

Tourists Are Giving Endangered Iguanas Diarrhea and High Cholesterol

By John R. Platt | December 10, 2013



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Hop on over to the photo-sharing site Flickr and you'll find [dozens of photos](#) and [videos](#) of people eagerly [feeding grapes](#) to hungry iguanas on the beaches of the Bahamas. It looks like great fun and the iguanas obviously go crazy for the fruit, which is usually fed to the lizards on the ends of long sticks. There's just one problem with this activity: the food is making the iguanas sick. Health conditions arising from the grapes and other foods that iguanas do not normally eat in the wild include diarrhea, high blood sugar and cholesterol as well as lowered levels of potassium and a high level of parasitic infections. All of these problems "could have deleterious effects on long-term fitness and population stability," according to Charles Knapp, director of conservation and research at Chicago's John G. Shedd Aquarium and the lead author of a new study of the iguanas published last week in *Conservation Physiology*.

Bahamian rock iguanas (*Cyclura cychlura*) live on the islands of Andros and Exuma and several small nearby cays in the island chain. Although not technically endangered, they are considered [vulnerable to extinction](#), with a total wild population of fewer than 5,000 individuals. That count covers the entire species, which also includes three subspecies, two of which are endangered and one of which is critically endangered.

As Knapp and his fellow researchers wrote in the paper, the feeding of wildlife is "an increasingly popular yet under-studied tourism-related activity" that is often sanctioned and encouraged for both marine and terrestrial animals. Sometimes that is beneficial, providing the animals with access to low-stress nutrition and humans with a positive conservation experience. Other times, however, feeding wildlife can cause problems, especially if it includes items from outside of their native diets. Consequences can include nutritional imbalances, obesity or behavior changes that have harmful long-term effects.

Knapp and his team wanted to find out if the hundreds of weekly tourists visiting iguana habitats were having a positive or negative effect on the animals' health. They traveled to the islands in 2010 and 2012 and examined iguanas that interact with tourists as well as those in more isolated locations. They found that both groups of iguanas appeared the same externally but the tourist-fed iguanas—especially the more aggressive males—showed signs of nutritional imbalance. Many had



diarrhea, all of them carried parasites and their blood showed abnormal levels of calcium, glucose, potassium and uric acid. The tourist-fed males also had aberrant amounts of cholesterol, copper, magnesium and other nutrients. The paper links the high-sugar, low-potassium levels to the grapes, Ground beef and other animal proteins could be causing the high cholesterol and uric acid levels found in the iguanas. (The iguanas are normally herbivorous.)

Tourists aren't the primary threat to Bahamian rock iguanas, however. The species faces habitat loss due to construction, dangerous feral animals such as goats, collection for pet trade and illegal hunting. (They're the only iguana species still caught for food.) Those threats aren't going away anytime soon.

In a [press release](#) Knapp said that it's unrealistic to expect tourists to stop feeding the iguanas. "Instead," he suggested, "wildlife managers could approach manufacturers of pelleted iguana foods and request specially formulated food to mitigate the impact of unhealthy food. Tour operators could offer or sell such pellets to their clients, which would provide a more nutritionally balanced diet and reduce non-selective ingestion of sand on wet fruit." Done right, the authors suggest, tourism could actually benefit the iguanas and give them the nutrition and safety they need in order to boost their populations. That's a worthy goal we're sure the iguanas can get behind, even if it means fewer grapes.

Photos: Iguana with grape in its mouth by Kate Hardy, courtesy of Oxford University Press. Iguana reaching for grapes by Chris Dixon via Flickr. Used under Creative Commons license

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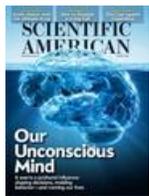
About the Author: Twice a week, John Platt shines a light on endangered species from all over the globe, exploring not just why they are dying out but also what's being done to rescue them from oblivion. Follow on Twitter [@johnrplatt](#).

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