

Weekly Conversation with a Tampa Bay newsmaker

RESPECT FOR INSECTS

A Florida butterfly expert explains his colorful career to the *Times*.

BY PHILIP MORGAN | *Times correspondent*

Marc C. Minno, author of four books on Florida butterflies and quick reference guides for a number of states, is one of the speakers scheduled to appear at the Florida Birding & Nature Festival Oct. 15-17 at Tampa Electric Company's Manatee Viewing Center in Apollo Beach.

Minno, 65, who has a Ph.D. in entomology, is a biologist with the Suwannee River Water Management District in Live Oak and a research associate with the McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History in Gainesville. It's the largest butterfly and moth research facility in the world.

He talked with the *Tampa Bay Times* about the colorful insects.

What's the state of the butterfly population in Florida?

It's changing rapidly. ... Some species are disappearing. In fact, I would say there are at least 20 imperiled species of butterflies in Florida. We have two extinct butterflies, maybe three, that were unique to Florida and seem to be gone now. ...

We've also got new butterflies coming in. In Tradewinds Park in Broward County, there's now a tropical butterfly from Costa Rica, a beautiful thing (*Prepona laertes*). It was probably an escape from Butterfly World, which is in that same park, and it's breeding there.

What is the threat to butterflies?

It's combinations of things. In the past we used to blame mosquito spraying, and mosquito spraying can be very harmful to butterflies. ... But it seems to be more than that, or development. We've changed habitats so radically in many places in Florida. But there's still lots of habitats.

They're disappearing in Everglades National Park, you say, where there's no spraying or development. What's happening to them?

One of my ideas is that it's probably exotic predatory ants, like the red imported fire ant and the Mexican twig ant and the little fire ant. These are three invasive exotic species that were first reported in Florida in the 1970s, and it was around in the 1980s we first started noticing butterflies starting to disappear. And it's not too different from the Burmese pythons that are now loose and rampaging in South Florida, eating all the birds and mammals. But, you



Florida Museum of Natural History

A monarch butterfly shows off its distinctive markings.

know, who's looking at ants?

The ants go after the caterpillars?

Yeah, the eggs and young caterpillars especially. ... These ants are very common all over Florida now and they probably have had a huge impact on insect populations, not just butterflies. ... It's just that nobody's been out there really documenting what that effect has been.

Is climate change a threat, too?

There are big changes in populations probably due to that. I know they're finding butterflies, tropical things, showing up in southern Canada and in the northern United States, where they had never been seen before.

Why do they have the varied color patterns?

Partly it's to hide from predators. We call that cryptic (coloration). They're blending in with the background, dead leaves or something like that. But then they also have to find each other, so they can't be so cryptic that they can't find each other. So it's thought that the underside patterns tend to be cryptic because when they're perching, sleeping at night, for instance, their undersides are going to be matching the background. But flying around in the daytime, the upper sides need to be colorful so that the other sex can find them.

The monarch butterfly is one of your favorites. Why?

It's a spectacular butterfly from just about every aspect of it. The caterpillars only eat milkweeds, and the milkweed plants have chemicals in them to protect them from herbivores. ... Some

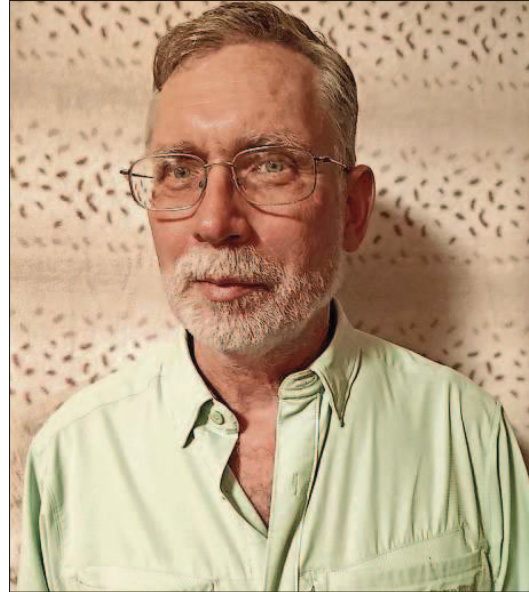


Photo courtesy of Maria Minno

Marc Minno is a research associate with the McGuire Center at the Florida Museum of Natural History in Gainesville.

of those, if you eat a leaf you'll die from the poisons. But there's butterfly or moth species out there that can eat those because they've been co-evolving with these plants for millions of years and they all have enzymes that protect them from these poisons. ...

If a bird eats a monarch, it gets very sick. It doesn't kill it, it gets very sick and it throws up and it learns very quickly not to eat anything that looks like a monarch. ... When you look at a monarch, you'll often find... beak marks, where birds have grabbed the wings and left a triangular mark on the wings. The birds can taste the wings; those compounds are very bitter, and chances are they'll just release it again once they taste those bitter compounds.

So the monarchs are meant to be handled. Their bodies are kind of rubbery. The wings, the scales are very tightly attached. You pick one up with your fingers, you really have to rub to get the scales off, whereas on edible butterflies the scales are very loosely attached. ... They're very hard for a bird to grab... because the scales are so slippery and come off very easily.

But monarchs are almost tempting. They have those very gliding slow flying (patterns), almost tempting birds to come up and attack them or at least try them to teach them that they're to leave them alone. So they have these... warning colors, they're orange and black.

What they do is, in the winter-time almost all the monarchs in North America are in south cen-

tral Mexico in very high mountains. ... They're basically waiting in these high mountains until springtime. When they break out of these aggregations, they mate and they head north again. As they go, they're laying their eggs.

They come into Florida, these migratory ones, about April and lay eggs. And they keep heading north. They do this over two or three generations and they eventually get all the way up into southern Canada, which is the limit of the milkweeds that they use.

But then... this time of year when it starts to get cold up there, they're all directed to fly back to their place in Mexico. They haven't been there. These butterflies, it was their great-grandparents that were in Mexico, and somehow these generations, they have it in their brain — which is the size of a period on a printed page — that information is stored there that they're to go south at this time of year to these specific places.

They travel thousands of miles. They can fly to Mexico in a few weeks' time from southern Canada. It's like, how do they even do that?

That's why that's one of my favorites. It's an amazing butterfly. It's now considered imperiled. We're losing monarchs. ... Nobody really knows what's going on, why are they disappearing.

For information, go to bit.ly/fbnfestival.

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