

Spring is in the Air...is Zika in Virginia's Mosquitoes?

By: Andrew Vinson, Virginia Tech

Spring is upon us! Or at least, it has definitely been feeling that way lately. I recently went to a conference for Forest Health Professionals and listened to a talk on mosquitoes and the Zika virus, and this unusually warm weather makes me think that it would be good information to pass along as spring approaches.

Mosquitoes have always been a summer nuisance, but it was this past summer that the Zika virus became an issue. There are two different species of mosquito in Virginia that can transmit this disease, the yellow fever mosquito (*Aedes aegyptii*) and the Asian tiger mosquito (*Aedes albopictus*). The Asian tiger mosquito is the more common of the two, and the most likely to be pestering you outside. The mosquitoes of both species lay eggs in standing water. These eventually hatch into larvae that feed on microorganisms and other organic matter in the water until they pupate and mature into adults. The adults will then fly away to feed and mate. A female mosquito will lay eggs up to five times in her life (a few weeks to a month), with more than 100 eggs laid each time.



The Asian tiger mosquito (Aedes albopictus) carries the Zika virus and is the species Virginia residents are most likely to come in to contact with. Photo by: Susan Ellis, Bugwood.org.

The Zika virus became an issue last season as people traveled to areas outside of the U.S. and were infected by the mosquitoes there. These people then traveled back to the U.S. (including Virginia) where they were diagnosed with the disease. In most cases, there are not very many life-altering symptoms. In fact, in 75% of cases, the patients show no signs or symptoms at all. Those that do get sick can display symptoms of fever, rash, red eyes, and joint pain. These usually lasts several days to a week. However, issues do arise with pregnancies and birth. The virus has been known to cause cognitive and physical birth defects among infants born to women infected with the virus. Humans act as a sink for the virus, and it can be transferred by mosquito bites, sex, blood transfusions, or spread from a mother to her baby during pregnancy. Research also suggests that there is a relationship between the Zika virus and Guillain-Barré Syndrome (GBS), a rare disorder that can cause muscle weakness or paralysis.

Currently, avoiding countries where Zika is an issue is the primary way to avoid coming in contact with the virus. As of February 2017, the Centers for Disease Control (CDC) reports that there were 113 symptomatic cases of Zika virus in Virginia, which makes up about 2% of the national number of cases. None of these cases were transmitted by local mosquitoes, which

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means that everyone infected by the virus received it by travelling to another country, or it was passed to them some other known way. As of this time, the only two locations in the U.S. where the Zika virus has been spread by local mosquitoes are Texas and south Florida. Zika has been reported abroad across most of Mexico, Central and South America, the Caribbean, Singapore, Cape Verde, and the Pacific Islands. A full list of countries with active Zika transmission can be found on the CDC website. If you are considering travelling abroad this year the CDC recommends that you take precautions to limit your exposure, and get tested for the Zika virus if symptoms of the disease develop or if you are pregnant.

To protect yourself from mosquito bites in general, there are several key things to keep in mind. First, mosquitoes rarely fly more than 1,000 feet from the water source in which they were hatched. Bird baths, old tires, buckets, and drain pipes around your property hold standing water in which female mosquitoes can lay their eggs. For this reason, you are actually more prone to being bitten by mosquitoes around your house than in the forest (although we all know this is not always the case!). Sources of standing water should be emptied regularly to reduce the risk of mosquitoes. This includes sources of water that you may not see regularly or think of as being a home to mosquitoes, such as holes in trees and corrugated black drain pipes that hold small amounts of water in their ridges.



There are a wide variety of readily-available and effective mosquito repellants on the market. Be sure to follow the directions on the label when applying. Photo by: Whitney Cranshaw, Bugwood.org.

If working or recreating outdoors, be sure to wear loose-fitting clothing that covers the arms and legs. Mosquitoes can easily penetrate clothing, so loose-fitting clothes reduce the risk of them biting through to the skin. Insect repellents that contain active ingredients such as DEET and Picaridin are very effective at holding off mosquitoes and are relatively easy to find in most hardware stores and supermarkets. Insect-repelling sprays work the best at keeping mosquitoes at bay, while wristbands and mosquito-repelling plants may not be as effective. By taking these precautions at home, on your forested property, and travelling abroad, you can reduce your risk of being bitten by mosquitoes and have a happy and healthy summer season.

More information about the Zika virus can be found on the CDC and Virginia Department of Health websites, at <http://www.cdc.gov/zika> and <http://www.vdh.virginia.gov/zika>. If you're interested in learning more about mosquitoes and mosquito control in Virginia, check out <http://www.mosquito-va.org>.

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