and the rush to complete the unloading increased. The gear was thrown into a pile in a central clearing and covered with a large tarpaulin just as the rain struck, a gentle roar in the forest canopy above us at first, but within seconds so heavy that we had to shout to hear each other speak. We stood around laughing, and were all totally soaked in just a few seconds. Even if we had them, umbrellas and raincoats are useless in the hot tropics, so we ignored the rain and began to erect our largest tarpaulin, which would be the center of the camp, our kitchen, and the only dry area for eating and working.

Erecting a large plastic sheet with only one rope on each corner would seem to be a simple proposition. This task was clearly up to our Fijian hosts, and, even though our suggestions were politely considered, everyone seemed to have a different plan. A lengthy discussion that considered the pros and cons of where, how, and when continued as the first wall of rain diminished to a steady, heavy downpour and the wind suddenly dropped.

Since both the rain and the tarpaulin discussions could continue indefinitely, rather than stand around in the rain looking useless and bedraggled, we headed into the forest. We were both eager to look for signs of nesting iguanas, so we walked toward an area that we knew had the greatest density of Crested Iguanas (*Brachylophus vitiensis*).

The forest on Yadua Taba is classified as “tropical dry forest.” The canopy is low, usually 6–10 m. The island receives less than 200 cm of rain per year, nearly all during the 3–4 month



A Fijian Crested Iguana watches from a low branch.

wet season. This dry forest plant community is the most endangered in Fiji. On most islands, it has been burned and cleared for farming, coconut plantations, or cattle and goat grazing, while remnant patches on other islands have been overtaken by exotic invasive plant species. Yadua Taba Island is the single exception, and it is the only small island example of dry forest remaining in Fiji. To add to its lucky isolation, it has no introduced cats, mongooses, or exotic rat species (only the endemic Pacific Rat, *Rattus exulans*), which is probably why it supports at least 6,000 Crested Iguanas. Even the remnant grasslands and patches of invasive plants on the ridges of Yadua Taba are reverting to native forest since burning stopped in 1980 and the last few goats were removed in 2004. The National Trust for Fiji is carefully monitoring, poisoning, and removing the most invasive of the island's exotic plant species in an effort to maximize the native forest available to the critically endangered iguanas.

The first obvious differences from our dry season experiences in the forest were the small purple fruits and white flowers of the Cevua Trees littering the ground, a carpet of tiny green seedlings, and abundant recent soil diggings. These diggings, however, were from land crabs, not gravid iguanas. The main reason for our February visit was to document Crested Iguana nesting biology, as no records document nesting in the wild for either species of Pacific iguana. Previous field trips to Yadua Taba in months from May to December over seven years had not

located a single gravid or nesting female. However, we had seen hatchlings appear toward the end of November in several years — but when and where the eggs are laid remained a mystery. Do female Crested Iguanas migrate to communal nesting areas, and do they guard their nest sites like many iguanas? These are just some of the questions that Suzi wants to answer during her Ph.D. project on the species. Because eggs laid in captivity take



The fruiting Cevua tree (*Vavaea amicorum*) is important in the wet season diet of Crested Iguanas on Yadua Taba Island. Only the soft and ripe purple fruit will be selected and eaten during this season of plenty.



The authors processing captured Crested Iguanas in the forest on a dry night.



Suzi and Mata in the village on nearby Yadua Island.

between 6 and 9 months to hatch (depending on incubation temperatures), and hatching starts in late November on Yadua Taba, we assumed that nesting had to occur during the middle of the wet season, from February to April. John Gibbons, who described this species after first finding it on Yadua Taba in 1979, suggested that females nest between April and May, but he never saw a nesting female.

Yadua Taba is a small (70 ha), rocky, volcanic island with steep slopes and many cliffs. As we slipped and slid our way up a muddy slope in the pouring rain, we were pleased to see a ravine, which we had only seen dry, flowing like a river between pools of fresh water. Although we were soaked to the skin, the possibility of a regular wash was not lost on us, as on previous dry season trips, the lack of fresh water had meant that the salty Pacific was our only bath for weeks at a time. Perhaps our normally precious fresh water supply could be relegated to backup for this trip.

Deep in the forest, land crab diggings are less common and, as we walked farther, we began seeing excavations that were more like the agamid lizard nesting burrows with which we are familiar in Australia. Then we saw one — a fat, green, mud-covered Crested Iguana frozen to the ground, watching us, a neat burrow at her snout, and a pile of muddy soil at her side. She was heavily gravid, the eggs could be seen as large lumps inside

her. We stood in silence, certainly not the first to observe this, but knowing that we were the first to record it. We marked the site with colored tape and left quietly, hoping not to disturb her nesting. In less than half an hour on the island, we had found what we had come to see.

The next day, as the rain continued and we began to reminisce fondly of the dry season, we returned to that same site.



The first Crested Iguana nest located; excavated to show the three large eggs.



Suzi explaining to the children in the village on Yadua why she is working on Crested Iguanas on Yadua Tabu.

The female and the burrow were gone, the site camouflaged to look like it had never been disturbed. We carefully excavated the soil with a spoon, took measurements and photos, added a tiny temperature data-logger to the clutch of three huge eggs, and refilled the nesting burrow. In the weeks that followed, as our never-to-dry-again T-shirts slowly rotted off our backs with the continued rain, we found another 13 nests.

Surprisingly, many other aspects of the Crested Iguana's biology also remain unknown, mostly because of the remoteness of Yadua Tabu and the expense and difficulty of working there. Yadua Tabu is not open to the public, and only researchers are issued permits to visit. With the exception of a visiting U.S. botanist, the last foreign visitors before us were the IUCN Iguana Specialist Group, who visited for one day in November 2004 after their annual meeting in Suva, Fiji's capital. For most of the year, the island remains solely the realm of the iguanas, interrupted only by short visits of the National Trust ranger, Pita, to monitor invasive plant species and patrol for uninvited guests.

Crested Iguanas probably will be translocated from Yadua Tabu to other iguana-free islands in Fiji in the next few years. Before this can happen, however, we need to understand not just their breeding biology, but a host of other important ecological

attributes such as diet, population dynamics, and basic biology. The information from this field season, added to the growing knowledge base on the biology and habitat requirements of Crested Iguanas, will be integral to future reintroduction or translocation efforts. In November of this year, we will return to Yadua Tabu to witness the emergence of hatchlings from the monitored nests. Knowing a little more this time of what to expect from a wet season in a dry forest, we'll be sure to bring along a few spare T-shirts!

Suggested Reading

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