

the TROPICAL GARDEN

SPRING 2014

Springtime
blossoms
at Fairchild



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FEATURES

27

GROWING MANGOS
IN THE SNOW

32

IN THE FOOTSTEPS
OF PLANT EXPLORER
FRANK MEYER



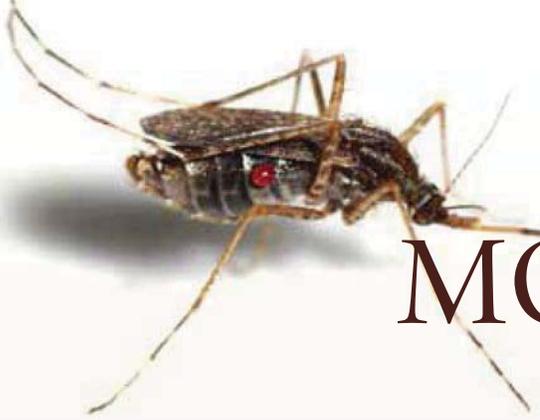
42

100 YEARS
OF MONSTERS

DEPARTMENTS

- 4 FROM THE DIRECTOR
- 5 FROM THE CHIEF OPERATING OFFICER
- 7 SCHEDULE OF EVENTS
- 9 GET IN ON THE CONSERVATION
- 11 TROPICAL CUISINE
- 12 EXPLAINING
- 15 WHAT'S BLOOMING
- 17 VIS-A-VIS VOLUNTEERS
- 20 CONSERVATION
- 31 WHAT'S IN STORE
- 41 PLANT SOCIETIES
- 45 EDIBLE GARDENING
- 47 GARDENING IN SOUTH FLORIDA
- 49 BUG BEAT
- 51 PLANT RECORDS
- 56 GIFTS AND DONORS
- 59 VISTAS
- 63 GARDEN VIEWS
- 67 FROM THE ARCHIVES
- 70 CONNECT WITH FAIRCHILD





MOSQUITO mayhem

By Kenneth Setzer

I must admit, there is one animal I've wished would go the way of the dodo bird: the mosquito. Of course, that would probably cause a lot of trouble for all the animals that eat mosquitoes—such as birds, bats and frogs. Nevertheless, besides tormenting animals and causing a minor, though itchy, allergic reaction, mosquitoes' need for our blood poses an actual threat in the form of diseases including malaria, yellow fever, dengue fever, West Nile virus and equine encephalitis.

Last year we heard about the invasion of the large *Psorophora ciliata*, or gallnipper mosquito, but its size and ominous name belie—sort of—its actual threat. While it can carry disease and feeds with a nasty sting, it's not been shown to be a “competent vector of pathogens,” which means it doesn't seem to transmit diseases from one blood source to another. Plus, its larvae actually feed on the larvae of other mosquito species.

Of the approximately 80 species of mosquitoes in Florida, 13 are considered vectors of disease. One such species, which is a bit easier to recognize, is the Asian tiger mosquito, *Aedes albopictus*, so called not for its ferocity but rather for its black-and-white-striped legs. It is known to spread equine encephalitis virus and dengue. While all mosquitoes in the *Aedes* genus can spread disease, the tiger mosquito's appearance has correlated with a surprising decrease in the

yellow fever mosquito, *Aedes aegypti*, which also spreads the virus that causes dengue fever. Dengue fever hadn't been seen in Florida for 70 years until 2009. Last year saw multiple outbreaks in Stuart, and *A. aegypti* is the suspected culprit. Both of these species are found throughout the southeastern U.S. and beyond.

We may need to get used to dealing with this kind of hazard. Problems like dengue and malaria are no longer threats solely to jungle adventurers and explorers. In an NPR interview in September 2013, Dr. Aileen Chang, a physician and expert on dengue fever at the University of Miami Health System, explained that “temperature and weather patterns are changing. We're seeing more dengue throughout the entire world. So now, having it creep up to Florida, the most southern part of the U.S., is not that surprising.”

There's more: In late 2013, the first case of chikungunya virus was reported in the Caribbean, though it hasn't yet been reported in the U.S. Its vectors, however, are our old friends, *A. albopictus* and *A. aegypti*, so I imagine chikungunya's encroachment into the U.S. is well within the realm of possibility.

So what do we do? While there's no easy answer, two important strategies are to avoid exposure in the first place and to deprive mosquitoes of convenient places to breed:

- Wear long pants and long-sleeved shirts outdoors, particularly at dawn and dusk—even during the summer.
- Drain standing water! It can accumulate in the oddest of places: garbage cans, birdbaths, folds in tarps over grills, etc. Mosquitoes particularly love laying eggs in or near water inside old tires, which heat up nicely in the sun and act as incubators. Another place to watch is

empty flowerpots, especially plastic ones with areas that don't drain. Hose out your bromeliad tanks, as they, too, can harbor larvae.

- Use screens on open windows.
- When outdoors, use a repellent recommended by Floridahealth.gov: Products containing DEET, picaridin (also known as icaridin), oil of the lemon eucalyptus and IR3535 have been proven effective as insect repellents. Picaridin, unlike DEET, doesn't dissolve plastics. Apply repellents over sunscreen, if you are using both.
- If you spend lots of time outdoors, consider permethrin-treated clothing and camping supplies, which have been used by the military for many years. The treated fabric repels insects even after washing.

Knowing what doesn't work is also important. University of Florida's Mosquito Information Website exposes some mosquito repellent myths: They are not deterred by ultrasonic devices, eating garlic, carrying fabric softener sheets or using bug zappers.

Even were we to douse the world in insecticide, we'd only manage to kill off our friends, like bees, and mosquitoes would still be here. We have to use our brains to beat them by minimizing exposure, being on the lookout for potential breeding areas and eliminating them. 

Learn more about mosquitoes and combating them at:

The Florida Mosquito Database
mosquito.ifas.ufl.edu/FMD/Florida_Mosquito_Database.html

University of Florida's Mosquito Information

mosquito.ifas.ufl.edu/Index.htm

University of Florida's Medical Entomology Laboratory
fmel.ifas.ufl.edu/

