

# *The Atlantic*

## **Sacrificing One Species to Change the Color of Another**

Bird breeders pushed a Venezuelan finch to the brink of extinction so that canaries could be red.



Asaph Wilson, a conservation ranger of the South Rupununi Conservation Society holds a male (right) and female (left) red siskin.

South Rupununi Conservation Society

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**JUN 10, 2016 | SCIENCE**

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Almost a century ago, bird breeders turned canaries red. They repeatedly hybridized the bright yellow birds with a striking Venezuelan finch called the red

siskin, and so moved the gene responsible for the siskin's vermilion plumage into the canaries. In the process, the canary became “[the first organism to be manipulated by genetic technology.](#)”

I [wrote about this story](#) last month, after scientists finally identified the gene responsible for the birds' red colors. What I didn't mention was that the siskins gave more than their genes. They also gave their lives.

To meet the insatiable demand for red canaries, bird-catchers captured red siskins by the thousands, shipping them out of Venezuela—to Germany at first, and then around the world. An official ban in the 1940s did little to block the wave of exported birds. Within decades, siskin numbers had plummeted. Large flocks of them once graced the skies of northern Venezuela, but in the 1960s two eminent ornithologists said that they hadn't seen a single one in 25 years. By the end of the 20th century, the birds were down to between 250 to 1,000 individuals, restricted to a few isolated groups. They were in danger of extinction, and all because people in distant continents fancied making red canaries.

Then, an unexpected lifeline.

In April 2000, geneticist Mike Braun from the Smithsonian National Museum of Natural History and ornithologist Mark Robbins from the University of Kansas were surveying the birds of Guyana, Venezuela's eastern neighbor. They had ventured deep in the country's remote south-west—an expanse of savannah populated by giant anteaters, cattle-ranchers, and Amerindian villagers. After an especially rainy night, Braun was busy drying out the camp when Robbins returned with shocking news. “You won't believe it but there's a population of red siskins here,” he said.

The duo headed out and, sure enough, there they were: a secret enclave of the birds, singing and flying around, more than 500 miles from any previously known population. “It was like seeing a ghost,” says Braun. “The bird had been decimated in its previously known range. Ornithologists had given up on it in the wild. I had never seen one in real life and had never expected to.”

The team estimated that there were around 700 red siskins in the area. Bird-

trappers knew about them and regularly caught them. But since locals were more interested in species with sweeter voices, the siskins didn't sell. Mercifully, no one knew about the huge international demand for these birds. So, secrecy was paramount. For three years, Braun and Robbins kept the population's whereabouts largely to themselves while they secured legal protection for the siskin, and a place on Guyana's endangered species list. When that was done, the team [finally published their discovery in 2003](#).

The siskins changed Braun's career. He has devoted much of the last 16 years to the [Red Siskin Initiative](#)—a concerted effort to [save this iconic bird](#), which features in local folk songs and on a high-denomination Venezuelan bank note. “I keep telling people this is not my day job,” Braun says. “But I felt an obligation. People didn't care about the siskins; it was just a resource to them for making red canaries. It's another example of how overharvesting without adequate knowledge can lead to disastrous results. But we can roll back the clock.”

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**“There's a very good chance that we can do something unusual: have a species that can sustain itself without needing people.”**

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The Guyanese population needs the least help. Soon after its discovery, the team helped local ranchers and villagers to form [a conservation society](#) dedicated to protecting the bird and its habitat. They've since surveyed the population, raised awareness among local communities, foiled bird-trappers, and guided bird-watching tourists.

The fate of the Venezuelan siskins is more worrisome. At first, Braun's team wondered if they could ship some of the Guyanese siskins into Venezuela. But since the two populations are genetically distinct and live in different habitats, “we're concerned that it wouldn't be good to mix the two,” says Braun. Instead, the Red Siskin Initiative is now studying a colony of a dozen siskins housed in Virginia to work out how best to rear them in captivity and reintroduce them into the wild.

Ironically, bird breeders—the source of the siskin’s woes—are helping, too. It’s illegal to keep red siskins in Venezuela, or in the United States without a permit. But there are many people in Europe, Australia, and southern South America that have large captive colonies and know how to breed them. “They feel responsible and they want to help,” says Brian Coyle, a postdoc in Braun’s lab and the coordinator of the Red Siskin Initiative. “They want to raise awareness and funds, and to contribute to husbandry and nutrition research.”

Still, reintroduction will be problematic because some breeders are *still* after wild siskins. “They have this myth that the red factor is better if there’s a wild red siskin involved in the process,” says Bibiana Sucre, executive director of Crovita, a non-profit that’s coordinating the siskin conservation efforts in Venezuela. And there’s a highly organized bird-trapping network in Venezuela that meets their demands. “You don’t see red siskins being sold on the road. They’re sold through more specialized organizations, and to more targeted audiences like aviculture organizations that breed canaries.”

The initiative’s solution is to form alliances with coffee growers. Traditional coffee plantations are like managed forests, full of tall and shady trees. Many of these plantations cover hundreds of hectares and sit close to national parks, making them the perfect places for reintroducing siskins. But many countries have moved towards sun-exposed plantations, which produce more coffee per hectare, at the cost of more logging, heavier pesticide use, and the destruction of bird-friendly habitats.

Braun and his colleagues want to tip the economic scales in favor of the traditional plantations by rewarding them with bird-friendly certification. The plantations could then sell their products as luxury items and escape the tight price controls that Venezuela sets upon coffee, allowing them to compete with the more environmentally destructive sun-exposed plantations. They would also be motivated to actively prevent poaching.

“It’s a realistic approach to conservation, where we’re working with market opportunities,” says Coyle. “If we can create Save the Siskin coffee, we can control

the habitat.” Sucre adds that her team has already connected with producers who are willing to take part, and with intermediaries who will sell the certified coffee abroad.

Coyle is optimistic. To him, the siskin can be more than a cautionary tale of careless exploitation, but a triumphant exemplar of conservation done right. “There are many iconic conservation projects that will be constantly intensive and expensive,” he says. “But this bird has a lot of habitat left, and it can reproduce in large numbers. I think there’s a very good chance that we can do something unusual: have a species that can sustain itself without needing people.”

#### ABOUT THE AUTHOR

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