

Procedures for Submitting Survey Samples to Domestic and Other Identifiers

ATTENTION SAMPLE SUBMITTERS: When sending domestic samples to domestic identifiers, it is required that you notify them first by e-mail or phone that you plan to send samples, describing what kind, and how many. Then once sent, forward an e-mail to them with a tracking number for the express carrier that the samples were forwarded. (See Taxonomic Support for Surveys for contact information). If you plan to send a domestic sample to a national specialist, notify the CAPS National Operations Manager or the National Domestic Diagnostics Coordinator prior to sending the sample.

A. INSECTS and MITES:

Taxonomic support for insect surveys requires that samples be competently and consistently sorted, stored, screened in most cases, and submitted to the identifier.

Submission requirements for insects are:

Sorting trap samples: When a trap is serviced, a critical part of the procedure is sorting. It is important to sort out the debris and non-target insect orders from the trap material. The taxonomic level of sorting will depend on the expertise available on hand and can be confirmed with the identifier.

Screening trap samples: Screening is a process of eliminating non-target families, genera, or “look-a-likes” of the species being surveyed for. Consult the screening aids on the CAPS website for screening aids for particular groups. When in doubt however, forward the specimens to the identifier/taxonomist. The use of these aids should be coupled with training from identifiers and/or experienced screeners before their use. These can be found at [CAPS Screening Aids](#).

Storing samples: Where appropriate, samples can be stored indefinitely in alcohol. However, samples of dried insects, such as those in sticky traps, may decompose over time if not kept in a cool location such as a refrigerator or freezer. If insect samples have decomposed, do not submit them for identification.

Packaging and Shipping: Ensure specimens are dead prior to shipping. This can be accomplished by placing them in a vial of alcohol or placing the dry specimens in the freezer for at least 1 day. The following are a few tips on sorting, and packaging and shipping liquids, sticky traps, and dry samples:

Liquids:

Factors such as arthropod group, their life-stage, and the means in which they were collected determine the way the specimens are handled, preserved and shipped to the identifier. In general mites, insect larvae, soft-bodied, and hard-bodied adult insects can be transferred to vials of 75-90% Ethanol (ETOH), or an equivalent such as isopropyl alcohol. At times, Lindgren funnel trap samples with bark beetles may have rainwater in them. To prevent later decay, drain off all the liquid and replace with alcohol. For more

guidance on these samples, please follow the procedures in the newly revised [Guidelines for Submitting Wood Borer and Bark Beetle \(WBBB\) Specimens for Identification](#).

Vials used to ship samples should contain samples from a single trap and a printed or hand-written label with the associated Collection Number that can be found in the top left corner of [PPQ Form 391](#) (Box 1). Please make sure to use a writing utensil that is not alcohol soluble, such as a micron pen or a pencil. It is very important not to mix samples from multiple traps in a single vial so as to preserve the locality association data. Vials can be returned to field personnel upon request.

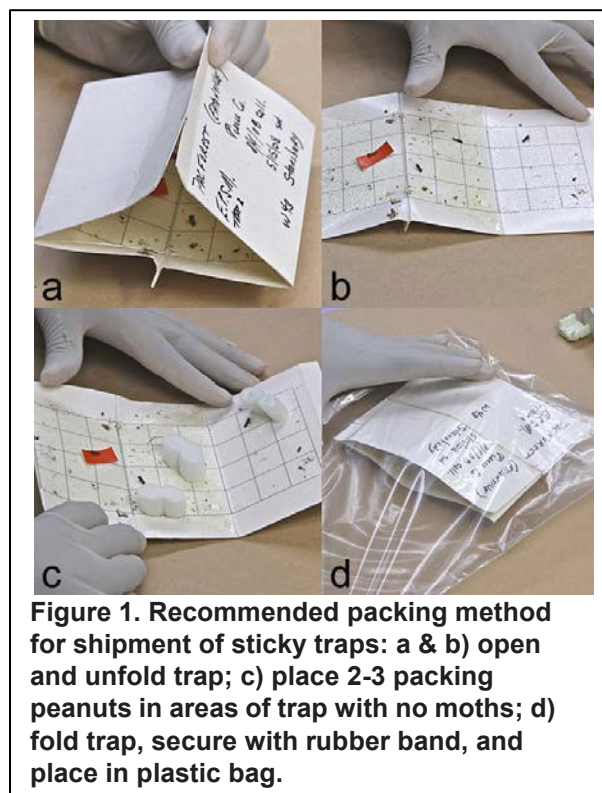
If sending specimens in alcohol is an issue with the mail or freight forwarder, the majority of liquid can be decanted off from the vial and then sealed tightly in the container just prior to shipping. Notify the identifier that the vials will need to have alcohol added back to them as soon as they are received. During the brief time of shipping, the specimens should not dry out if the vial is properly sealed.

