First jaguar photo taken at Smithsonian Research Station in Panama

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The first photo taken of a jaguar, *Panthera onca*, on the Barro Colorado Island, in Panama. Credit: Jackie and Greg Willis, Montclair State University

Barro Colorado Island in Panama, home of the Smithsonian Tropical Research Institute's premier tropical biology field station, has been described as the best-studied piece of tropical real estate in the western hemisphere. Although the island has been a mecca for biologists for nearly 90 years, no one has ever photographed an elusive island visitor, the jaguar—until now.

Montclair State University zoologist Jackie Willis and her husband Greg mount cameras with infrared sensors on trees to photograph passing animals as part of their annual mammal census of the island, which they have been conducting since 1982. What the cameras captured April 20

was not only a surprise, but a first—an adult jaguar tripped the camera's sensor at 3:07 a.m., thus creating a self-portrait photograph.

"Our photo of a jaguar on Barro Colorado is a sign of hope," said Jackie Willis. "It proves jaguars are still in this area." Greg Willis spotted a jaguar on the island in 1983, but there have been very few sightings on Barro Colorado since.

This photo of a researcher was taken by the same camera and serves as a size comparison. Credit: Jackie and Greg Willis, Montclair State University

The jaguar, a solitary carnivore, is the largest cat in the Americas. Adult males can weigh more than 300 pounds. Strong swimmers, jaguars tend to live near water and often prefer rainforests and seasonally flooded swamp areas. Historically, they ranged from the southern United States to northern Argentina. Habitat loss due to agriculture and urban sprawl has been a major threat to the species; and regardless of legal protection, people often shoot jaguars on sight, especially in areas with cattle ranches.

Researchers believe that this jaguar is a visitor from the mainland, 200

yards from the island at the closest point. Barro Colorado Island in Gatun Lake—part of the Panama Canal—is only 25 miles from Panama City on the Pacific end of the canal and the city of Colon on the Atlantic end. Most of Panama's more than 3 million people live in these two cities. Two of the world's great biological hotspots meet in this area, which continues to act as a vital biological corridor between North and South America, despite pressure as urban areas expand.

"Jaguars need remarkably large expanses of habitat to survive and Barro Colorado is too small to support even one animal. But the presence of even the odd individual that swims out there means that jaguars are still moving through the Canal area between patches of fragmented forest," said William Laurance, staff scientist at the Institute.

The Willis' began using camera traps in 1994 as a tool to record elusive and nocturnal species. This proved exceptionally helpful in gathering data about species that were poorly represented in their past censuses of the island. A jaguar monitoring program involving Panama's environment authority (ANAM) and zoological society (SOMASPA) as well as the international group, Panthera, is using camera traps to monitor jaguars on the mainland.

"These cats are incredibly elusive and sightings on the mainland, let alone Barro Colorado Island, are extremely rare," said Jackie Willis. "This is what makes this photo so exciting—it offers proof positive that despite all the obstacles it faces this species is still making its way in Panama. We will be on the lookout for jaguar scat and tracks, and we will hope this individual passes by another camera trap before it leaves the island."

Source: Smithsonian Tropical Research Institute