# "Two-Notes Three-Steps" to Find a Coqui Frog 

## FIND IT !

Prepare to hunt down the frog by gathering your tools and equipment ahead of time. Regardless of the location or time of day, to find the frog quicker, have these things on hand:

Headlamp with a new set of batteries
Zip lock baggie, jar, or some other container
A hand tool that can clip small branches one at a time
A-frame or extension ladder (not always necessary)
A Tube Tool (see "Coqui Magic Wand" attached)

## Step 1: TOWARDS

Move towards the frogs call, to about an arms reach away. (Be careful not to disturb the vegetation between you and it.)

## Step 2: AROUND

Move left or right in a circle around the place where you think the frog is at. Completely circle the bush, tree, clump of vegetation or area where the sound is coming from. Confirm it down to about 3 square feet of space.

## Step 3: UP OR DOWN

Generally, the earlier in the evening, the closer to ground the frogs will be. This is not always true, but works a lot of the time. If you think the frog is within reach without climbing, locate the frogs proximity to ground by lowering yourself to its level while it calls. Move your ear around till it's very near. You will know when you are very close, it will sound piercingly loud. It will probably be looking at you by now, so don't move anything suddenly or the frog will jump somewhere else. Then you will have to wait till the calls start coming again, and it might take ten or more minutes for that to happen.

If moving downward did not get you closer to the frog, get the ladder. Get off the ground by at least a few feet, and wait for the calls again. Circle the vegetation as necessary, to measure the volume of the sound (and detect its nearest proximity). You don't need to necessarily see the frog to know where it is, within 2 square feet or so.

Don't get discouraged if it takes an hour or more to find the frog. Patience and persistence are the keys to success. It might even take a few nights attempts before the opportunity presents itself. Keep with it through capturing. It's entertaining as well as educational. Good, safe family fun.

## CATCH IT !

## Step 1: SCAN OUTER SURFACE

Look all around the outer layer of vegetation. If you do not see the frog where you think you should, start exploring one layer deeper into the brush. If branches are in the way of your vision, get the clipper and snip them away carefully. Moving slowly and not with any sudden motions, drop the frogless branches away behind you. Wait for the next call before continuing. The frog is probably within inches of your face by now, and you suddenly spot it.

## Step 2: VISUAL LOCK

When you actually locate the frog, stop moving. Examine the situation before making any sudden movements. Can you get your hand to the frog without obstructions? Can you clear obstructions out of the way without making the frog jump away? If it does jump, will it go higher, or down?

## Step 3(A): GRAB IT

Obstructions out of the way, you are ready to make your move towards the frog. Move your arm slowly till your hand is hovering about an inch or two away from the frog. When you are confident that a quick close of your fingers into a fist will contain the frog, go for it quickly. Overshoot the frog if you must and take the vegetation it's sitting on along with the grab. Get it into the ziplock bag or bottle before it escapes your hand. You've got it!

Or, in some cases the grab might require a two-hand process. If the vegetation is flimsy you might want to place your other ha nd into position on the back side of the grab. This becomes a little more difficult, but possible. If more than one person is available, the second person should be prepared to receive the frog into a transportable container.

## Step 3(B): TUBE TOOL

A tool can be used to give you a little more reach than an arms length, of a clear plastic tubing about the diameter of a fluorescent light bulb. Tape one end of the tube and cut the other end at an angle. After visual lock on to the frog, place the tube over him in stead of your hand, the frog hops right into the tube and you've caught it!

Or attach a baggie with masking tape to the far end of the tube, and the frog will climb up the tube and into the bag. See the attached diagram provided by Hawaii Dept. of Agriculture, "Coqui Magic Wand".

## Coqui Magic Wand

Instructions

1. Cut 8-foot long, clear plastic, fluorescent Lamp Guard tube* into 2-3 foot sections with scissors or a disposable hot knife.
2. Cut one end at an angle (left) for frogs hiding on or in plants.
3. For frogs on top of high branches, cut a 2 -inch opening at the side on one end (right) and cover the end with masking tape.
4. Secure plastic bag at other end with rubberband for holding captured frogs.
5. Dip bag in hot water or freeze to kill frogs.
6. Find frogs at night by listening for "co-kee" calls.

* Available at most hardware stores for a few dollars each.

For more information on use,

Or you could spray it with something. Here are some things that have been reported on. *NOTE* these are not recommendations, just information from a variety of sources:

## Step 3(C): SPRAY IT

Works with or without a visual lock, if the method is used properly. Here are a few things that have been reported as lethal to tree frogs, not all of them legal or recommended.

PYRONYL: LEGAL but NOT usually LETHAL - off the shelf pest control spray made of organic extracts. This only STUNS the frog temporarily, so that you can collect it by hand after it was sprayed and knocked out. Applied in the morning on a day that will have lots of sun, frogs treated with Pyronyl and exposed will dehydrate and die.

Web: http://www.intertechserv.com/biopesticides.htm
Web: http://edis.ifas.ufl.edu/BODY_IG018
PDF: Manufacture Label
SHARPSHOOTER Citric Acid Product: LEGAL. Not a regulated pesticide.
WEB: http://www.naturallivingstore.com/sharpshooter.html
PDF: Material Safety Data Sheet

HOT WATER TREATMENTS: LEGAL. Sustained high temperature water will kill frogs on plants or burrowed into the soil of potted plants.

