



# WILDLIFE NOTES

## Arizona Tree Frog

For a tiny animal, the Arizona Tree Frog has had more than its share of controversy and confusion surrounding its identity. The scientific name has gone back and forth from *Hyla eximia* to *Hyla wrightorum* and its common name has also been Mountain Tree Frog. However, recent studies using everything from maternal DNA to size to mating calls suggest this little green jewel is a distinct species: *Hyla wrightorum*.

### RANGE

This species can be found in the mountains of central Arizona with an isolated population in southeastern Arizona (it is the Arizona state frog). It ranges southward into central Mexico following the Sierra Madre. It occurs in the mountains of southwestern New Mexico, where it is fairly common in the Gila range in Catron and Sierra Counties. The frog that retained the name *H. eximia* only occurs in southern Mexico.

### HABITAT

*Hyla* is Greek for "belonging to the woods" and these beautiful green frogs certainly do. In New Mexico, they usually reside in high elevation (5000-9000 feet) coniferous forests, within the Ponderosa Pine and Douglas Fir trees, preferably near streams or wetlands. During the breed-

ing period, the frogs are out of the trees and in or near streams, wet meadows, marshes, stock tanks, temporary pools or roadside ditches.

### DESCRIPTION

Mayan figures include a god with expanded knob-like fingertips and a long black lateral line running down its sides. This can only be *Hyla wrightorum*. Perhaps its deified stature reflected its association with coming rains.

This small frog is bright green, sometimes with a gold or bronze tinge. A dark stripe does indeed run from the frog's blunt nose through the dark brown eyes and along its sides. The groin area and the back of the hindlegs are orange or gold with a greenish tint. Both sexes are whitish on their bellies, but the males have tannish green throats, the females have white throats. The toe tips are expanded pads to facilitate climbing. The hind feet are webbed.

With its diminutive size, bright green coloration, toe pads and climbing habit, it cannot be mistaken for any other New Mexico amphibian.

The skin of *H. wrightorum* is toxic and can severely irritate



the eyes of humans (and predators) if it is touched.

### BEHAVIOR

Like all of the frogs and toads in New Mexico, Arizona Tree Frogs are primarily nocturnal although males may call during cloudy, rainy days. During the day, their green coloration camouflages them from predators such as garter snakes or birds.

These tree frogs are well known for their climbing ability; they have been found as high as 75 feet in some trees where they are likely hunting for insects. Arizona Tree Frogs may use small holes in the ground for burrows or dens. Beyond that, habits outside the breeding season are poorly known.

Early in the rainy season, male frogs can be heard calling from the high tree tops. The voice is a low-pitched, harsh nasal

clinking, a bit like metal striking metal. One to fifteen or more notes, 1-3 per second, may be given in succession, speeding up at the end of the trill.

### DIET/FEEDING

Their diet consists entirely of insects. Their tongues can just barely stick out, but that doesn't seem to slow them down as predators of spiders, earthworms, flies, and bark beetles. The presence of the *Ips* beetles in frog stomachs suggests that Arizona Tree Frogs may help control this devastating pine pest that has caused many hill-sides in northern New Mexico to turn brown with dead trees.

### REPRODUCTION

At the start of the summer monsoon season, Arizona Tree Frog leave the trees and head for pools where they are very noticeable by their loud voices. In a given pool, a chorus of males can be heard for a few days to a week, after which most frogs leave the breeding habitats. Occasional calling frogs may be heard through the summer.

Breeding may take place anywhere that rainwater collects in sufficient quantity. Both permanent and ephemeral breeding sites have been found. The site location may depend on weather and on the density of predators. Shallow pools, ponds, and slow moving streams may all be used.

Females attach loose masses of eggs, about size of a teacup, to vegetation just below the water line in shallow water. Newly hatched tadpoles are about 2 inches long, their tails comprising one half to two-thirds of their bodies. In 6-11 weeks, gener-

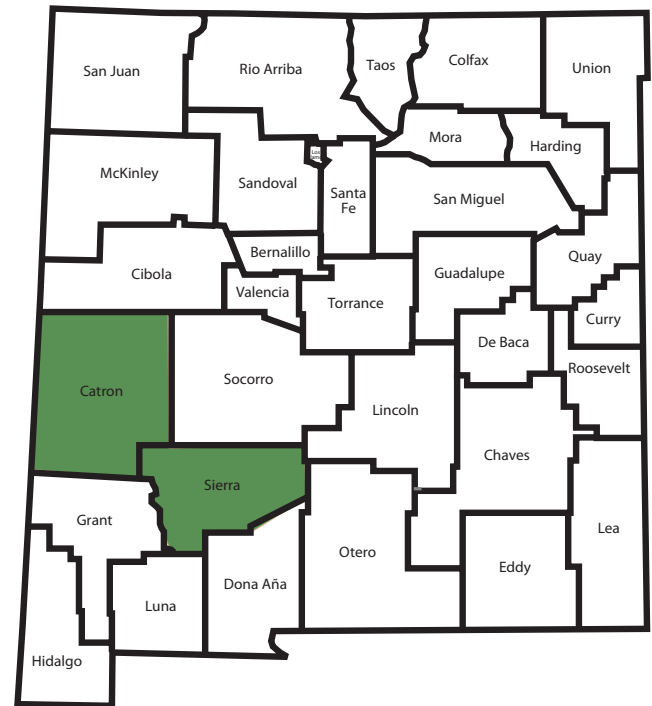
ally by late August, the tadpoles have become froglets.

### CONSERVATION

Even though little is known about the natural history of the Arizona Tree Frog, we do know it plays an important role in the forest food web, both as predator and prey. In addition, amphibians are considered to be "indicator species" because they are sensitive to changes in the environment. They can serve as the canary in the coal mine; decreases in their populations can be an early warning of problems within the forest habitat.

On a range-wide scale, the Arizona Tree Frog is apparently secure with more than 100 locations, but it is quite rare in some areas. There is concern due to its limited numbers and the restricted range (islands of moist coniferous forest in a desert "sea") in which it exists. Small disjunct populations are prone to extinction, even from natural factors such as fires, drought and predators. Given widespread forest degradation, problems of water drawdown, overgrazing in riparian areas, and introduced species, it is important to conserve existing occupied habitats.

Both natural and introduced



predators may be a threat to the small isolated populations of this amphibian. If the frogs choose temporary pools in which to breed, they may find themselves in the company of larval Tiger Salamanders. The main diet of larval salamanders is tadpoles and a temporary pool doesn't offer the hiding structure (rocks, vegetation, undercut banks) that a permanent water source does. Arizona Tree Frog tadpole survival is five times higher without salamanders in the pool. Non-native predators like bullfrogs, bass and catfish also threaten this little frog.

The New Mexico Department of Game and Fish lists the Arizona Tree Frog as a Species of Greatest Conservation Need, rating it as vulnerable across its range.

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