

Largest butterfly in Western Hemisphere needs help to avoid extinction

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The Homerus swallowtail is the Western Hemisphere's largest butterfly, but University of Florida researchers say its numbers are so small that conservation and captive breeding efforts are needed to save the insect, found only in two parts of Jamaica.

A UF study published last month in *The Journal of Insect Conservation* was the first to estimate the population found in western Jamaica's remote "Cockpit Country." Author Matt Lehnert, a graduate student with UF's Institute of Food and Agricultural Sciences, found about 50 adults in the area.

The good news is the population was larger than expected, said Tom Emmel, a UF entomology professor who has helped rescue the endangered Schaus swallowtail and Miami blue butterflies native to Florida. Emmel is Lehnert's graduate adviser.

"From a conservation standpoint, it shows there's more than one viable population left for this magnificent swallowtail," said Emmel, who directs UF's McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History.

But the population isn't large enough to withstand illegal collection or rampant development, he said.

With a 6-inch wingspan, only a few butterflies in the world are bigger. The largest is Papua New Guinea's Queen Alexandra's birdwing, which

has a 14-inch wingspan.

The Homerus is black with yellow bands and red and blue spots. It once inhabited seven of Jamaica's 13 provinces, but as land was cleared for coffee plantations and farmland it disappeared from most.

Few people live in the rugged Cockpit Country, but deforestation and bauxite mining could destroy the butterfly's habitat, said Lehnert, now pursuing a doctorate in entomology at UF.

Jamaica adopted the butterfly as a symbol of its only national park, established partly to protect its other Homerus population, on the island's east side, Emmel said. The eastern population, which has fewer than 50 adults, is more accessible and more widely studied. Emmel believes Cockpit Country should house a second national park.

"We now know of several areas near Matt's concentration area worth proposing as conservation areas," Emmel said. "Cockpit Country has other unique species, too, including a parrot and several plants."

Cockpit Country was named for its rugged terrain, created by innumerable sinkholes. The name refers to the similarity between the sinkholes and cockfighting pits.

Lehnert conducted the study by netting adult butterflies, marking and logging the insects, then using statistical methods to estimate the total population.

He may pursue postdoctoral work at the University of the West Indies at Mona, Jamaica, to help develop a captive breeding program for the butterfly.

In his doctoral research, Lehnert's studying genetic differences between

Florida tiger swallowtail populations. The results could help researchers decide whether crossbreeding *Homerus* swallowtails from the two Jamaican populations would be successful.

Emmel said a captive breeding program is the ultimate goal.

Captive breeding programs should be seriously considered, said Eric Garraway, a faculty member with the University of the West Indies at Mona, Jamaica. Like Emmel, Garraway is one of the world's leading *Homerus* swallowtail experts.

“When you have a species like this, which is really a giant and under a lot of pressure, we often need to have some direct intervention outside of the ordinary management of the habitat,” Garraway said.

Public interest in saving the *Homerus* could pave the way for broader conservation efforts on the island, he said.

“People love butterflies—it’s a perfect flagship species,” he said. “We can preserve it not just for itself but we can use it to conserve a lot, lot more, probably—lots of other species, as well as the forest itself.”

Source: University of Florida

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