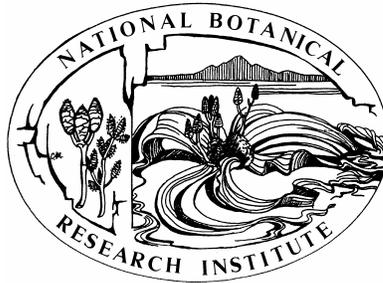


**MINISTRY OF AGRICULTURE, WATER & FORESTRY**



**NATIONAL BOTANICAL RESEARCH INSTITUTE (NBRI)**

**NATIONAL HERBARIUM OF NAMIBIA (WIND)**

**GUIDE FOR COLLECTING PLANTS**

The National Herbarium of Namibia (WIND), a unit of the NBRI, conducts botanical research in Namibia. As part of its duties, the Herbarium identifies plants for fellow scientists and the general public.

Only properly collected and pressed specimens will be identified by the personnel of the National Herbarium. The following guidelines must be considered when collecting and pressing specimens.

Before going out into the field to collect plants make sure that you are in possession of a valid collecting permit issued by the Ministry Environment and Tourism. Also ask the landowner's permission to collect on farms, in gardens etc.

**A. EQUIPMENT FOR COLLECTING**

The following items are needed for collecting plant specimens (fig. 1):

1. a good pair of secateurs: to cut off plant parts
2. a pick to dig out underground parts of especially geophytes
3. a sharp knife to slice fruits and other bulky parts
4. a notebook or collection book, to write down all the necessary information in the field. Always write legibly
5. a pencil to write the collector's name & number on the flimsy and for writing field notes
6. a map of the area where you are collecting
7. a plant press

Figure 1

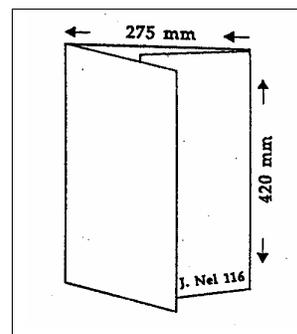


Figure 2

## B. THE PLANT PRESS

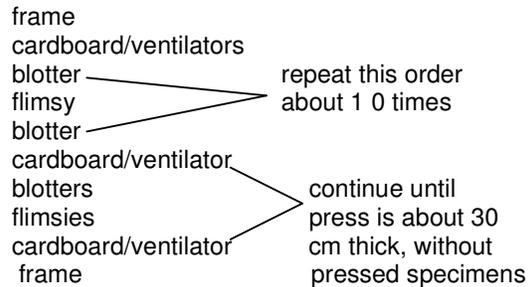
A plant press consists of:

1. Two wooden lattice frames: size: 30 cm by 45 cm, to be used at both ends of the press.
2. Corrugated ventilators: sheets of corrugated cardboard cut to the size of the press. They provide space for air passage through the press to remove water and to prevent damage by bulky plant parts. Corrugation should be parallel to the short side of the press.
3. Blotters: heavy blotting papers will absorb moisture from the plant specimen. These have to be changed regularly to prevent rotting of specimens.
4. Flimsies: newsprint or even old newspaper pages can be used. The specimens are placed in the flimsy folded as per illustration (see fig. 2). The collector's name and number of the specimen corresponding with the field notes are written onto Plant presses can be purchased from the Namibian Tree Atlas Project; NBI, Pretoria or constructed according to specifications.

the flimsy. The flimsies are slightly smaller than the press frame and the blotters.

5. Straps: are used to hold the whole press together and to exert pressure on the specimens.

6. Plant presses are organised as follows:



## C. COLLECTING and PRESSING

1. Plant specimens should be a representative part of the plant. They should not be bigger than the plant press, i.e. 40 cm by 30 cm (fig.3).
2. Specimens must bear flowers and/or fruits since sterile material is of no scientific value and often impossible to identify.
3. Collect at least two specimens (if possible even in triplicate) so that you can keep one specimen of each number. After identification, the National Herbarium will issue a list of your numbers together with corresponding scientific names.
4. If the specimen is a grass or herb, the whole plant together with underground organs, should be collected to determine its character (fig. 4).

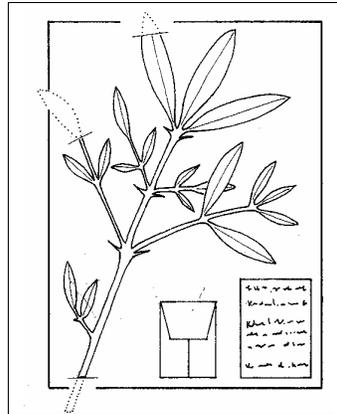


Figure 3

5. Larger herbaceous plants and grasses can be folded in a V- or N-shape (fig. 4) so that no plant parts protrude from the flimsies.

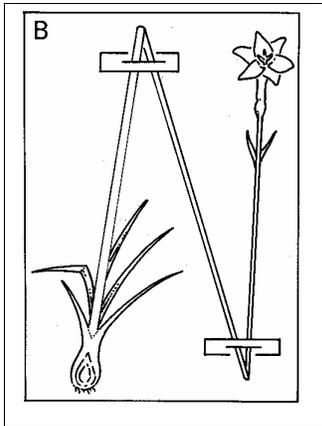


Figure 4

6. The soil on underground organs must be removed with care before pressing the specimen.

7. In the case of geophytes, the underground storage organs must be collected but cut in half, lengthwise to facilitate drying.

