

ELEUTHERODACTYLUS FACT SHEET

Species	Known Location in Hawaii	Native Range	Native Habitat
<i>Eleutherodactylus coqui</i>	Maui (3 sites), Big Island (11 sites); nurseries and surrounding forest, residential areas, hotels	Puerto Rico	mesic and rain forest 0-1000m (3900') elev.
<i>E. martinicensis</i>	Maui (2 sites); in nursery, residential area and surrounding forest	Lesser Antilles (Caribbean)	dry, mesic, and rain forest; 0-770m (2500') elev.
<i>E. planirostris</i>	Big Island (4 sites), Oahu (2 site); nurseries and adjacent ohia scrub, residential areas	Cuba, Bahamas, Caymans	dry and mesic forest; 0-610m (2000') elev.
<i>E.sp. indet. (E. coqui or E. martinicensis)</i>	Maui (24 sites); hotels and residential areas		



E. planirostris



E. martinicensis



E. coqui

Identification:

- *E. coqui*: Up to 52mm (2") in length; brown or gray-brown with variable patterns including light mid-dorsal stripe, dorsal chevrons, dark suprascapular W's, or unicolor. Call a two-note, high-pitched "co-qui".
- *E. martinicensis*: Up to 47mm (2") in length; appearance variable and similar to *E. coqui*, from which it is distinguished by size of toe pads, angularity of snout, and call. Call a short single rising note.
- *E. planirostris*: Up to 36mm (1.5") in length; mottled brown and tan, or brown with a mid-dorsal tan stripe. Call a diffuse series of irregularly pitched chirps or twitters.

Ecological attributes: Only the ecology of *E. coqui* is well-known. This species can occur in at densities exceeding 20,000 animals/ha (8100/acre) and consume an average of 114,000 prey items/night/ha (46,000 prey/night/acre). They prey primarily on arthropods, but will also forage on snails and small frogs. *E. martinicensis* is similar to *E. coqui*, except for a greater tolerance for dry conditions, occurring in tropical dry forest in the Lesser Antilles. *E. planirostris* consumes smaller prey than *E. coqui*, can also occur at high densities, but probably requires warmer temperatures for survival. Hence, it is unlikely to invade mid-elevation rain forest. All three species are nocturnally active, feeding, calling, and mating at this time. *E. coqui* and *E. martinicensis* forage from the ground to up in the tree canopy, but call primarily from 1-2m (3-7') elevation on exposed perches. Both species hide in forest leaf litter during the day and shuttle to elevated perches at night. *E. planirostris* is terrestrial and climbs little. All species lay eggs in protected sites among the leaf litter, which are guarded by the male parent, and require approximately 2-3 weeks to develop directly into small froglets. There is no tadpole stage and, consequently, no need for access to surface water. Generation time for *E. coqui* is approximately eight months, and the other two species are probably similar.

Conservation concerns: *E. coqui* and *E. martinicensis* pose the greatest threat to native Hawaiian ecosystems because they can invade mid-elevation mesic and rain forests. They can be expected to exert tremendous predation pressure on a variety of native arthropods and, possibly, snails. Consequently, they will likely exert an indirect negative effect on the remaining native forest birds, most of which are partially or largely insectivorous. The frogs may serve as an energy or nutrient sink in native ecosystems into which they insert themselves due to lack of native predators, although it is more likely they will instead serve as an additional food source enhancing population levels of rats and mongooses, thereby increasing predation pressure on native forest birds.

Other concerns: *E. coqui* and *E. martinicensis* have loud, piercing calls (90-100 decibels) that often disturb people's sleep and have prompted complaints by visitors and residents even though frog choruses in Hawaii have been small so far. Frogs may also serve to spread plant nematode eggs from soil to benches in sterile nurseries.

THESE FROGS ARE ILLEGAL TO TRANSPORT OR RELEASE.
Please report occurrences to:

Kauai: 274-3433

Oahu: 587-0164

Maui: 871-2929

Hawaii: 974-4375

(Photos courtesy of A. Allison, Hawaii Biological Survey)

last updated: June 1999. For additional information contact: Fred Kraus, Hawaii DLNR/Forestry & Wildlife, tel (808) 587-0164