

IGUANA NEWSBRIEFS

Galapagos Iguanas Shrink to Survive El Niño

Scientists have discovered that iguanas on Ecuador's Galapagos Islands shrink to survive a shortage of food during El Niño, according to a report in Thursday's issue of *Nature*.

In two studies of Galapagos marine iguanas, one spanning 18 years and the other occupying eight years, scientists found that the herbivorous reptiles shrank as much as 2.7 inches, or 20 percent of their body length.

"Many people working with amphibians have seen this phenomenon but have not reported it because they don't believe it, or because the thinking is that vertebrates can't shrink," said Judy Stamps, a professor of evolution and ecology at the University of California at Davis.

The disbelievers included Martin Wikelski, a professor of ecology and evolution at the University of Illinois. Wikelski noted shrinkage in Galapagos marine iguanas over three periods (1982-83, 1987-88 and 1992-93) but dismissed the results as a measurement error. His thinking changed during El Niño's biggest year, 1997-98.

"In 1997-98, the animals had shrunk too much to ignore," he said. "We thought this couldn't be an artifact, so we plotted out the data. It turned out to be very interesting."

The iguanas shrank to increase their chance of survival during El Niño.

Galapagos marine iguanas feed on algae along the tidal basins of the rocky shores of the remote islands. Normally, the islands experience cold, nutrient-rich currents from

the west and south. During El Niño, however, their usual diet disappears. "Green and red algal species, which are the marine iguana's preferred food... are replaced in intertidal areas by brown algae which iguanas find hard to digest," according to the *Nature* article.

Upwards of 90 percent of the iguana population can die of starvation as a result of these environmental swings. Only the iguanas that shrink and slim down, making them more efficient at harvesting the tiny amounts of available food, survive.

"They shrink to reach a body size where survival is high. If they shrink a centimeter or so, they increase their survival rate by 10 percent. If they shrink more, they can increase survivability by 35 percent," said Wikelski.

In subsequent La Niña years, when cold, nutrient-rich waters return to the Galapagos, the iguanas eat well, get fat and start growing longer again. Adult iguanas can shrink and grow repeatedly throughout their lifetime.

If researchers are able to figure out the mechanisms behind the shrinkage and the renewed growth in bone, they may be able to apply the same triggers to humans to treat diseases such as osteoporosis from aging or bone loss during space flight, said Stamps.

The researchers hypothesize that bone absorption accounts for much of the shrinkage.

"You have to remember that bone is living tissue that is constantly being replaced, just like muscle," said Stamps.

Source: Environmental News Network staff

Mexican Iguanas Make Themselves at Home in Florida

A population of Mexican spiny-tail iguanas is growing on Gasparilla Island in the Florida island community of Boca Grande. It seems that several pet iguanas were released by their owners on the island 20 to 30 years ago and adapted well to freedom and Florida. The population has grown steadily and now exceeds 2000. The three foot long chunky lizards are a mixed blessing to the humans of Gasparilla island. The lizards are a conversation piece as a result of their antics, such as running through bars and knocking over barstools. But locals are less amused with their penchant for dining on decorative flowers and in gardens. The once sympathetic local press has begun printing recipes on how to cook iguanas.

Iguanas and Non-Human Primates Hang Together at Metro Zoo

As you probably know, green iguanas (*Iguana iguana*) have become established in south Florida. They are commonly seen on the grounds

of the Miami Metrozoo. Two areas where they have established residency are the colobus monkey (an African species) and the white-handed gibbon (from Asia) displays. The iguanas in these exhibits are recognizable individuals that have lived there for many months. They are regularly seen interacting with one another. The gibbons have been seen petting, sharing their food with the iguanas and slapping them. The slapping doesn't seem to bother the iguanas or keep them from approaching the gibbons. The situation with the colobus monkeys is much the same. The photo on the outside back cover shows a young colobus petting one iguana while it sits on the tail of another! Mixed species exhibits are often created in zoos to increase visitor interest by allowing people to see the interactions between different kinds of animals. Usually species from the same geographic region are exhibited together. We have no plans for removing the iguanas since they appear to be a source of enjoyment for the primates, and they have chosen these spots to live on their own. It would be interesting to know if iguanas interact with primates in their natural habitat.

Steve Conners, Miami Metrozoo. Colobus photo by Barbara Crutchfield.

