

**FOR IMMEDIATE RELEASE**  
**#14-02**



**CATALINA ISLAND  
CONSERVANCY**

*Conservation. Education. Recreation.*

Contact: Patricia Maxwell,  
562.437.8555 x230  
[pmaxwell@catalinaconservancy.org](mailto:pmaxwell@catalinaconservancy.org)

## **Trapdoor Spiders Need to Get Out-of-Doors More**

By Jerry Roberts

AVALON, CA, 14 JANUARY 2014 - Several groups of sedentary homebodies on Catalina Island need to get out from under their rocks to make connections.

Known to science as *Bothriocyrtum californicum*, the big, pudgy, subterranean trapdoor spiders could use some genetic variability for future sustainability of their groups - around Avalon, at Toyon Bay, the Airport in the Sky and Little Harbor.

Findings by Martina Ramirez, Ph.D., a professor of biology at Loyola Marymount University, suggest that while the trapdoor population at several California locations, including on Catalina and other Channel Islands, is generally varied, "bottlenecks do occur and populations are usually genetically isolated."

"To foster preservation of the existing gene pool," she told the audience at last year's annual Catalina Island Conservancy symposium in Long Beach, "management of *B. californicum* should focus on maintaining as many populations ... as possible and facilitating connections between them, while also creating or restoring habitat for potential colonization."

Trapdoor spiders aren't at this point in any danger. But the spiders aren't helping their cause any. Babies usually only disperse in the same area as the mother spider and dig their own nearby homes, mating locally.

Plus, trapdoor spiders are constantly bulking up on bugs seized outside their burrows. They grow to the size of a computer mouse. A big mom, from front fangs to rear, can be two inches long and weigh an ounce. They live up to 20 years - a phenomenal age for an invertebrate - pretty much on one hillside.

Catalina's historic situation has not been the best for underground spiders. Ramirez says that intermittent fire suppression on the Island as well as big mammals - non-native livestock prior to removal - could have collapsed many burrows and cut off populations from one another.

A typical trapdoor spider burrow is eight to 10 inches deep with enough room for the inhabitant to turn around, and with a tight-fitting rock on top. A trapdoor spider detects the motion of close-crawling bugs and quickly tosses back the "door" to pounce on its meal. It drags dinner into the burrow and replaces the rock.

The only evident enemies that trapdoor spiders have on Catalina, as everywhere they exist, are wasps. Some species of wasps tear the rocks off spider burrows, then sting and paralyze the inhabitants to insert larvae into the victims. The immobile yet living spiders then serve

as hosts to feed the young wasps. In Central and South America, bird-sized wasps called colossal tarantula hawks paralyze big spiders in the same manner.

"Wasps are out on the Island," Ramirez said. "I've run into instances of parasite impact. The wasp cocoon is like a cigar sitting in the burrow." Inside the cocoon is the drained husk of a dead spider.

As far as any danger to humans, the trapdoor spiders are minimally venomous. "I've been bitten," Ramirez said. "You get a red bump, and then it goes away. Others are more sensitive to bites."

"These guys," she says, referring to the spiders, "have fangs, and they can easily puncture the skin. But they would never bother anyone unless you went out and dug them up out of the ground."

Ramirez's symposium presentation was entitled "Genetic Diversity Among Island and Mainland Populations of the California Trapdoor Spider *Bothriocyrtum californicum* (Araneae, Ctenizidae)."



Door and Hole - A trapdoor spider burrow on Catalina is seen with the door. Photo by Frank Starkey



Pudgy But Quick - Trapdoor spiders fatten up on bugs, which they surprise by darting from under their manhole-like little rock covers. Photo by Frank Starkey



Fangs Forward - This trapdoor spider was agitated into attack mode for the camera. No spiders were harmed during the shoot - just agitated. Photo by Frank Starkey