

SANBI POLICY DOCUMENT

DIVISION: Biosystematics Research and Biodiversity Collections	POLICY NUMBER: D2
EFFECTIVE DATE: 1 June 2014	LAST AMENDED: 5 May 2014

HANDLING AND CARE OF HERBARIUM SPECIMENS

Background

Herbarium specimens are valuable reference material for describing plant species. They should therefore be protected to last almost eternally to preserve the wealth of scientific information they provide. Herbarium specimens are fragile and should be handled with extreme care.

This policy sets out guidelines for handling herbarium specimens to keep them intact for hundreds of years. By applying the guidelines, SANBI will be able to continue to offer a safe and secure environment, and well-maintained herbarium specimens for study by users.

Aims

To standardise procedures for handling and care of specimens in SANBI herbaria. To provide guidance and information about policy and procedures related to the handling of specimens to all researchers in SANBI, as well as visiting scientists to SANBI herbaria.

Policy

- Eating is not allowed in the herbarium.
 - Liquids may not be consumed near the collection.
 - Non SANBI Herbarium staff and visiting researchers are prohibited from removing material from specimen without the permission of the curator.
 - All dried material must be decontaminated before use in the herbarium.
 - The herbarium is a no-smoking area which should be strictly enforced for the safety of the specimens as well as the health of colleague. No naked flames are allowed.
 - Guidelines for handling specimens, as detailed in Addendum 1, must be followed by all staff and visitors working with herbarium specimens.
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Process

Guidelines for handling specimens are given in Addendum 1. These are summarised from the following reference works:

FISH, L. 1999. Preparing herbarium specimens. *Strelitzia* 7, NBI, Pretoria, pp 33–44.

VICTOR, J., KOEKEMOER, M., FISH, L., SMITHIES, S. & MÖSSMER, M. 2004. *Herbarium Essentials: the southern African herbarium user manual*. [SABONET Report No. 25](#). SABONET, Pretoria, Chapter 5.

FORMAN, L & BRIDSON, D. (eds) 1989. *The herbarium handbook*. Royal Botanic Gardens, Kew, pp. 104, 105.

ADDENDUM 1

GUIDELINES FOR HANDLING HERBARIUM SPECIMENS

1. Prevent infestation

- 1.1. Decontaminate dried material by placing it in a microwave oven for a few minutes, deep freeze for at least 48 hours at -18°C. Check with the herbarium on its preferred option for treating specimens.

2. Unmounted specimens in flimsies

- 2.1. Minimise handling of unmounted specimens. When handling unmounted specimens, be extra cautious.
- 2.2. Make sure the specimen fits in the flimsy, and no pieces stick out.
- 2.3. When moving specimens, place flimsies on corrugated cardboard for support.
- 2.4. Do not break pieces off from unmounted specimens. If pieces do come loose, place them in an envelope of suitable size, labelled with the collector's name and number.
- 2.5. If flowers or fruits are removed for dissection during the identification process, place the pieces in an envelope, and write the collector's name and number on the envelope. This holds also for the removal of flowers/fruits from mounted specimens.
- 2.6. Ideally, dissections should be mounted on gummed paper or card, covered with cellophane and placed in a plastic packet for mounting on the herbarium sheet.

3. Stacking specimens

- 3.1. Do not place books, heavy objects or elbows on specimens.
- 3.2. Always carry specimens on a corrugated cardboard, facing upwards horizontally and flat.
- 3.3. Do not pile specimens up in large batches.
- 3.4. When moving large batches of specimens (mounted or unmounted), place them between corrugated cardboards for protection and support.
- 3.5. Unmounted specimens should also be covered by a corrugated cardboard to prevent pieces of the specimen or the label from falling out.
- 3.6. Large batches of bryophyte and lichen packets should be kept vertically and moved in metal trays or cardboard boxes.
- 3.7. Avoid leaving specimens lying around on work surfaces for extended periods. If they have to be left out, cover them with corrugated cardboard.

4. Mounting requirements

- 4.1. Only acid- and sulphur-free boards of archival quality should be used for mounting of specimens.
- 4.2. Only wood glue or archival adhesive should be used to stick any labels on a specimen. Do not use a glue stick as it does not last very long.
- 4.3. Use a pen with archival ink to write on any labels to be pasted onto a specimen. If you have to write directly on the specimen, use a soft pencil.

5. Working with collections

- 5.1. Do not leave cupboard doors open for long, extended periods, except during the process of fumigation. Make sure that cupboard doors are properly shut.
- 5.2. When working with the specimens in the cupboard, remove all the specimens from a shelf. Note: bryophyte and lichen specimens are kept in a vertical filing system (described in: MAGILL, R.E. 1980. Musci austro-africani II. Bryophyte collections in southern Africa and southern African type specimens in the National Herbarium, Pretoria. *Bothalia* 13: 127–133).

- 5.3. When working through a stack of specimens which were removed from a pigeon hole, stack them face-up on the one hand side. Do not flip specimens over like the pages of a book.
- 5.4. Do not pack too many specimens into a pigeon hole, shelf or box.
- 5.5. Do not place too many specimens in a species cover or genus cover. It is always better and safer to divide a pile of specimens and file them in more folders.
- 5.6. Before returning the specimens to the cupboard, check that all the sheets are aligned so that none protrude and are destined to be bent when pushed into the pigeon hole.
- 5.7. Do not align a pile of specimens by holding it upright and striking one edge on the table, like with a pile of papers. Specimens must be aligned individually.
- 5.8. Make sure that genus and species covers are ordered in the correct sequence before replacing them in the cupboard.
- 5.9. It is essential that specimens be filed in the correct place in the herbarium.
- 5.10. Hold specimens at both ends, rather than the base. This prevents the bending of the mounting board and damage to the specimen.
- 5.11. Do not bend the mounting board to examine the specimen under a microscope. Use a microscope with a free standing arm.
- 5.12. Protect specimens from dust, water and sunlight.
- 5.13. Check specimens regularly to keep the herbarium free from cigarette beetles and book lice. Decontaminate batches if insects are detected.
- 5.14. Specimens in need of repair or remounting should be dealt with as soon as possible.

6. Maintain a safe and clean environment

- 6.1. Keep work surfaces tidy and clean, so as to eliminate hiding or breeding places for insects like cigarette beetles and book lice.
- 6.2. It is advisable not to store flammable chemicals in the herbarium.
- 6.3. Windows that can open to the outside/outside environment must be fitted with screens of fine mesh to prevent insects from entering the building. These screens should be closed properly at all times.
- 6.4. Specimens should not be stored in FAA long term, but should be transferred to ethanol and 1% glycerol.
- 6.5. Windows should be closed at night time to prevent insects from entering the building.
- 6.6. All windows should be closed when leaving the premises and during a fire evacuation to ensure the proper functioning of the fire suppression system.
- 6.7. Air conditioning / climate control is the most effective means of controlling insects.

See Policy D3 on Herbarium Collections: Security and Protection.