

## Status of the Sandy Cay Rock Iguana, *Cyclura rileyi cristata*

Carl Fuhri

I met Dr. William Hayes in November of 1995 at the International Iguana Society conference in San Salvador, Bahamas. After working with him and Dr. Ron Carter there, I was asked if I would ever be interested in helping in the future. Naturally, I immediately responded in the affirmative.

In April of 1997, I received a call from Dr. Hayes, asking if I would like to join him and his graduate assistant, Shawn Fry, in the Bahamas. They were going to Sandy Cay in the Exumas to collect data on *Cyclura rileyi cristata*. Bill said he would need the extra hands to catch and process specimens. After pleading with my very understanding boss and getting the time off, I called Bill back and said I would be happy to go.

Our "home" for the trip was a camp site set up on the east end of the island. We chose a flat sandy area near the shade of a Casaurina tree. We slept in tents and had a ten-foot-by-ten-foot shade tent to work under. We also set up a short wave radio for communication with the rest of the world in case

of emergency. It was later determined that a simple marine radio would be the best for local communication. When I returned home, I sent an old one that I had to Shawn.

Sandy Cay is a small island off the main islands in the southern Exumas. It is approximately one kilometer long and one half kilometer wide. The structure is typical of many of the small islands of the Bahamas. It is primarily crumbly limestone with some sandy beaches. Sand has also collected in many of the low areas and cracks and crevices.

The vegetation on the island varies from one end to the other. The west end is covered with a small Bahamian silver palm. The rest of the island consists of low rocky promontories, rocky pans, and sparse vegetation. The vegetation is comprised of approximately 25 species of plants. Sea grape, ink berry, and strumphia, an interesting evergreen bush, make up a large part of the vegetation.

The only inhabitants of the island are the iguanas, a couple of species of anoles, numerous insects



Subadult male, *Cyclura rileyi cristata*, on Sandy Cay. Photograph: Carl Fuhri

and other invertebrates, migrating and a few nesting birds, rats, mice and a raccoon. Historically, *Cyclura rileyi cristata* was the top herbivorous inhabitant on the island. Sometime in the past, European rats found their way to the island. This was not good for the iguanas. The raccoon was presumably the pet of one of the locals on Little Exuma. It's arrival, at an unknown time, has been devastating to the cay. *Cyclura rileyi cristata* is found in no other place in the world; this tiny island is its only home.

This subspecies has been on the decline for many years. Last year Drs. Hayes, Carter and John Iverson visited the island and over a period of three days, caught more than 30 iguanas. The crew was able to catch enough animals in a couple of hours each day for processing. Bill tells me that although the population was thought to be small, he felt that because of the ease with which they captured the animals and the number that they saw, the population appeared to be in reasonable shape. They were, however, concerned that no females were caught. This year, in the week that I was on the island, things seem to have worsened considerably. After one week of spending six to eight hours a day trying to capture animals, we were lucky to catch seven a day. Some days we caught as few as three the entire day. The worst part of this was that up to the time I left the island NO females had been captured. It is difficult to tell if we saw any, as the females can only be differentiated from juvenile and

subadult males by probing after capture. The culprit in this severe depletion of iguanas is most likely the raccoon. There appears to be preferential predation of female iguanas. But, there must also be other factors in this equation. We are sure the raccoon is one of the culprits because, in examining the feces of the raccoon, we found the claws of mature iguanas and iguana skin. Every effort is now being made to rid the island of the raccoon.

It now appears that *Cyclura rileyi cristata* may be the rarest and most endangered species of *Cyclura*. This is why the data being collected by Bill are so critical. The Bahamian Government is going to have to make some hard decisions. The process of saving this and several other species of *Cyclura* within their sovereign borders will be a difficult task. There are many variables in the formula. In any situation where difficult decisions must be made, reliable and plentiful information must be available.

Having worked with Bill in San Salvador in 1995, I was familiar with what information would be needed. Once an animal is caught, the following data are recorded: length of head from tip of snout to rear of tympanum, snout-vent length, tail length, and length of regenerated tail, if applicable. Next, the length of the front and hind legs of the animal is measured from the center line of the ventral side of the animal to the inside of the first digit. The width of head between eye ridges is measured with calipers. The femoral pores are checked and a representative one is measured with calipers. The size of the center black section of the pore is recorded. The number of pores on each leg is counted and recorded. All of the animal's digits are checked; if any are damaged or missing this is recorded. The animal is then probed to determine sex. The sex and the depth of the probe are recorded. Next the animal is weighed and that information is recorded.