Sticky trap samples:

Adult Lepidoptera, because of their fragile appendages, scales on wings, etc. require special handling and shipping techniques.

Lepidoptera specimens in traps should not be manipulated or removed for preliminary screening unless expertise is available. Traps should be folded with stickum-glue on the inside, but only without the sticky surfaces touching, and secured loosely with a rubber band for shipping. Inserting a few styrofoam peanuts on trap surfaces without insects will cushion and prevent the two sticky surfaces from sticking during shipment to taxonomists (see Figure 1). Also **DO NOT** simply fold traps flat or cover traps with transparent wrap (or other material), as this will guarantee specimens will be seriously damaged or pulled apart – making identification difficult or impossible.

An alternative to this method is to cut out the area of the trap with the suspect pest and pin it securely to the foam bottom of a tray with a lid. Make sure there is some room around the specimen for pinning and future manipulation. For larger numbers of traps, placing several foam peanuts between sticky surfaces (arranged around suspect specimens) can prevent sticky surfaces from making contact when packing multiple folded-traps for shipment. **DO NOT** simply fold traps flat or cover traps with transparent wrap (or other material), as



this will guarantee specimens will be seriously damaged or pulled apart – making identification difficult or impossible.

Dry specimens:

Some collecting methods produce dry material that is very fragile. (NOTE: Bark beetle/wood borer samples collected in Lindgren funnel traps should not be sent dry. Follow the guidelines listed in that specific protocol linked under “Liquids” above). Dry samples can be shipped in vials or glassine envelopes, such as the ones that can be purchased [here](#). As with the alcohol samples, make sure the collection label is associated with the sample at all times. This method is usually used for larger insects and its downside is the higher chance of breakage during shipping. Additionally, dry samples are often covered in debris and sometimes difficult to identify.

Be sure that the samples are adequately packed for shipment to ensure safe transit to the identifier. If a soft envelope is used, it should be wrapped in shipping bubble sheets; if a rigid cardboard box is used, pack it in such a way that the samples are restricted from moving in the container. Please include the accompanying documentation and notify the identifier prior to shipping. Remember to inform the identifier that samples are on the way, giving the approximate number, and include your contact information.

Documentation: Each trap sample/vial should have accompanying documentation along with it in the form of a completed [PPQ Form 391](#), *Specimens for Determination*. The form is fillable electronically, and can be found [here](#):

It is good practice to keep a partially filled electronic copy of this form on your computer with your address and other information filled out in the interest of saving time. Indicate the name of the person making any tentative identification prior to sending to an identifier. Please make sure all fields that apply are filled out and the bottom field (block 21: Final Determination and Notes) is left blank to be completed by the identifier. Include the trap type, lure used, and trap number on the form. Also, include the phone number and/or e-mail address of the submitter. Other documentation in the form of notes, images, etc. can be sent along with this if it useful to the determination. It is important that there be a way to cross-reference the sample/vial with the accompanying form. This can be done with a label with the “Collection Number” and submitter’s name in the vial or written legibly on the envelope containing the sample.

An alternative to submitting PPQ form 391 with each sample is the use of a spreadsheet with a batch of samples being submitted to identifiers. The spreadsheet should follow the format of the example file [Insect Log Survey Samples](#). Again, it is most important that there be a way to cross-reference the sample/vial with the accompanying spreadsheet listings. This can be done with a label with the “Collection Number” and submitter’s name in the vial or written legibly on the envelope containing the sample.

