



## Mosquitos and their Control

Eric Day<sup>1</sup>, Sally Paulson<sup>1</sup>, Kirsten Buhls<sup>2</sup>, Theresa Dellinger<sup>1</sup>, Tim McCoy<sup>1</sup>, Dini Miller<sup>1</sup>, and Molly Stedfast<sup>1</sup>  
*1: Department of Entomology, Virginia Tech, Blacksburg, VA, 2: Virginia Cooperative Extension, Arlington, VA*

**INTRODUCTION:** Mosquitoes occur throughout Virginia and are both nuisance pests and potential carriers of disease. Knowledge of their habits and basic control measures can reduce their threat and annoyance.

**CONTROL:** The key to controlling mosquitoes is removing the standing or stagnant water where they live. Follow this checklist:

### For your yard or business

- Every week check for any water filled containers near dwellings and out buildings.
- Remove or recycle any containers that hold water.
- If you plan to keep cans or buckets that hold water, place a cover over them and make sure that cover will not hold water.
- Check gutters to make sure they are free flowing and they do not hold water.
- Replace the water in birdbaths weekly
- Place goldfish in water gardens to eat the mosquito larvae.
- Check and fill with sealant any “tree-holes” that hold water
- Check for standing water on roof
- Discard old tires
- Drain ditches
- Call your local Health Department if you find unusually high numbers of mosquitoes



Photo of Asian Tiger Mosquito by Susan Ellis, Bugwood.org

### Personal protection

- Long sleeves, long pants, socks, and shoes offer protection from mosquito bites
- Use products that contain DEET, picaridin, or oil of lemon eucalyptus on exposed skin but not under clothing. Follow all instructions on label.
- Check and repair window and door screens

**DESCRIPTION:** Most common mosquitoes are brown to black with tan or white lines or markings. All pest mosquitoes have a long beak or proboscis that is used for feeding. In addition mosquitoes have three pairs of long, slender legs and are 1/4 to 1/2 inch long (6.4-12.7 mm). Immature mosquitoes are worm-like and called wrigglers because of the way they move in water. They are also 1/4 to 1/2 inch long (6.4-12.7 mm).

**HABITAT:** The key to finding where mosquito larvae live, is finding where water collects and is not moving. They like cans, buckets, gutters, water-gardens, birdbaths, kiddie-pools, tree-holes, puddles, and sheets of plastic on the ground that hold water. Most adults remain close to the site where they developed. Excess rain in the spring will provide plenty of breeding places for mosquitoes. Mosquitoes do not survive in water sources that support fish or beneficial aquatic life. They are not found in streams, rivers, ponds or fast moving water.

**LIFE CYCLE:** Adult female mosquitoes seek a blood meal so they can produce a new batch of eggs. Male mosquitoes do not bite or feed on blood. Eggs are laid on or near standing water and larvae must have

water to develop. Larvae feed on bits of organic matter in the water, becoming full-grown in about one week under warm conditions. The pupal stage lasts two to three days. Most mosquitoes require warm weather to complete their life cycle and are not found during extended cold weather.

#### COMMON SPECIES OF MOSQUITOES

Asian Tiger Mosquito *Aedes albopictus* - Common in urban areas of Virginia, bites during the day and is a nuisance pest. Possible carrier of dengue, West Nile Virus, Chikungunya, La Crosse Encephalitis, Eastern Equine Encephalomyelitis, St. Louis Encephalitis, and Zika virus

Asian rock pool mosquito or Asian bush mosquito. *Aedes japonicus* Possible carrier of dengue, West Nile Virus, Chikungunya, La Crosse Encephalitis, Eastern Equine Encephalomyelitis, St. Louis Encephalitis, and Zika virus

Yellow fever mosquito (*Aedes aegypti*) a subtropical mosquito that survives in some locations in Virginia. Possible carrier of dengue, Chikungunya.

Banded spring mosquito *Aedes canadensis* – Nuisance biting mosquito.

Eastern Treehole Mosquito *Aedes triseriatus* – breeds in water holding containers near houses, possible carrier of La Crosse Encephalitis

Flood-water mosquito *Aedes trivittatus* – Nuisance biting mosquito

Vexans Mosquito *Aedes vexans* – Nuisance biting mosquito

Northern House Mosquito *Culex pipiens* – Pest biting mosquito and possible carrier of St. Louis encephalitis.



Look for all possible sources of standing water including rain barrels, birdbaths and old tires.

Source of images: [http://www.cdc.gov/zika/pdfs/control\\_mosquitoes\\_chikv\\_denv\\_zika.pdf](http://www.cdc.gov/zika/pdfs/control_mosquitoes_chikv_denv_zika.pdf)

INTERESTING FACTS: Lights with electrocution devices known as “bug zappers” kill very few mosquitoes.

#### References and resources:

Vector-borne diseases in Virginia - <http://www.vdh.virginia.gov/epidemiology/DEE/Vectorborne/>

Virginia Pest Management Guide – <http://pubs.ext.vt.edu/456/456-018/456-018.html>

CDC Mosquito borne disease information - <http://www.cdc.gov/features/stopmosquitoes/index.html>