



The Valley Buzz!

Sterile Insect Technique Update

We have been actively utilizing sterile male releases to help manage *Aedes aegypti* for almost a year and a half now! We started our releases early, the idea being that sterile males can help interrupt and slow breeding down before the populations get too large, we are "putting a lid on the pot before it boils over"!

So far this year, a total of 54,400 sterile male *Aedes aegypti* mosquitoes have been released across 18 hotspot areas across the District. As a result, *Aedes* mosquito abundance has decreased by 31% compared to the same period last year.



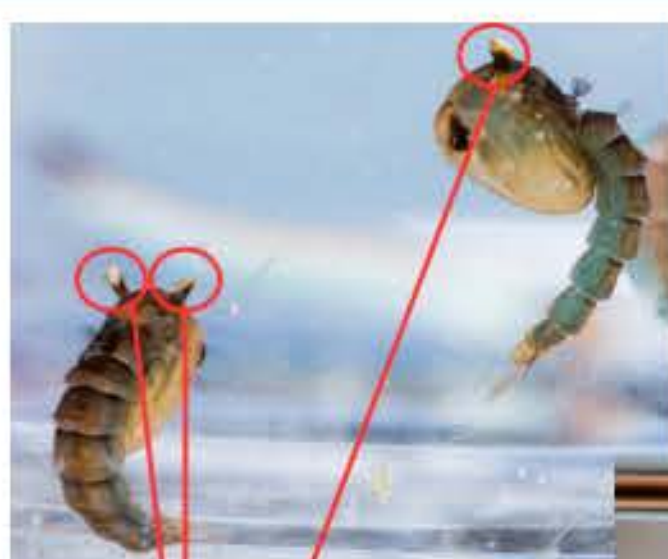
Sorting out male mosquitoes for X-Ray

Snorkels and Trumpets, or How Mosquitoes Breathe in Water!

Three fourths of a mosquito's life is spent in water, but they don't have gills like fish or some other aquatic insects. When mosquitoes are in the larval stage, they have a special tube-like structure at the end of their bodies called a snorkel. Just like a snorkel we might use while swimming, mosquito larvae use their snorkel to break the surface of the water to allow atmospheric air in!

When they change into pupae, they form two parts called trumpets, which act like the snorkel in larvae to allow air in. We use a surfactant that keeps larvae and pupae from breaking the water's surface, effectively suffocating them. We use it when we need a quick knockdown, like when we see a lot of pupae. Pupae don't feed and will emerge as adults in a few days, so using a surfactant assures that they won't survive into adulthood.

You don't have to be so technical though, just dump out any standing water with immature mosquitoes in it and you'll be set!



Trumpets
allow pupae to
breathe air

Siphons allow
larvae to break
the water's
surface



Mosquito Species

Mosquitoes have survived and evolved for an estimated 100 million years, they are tough critters! There are approximately 3,500 species of mosquitoes worldwide, 176 in the United States, and about 50 in California. Thankfully, most of these species are not a threat to people (only about 15 species in California are considered vectors).

While most folks are only concerned about the ones in their backyard, there is diversity and even beauty in the world of mosquitoes. Take *Sabethes cyaneus*, a tropical mosquito with dazzling blue and silver shimmer and wild paddles on their legs! Or, *Toxorhynchites*, the elephant mosquito, that does not feed on blood and whose larvae eat the larvae of dangerous mosquitoes!

Mosquitoes are a fascinating group, worthy of study and appreciation, but that doesn't mean we won't help you get them out of your backyard! If you are "appreciating" mosquitoes at your house, call us for help!



Image of *Toxorhynchites* mosquito
Sturgis McKeever, Georgia Southern University, Bugwood.org



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