



ADHS Mosquito Identification Testing Protocol for Vector Control Agencies

Dear Mosquito Hunter:

Starting May 1, 2019 the Arizona Department of Health Services will be accepting mosquito collections for species identification and arbovirus testing for the season. As you know, the Arizona arbovirus surveillance program conducts surveillance for at least two mosquito-borne encephalitis viruses; St. Louis encephalitis (**SLE**) and West Nile virus (**WNV**). The goal of this surveillance program is to detect and monitor arbovirus activity throughout the state so as to identify areas of increased risk and to help guide risk reduction efforts.

For collection you will need CO2 trap(s), a mechanical aspirator, screw cap glass or plastic vials for adult mosquito collections, and shipping boxes. If possible, please collect mosquitoes in your area at least once per month from April through October. To collect and sort mosquitoes, please follow the protocol below:

1. **Bait the trap** with at least two pounds of dry ice to last all night, and hang the trap close to sun down. Hang CO2 trap(s) with the bait can and/or motorized fan at shoulder height. Hang it from a tree limb or other structure in a place that is likely to have some shade from the east side so that the samples don't get blasted by the morning sun. Also, hang it in a safe place to avoid theft or vandalism. You have the option of turning off the mini-light so as to be more discreet. The capture net hangs below the fan. If the night is likely to be breezy, it may be necessary to secure the net with a rubber band.
2. **Harvest** your catch in the morning by pinching off the capture net while the fan is still running. Keep the mosquitoes cool and shaded until you are ready to process them into vials. When you are ready to process the mosquitoes, **chill the mosquitoes briefly on dry ice** (approximately 30 - 60 seconds) to immobilize them. Then **aspirate** them into the plastic capsule. If the mosquitoes are beginning to move within the capsule, chill them again briefly to immobilize them. Then hold the capsule with the tube over the vial and tap the mosquitoes down the tube into the vial. Please **DO NOT** over-pack the vials as this will damage the mosquitoes and makes identification difficult. Screw the cap on securely.
3. Please send us samples already **sored by species and identified**, if possible, as ADHS has limited capacity to do so.
4. **Label the vial/s** with the following information: Date, Location, species and Collector's Name. White medical tape works well for labels. Seal the vial(s) inside a plastic bag so as to facilitate easier handling when removing the samples from the shipping box. Pack the vial(s) in a shipping box containing enough dry ice to keep the sample cold all the way to the Arizona State Public Health Laboratories (ASPHL). It is important to remember that **preserving mosquitoes in a cold state makes species identification easier and more accurate**. If samples become warm or soggy while in transit to the state lab, the mosquitoes will deteriorate often to the point where species identification is not possible.
5. We request for the sake of consistency in reporting mosquito trapping data to the state that you use the ADHS [Mosquito Data Submission form](#). This can be used as your packing slip as well as emailed to us (at vbzd@azdhs.gov). Also for consistency, for your GPS trapping site coordinates please use the decimal system (e.g., 32.51326) rather than the degrees, minutes, seconds system (e.g., 32 23 94.12).

6. Please note that we will prioritize laboratory testing for the *Culex* species. However, species within other genera may also be selectively tested as well. **Ship** the vials to the state lab at the following address:

Arizona State Public Health Laboratory
Bureau of State Laboratory Services
Attn: Receiving/ Virology
250 N. 17th Avenue
Phoenix, AZ 85007
(602) 542-1190 (602) 542-0760 (fax)

AGAIN – PLEASE NOTE THAT YOU NEED TO SEND YOUR SAMPLES TO THE STATE LAB NOT TO THE OFFICE OF INFECTIOUS DISEASES

It's Important to Remember:

1. Pack the sample in enough dry ice to last two days.
2. Include your ADHS Mosquito Data Submission form as your packing list. Make sure your agency name and contact information is on the form.
3. Collect and ship the mosquitoes early in the week.
 - a. Do not ship mosquitoes on a Thursday or Friday as they may not arrive before the weekend. Ensure that samples arrive during normal business hours.
 - b. Ship them by overnight delivery.
 - c. Please notify us via email vbzd@azdhs.gov to let us know when samples are coming our way and include an electronic version of the Mosquito Data Submission form.

Thanks again for your help and good hunting!!!! If you have any questions, feel free email at vbzd@azdhs.gov or call the Office of Infectious Diseases at (602) 354 3676 (and ask for the vector team).