

A little geography, a lot of education and a chance to win a mosquito tractor cap

By JEFFREY STIVERS, Special to the Daily News
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It is time for a discussion of the facts of life. No, Virginia, not the birds and the bees kind; these facts are rated strictly PG, not X.

Rather, this will be a discussion — or more like a narrative — that touches on biology, geography, 1960's music, hydrology, meteorology, human psychology, and probably a few other "ologys" as well. A few visits to Web sites will be in order for those readers who are "connected." Those who hang in to the end will find another contest to win some mosquito control goodies.

Let's start with biology, specifically mosquito biology. Mosquitoes need water for the development of their immature stages. No water, no mosquitoes. Here in the Naples area we have with two different groups of mosquitoes that have different water requirements:

— The coastal areas are attacked primarily by the black salt marsh mosquito, *Ochlerotatus taeniorhynchus*, which requires salt or brackish water for development.

These mosquitoes are produced in uncountable numbers when mangrove marshes are flooded because of high tides or rain. A few days after the adults emerge from the water they begin to migrate great distances — 20 or 30 miles is common — by flying upward and catching a ride on the night wind.

As dawn approaches they fly down, out of the wind, and begin to search for a food source and a place to hide.

— The inland areas produce freshwater mosquitoes. There are two primary groups of freshwater mosquitoes of concern in the Naples area. There are several species of mosquitoes in the genus *Psorophora* that are vicious biters. Of more concern, however is *Culex nigripalpus*, the vector of West Nile virus.



Kristen Bartlett/Staff

Jeffrey Stivers, director of research for Collier Mosquito Control, removes a mosquito collection jar from a CDC mosquito trap Monday at Collier-Seminole State Park to be counted. The chickens, which are part of this particular trap, will have their blood drawn to check for the West Nile virus.



Kristen Bartlett/Staff

Swarms of mosquitoes gather on the leg of Jeffrey Stivers Monday at Collier-Seminole State Park while he collects mosquitoes that were trapped for counting. This trap is just outside the Collier Mosquito Control District; it gives a reading of what kind of insect activity is going on.

These mosquitoes are found in freshwater areas such as ditches, retention ponds, unused flower pots, bird baths, flooded low areas — just about anything that will hold rain water. While these mosquitoes do not migrate like the salt marsh mosquito, they can fly several miles in search of food and a place to lay eggs.

It's time for a little break and some geography. Or is it topography? Take a short walk outside, properly dressed for mosquito weather, of course. Once out there, take a 360-degree look around and come back inside.

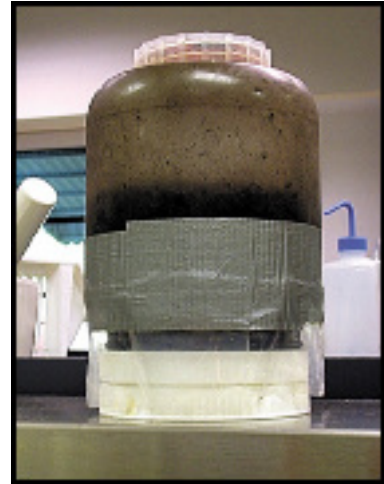
If you saw any mountains you must live on Marco Island in the vicinity of Indian Hill or close enough to the landfill to see the trash piled up. The Naples area is flat, flat, flat. That means that any rain that falls here either soaks into the ground or, once the ground is saturated, forms a sheet of water on top of it that may cover dozens of square miles. This sheet of water may be moving toward the ocean, but it moves slowly enough that it is an ideal source of mosquitoes.

These areas of sheet flooding are so vast that it is logistically impossible to identify and treat all of the areas producing mosquitoes. All Collier Mosquito Control District (CMCD) can do is make control applications aimed at the adult mosquitoes feeding on residents.

