

SOP 01: Collection Organization, Environment, and Etiquette

Frost Entomological Museum Curator & Interest Group

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Preamble

This SOP describes the specimen storage environment and establishes rules that govern behavior in the collection room and interaction with specimens.

1 Collection room rules

These rules apply to 131 Headhouse III, the main collection room, but also other rooms where specimens are stored.

1. In order to discourage pests and eliminate the possibility of accidents, *no food and drink are allowed*, not even water
2. In order to maintain the proper environmental conditions—cool (~70°F) and dry (~40% RH)—and to keep specimens secure from pests and theft, *all entry doors are to be kept closed at all times*
3. In order to exclude pests, *all cabinet doors and drawers must be kept closed* when not accessing the collection, and *specimens must not be left out*
4. In order to keep the space clean and ready for any urgent task, all materials, supplies, and equipment must be put away at the end of each day
5. In order to maintain the integrity of the collection, *do not remove specimens* without the Director or Collection Manager's permission. Also, do not put specimens inside storage containers marked as being "digitized" without approval from the curator

2 Collection storage environment

2.1 General organization and labeling

Each section of the arthropod collection is organized alphabetically by taxon: Family, genus, species. The Collection Manager has templates for labels that are applied to cabinets, drawers, and unit trays. Unit tray header cards must be inserted into space between plastazote and tray wall; the card may be braced with insect pins. Unit tray header cards that list species names must also include author, year, and parentheses if appropriate.

2.2 Dry specimens

2.2.1 Storage containers

For pinned insects, the Frost Museum uses USNM-style cabinets (must seal tightly), drawers (must seal tightly), and unit trays (plastazote pinning medium, with sides taller than typical pin height).

Odonata are stored in paper triangles or with 3×5 cards inside cellophane envelopes. These preparations are stored in archival cardboard boxes, arranged in herbarium-style cabinets.

2.2.2 Curatorial considerations

Pinned specimens should be organized efficiently in unit trays—tightly packed and in a straight line but not touching anything—ideally one species per tray. Labels should be oriented consistently, such that they can be read in one view (Figure 1). One should be able to remove/insert a specimen into a tray without risk of touching other specimens or the tray itself.



Figure 1: Heterogeneous specimen types organized inside a unit tray; note that labels are all oriented so that they can be read in one view. Specimens are placed in unit tray beginning in the upper left corner. Photo (CC0 1.0) by Andy Deans.

Each drawer should have 25% (ideally) free space, in the form of empty unit trays, to allow for growth and curation. Unit trays should fill each drawer, and any empty space between trays filled with archival plastazote spacers (Figure 2). Unit trays must not be allowed to slide around when a drawer is pulled or put back into a cabinet.

Note that each new drawer is marked with a unique number, stamped on both the lid and the drawer (Figure 3). The drawer lid must never be disassociated from its drawer bottom, as they often will not fit other bottoms. One strategy is to place a lid under its drawer bottom after its been removed.

For information regarding evidence and treatment of pests see *SOP 02: Museum Pest Management*.

2.3 Wet specimen storage equipment

Soft-bodied, aquatic, and other specimens that cannot be stored dry are preserved in ~80% ethyl alcohol (ethanol) or 100% glycerol (glycerine). Frequently accessed specimens are stored in 4 or 8 dram borosilicate glass vials, with black polyseal screw-top lids, and these vials are arranged in



Figure 2: Empty space filled with unit tray (left) or foam spacers (right). The trays in this drawer are secure. Photo (CC0 1.0) by Andy Deans.

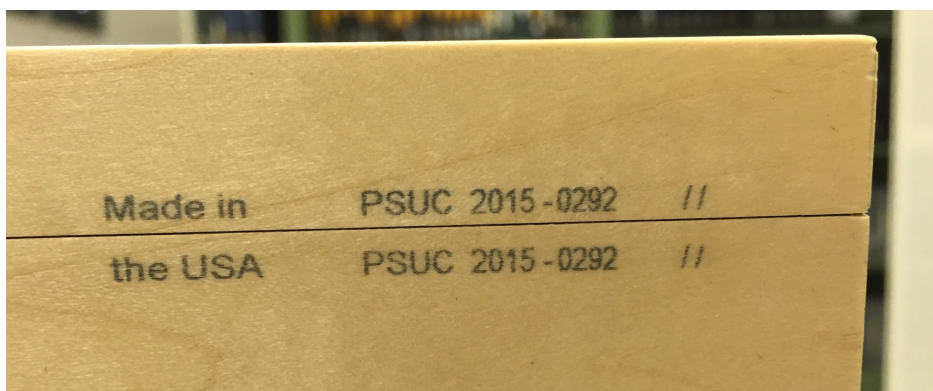


Figure 3: Drawer lid and bottom, stamped on the back with their unique number. These numbers better be the same! Photo (CC0 1.0) by Andy Deans.

cardboard trays. Infrequently accessed specimens are stored in shell vials stopped with polyethylene caps or cotton plugs. These shell vials are arranged inside borosilicate glass jars, topped with ethanol, and fitted with plastic lids that have low-density polyethylene gaskets.

2.4 Slide specimen storage equipment

Many slide-mounted specimens are arranged on trays inside a slide cabinet designed by Delta Designs, Ltd. Others are stored inside non-standard array of slide boxes and are likely to be moved to standard 100-slide plastic boxes. Slides must always be stored horizontally.

2.5 Vendors for storage equipment and supplies

Cabinets:

- Delta Designs Ltd., phone: +1 800 656 7426 (ext.219, Brett Danielson), FAX: 785-233-1021, Web: <http://www.deltadesignsltd.com>

- Viking Metal Cabinet Co. Web: <http://www.vikingmetal.com/>

Dry storage:

- HH Elements, Inc., <http://hhelementsinc.com>, harris@hhelementsinc.com, +1 434 249 8630 (drawers, unit trays, custom small storage)
- Padgett Manufacturing, 221 Old River Rd, Bridgewater, VA 22812; Don Keagy, donpadgettmfg@verizon.net (drawers)

Wet storage:

- Bioquip Products, Inc., <https://www.bioquip.com/> (vials, caps)
- Wheaton, <http://wheaton.com/> (8 and 16 oz., straight-sided jars; LDPE-lined lids)

3 Collection labels protocol

Label standards vary, depending on the unit to be labeled:

- For cabinets, order and families should be printed on a 5×8 card; see cabinet sign template.
- For drawers, order and family is printed across the top, genera and species below; see drawer sign template.
- For unit trays, a header card is inserted between foam and tray wall, with genus and species in italics, followed by author and year in Roman. See header card template.