



# Facts about mosquitoes



Mosquitoes require water to complete their life cycle (egg to adult), which can occur in as little as 5-7 days.



A large portion of mosquitoes are produced in residential backyards in small breeding sources.



Any water-holding container, as small as a bottle cap, can produce mosquitoes.



Only female mosquitoes are capable of biting. Mosquitoes can transmit diseases to humans and animals through their bite.

Mosquitoes do not develop in grass or dense shrubbery, although adult mosquitoes like to rest in these areas during the day.

## Mosquito life cycle



**Eggs:** Depending on the species, female mosquitoes will lay eggs on the surface of stagnant water or individually along the sides of containers.



**Larval stage:** A mosquito larva must breathe oxygen at the surface of the water before it transforms into a pupa.



**Pupal stage:** Mosquitoes develop inside the pupal case. The pupa must continue to breathe oxygen at the surface of the water before it emerges as an adult.



**Adult stage:** A newly emerged adult mosquito must rest on the surface of the water until it is strong enough to fly and begin feeding.

# Common mosquitoes in Orange County

## *Culex*

“Southern House Mosquito”



- Lays eggs in rafts and needs water to survive.
- Prefers to breed in large backyard sources such as gutters, ponds and green pools.
- Adults are active during dusk and dawn and prefer to feed on birds, but will also feed on humans.
- Can transmit West Nile virus and encephalitis.

## *Aedes*

“Asian Tiger Mosquito”  
“Ankle-Biter”



- Lays eggs individually on the inside of water-holding containers. Eggs can stay dormant in dry conditions for years.
- Prefers to breed in small sources such as plant saucers, plants, tires, and buckets. Can complete its life cycle indoors.
- Females are aggressive daytime biters and prefer to feed on people.
- Can transmit dengue, Zika, yellow fever, and dog heartworm.

## Mosquito-look-alikes

### Crane Fly

- Cannot bite
- Develops in moist soil or water
- Poor fliers
- Larger than a mosquito
- Size: 1.5 - 2.0 inches



### Fungus Gnat

- Cannot bite
- Have “spiny” legs
- Develops in fungus or moist decaying vegetation
- About the same size as a mosquito



### Chironomid Midge

- Cannot bite
- About the same size as mosquito, with body longer than wings
- Develops in the same water mosquitoes develop
- Often seen in large numbers on exterior walls and window screens



# Common mosquito breeding sources

Children's toys



Water holding plants



Yard drains



Wheelbarrows



Rooted plants in water



Rain barrels



Green pools



Miscellaneous items



Flowerpot saucers



*It only takes a bottle cap of water for mosquitoes to complete their life cycle.*

# Mosquito-proofing your home

**Remember to maintain, manage or eliminate all standing water on a weekly basis.**

- Dump and drain any unnecessary items that could hold water around your home and property.
- Cover empty containers with a lid or turn upside down to avoid water from accumulating.
- After dumping water, clean and scrub bird baths, containers, pots and pet bowls weekly.
- Dump the water from plant saucers regularly.
- Check that gutters are not holding water and cover rainbarrels with tight screening so that mosquitoes cannot enter.

## Where to look around your home



# Mosquito-borne diseases

When a female mosquito takes a blood meal (required as nourishment for her to develop eggs), she may ingest certain disease-causing organisms. These organisms may then be transmitted to humans and other animals at another time she feeds.

Mosquitoes in Orange County have the capability of transmitting the following viruses:

- Dengue
- Chikungunya
- Zika
- Dog heartworm
- West Nile virus
- St. Louis encephalitis
- Western equine encephalitis

***Please visit [www.ocvector.org](http://www.ocvector.org) for the most current public health notices and advisories.***

## Mosquito-borne encephalitis

There are three forms of viral encephalitis that can result with the following mosquito-borne viruses: West Nile, St. Louis, and Western equine.

### West Nile virus

Symptoms of WNV infection include:

