

■ MEXICO

Ecological enemy stalks national symbol

Cactus-hungry moth eats its way to mainland's edge

The Associated Press

MEXICO CITY -- A tale of nature's revenge, stretching back more than two centuries and halfway around the world, has come full-circle in a battle of cactus, moth and man.

At stake is the survival of a Mexican national symbol.

The dull-colored cactus moth that reached Mexican territory this summer threatens to devastate the country's nopals, the prickly pear plant that graces the country's flag and is deeply interwoven in its history, culture and diet.

The moth didn't migrate here from its native South America; mankind carried it – to Australia, South Africa, and finally the Caribbean. That makes it a cautionary tale about the dangers of transplanting species, even in the good cause of "bio-control" – unleashing one animal or plant to fight another rather than using pesticides.

"It's not the moth that's to blame, but rather people," says Jose Sarukhan, the head of Mexico's National Council on Biodiversity, talking about the first sighting of *Cactoblastis cactorium* on Isla Mujeres, an island off Cancun, this summer.

"Imagine what would happen if this plague reaches here, and devours all the nopals in a country that's (their) center of origin," he said.

Experts say millions of acres of semiarid Mexican land could become total desert without its approximately 100 native species of nopals, or *Opuntia*, about half the world's total. Birds and reptiles that use them for nesting, protection or food would also suffer.

The country faces "extreme...incalculable damage" if the moth jumps the 5-mile strait between Isla Mujeres and the mainland, said Jorge Hernandez, the director of Mexico's plant safety agency, which is hacking and burning affected cacti on the tiny island.

He said his agency has reduced the island infestation by about 98 percent, and may lick it within a couple of months, but he knows the victory may not survive the next strong wind that carries fresh moths to Mexican shores.



■ Above, on the tourist resort island of Isla Mujeres, Mexico, damage to the nopal cactus pads is evident.



■ The prickly pear plant graces the national flag and is interwoven in its culture.

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Mexico has more species of nopal cactus than anywhere else, and the plant has been used here for thousands of years for everything from fences and construction to food and medicine.

"Nopals are part of Mexico's national identity," said Vicente Calva, president of the nopal producers' council.

He said about 50,000 farm families live off the \$100 million annual market for prickly pears and boiled, tender cactus leaves.

Mexican officials had feared an invasion ever since the moths turned up in Florida in 1989 and began eating their way southwest, laying larvae that eat voraciously into cactus pads, turning them brown and dry.

They thought the moth was most likely to enter Mexico from U.S. border states, and are helping fund U.S. efforts to stop the advance, currently stalled near Mobile, Ala.

But when an agriculture department worker checking moth traps on Isla Mujeres found the telltale signs of larvae and dying cacti on Aug. 1, it was a chronicle of a tragedy dating back to 1788.

It was then that the British imported red cochineal bugs to Australia to produce dye for their redcoat uniforms and break Spain's monopoly on the colorant. They also brought nopal cacti to feed the bugs.

The dye production fared poorly, but not the cactuses; by the late 1800s, they had spread, making millions of Australian acres unfit for farming.

Australians tried unsuccessfully to eradicate the cactus with poisons until, in 1926, they found an answer in the cactus moth which, in its natural state, had never moved far beyond the plains of Argentina.

Within six years the problem was virtually eliminated, and the Australians were so grateful they raised a monument to the moth. "It was a resounding

success, often referred to as the poster child for weed biological control," said James Carpenter, an entomologist for the U.S. Department of Agriculture.

The insects were similarly used in South Africa and, in the 1950s, were imported by some Caribbean islands that had little use for their native cactus species.

Carried by winds or mankind, they moved westward through the Caribbean and now threaten U.S. nopals, through apparently not other cacti such as organ pipe or saguaro.

Now both countries face what may be a never-ending battle. U.S. researchers are releasing sterile male moths to reduce the population, while in Mexico, hundreds of workers comb the mainland for windblown moths.

"This is something that will continue, with no end in sight," said the plant safety agency's Hernandez. The battle will last "for all the years of our lives."