

New Jamaica butterfly species emphasizes need for biodiversity research

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University of Florida researcher Andrew Warren displays the holotype specimen of a new genus and species of skipper butterfly from Jamaica in the Florida Museum of Natural History's McGuire Center for Lepidoptera and Biodiversity on the UF campus. Warren co-authored a study appearing Dec. 3, 2012, in *Tropical Lepidoptera Research*, a bi-annual print journal, describing *Troyus turneri*, which was discovered in the Cockpit Country, Jamaica's last wilderness. The species was named based on one female and one male specimen collected within a quarter mile of each another. Credit: Florida Museum of Natural History photo by Jeff Gage

(Phys.org)—University of Florida scientists have co-authored a study describing a new Lepidoptera species found in Jamaica's last remaining wilderness.

Belonging to the family of skipper [butterflies](#), the new genus and species is the first butterfly discovered in Jamaica since 1995. Scientists hope the native butterfly will encourage conservation of the country's last wilderness where it was discovered: the Cockpit Country. The study appearing in today's *Tropical Lepidoptera Research*, a bi-annual print journal, underscores the need for further biodiversity research and establishing a baseline of organisms as more tropical areas suffer habitat destruction.

"My co-authors on this paper, Vaughn Turland and Delano Lewis, are really excited because they think this butterfly has the potential to be a new sort of flagship species for Jamaican habitat conservation, because it's a black and gold butterfly living in a green habitat, which together comprise the Jamaican national colors," said study co-author Andy Warren, senior collections manager at the McGuire Center for Lepidoptera and Biodiversity at the [Florida Museum of Natural History](#) on the UF campus. "Whether or not a tiny little butterfly is going to attract the type of conservation interest that the giant Homerus Swallowtail in Jamaica has remains to be seen."

With a wingspan of little more than 1 centimeter, *Troyus turneri* is about the size of a thumbnail with its wings spread, Warren said. The genus was named *Troyus* for the town of Troy, which is nearest to the region of the Cockpit Country where it was collected, and the species was named for Thomas Turner, an expert on Jamaica butterflies who contributed to its discovery.

Jamaica is considered one of the most thoroughly researched areas for butterflies in the Greater Antilles, which includes Cuba, Hispaniola,

Jamaica and Puerto Rico. Until the discovery of *T. turneri*, researchers believed they knew all the butterflies in Jamaica, Warren said. The butterfly likely remained undiscovered for so long due to the inaccessible nature of the Cockpit Country, a 247-mile mostly undeveloped tangle of tropical vegetation. The species was described based on one male and one female specimen, collected in 2011 and 2012 within a quarter mile of each another.

"During 2011, after the discovery of the initial female specimen, we had actually written the description, but any time you have just a single specimen, the chance exists that it's just a real freak of something else," Warren said. "I was really keeping my fingers crossed that more specimens would be found this year. Well, we didn't get many more, but we got exactly one more and it was the male, so that was a huge relief."

The fact this new genus was discovered on an island thought to be well-known, 17 years after a new species had last been described, really shows the need for biodiversity studies, said Torben Larsen, a lepidopterist who specializes in skippers.

"There aren't so many butterflies in the country [Jamaica] and for a new one to turn up, I think it was an absolutely remarkable catch," said Larsen, who is affiliated with the African Butterfly Research Institute. "It really points to the need for continued and in-depth study of the fauna of butterflies, and in general, to get all of these things caught and put in a museum at least, because they do tend to be in rather special habitats."

Unlike other Jamaica skipper butterflies that have wings marked with spots of white or orange, *T. turneri* is dark brown and unmarked, except for a pale yellow band on its hind wing. Researchers used morphological analysis, including comparisons of the insect's genitalia, and DNA bar coding to determine it represented a new genus.

"We knew right away it was a new species because there's just nothing else that looks like it, but it took several months to determine that it actually should go in its own new genus," Warren said. "Of all the butterflies that are unique to Jamaica, this one is arguably the most unique – every other butterfly on the island has other congeneric species either on another island or on the mainland, but this one doesn't have any close relatives anywhere."

There are about 20,000 known butterfly species worldwide. Jamaica has 135, with 35 species endemic to the country, including *T. turneri*.

"One of the goals of biologists is to describe the Earth's [species](#) richness before it's all gone, and of course we never know what we're going to find in any of these organisms, be it some unique chemical compound that could provide the cure for cancer or any other number of diseases," Warren said. "We don't want to lose anything that could be potentially beneficial for ourselves and for the planet."

Provided by University of Florida

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