PRESERVING ADULT ODONATA SPECIMENS FOR THE MOS

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A number of MOS members have asked about the proper procedures for preserving adult Odonata for the MOS. This is one of those topics that are near and dear to my heart as a collections manager. I try to make specimens last as long as possible with a minimum amount of intervention. Once any insect specimen has been properly preserved, it should last indefinitely. However, the hard part is getting the specimen preserved in a fashion that will provide maximum usefulness and the best longevity. Mold and insect pests are problems that I have to contend with. Encasing something in acrylic plastic will certainly protect it, but the specimen is pretty much useless for anything but a cursory examination. What is important for the preservation of adult odonates is to observe the following for best results:

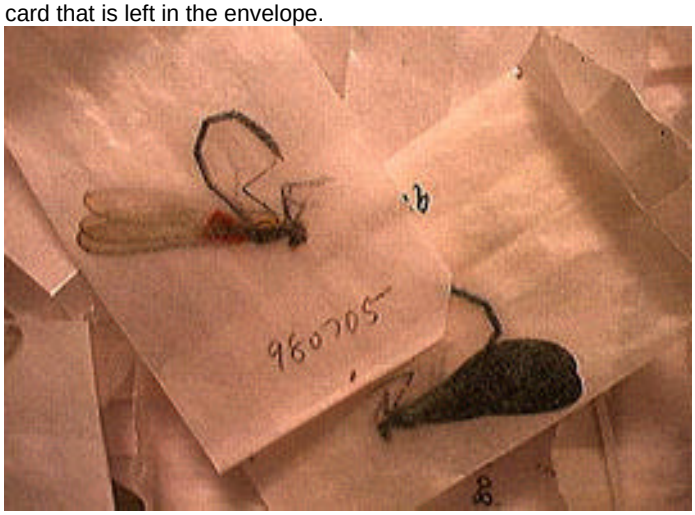
1. Kill the specimen as quickly as possible.
2. Dry the specimen as rapidly and completely as is practical.
3. Keep the specimen in a dry place protected against pests.

I have had specimens come in from several sources that were moldy. In each case, the specimens were not quite dry and were stored inside the clear plastic envelopes that we use for permanent storage. The specimens had been killed via other methods instead of with Acetone. If you are not using Acetone, I'd rather that you left the specimens in glassine envelopes or paper triangles.

Acetone has become the choice method for killing adult odonates and for assisting in the rapid desiccation necessary for good preservation. Acetone dissolves the fats and absorbs the water from specimens, and prevents the specimens from rotting, as is typical for other methods. Acetone is also readily available at hardware stores, and a gallon will last for a season's heavy collecting. I don't recommend freezing specimens, because the colors become muted, and the specimens will give off that rotten smell unless quickly and thoroughly dried. The fats also stay with the specimen, which causes the specimen to darken. Some people still use ethyl acetate or cyanide for killing specimens. There is a problem with the specimens dying with the wings in strange positions using those killing agents, and again, fats are not dissolved from the body, and color preservation is not as good. However, if you can only use a regular killing jar, ethyl acetate is preferred. Remember that the specimens still need to be in glassine envelopes. Otherwise, their wings will be askew when you remove them from the killing jar.

Here is the procedure that you should follow:

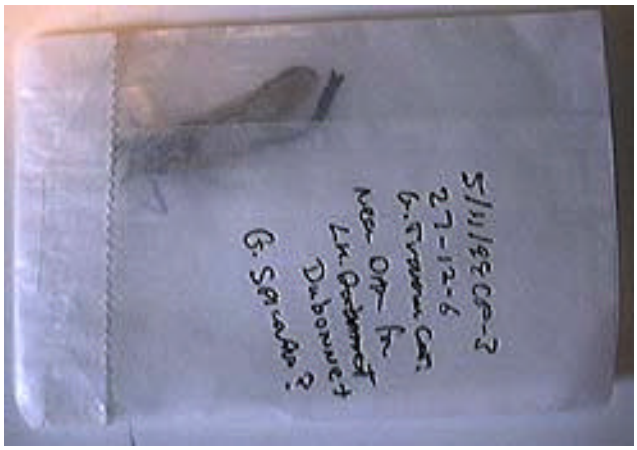
1. After capturing the specimen, place it in a glassine envelope (translucent paper, not clear plastic) (these are provided free of charge by the MOS) with the wings folded OVER the back, so that the specimen slides into the glassine envelope headfirst. If you have a Band-Aid box, you can store the specimens in that until you are ready to preserve them. Make sure each envelope has a collection number so that you can match up the specimen with your notebook. In lieu of a number, the complete data can be written on the glassine envelope, or penciled in on a small card that is left in the envelope.



2. Snip a corner off the envelope to allow the acetone to rush in and drain out easily. Then, drop the enveloped specimen into the jar of acetone. A 32-oz wide-mouth jar works fine for this. I recommend leaving the jar inside a coffee can that is just slightly larger to protect it. Drop the specimens in at the end of the collecting period - or end of the day.

3. Store the specimen in acetone for about 12 hr and then remove and let dry completely. Make sure that you work with the acetone in a well-ventilated area. Use rubber gloves if you are handling the envelopes without the aid of forceps. Leave the specimens in the glassine envelopes for shipment to the MOS.

Specimens in glassine envelopes, dried after removal from acetone. Note field note numbers on envelopes.



Above: Two other techniques for recording data with the specimens. L – a printed card inside; R – written data on the outside of the envelope. Use a Micron Pigma Pen©, India ink, or soft pencil to write data on the envelopes, as they'll be in acetone. Don't use ballpoint pen!

4. Dry the specimens in a well-ventilated area. DON'T use the oven, and do not microwave! Leaving them in the sunlight for a couple of hours will work fine. DO NOT transfer them to the clear plastic 3 x 5 envelopes at this time.

5. Store the specimens (after they are completely dried) in a plastic shoebox or similar container. If you are unsure if they are fully dried -- a week should suffice to fully dry them out. If you are undecided on what to do, just keep them in glassine envelopes, and we'll transfer them to 3 x 5 envelopes.

L– A Band-Aid© box with papered specimens inside. R– a jar of acetone with specimens in envelopes.

6. When you are ready to ship the specimens to the UMMZ, place them in one of the small 3 x 5 boxes furnished by the MOS and make sure nothing is rattling around by cushioning the specimens with tissues or toilet paper. Tape the box closed, and enclose it inside a larger box that leaves about 2" of padding on each side. Use whatever cushioning material you have available.

MINIMUM INFORMATION TO PROVIDE: STATE (MICHIGAN), COUNTY, TOWNSHIP, FEATURE (lake, creek, precise locality), DATE, COLLECTOR. Of course, you can add other information.

By following the above methods you should be able to preserve specimens with good color retention that will not mold or turn dark with body fats.