

Karen Telleen-Lawton » Serendipity: Roadkill Toads and the Sixth Extinction

Serendipity: Roadkill Toads and the Sixth Extinction

The Hawaii Islands boast breathtaking scenery and exotic species, but where's the native habitat?

By Karen Telleen-Lawton, *Noozhawk Columnist* | Published on 08.01.2009

"I don't know why she swallowed the fly."

I flew to Hawaii to partake of balmy breezes, warm-water snorkeling and a lazy week with good friends. I enjoyed these in abundance. But on the red-eye flight back, after reminiscing about parrot fish, moon bathing and piña coladas, I found myself dwelling on roadkill toads and the sixth extinction.

Cindy's condo sits on a knoll overlooking Papahaku (Three Mile) Beach. It's on the west end of the comfortably lonely island of Molokai, not far from the historic colony of elderly people with [Hansen's disease \(leprosy\)](#). The airport is one of the biggest attractions — local kids gather in pickup trucks to watch the occasional airplane land or take off.

I hadn't read up on Molokai's plants and animals, so I was surprised at the scenery from the car: an international potpourri of African acacia trees, star pines from down under, cattle egrets and mongooses from India. The birds that begged on our patio were mynas, also from India, and even the fishers were catching exotics such as roi (peacock grouper) introduced in the 1950s to "enhance fisheries." Where was the native habitat on this archipelago, the most isolated chain of islands in the world?



The answer is partly in the question. Precisely because the Hawaiian Islands are so remote, relatively few plants and animals have colonized the chain since their volcanic emergence about a million years ago. When humans arrived 1,500 years ago, we did what we're famous for doing planetwide: exploited the natural system. In Australia, New Zealand and the New World, large mammals

disappeared from the fossil record at precisely the points that humans appeared. In Hawaii, the disappearance of 90 percent of the bird species coincides with humans' arrival.

The pace of native extinctions increased exponentially when we began bringing exotic birds, fish, plants and animals to the fragile island ecosystem, carrying their own microscopic hitchhikers. Hawaii is the U.S. extinction capital: More than one-third of extinctions nationwide occur there.

There have always been extinctions, of course. More than 99 percent of all species ever to have inhabited the Earth are now extinct, according to [New Yorker writer Elizabeth Kolbert](#). Besides individual species, fossil evidence displays five mass extinctions.

Scientists examine the mass extinctions as major turning points in evolution, times when well-adapted as well as poorly adapted species bit the dust. The first was 450 million years ago, in which more than 80 percent of the species succumbed; the fifth was the Yucatan asteroid 65 million years ago that doomed the dinosaur.

Scientists are now becoming convinced that a sixth extinction is well under way. Its beginning was about 40,000 years ago, when humans began roaming and became superior-competitors in habitats that had evolved without them. Hunting, farming, logging and building soon transformed the Earth, with many unforeseen and still unfortold consequences.

So what about the Hawaiian frogs? Actually, the ones that weren't roadkill were doubly lucky to be alive. First, because they safely hopped across the street. Second, toad and frog species worldwide have been dying mysteriously, an alarming trend first documented in the late 1980s. Recently, the source has been traced to a fungus carried on African frogs that obstetricians all over the United States imported in the 1930s and '40s to diagnose human pregnancy.

There are no native toads or frogs on the Hawaiian Islands. The six or seven species one can collect in roadkill botany mostly hitchhiked on plants imported to the islands. Many of the worst pests on the islands were introduced to control other pests: the poison dart frog to control mosquitoes, Axis deer from India for

hunting and mongooses to control a venomous introduced snake. Cattle egrets were imported to control insects on cows, but it turned out they prefer noncow habitats.

The whole sordid tale reminds me of a children's poem by [Rose Bonne](#) about a luckless woman who swallowed a fly. The old woman swallowed a fly ("I don't know why") and subsequently swallowed a bird ("how absurd"), a cat ("fancy that"), a dog ("whole hog") and a cow ("I don't know how") to catch the previous meals.

Finally, she swallowed a horse. She's dead, of course.

— *Karen Telleen-Lawton's column is a mélange of observations supporting sustainability. Graze her writing and excerpts from Canyon Voices: The Nature of Rattlesnake Canyon at www.CanyonVoices.com.*