Nurseries:
Hawaii Department of Land \& Natural Resources, Division of Forestry \& Wildlife has a working model that is used to treat nursery products before sales and out-plantings.

Hot water shower method: at least $113^{\circ} \mathrm{F}$ for 3 minutes. Effectiveness is dependent upon ensuring that the proper water temperature is sustained throughout the treatment duration and that all parts of the plant where frogs and/or eggs may be are sheltered are exposed to the hot water.

Homeowners:
Spraying hot water during (day or night) will flush the frogs out of hiding and expose them, but won't kill them. In the right setting, this option makes it easier to hand pick the individual frogs.

Suspected potted plants can be placed in a tub or sink and showered with hot tap water (at least $113^{\circ} \mathrm{F}$ / or $45^{\circ} \mathrm{C}$ - as hot to the touch as you can tolerate) for at least 3 minutes, followed by 1 minute of cold tap water (to cool down the plant).

This process will kill both frogs and their eggs within the plant. Capture any frogs that may be flushed out or that jump out of the plant while being treated. Hot water does not usually harm plants except for sensitive varieties (certain orchids), plants that may already be damaged or sick, or tender plant parts (young leaves and shoots). Hot water treatment is also effective against frog eggs. Place eggs in hot water (at least $113^{\circ} \mathrm{F}$ ) for at least 3 minutes, and they will not be able to hatch. Hot water can also be used on landscape plants to either directly kill eggs and frogs by contact for 3 minutes or to flush out frogs for hand-capture.

## HOT AIR / VAPOR HEAT TREATMENTS: LEGAL.

Exposing frogs and/or eggs to hot, humid air $\left(45^{\circ} \mathrm{C}\right.$ or $113^{\circ} \mathrm{F},>90 \%$ relative humidity) for 15 minutes is lethal. This method is available to commercial nurseries for disinfesting potted plants prior to shipping or sales.

CAFFEINE: LEGAL W/ POC \& PERMIT. Requires pesticides license and site specific permit.

## WEB: http://www.hear.org/AlienSpeciesInHawaii/species/frogs/index.html PDF: Draft Local Label

CITRIC ACID: SOON LEGAL. Local label is forthcoming.
WEB: http://www.kicgroup.com/citukf.htm
PDF: Manufacture Information
HYDRATED LIME: NOT LEGAL under most circumstances. The label does not support its use as a pesticide, but reportedly works well where lime is used as a soil amendment.

WEB: http://hubcap.clemson.edu/~blpprt/acid5.html
CHLORINE BLEACH or AMMONIA: NOT LEGAL under most circumstances. Not recommended, may burn or kill vegetation. Reportedly both options have incidentally killed frogs while mopping up or disinfecting a patio or other covered structure.

COFFEE: MYTH, Non-toxic. A spray mist of coffee is not strong enough to kill a frog.
NOTE: *ALWAYS READ THE LABEL* before using any chemical. Follow safety guidelines.

## Step 3(D) TRAPPING: Under Construction

A full-proof frog trap does not yet exist. Researchers are now trying to develop traps made of bamboo. News will be posted as it develops on this. Meanwhile, everyone is encouraged to try some trapping idea of their own.

## After the frog is caught:

Once the frog is in a bottle, plastic bag or other container, the quickest and easiest way to kill it is to freeze it for about an hour. Placing it in hot water for several minutes also works. Or you may deliver it to the Department of Agriculture pest controllers.

Please share your experiences and successes!
http://everyfroghasastory.tripod.com/
http://amazingforums.com/forum1/EVERYFROG/forum.html
mailto: everyfroghasastory @excite.com
For more tree frog information on the internet:
http://www.hawaiiag.org/hdoa/coqui.htm
http://www.hear.org/AlienSpeciesInHawaii/species/frogs/index.html
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## Coqui Habits \& Habitats <br> Preventing them from invading your backyard

The piercing call of the male Coqui tree frog begins in the early evening hours and continues throughout the night. Males are territorial, to approximately three to five square feet, but their call can travel a quarter mile or more. The males also protect the egg clutch. Eggs are less than a quarter inch in diameter, and there are two to three dozen per clutch. During the early stages they are milky white, and turn translucent to transparent with a dark colored froglet visible to the eye, just before hatching.

Prime coqui habitat is about 80 degrees Fahrenheit or warmer, high humidity or lots of rain, a bunch of trees of any kind to hop around in at night for evening calling, and lots of leaf litter and underbrush to hide in during day.

To discourage Coqui from invading your property, create a habitat that won't provide for their protection. Leaves on the ground hold moisture and offer frogs and eggs protection from the sun. Green waste, compost and wood piles, and storage areas also provide habitat for frogs. Raking and removing fallen leaves from under trees and bushes will discourage a frog from moving in. Removing vines from trees will also help.
Trimming dead or dying leaves off tree ferns and trees such as banana and heliconia, and keeping things off the ground reduces the amount of suitable habitat (and frog appeal) your yard will have.