In the beginning of the article I men-



Adult male, *C. r. cristata*. Photograph: Carl Fuhrri



Healthy adult male, *C. r. cristata*, with an identification number painted on its side, along with a small radio transmitter.  
 Photograph: Carl Fuhri

tioned Dr. Ron Carter's name. Although he was not with us the week I was there, as he was conducting research on another island, his work as a geneticist is crucial to the research. Each animal that is caught has 1 ml of blood extracted from a vessel on the ventral side of the tail. Dr. Carter later does a DNA work-up on the animal. Using this information along with the location where the animal was caught, populations can be checked for relatedness and genetic variance. Lastly the animal is given a permanent mark. This is done by piercing the nuchal crest with a sewing needle and inserting a piece of 80 pound mono-filament with four colored glass beads attached. This may sound as though it is painful to the animal, but it is much like having an ear pierced; there is no blood and the animal doesn't even flinch. The colors of the beads are recorded and this information is used on successive trips to identify previously caught iguanas. The week I was on the island we caught several animals that had been caught the previous year. All were in good health and had grown significantly.

A considerable amount of information is collected on each animal. This information is then taken back to Loma Linda University where Bill and Ron collate it and put it in publishable form. The resultant paper will be sent to the Bahamian government so that they can decide what action, if

any, can be taken on behalf of the iguanas, and may also appear in *Iguana Times*. Quite often the directors of the IIS will get together to discuss whether there is any action that might be taken by the Society on behalf of the iguanas with the blessing of the Bahamian Government. Our recourses are very limited but the need is very great. We therefore try to do as much as we can to help the cause. One of the ways we have accomplished this in the past is to have large durable signs made and erected on those islands where populations are in severe danger. This has just been done in San Salvador where the animals are protected, but are also fed on a regular basis by boat loads of tourists being ferried over from the main island by Club Med. This may sound harmless, but it really isn't. Those animals have lost most of their natural fear of humans. The tourists also leave their garbage on the island after feeding the animals. This could later be ingested by the iguanas.

Shawn Fry will be staying on Sandy Cay for a month to try to video tape either the breeding behavior or egg laying behavior of the females, if any can be found. Radio transmitters will be attached to the skin of a small number of animals. These will later fall off as the animals shed their skin.

Shawn also brought a dozen live-catch rat traps. Any rats caught will be humanely euthanized



Deformed juvenile,  
*C. r. cristata*, with four tails  
caught on Sandy Cay.  
Photograph: Carl Fuhri


Shawn Fry (left) and  
Carl drawing blood  
from a juvenile rock  
iguana. Photograph:  
William K. Hayes



and their livers, stomachs and brains returned to the States for research at another university. All rats caught while I was on the island had severe stomach worm infestations. Although this sounds good—make the rats suffer for the harm they presumably are doing—this is not the case, it just makes them eat more than they normally would to feed their infestation. One of the keys to saving many of the endangered populations of iguanas in the West Indies is the TOTAL elimination of rats from their respective islands. Rats reproduce at a phenomenal rate. Given an environment with no predators, such as an island, and plenty of food, the progeny of a single pregnant rat can produce tens of thousands of offspring. The information gained from the rats will aid in eliminating them. It will be a difficult and costly proposition for the Bahamian Government, but it is possible, and the process must start soon. In the last few years since these data have been recorded, the number of lizards has been declining rapidly on many of the small islands, and in some instances may have disappeared for good. Each time this happens we lose another very beautiful creature from the face of the earth. When an animal can only be found on one island in the world, and no other place, and that animal is wiped out on that island, it cannot be replaced. Extinction is forever.

Dr. Hayes informed me that the team caught three females in the weeks after I left the island. Three females out of more than 30 is less than 10%

of the population. As of mid-June the raccoon still roams the island. All efforts to eliminate the raccoon have failed. The major reason for this is that although we have found numerous fresh tracks we have never been able to find either the raccoon or its den. Shawn Fry will be on the island another full month and hopefully will have some luck in his attempts to dispose of it.

I hope you find this information interesting. I know I had a wonderful experience gathering it and hopefully helped the team with their efforts to save this wonderful reptile. 

**Editor's Note:** In late 1993 at least 14 *Cyclura rileyi* were reported for sale at two Florida reptile dealers. Several others were reported in California in early 1994. The animals were obviously contraband, recently smuggled out of the Bahamas. After I.I.S. publicized the crime, the sale of illegal animals went deep underground. In the April, 1994 issue of *Reptiles* magazine, the cover featured a photograph of one of the smuggled rock iguanas. On page 60 and 61 another contraband animal was pictured. The magazine identified the iguanas as *Cyclura rileyi cristata* which, if correct, would explain part of the rapid decline of this species on Sandy Cay. Some of these animals are still present and being passed around in the back alleys of the reptile trade.