



October, 2021

The Valley Buzz

MANAGER'S MESSAGE:



As of October 15th, the District has detected six mosquito samples positive for West Nile virus.

For the state of California, as of October 15th, there have been 2,247 West Nile virus (WNV) positive mosquito samples from 25 counties.

The cooler nighttime temperatures and the shorter daylight hours signals an end of the peak mosquito season. While the mosquito season doesn't truly end in Southern California, the numbers of mosquitoes are significantly reduced in the winter months. It remains good practice to ensure that there is no standing water in your yard, including in yard drains and potted plant drainage trays.

For status updates on vector news in the District, please connect with us on Facebook or Twitter, or go to www.wvmvcd.org.

Dr. Michelle Brown

TECHNICIAN'S TIPS:

Spooky Spiders

Halloween and spiders go hand in hand, but why? One reason may be because arachnophobia is one of the most common fears. Spiders have also long been associated with witches and witchcraft as familiars,

creatures that act as assistants to the witch. We often associate spiders with decrepit structures and “haunted” houses.

The black and brown widows are our “spookiest” spiders around here, often living close to us in dark corners of the house, under patio tables and chairs, and in garages. The myth around widows is more frightening than reality. Both widows weave messy, very strong webs that can often be seen with a smooth, light yellow egg sac (black widow) or a spiky light-yellow sac (brown widow) attached to the web. You can often hear an audible “snap” when breaking the web. Widows do have a neurotoxic venom, but bites are rare, and serious symptoms are even more rare nowadays. You can help prevent bites by wearing gloves when moving patio furniture (especially if it’s been a while since they were used) and other items stored outdoors and be wary of dark corners and cluttered areas in garages.

With a little education and care, we can see past the myth and live with these beneficial, almost magical creatures!



A female widow and her eggs

FROM OUR LABORATORY:

Sterile Insect Technology (SIT) – Like Science Fiction but Real!

Sterile Insect Technology has been around for more than sixty years and has been used primarily to control agricultural pests, insects like screwworm and fruit flies. SIT works by raising and sterilizing male insects, then releasing them to mate with wild females. This form of management is finally making strides in the public health arena as a viable method for mosquito mitigation. SIT works because most female mosquitoes mate only once and store sperm in special organs, which then fertilize eggs during egg-laying.

The current forms of SIT for mosquito control are using *Wolbachia* infected

males, mild irradiation, and self-limiting mosquitoes. *Wolbachia* is a naturally occurring bacteria that lives in many different insects. Scientists have developed *Aedes aegypti* mosquitoes that carry the bacteria. When males mate with wild females, the eggs are not viable. The company Oxitec has developed male *Aedes* with a self-limiting genetic modification that prevents their female offspring from growing into adults. Dubbed “Friendly™ mosquitoes”, these self-limiting mosquitoes have been showing promise as a control measure in pilot projects conducted in Florida. Irradiation uses mild X-rays to sterilize lab grown males that are released to mate with wild females, and the resulting eggs are non-viable.

These approaches use the mosquitoes' own behaviors to reduce populations, reduce the reliance on pesticides, and target only mosquitoes. We may soon be using sterile insect technology as a safe, effective new tool in our fight to reduce disease carrying mosquitoes!

OUTREACHING OUT TO YOU!

Scary Bug facts!

Nature is sometimes more frightening than anything we can imagine! Here are a few facts about insects that may chill you to your bones...

1. **Zombie Ants:** A fungus called *Ophiocordyceps* releases a spore that attaches to an ant. The spore releases chemicals that eat through the exoskeleton. The fungus replicates inside the ant, growing through the ant's tissues. The ant acts normally until the fungus is ready to release spores. Like a puppet master, the fungus drives the ant onto a plant above an ant trail. The fungus then erupts out of the ant's head, the stalk raining spores down upon more unsuspecting ants!
2. **Cricket Cannonballs:** Horsehair worms are a nematode that gets ingested by a cricket and begin to grow inside the abdomen of the cricket. The worms can grow up to foot long inside them! The worms allow the cricket to go along its life normally except for one major change, it stops the cricket from chirping, making the cricket keep a low profile so neither it nor the worm gets eaten! Once the worm has matured in the cricket, it must finish its life cycle in water. Typically, crickets avoid bodies of water as the chances of being eaten by fish or drowning is high (crickets are great hoppers, but terrible swimmers!). The worm forces the cricket to jump into water then it bursts out of the cricket and squirms along, looking for a mate!
3. **“Creative Costume”:** The caterpillar of the Giant Swallowtail uses an unusual camouflage to avoid being eaten. The caterpillar closely resembles bird poop! Since there are very few larger animals that eat bird

poop, the caterpillar can hide in plain sight!

Horsehair worms and bird poop caterpillars...oh my!



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While we face many challenges in public health, we are confident that with your continued support, cooperation, and friendship, we can continue to protect our residents in this vast and ever-changing landscape.

Thank you for supporting us over the years!

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