B. PLANT SAMPLES FOR PLANT PATHOLOGY ANALYSIS

Sampling: Please submit adequate amounts of suspect leaf material when possible. This helps ensure that there is sufficient material if downstream diagnostic techniques are required. Twelve or more leaves per sample are desired.

Storing: Refrigerate samples while awaiting shipment to the diagnostic laboratory. Place leaves **without a paper towel** in a sealed and labeled ziplock bag.

Documentation: Each **sample** should be documented on, and accompanied by its own completed [PPQ Form 391](#) ‘*Specimens for Determination*’. It is good practice to keep a partially filled electronic copy of this form on your computer with your address and other information filled out in the interest of saving time. Please make sure all fields that apply are filled out and the bottom field (block 24: Determination and Notes) is left blank to be completed by the Identifier. Include the phone number and/or e-mail address of the submitter. Other documentation in the form of notes, images, etc. can be sent along with this if it useful to the determination. It is important that there be a way to cross-reference the sample with the accompanying form. For example, write the “Collection Number” both on the Form 391 and on the sample bag.

Documentation: Each trap sample/vial should have accompanying documentation along with it in the form of a completed [PPQ Form 391](#), *Specimens for Determination*. The form is fillable electronically, and can be found [here](#):

It is good practice to keep a partially filled electronic copy of this form on your computer with your address and other information filled out in the interest of saving time. Indicate the name of the person making any tentative identification prior to sending to an identifier. Please make sure all fields that apply are filled out and the bottom field (block 21: Determination and Notes) is left blank to be completed by the identifier. Include the trap type, lure used, and trap number on the form. Also, include the phone number and/or e-mail address of the submitter. Other documentation in the form of notes, images, etc. can be sent along with this if it useful to the determination. It is important that there be a way to cross-reference the sample with the accompanying form. This can be done with a label with the “Collection Number” and submitter’s name written legibly on the bag or envelope containing the sample.

An alternative to submitting PPQ form 391 with each sample is the use of a spreadsheet with a batch of samples being submitted to identifiers. The spreadsheet should follow the format of the example file [Plant Pathogen Log Survey Samples](#). Again, it is most important that there be a way to cross-reference the sample with the accompanying spreadsheet listings. This can be done with a label with the “Collection Number” and submitter’s name written legibly on the bag or envelope containing the sample.

Packing: To provide extra insurance against accidental release during shipping, specimens should be double-bagged – i.e. first place the specimen in a self-locking plastic bag and then place that bag within a second self-locking plastic bag.

****The Form 391 should not be placed in the bag holding the sample! Rather, it should be placed inside the outer bag****

Place double-bagged samples in a sturdy cardboard box or heavy styrofoam container so that the samples are not damaged during shipping and handling. Ideally, samples should be packed with freezer blocks or wet ice to maintain their integrity during the shipping process. Thoroughly seal all seams on the container with shipping tape.

Shipping: The Identifier Laboratory should be contacted prior to forwarding samples. It is helpful to know how many samples are being forwarded, what types of samples they are (e.g. SOD-suspect Camellia leaves), when the samples will be shipped, and the package tracking number.

Label the shipping box as 'URGENT' and send via overnight express courier (FedEx, UPS, Airborne, DHL, etc.) to the appropriate Identifier.

C. MOLLUSKS

Mollusk Sample Submission Procedure for Official Identification

Materials Needed:

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- Latex gloves
- Mollusk(s) (snail/slug) sample(s) that needs identification
- Container(s) (usually jar(s)/vial(s))
- Ethanol (80% or above), paper towels
- Parafilm or scotch tape (if available)
- Plastic bags (Ziplock or equivalent)
- Bubble wrap/loose paper
- Mailing package(s) large enough to hold container(s)

IMPORTANT: Steps 1 to 3.2 must be completed immediately after a snail/slug is collected.

1. You have a snail or slug specimen/sample(s) that needs identification by the Plant Protection and Quarantine (PPQ) National Identification Services (NIS) National Specialists.