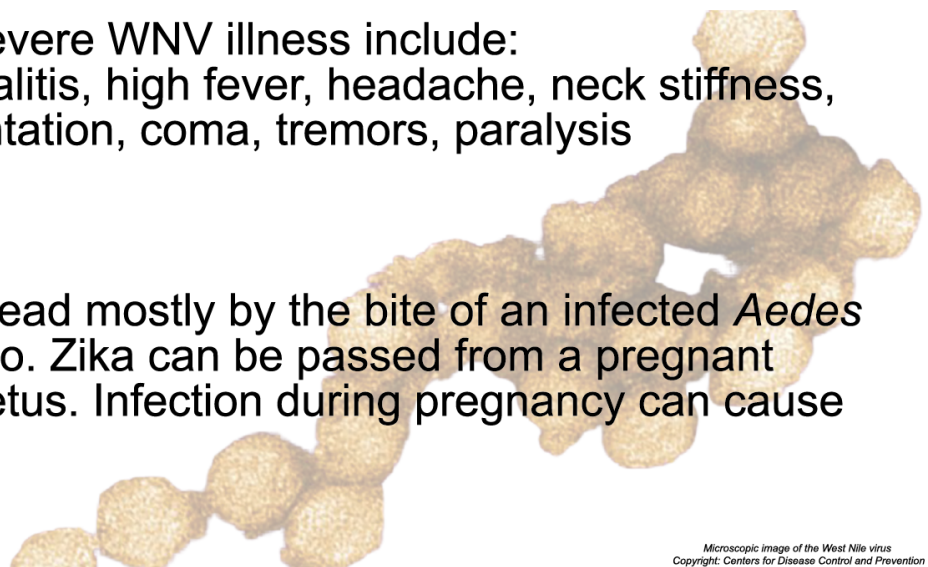
- Fever, headache, body aches, nausea, skin rash on the torso

Symptoms of severe WNV illness include:

- Encephalitis, high fever, headache, neck stiffness, disorientation, coma, tremors, paralysis

### Zika

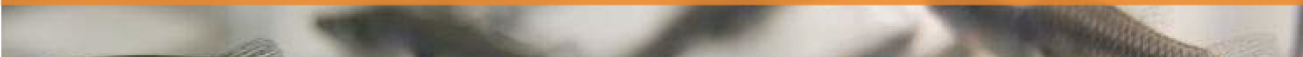
Zika virus is spread mostly by the bite of an infected *Aedes aegypti* mosquito. Zika can be passed from a pregnant woman to her fetus. Infection during pregnancy can cause birth defects.



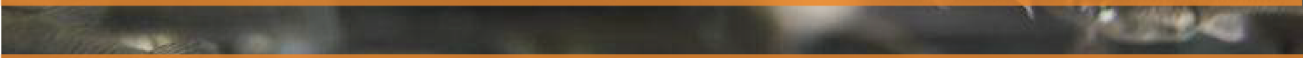
# Mosquitofish



*Gambusia affinis*, commonly known as “mosquitofish,” eat mosquito larvae as fast as they hatch from eggs.



Mosquitofish are provided by the District without charge and are ideal for stocking ornamental ponds or out-of-service swimming pools. The fish can be picked up from OCMVCD headquarters or dropped off by an inspector.



The District also stocks thousands of fish each year in artificial lakes, reservoirs, waste water disposal lagoons and drainage channels to eliminate the need for frequent insecticide spraying.

## When placing mosquitofish in your water feature, follow these steps:

- Confirm that the water contains no chlorine or other chemicals that may harm mosquitofish.
- Ensure that there are no predatory animals that may harm or consume mosquitofish (i.e., other fish, turtles).
- Maintain a minimum water depth of one foot.
- Place bag containing mosquitofish in water for 10-15 minutes to acclimate your fish, then place fish in feature.
- Feed mosquitofish once a week if no mosquito larvae are present.

**Please note that it is unlawful to place or release mosquitofish in waters other than your feature.**

*(Title XIII CCR, Fish and Game Code, Section 1.63, 6400 & 238.5)*

# Mosquito Prevention Tips & Tricks

*Beyond the nuisance factor, mosquitoes can cause sickness and death through the disease agents they can carry including Zika, dengue, yellow fever and West Nile virus.*

**Preventing mosquito bites is key. OCMVCD offers the following tips:**

- Apply mosquito repellent to exposed skin before going outdoors; reapply as recommended.
- Wear EPA-registered repellent containing DEET®, Picaridin, IR3535, oil of lemon eucalyptus or other active ingredients.
- Close all unscreened doors and windows to prevent mosquitoes from entering your home or space; repair broken or damaged screens.
- Wear long-sleeved shirts and long pants. Opt for lighter colored clothing.

**Eliminating mosquito breeding sources from your property is critical:**

- Dump and drain any containers filled with water at least once a week.
- Clean and scrub bird baths and pet water bowls weekly.
- Dump water from potted plant saucers.
- Do not transport or share plant stems rooted in water.
- Drill a hole or puncture containers to eliminate standing water.

**Find a DIY homeowners inspection checklist and videos at:  
[bit.ly/DIYMosquitoSolutions](http://bit.ly/DIYMosquitoSolutions)**