

Insect Specimen Preparation and Donation Guidelines



FREQUENT QUESTIONS

Q: What if I need all the specimens I collected for my study?

A: At the termination of your study, donate a representative set of specimens to the University of Panama.

Q: What if I am able to collect only one individual of an insect? Do I have to donate that only specimen to the University of Panama?

A: If you collect only one specimen of a species that already has been described, it should be donated to the University of Panama once your study has been completed.

Q: What if I am able to collect only one individual of an insect that represents an undescribed species? Do I have to donate that only specimen to the University of Panama?

A: The author of a new species may choose the museum in which to deposit the Holotype (the specimen upon which the name of a species is based). There are museums that have extensive collections representing particular groups of insects and the specialist will know which would be the best place to deposit Type material. For example, the Philadelphia Academy of Sciences is strong in Orthoptera, and the collections at the Museum of Comparative Zoology (Harvard University) include several important collections of Coleoptera.

- Thus, if you collect only one specimen of a species not yet described, you may retain that specimen pending description, and once it has been described, deposit the Holotype in the collection recommended by the author.
- However, if you collect several specimens of a species not yet described, you should deposit at least one Paratype in the collection of the University of Panama.

Q: What if I am studying larvae and not the adults?

A: Then donate a set of larvae, preserved in 80% ethanol. The University of Panama welcomes specimens of immature insects.

Q: Do I have to donate specimens to the STRI Synoptic Insect Collection?

A: We recommend that you deposit vouchers at STRI so that other researchers can see what animal(s) you studied without having to visit the University of Panama, and so that your vouchers are located in more than just one collection. However, though the University of Panama does maintain a collection of alcohol-preserved insects, **STRI** does not. It is very important too that you deposit specimens in the collection at your university, if it has one.

SPECIMEN PREPARATION PROCEDURES

Vouchers that you deposit in collections should be pinned (most insects), pointed (small insects), or placed in 80% ethanol (spiders and soft-bodied insects such as caterpillars, aphids, termites, etc.).

For molecular work it is best to preserve your specimens in 95% ethanol or by freezing them in liquid nitrogen.

For caterpillars and other larvae, it works well to bring them to a boil in tap or distilled water before placing them in 80% ethanol. That way they will remain firm instead of becoming squishy.

Labels should state where the specimen was collected, when it was collected, and who collected it, your specimen will have no value.

- A label example:

Panamá: Arraijan, Loma del Río.
8.9407 -79.6568
9 Jul 2008, R.Smith

- The label is placed beneath the specimen on the same pin.
- Good quality label stock is essential for proper labels. Regular 3" x 5" cards result in poor labels because they are too coarse to hold the ink properly. Regular xerography paper is even worse; it deteriorates over the years, and because it is thin the labels tend to tilt and/or spin. Good quality card stock can be purchased at a biological supply company such as *Carolina Biological Supply* or *BioQuip*.
- Labels must be printed on a Laser printer or by some other permanent method. If you are not sure about the permanency of your printer, print a label and drop it into **95%** ethanol to be sure it doesn't fade. Don't use Xerography; it is **not** permanent.
- Use 4pt or 5pt type, with appropriate spacing (0.6 or 0.7) between lines, so that the label doesn't look like a billboard. **See the final page of this document for a sample sheet of insect labels.**

- Use 3-letter abbreviations for months, not Roman numerals: "II" could be eleven, or two, or November.
- For pointed specimens the pin is placed through the right-hand side of the label, not through the left or the middle.
- The determination (identification) label is separate and goes beneath the collection label. It uses a larger type, 6pt (spacing 0.8), and consists of the name of the insect (in italics), the name of the person who identified it, and the date of identification (or at least the year). For example:

Eciton
burchellii foreli
 det. S.M.Berghoff, 2007

Shipping samples via courier is the only safe way to mail specimens from Panama. You must include a customs declaration. List the contents as "Dry insect tissue for scientific analysis." "No commercial value."

Please be sure include all necessary permits from Panama as well as those required by the country to which species are being imported to

- To prepare the package:
- Pin the specimens in a sturdy container with a good pinning bottom (firm foam or a double layer of foam) so the pins won't come loose.
- Add bracing pins on both sides of larger specimens, or any that are likely to spin, to keep them from damaging other specimens.
- Make sure the pins are pushed into the foam all the way, so that all their heads are at the same level.
- Add empty pins as necessary along the sides and corners of the little box to help support the security cardboard described below.
- Don't put anything loose in with the specimens or they will be destroyed during shipment.
- Place a sheet of cardboard or heavy card stock, cut to fit into the box, directly on top of the pins to keep them from coming loose.
- Place folded paper towel or bubble wrap some other material on top of the cardboard to fill the space between it and the rim of the box in order to keep the security cardboard in place. However, it should not press on the pins; just fill that space.
- Add the box cover.

- Put the box and an extra copy of the address label and the permit(s) into a *Ziploc* bag or, if it won't fit, wrap it in clear plastic and tape it to keep it closed and to keep moisture and dust from getting in.
- Put the sealed box into a large box and surround it on all sides with packing material (preferably Styrofoam). Even with all these precautions damage sometimes occurs, but it is rare.
- Prepare the donation letter (carta remisoria below), and list the specimens, identified to the best of your knowledge to order, family, genus and species. Take the donation letter (carta remisoria), and properly prepared specimens to the University of Panama, Invertebrates Museum (Dr. Diomedes Quintero, 523-5347, email dquintero666@gmail.com or Roberto Cambra, cambramiup60@gmail.com). Keep the letter signed by the personnel at the museum; it will be your proof that you have complied with Panamanian law.
- The signed carta remisoria is a requirement of your export permit application package.

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CARTA REMISORIA

Panamá: DATE

Universidad de Panamá
Ciudad

Atención: Profesor Diomedes Quintero
 Museo de Invertebrados Fairchild

Estimado Profesor Quintero:

Cumpliendo con los requisitos del Ministerio de Ambiente necesarios para otorgar el permiso de exportación para material de flora y fauna colectado en _____, junto a esta carta, hacemos entrega de las muestras para depósito en el Museo de Invertebrados Fairchild. A continuación detallo el material a entregar:

ESPECÍMENES, PARA INCLUIR EN LA COLECCIÓN DE INSECTOS:

- *Genus species*

Atentamente,

Firma del depositario

Dirección completa en el exterior:

cc: STRI
 MiAmbiente

Recibido por: _____
Fecha: DATE

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