Note: Send in multiple specimens of the snail/slug and empty snail shells of the same species when possible.


2. **WEAR GLOVES when handling any snail or slug.**

CAUTION: *Snails and slugs can harbor parasites that have been shown to cause meningitis and other diseases in humans and other animals.*

3. **Prepare the mollusk sample for submission.**

- 3.1 Place the snail(s)/slug(s) that you want identified in a container (jar/vial) or container(s) (jars/vials) large enough to hold the animal(s).

Note: Although multiple specimens can be placed in a single container, multiple containers should be used if the snails/slugs would fill more than half of the internal volume of the container.

IF	AND	THEN
The specimen is a snail	The specimen is a live snail	Place the snail(s) in container(s) and go to step 3.2
The specimen is a snail	Empty shells (dead specimens) are available	Place shells in a separate container(s) from the live snails, fully cover in ethanol, and proceed to step 4.6.
The specimen is a slug		Then Go to step 3.2.

- 3.2 Euthanize and prepare the snail(s)/slug(s) by fully covering the animal(s) in the container with ethanol.

IMPORTANT: The snail(s)/slug(s) should remain covered for a minimum of 3 hours

4. Prepare the mollusk sample for mailing/submission.

- 4.1 Empty the container(s).
- 4.1.1 Drain the ethanol and discard it.
- 4.1.2 Remove the specimens from the container and temporarily place on a fresh paper towel.
- 4.2 Place a piece of paper towel inside the container.
- 4.3 Add new (fresh) ethanol to soak the paper towel.

Note: Mailing companies have regulations against large volumes of alcohol, so the alcohol infused paper towel reduces the volume of fluid mailed.

- 4.4 Add specimens from back to the container(s) with the ethanol-soaked paper towel.
- 4.5 Add another piece of loose paper towel to the container to prevent specimen(s) rattling and damage to shells.

4.6 Close the container.

Note: If available, use parafilm (or scotch tape) around the outside/lid of the container to prevent leaking.

4.7 Place container(s) in a double plastic bag (zip-lock or equivalent).

5. Prepare the package to be mailed.

5.1 Place bagged container(s) into the mailing package(s).

5.2 Add bubble wrap, paper, or equivalent inside the mailing package(s) to stabilize the container(s).

5.3

IF	THEN
You are a PPQ employee	<ul style="list-style-type: none"> • Submit an Agricultural Risk Management (ARM) System form for the sample(s). IMPORTANT- Copy the automatically generated “Sample ID” from Field Maps, into the “Collection Number” field in the diagnostic request form. Open PPQ Mollusk Visual Surveys Field Map through a web browser, locate appropriate Sampling Site on the map and click on it to open Sampling Site form. Copy Sample ID value and paste it into the “Collection Number” field of the diagnostic request (391) form. • If a PPQ 391, and/or photographs of specimens/habitats were made available to you, attach them as documents in the ARM record.
You are a PPQ cooperator	<ul style="list-style-type: none"> • Contact the PPQ State Plant Health Director’s office in your state/region (https://www.aphis.usda.gov/contact/plant-health) to ensure that any specimens submitted for identification to NIS are accompanied <u>electronically</u> by the required PPQ 391 and ARM System form. • Make sure that any photographs of specimens/habitats are made available to the PPQ Health Director’s Office, to be included in the ARM record.

NOTE: If printed forms (PPQ 391 or ARM) are included in the package, they should be included OUTSIDE the plastic bag holding the container.

6. Mail the package containing the container(s) to the Malacology lab via an express package delivery service (UPS or FedEx) at the following address:

Attn: Drs. Francisco Borrero and/or Morgan Bullis
 Malacology Identification Specialist

USDA–APHIS–PPQ
Academy of Natural Sciences
1900 Benjamin Franklin Parkway
Philadelphia, PA 19103-1101
Phone: 215-847-3271

- 7. Email the Malacology laboratory (PPQNISNTMalacology@usda.gov) and inform them that a sample is on the way and provide the ARM record number and other packing tracking information (if possible).**