

A most unwanted neighbor-coqui frogs

KIA'I MOKU

By Adam Radford



A recent trip to Hilo highlighted the impact coqui frogs can have on our quality of

life. It was not just the chorus heard throughout town and in my hotel room, but the fact that they could be heard while having dinner, enjoying a beach park and hiking through native forests. They're everywhere. Recent estimates indicate that coqui have infested more than 60,000 acres of East Hawaii, from the ocean to 4,000 feet in elevation. With Hawaii County now planning to liquidate its coqui-control equipment, this noisy neighbor seems to have become a permanent resident on the island of Hawaii.

My work creates many opportunities to talk about coqui, and I am often asked why they are perceived as a nuisance in Hawaii when they are beloved in their native home of Puerto Rico.

One consideration is that they have no natural enemies here and can reach population densities more than twice that of their native range. This may cause significant problems for native insects (which they eat), change soil composition to the benefit of non-native plant species and compete with Hawaii's native birds for food. Possible economic impacts in infested areas include diminished property values and sales, a change in the quality of visitor experiences due to their persistent nocturnal calls and decreased sales in the floriculture and nursery industry.

During my short visit to Hilo, I learned that a colleague with deep ties to Hawaii agriculture was facing the prospect of moving and foregoing personal professional opportunities, primarily because of the coqui. These experiences strengthened my motivation to keep coqui from becoming widely established on Maui.

Coqui are believed to have

been introduced to Hawaii by hitchhiking on plants or associated products in the late 1980s. Since then, coqui have shown up on most of the main Hawaiian Islands, in California, and Guam on plant shipments. This is still the primary avenue for dispersal, particularly from heavily infested areas. To help minimize the risk of introducing coqui to your neighborhood, the Maui Invasive Species Committee started a coqui-free certification program. The voluntary program encourages plant industry participants to adopt specific practices to reduce movement via the nursery trade. If you see a business designated as "coqui-free," you can feel confident that you will not be purchasing coqui along with your plants or plant products.

Like the Big Island, Maui has coqui. Unlike the Big Island, Maui has only six infested areas, which cover an estimated 227 acres. Eleven population centers (areas with five or more calling males) have been removed since 2004. Five others have very low numbers of coqui. Really, only one substantial population remains. Maui has kept populations from becoming established by quickly responding to reports of new coqui locations. Although new introductions from infested areas are a constant concern for Maui residents, quickly identifying and capturing a few rogue males typically prevents a couple of coqui from becoming thousands. Left unchecked or unreported, coqui populations on Maui would be sure to rival East Hawaii at some point.

In Haiku, for example, an



Left: To combat the spread of the coqui frog, Maui Invasive Species Committee started a coqui-free certification program. Those businesses that adopt specific practices to reduce the spread of the frog get a sign to hang in their establishments.

Above: A coqui frog hides in a landscaping plant. It is believed that these frogs, so beloved in their native Puerto Rico but a nuisance in Hawaii, hitchhiked to the islands on plants or other products in the late 1980s. They have infested as much as 60,000 acres of East Hawaii; on Maui the loud frogs reside in six areas that cover 227 acres.

area that once had low numbers of coqui has now spilled over into a steep-sided gulch. Efforts have begun to remove coqui from the 225-acre area by applying a 12 to 16 percent solution of citric acid (a food additive). But challenging terrain and trying to work at night (when coqui are most active) have demanded the development of creative citric application tools. These include fixed-line sprinklers, high-volume sprayers and even limited use of a helicopter in inaccessible areas. Although daunting, successful control efforts over the last four years have shown that the key to preventing coqui from permanently establishing is early detection of new locations, repeated systematic treatment of known populations and removal of frog-friendly habitat.

Unfortunately, even the combined resources of state and county agencies on Hawaii, as well as regular outings by community-based

coqui control groups, have been no match for the coqui.

On Maui, we only have one large population left. We still have a strong chance to become and remain coqui-free. Please help by calling the Maui Invasive Species Committee at 573-MISC (6472) if you happen to hear a coqui frog.

More information about the coqui-free program can be found at www.coquifreemaui.org.

■ *Adam Radford is the vertebrate operations supervisor for the Maui Invasive Species Committee. He manages MISC's efforts to control invasive animals and banana bunchy top virus. "Kia'i Moku," (Guarding the Island) is prepared by the Maui Invasive Species Committee to provide information on protecting the island from invasive plants and animals that can threaten the island's environment,*