For those of you connected to the internet, take another short break and log on to www.collierappraiser.com. Click on "GIS Maps" and then on "I Accept" to go to an aerial view of Collier County. Once there, click and drag a box around all of the yellow area at the bottom left of the map. What you will see is just a small portion of the Ten Thousand Islands that extend from Marco clear to the East Coast.

What makes them significant is the fact that they are prime habitat for the salt marsh mosquito. With enough rain or a high tide, they will produce mosquitoes in numbers that are truly mind-numbing. Naples can be in the middle of a drought but rain in the islands will produce mosquitoes in Naples.

These islands are protected habitat so the CMCD cannot treat them to control mosquito larvae, even if it were logistically possible. So are areas such as Rookery Bay National Estuarine Research Reserve, which also breeds salt marsh mosquitoes. The CMCD has to wait until the adults emerge, fly out of the



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This is a 24-hour collection taken from one trap in the ranger's compound of Collier Seminole State Park on June 24. That is a 2-quart jar more than half full of packed-down mosquitoes. The Collier Mosquito Control District will bake them all to make sure they don't take up residence in the center's office, and analyze what date they receive.

protected areas and attack people before we can take control measures.

And now, the weather. Anyone who listens to the local weather reports has heard the term "Atlantic flow." That is the winds that flow from the Atlantic, over Florida to the Gulf. These winds commonly flow from the South and the Southeast, or from Miami to Naples. This is roughly the same line as the Ten Thousand Islands.

Think about that:

We have the Ten Thousand Islands, located to the south east of Naples, producing bazillions of mosquitoes.

We also have a prevailing night wind from the Southeast providing all of those mosquitoes an express commute to Marco Island, with connections to Naples and the rest of the area.

Time for that 60's music, which will figure into this, too. Internet surfers, go to www.kingstontrio.com/html/home.htm and click on the jukebox in the lower right corner. Click on "Enter" on the new screen and look at selection B4. The title of the song is "Everglades" and you can play it if you have RealPlay.

This song is about a man who is running from the law and heads into the Everglades. It describes the Everglades quite well with the line "But he better keep a-movin' and don't stand still/ If the skeeters don't get him then the gators will."

All of this is to remind us that Naples is an area designed for mosquitoes, not people. The inland area of Collier County is, essentially, land that has been marginally reclaimed from the fearsome Everglades the Kingston Trio sang about.

Finally we come to the human psychology part of the equation, which is the only part without logic.

When people move to Naples they expect it to be hot and humid in the summer.

After one tourist season they also expect its roads will be clogged in the winter.

Why then, don't they expect to be bitten by mosquitoes when they move into what is basically a swamp?

To make matters worse, people want to be close to nature and move into areas like the Estates. And all of the new preserve/reserve-style developments are being built right down in the salt marshes.

To conclude: Anyone who lives in Collier County has to tolerate a certain level of mosquito activity. There is nothing the CMCD can do to totally eliminate or eradicate mosquitoes. The best that can be expected is that mosquito numbers will be significantly reduced from what they would be without mosquito control operations.

The next time you hear someone complaining about having been bitten by mosquitoes, show them the photos that accompany this story. They were taken just a few miles east of the CMCD border and show what life would be like without mosquito control efforts. It only took four or five minutes of exposure to have all those mosquitoes attack.

Ten or fifteen mosquitoes during a round of golf don't seem so bad now, do they?

Now to the contest. The winner will receive a bag of mosquito control goodies and will also be crowned king of the Male Chauvinist Pigs for a year. (If you didn't catch it, that was a hint as to the type of answer expected.)

The winner will be the person to e-mail me with the best answer to this question by this coming Wednesday (July 21) at 5 p.m.

What are the main gender-based characteristics of both humans and mosquitoes that are the same? In other words, what habits do male mosquitoes and male humans share and what habits do female mosquitoes and female humans have in common?

You can go outside to look. You're properly dressed to go outside during mosquito season, aren't you? Long pants, long sleeve shirt, shoes and socks, all in a light color are the dress of the season. Some repellent containing DEET is probably in order, too.



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