

GUIDELINES FOR NON-LIVING BIOLOGICAL COLLECTIONS
HERBARIUM (PTBG)
NATIONAL TROPICAL BOTANICAL GARDEN

The following collection guidelines apply to accessioned material to be deposited in Herbarium PTBG.

- I. Collections must be made in compliance with current state, federal, and international conventions, laws, and regulations, and must be made with permission of the appropriate landowner. **Collections that do not meet these criteria will not be accepted.**
- II. Specimens should be in good condition and not abnormally damaged or diseased unless the study project and specimen label emphasize such conditions. They should be representative of the population being sampled.
- III. **Specimens should be in fertile condition (with flower and/or fruit), except in special circumstances.** Collection of sterile specimens is discouraged; these will only be accepted if the specimen represents a new taxon or a new locality or range extension of a rare taxon. Exceptions may be made if the material is part of a documented study (e.g., ethnobotany of Pohnpei). When fertile specimens are made from those plants the sterile specimen may be de-accessioned. Sterile collections should be limited to a single specimen as those vouchers will not be sent out as either gifts or exchange.
- IV. Each specimen should be identified to family, genus, and species, if possible, with the appropriate author. **The following minimal information is also required:** collector name(s), collection number, date, locality (county, island, district, closest locality name), site description (vegetation type with only dominant species), altitude, and **description of plant (habit, size, leaf characteristics/colors, flower color, fruit color {also the size and shape of large fruit that need to be sectioned}, and any distinguishing odors).** When appropriate, common or local names and uses of a particular plant as well as the name of the informant might also be noted. Collectors are not being asked to give a description of a species as it appears in a flora but are asked to describe the individual plant that a particular specimen is made from. Please remember that the specimens made will not only be utilized by the collector but by researchers and institutions all over the world. These people may not know the plant or have ready access to the relevant floras and will have to rely on the information provided on the label.
 - A. **Specimens of NTBG accessions require the following additional information:** NTBG accession number, location within the Garden (please be specific, at least in your field notebook), map number if available, and source of original accession material. These collections should also be photographed with photos of the habit as well as close-ups of the flower and/or fruit.
 - B. If a specimen has been stored in any kind of preservative (FAA, alcohol, etc.) before drying, that fact should also be noted on the label.
 - C. Any ancillary collections (i.e. DNA, fruit, wood, liquid preserved, or photos) that may not be stored with the main herbarium specimen should also be noted.

- V. All specimens or parts of specimens should be made to fit on a standard sized herbarium sheet (11.5" x 16.5"). An effort should be made to show both leaf surfaces. Flowers and fruits should be easily visible. Collection of extra flowers and fruits is encouraged.
- VI. Palms and large ferns may require special handling. The following guidelines are provided:

Palms. Collections should consist of the petiole (including the upper portion of the basal sheath) and frond as well as an entire inflorescence or infructescence, including bracts or sheaths that enclose said structures. Because of space limitations, **all parts of the palm specimen should be pressed flat as would be done with any normal specimen.** Smaller fronds and reproductive structures may be pressed whole. Larger fronds should be measured and then sectioned using the following guidelines:

Pinnate fronds should be sectioned **after the overall length is noted and the pinnae are counted.**

- A. The sections would consist of the base of the petiole including the leaf sheath if possible or at least the upper portion of the sheath, a basal portion of the frond that included the upper petiole, a portion from the mid section, and the apex. The pinnae should be discarded from one-half of the blade except for the point of attachment. These sections should then be pressed flat. Pinnae that do not fit within the newspaper should be folded.

Palmate fronds should also be sectioned. One half of the frond can be removed, leaving the basal two or three segments on that side; the other half of the frond can have alternating sections of segments removed, being sure to leave the basal and apical segments. The specimen can then be pressed flat as for mounting. Again, pinnae that are too long should be folded to size.

Large inflorescences or infructescences should also be sectioned and pressed flat. Some of the branches may be removed and discarded, being sure to preserve the overall branching character. Extremely long structures should be measured and sectioned as with pinnate fronds, keeping the basal portion to include the peduncle and lowest branches, a central section, and the apex. Some flowers and fruits (to include whole fruit, sectioned fruit, and fruit with pulp removed) should be kept aside for storage in alcohol.

To facilitate storage for any palm collections, the sections should not be more than 16 inches long.

All pieces of a specimen should be carefully labeled with the collection number and notes to indicate the relative positions of different fragments. Notes on the plant should follow the guidelines stated earlier and should include the number of leaves in the crown as well as descriptions of the flowering structure: pendant, erect, etc; single or multi-trunked; and photographs of the habit.

Ferns. Collections of the whole plant should be made if the ferns are small enough to fit on a herbarium sheet (11.5" x 16.5"). If the plant is too big or if an individual is a rare

species that can not be collected without harming the population, then one or two fertile fronds can be collected. The collections should include the base of the stipe, taking care to preserve any scales that might be present. The fronds should fit on a standard herbarium sheet; this may require folding the fronds. Larger fronds that will not fit a standard sheet even after folding should be sectioned. Sections should include the complete stipe and basal section of the frond, a mid-section, and the apex. **The specimen of a larger frond should consist of three sheets - no more.** Notes should include such things as the habit or description of the rhizome (creeping, erect, forming a trunk), terrestrial or epiphytic, color of emerging fronds if notably different, and the number of fronds in the crown.

Tim Flynn, Collections Manager
David Lorence, Curator
Revised August 2007