
NEWS REPORTS

NEW POPULATION OF MOUNTAIN YELLOW-LEGGED FROG (*RANA MUSCOSA*) DISCOVERED

For the first time in nearly 50 years, a population of a nearly extinct frog has been re-discovered in the San Bernardino National Forest's San Jacinto Wilderness. Biologists from the U.S. Geological Survey (USGS) assessing suitability of sites to re-establish frogs and scientists from the San Diego Natural History Museum retracing a 1908 natural history expedition both rediscovered the rare Mountain Yellow-legged Frog (*Rana muscosa*) in the San Jacinto Wilderness near Idyllwild, California (Fig. 1 and 2).



Figure 1. *Rana muscosa* in amplexus.
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This re-discovery, along with the San Diego Zoo's first successful breeding of the frog in captivity, and successful efforts by California Department of Fish and Game to restore frog habitat, renews hope of survival for this southern California amphibian. Globally, amphibians are on the decline because of habitat loss, effects of climate change and the spread of Chytrid fungus. The Mountain Yellow-legged Frog is one of three frogs or toads on the federal Endangered Species List in southern California.

Prior to this recent discovery, USGS researchers had estimated there were only 122 adult Mountain Yellow-legged Frogs in the wild. USGS and San Diego Natural History Museum biologists found the endangered frog during separate trips in June 2009. The frogs were

spotted at two locations about 2.5 miles apart in the Tahquitz and Willow creeks in the San Jacinto Mountains. The number of frogs in the area has not yet been determined. 'If this population is large, it could play an important role in the re-establishment of this species across Southern California,' said Adam Backlin, a USGS scientist who led the survey team that spotted the first new Tahquitz Creek frogs on June 10. Biologists from the San Diego Natural History Museum made their find June 25. The museum scientists were retracing the path of a 1908 expedition by the Museum of Vertebrate Zoology, University of California, Berkeley. During that expedition, which covered all elevations and faces of the



Figure 2. *Rana muscosa* mountain habitat.
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San Jacinto Mountain region, the frog was collected at five sites. The San Diego Natural History Museum's team is searching for all species of vertebrates in a study of biological change in the region. The biologists were in the Tahquitz Valley area the week of June 21 when Drew Stokes, a field biologist with the museum, found and photographed a single Mountain Yellow-legged Frog in Willow Creek, a tributary of Tahquitz Creek.

The museum's study will continue until biologists have completed three surveys at each of the 19 sites studied by the 1908 expedition. Mountain Yellow-legged Frogs are not known to migrate far, possibly indicating a significant population. The size of the site represents much more habitat than occupied by the eight other

Mountain Yellow-legged Frog populations in the San Jacinto, San Bernardino, and San Gabriel mountain ranges. In those areas, the frog occupies less than half a mile of stream. This rediscovery is a windfall for all the partners working to increase the number of Mountain Yellow-legged Frogs in the wild by government and non-profit partners.

In addition to the USGS and the San Diego Natural History Museum, the effort involves collaboration between the San Diego Zoo's Institute for Conservation Research, California Department of Transportation (Caltrans), U.S. Fish and Wildlife Service, U.S. Forest Service, University of California and California Department of Fish and Game. The San Diego Zoo's Institute for Conservation Research was the first to breed Mountain Yellow-legged Frog in captivity. That amphibian has recently metamorphosed from a tadpole into a juvenile frog. 'Historically, scientists have had great difficulty breeding frogs in captivity,' said Jeff Lemm, an animal research coordinator for the San Diego Zoo. 'We are excited by this success and cautiously optimistic we will have more eggs soon.'

In December 2008, researchers at the Institute for Conservation Research discovered a clutch of about 200 eggs in one of its tanks. Researchers were surprised because the frogs were younger than is typical for breeding. Because of the frogs' young age, only a handful of the eggs were fertile. The one frog to mature is thriving. The next breeding season is expected to be December 2009 to March 2010. The goal of the breeding program is to return the Mountain Yellow-legged Frog to its native habitat. The Zoo's breeding programme, in conjunction with its partners, began after the rare frogs were rescued from a drying creek. Anne Poopatanapong, a wildlife biologist for the San Jacinto Ranger District in the San Bernardino National Forest was monitoring declining creek water levels in Dark Canyon in August, 2006, when she noticed many pools drying up, including one where frogs had been living. Concerned about losing the tadpoles, she called the Fish and Wildlife Service and the salvage effort started the next day. A USGS

team led by Dr. Robert Fisher rescued 82 tadpoles, which were taken to the San Diego Zoo's Institute for Conservation Research. The frog recovery effort has been funded by Caltrans in part to mitigate for emergency work to stabilize a slope near the frog's habitat on state Route 330 in the San Bernadino Mountains. 'The emergency slope reconstruction project had the dual benefit of opening a road that was about to fail as well as helping to ensure that the last known population of the Mountain Yellow-legged Frog in the San Bernardino Mountains had a programme in place to aid the frog's recovery,' said Craig Wentworth, a senior environmental planner/biologist with Caltrans. Jim Bartel, the field supervisor for the Fish and Wildlife Service office in Carlsbad, said his agency is pleased to participate in the effort to rescue the Mountain Yellow-legged Frog and conserve its remaining riparian habitat. 'We look forward to reintroducing the species to its native habitat,' Bartel said.

Habitat protection and restoration, combined with efforts to reintroduce these frogs to areas where they have been decimated, offer the best hope of returning Mountain Yellow-legged Frogs in southern California to a healthy, self-sustaining population. The California Department of Fish and Game is dedicated to the completion of the Little Rock Creek trout removal project to benefit the endangered Mountain Yellow-legged Frog. Working with USGS and U.S. Fish and Wildlife Service, trout populations have been significantly reduced in Little Rock Creek in the Angeles National Forest. As a result, frog presence in the section of the creek where the fish were removed has increased, demonstrating the success of this collaborative effort.

Adapted from:

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Submitted by: TODD R. LEWIS (EDITOR)