

## Preparation of Insect Specimens for Identification

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Entfact-001

In order for insects to be properly identified and the best control recommendations to be made, the specimens must be in good condition and at least a minimum amount of collection information provided. Specimens that are incomplete, damaged, moldy, attached to tape, or squashed can only be identified to general groups. The better the condition of the specimen, the more precise identification and control recommendations. In addition, collection information about how the insect was causing a problem, where it was found, what it was feeding on, commercial versus home situation, and symptoms of damage is essential to identification. Providing us with preserved specimens and proper information enables us to provide appropriate management recommendations.

Insect specimens may be taken to your county Cooperative Extension Service (CES) offices or mailed directly to:

Department of Entomology  
S225 Agric. Sci. Bldg. North  
University of Kentucky  
Lexington, KY 40546-0091

Submit soft-bodied insects (caterpillars, maggots, grubs, aphids, etc.) in vials that will not leak fluids using vinegar to prevent drying and decaying. White vinegar from a grocery store will work well as a shipping fluid that prevent decay. **Do not use other liquids to preserve the insects.** While we used alcohol in the past, the Department of Transportation is now strictly regulating shipment of alcohol such that **we cannot ship specimens for identification in alcohol.** Specimens in liquid are placed in small, rigid, screw-top vials secured with tape holding the lid in place. Use only a small amount (typically less than 1 ounce) of liquid. Place the vials in a sealable plastic bag. Place vials in bags in rigid mailing tubes with some paper or other material to prevent the vials from breaking during

shipment. Run tape once around the lids of the mailing tubes when tightened.

Moth and butterfly specimens are not be shipped in fluid, but sent as dry specimens in sturdy containers. Scale insects attached to plant material can also be shipped dry.

Include as many specimens as possible. Several dozen specimens of a small insect is not too many.

All specimens must be accompanied by an Insect Identification Form available from your county CES office. On this form be sure to include your name, address, phone number, the area where the problem was observed, the plant, animal, product, or structure affected, type of damage caused, whether it is a home or commercial sample, and severity of damage. A portion of the material that the insect is damaging may be included with the specimen sent for identification. This can be helpful when the name of the plant being damaged is unknown, or when the damage is difficult to describe. Other information such as how long the insect has been present and any attempts at control can often aid identification and control recommendations.

### **Samples from humans, companion animals, and/or livestock**

The following materials **ARE NOT ACCEPTED**:

- Samples of and/or containing body fluids (urine, blood, etc.), tissues (scabs, skin, etc.), or waste suspected of being infested.
- Live specimens. Place dead specimens in secured container with an adequate amount of white vinegar for preservation.

Clearly identify and label the source of the samples. Samples may not be accepted if there is a reasonable concern about exposure hazard.

### **Tips for Taking Photos of Specimens for ID**

Many insects can be identified with a good quality photo. This saves time and money for shipping. But a blurry out of focus or poorly lit photo may result

in lack of a proper identification. Here are some tips that can be used to improve photos sent for identification.

- **Use the macro mode** on your camera to put more of the close up photo in the field of focus. The macro mode is often represented by a flower symbol. This increase the photo's depth of field of focus.
- **Be sure the specimen is in focus.** With many cameras on cell phones, simply touching the screen where the insect is will focus the camera on that subject. You can check the focus by reviewing the photo after it is taken by zooming in on the specimen. If it is out of focus, take another photo. With point and shoot cameras you may need to press the shutter button half way down to engage the autofocus.
- **Use good lighting.** Dark photos make the identification more difficult. Use flashes, lamps or other types of lighting to remove shadows on the subject.
- **Try to fill the frame with the specimen.** Get the camera as close to the specimen as possible while maintaining sharp focus.
- **Photograph the specimen from different angles.** This will help us make an identification as some characteristics can be seen from certain angles. Top and bottom shots are very helpful! Take pictures of specimens that may be in different stages.
- **Include a size reference.** Use a ruler or coin next to the specimen to provide a helpful scale to judge size.
- **Photograph the damage or situation if appropriate.**
- **Save the specimen.** Not all specimens can be identified by photos, we may need you to send in the specimen.

- Location of the problem or where the specimen was collected
- Situation where the specimen was found (garden, home, business, crop field, orchard, nursery, forest, pasture, lawn, greenhouse, human, livestock, pet, etc.)
- Date found
- Past control practices (if appropriate) attempted
- Severity or prevalence. This could include the type and extent of damage and estimated number of insects found
- Host plant (if appropriate)

11/19

If you are in Kentucky, send your photos as an attachment to an email to one of the UK Extension Entomologists:

Ric Bessin ([rbessin@uky.edu](mailto:rbessin@uky.edu))  
Jonathan Larson ([jonathan.larson@uky.edu](mailto:jonathan.larson@uky.edu))  
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Raul Villanueva ([Raul.Villanueva@uky.edu](mailto:Raul.Villanueva@uky.edu))

Information to include in your email:

- Name and contact information