8. If possible, separate clumps of plants without the damaging the plants before pressing (fig. 5).

9. Two or more small herbaceous plants can be collected under the same collection number and placed in the same flimsy (fig. 6).

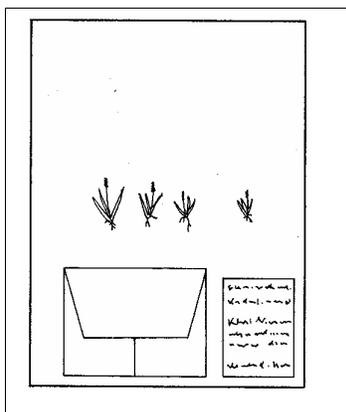


Figure 6

10. Always collect plants that are free from rust (fungi) or other pathological diseases, and that are not damaged by insects.

11. The specimen must be pressed as soon as possible after collecting to prevent wilting and rolling of leaves.

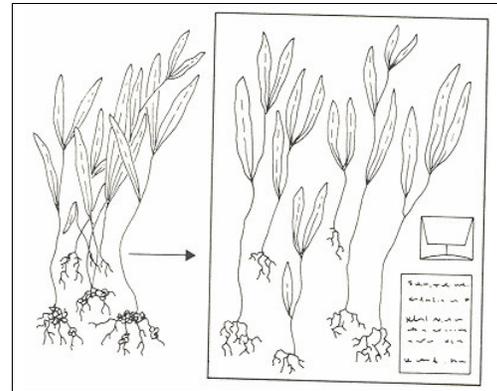


Figure 5

12. Arrange the specimen in such a way that some upper leaf surfaces, as well as some lower leaf surfaces are exposed (fig. 7).

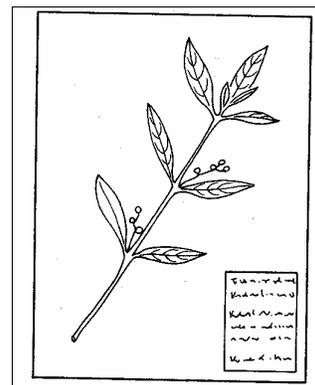


Figure 7

13. The specimen should be placed in a folded flimsy and marked by the collector with his name and number.

14. Pressure should be applied to flatten the specimens by tightly fastening the straps.

15. If spiny or woody are pressed, use old cardboard between the specimens to prevent crushing of delicate leaves.

16. Thick and bulky plant parts like fruits and bulbs should be sliced to facilitate drying and pressing (fig. 8).

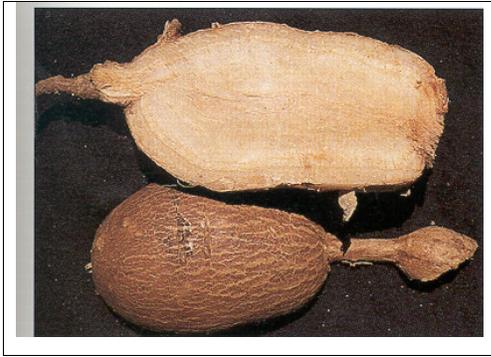


Figure 8

17. Seeds and small fruits must be collected together with the specimen and placed into a small envelope or a folded paper capsule, together with the specimen number. This will prevent the loss of these parts. A diagram of the capsule, together with the sequence to fold it, is shown in fig. 9.

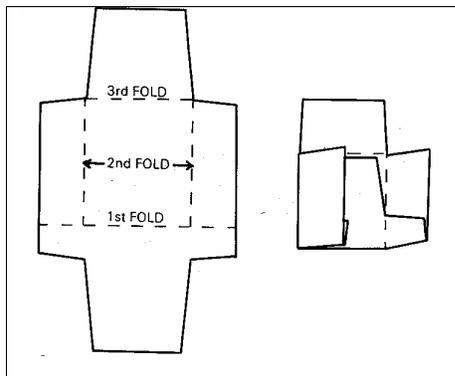


Figure 9

#### D. DATA COLLECTION

The dried specimens brought to the NBRI for identification, must be accompanied by the following information:

1. Collector's name
2. Collector's number
3. Date of collection
4. Exact locality
5. Description of the environment
6. Description of the plant:
  - tree/shrub/herb
  - annual/perennial
  - single-/multi-stemmed
  - height of plant
  - colour of the flower
7. Common name if known
8. Uses, noxious properties, if known

18. Succulent plants are difficult to press. Blotters must be exchanged on a regular basis to prevent rotting of the specimens, especially in moist areas. Place flimsies with succulent specimens between additional blotters and add corrugated cardboard ventilators in between.

Succulent material can be prepared for pressing in the following ways:

(a) Split the succulent parts, e.g. leaves of *Aloe* spp. to remove the fleshy inner parts before pressing.

(b) Members of the family Mesembryanthemaceae should be immersed into boiling water to kill the plants and to dry them faster. Extra care should be taken with the pressing of these specimens: exchange wet blotters twice daily to prevent rotting.

19. If no plant press is available, use the following method:

Prepare the specimen as above, but place it between newspaper pages and cardboard pieces and weigh down by using bricks or heavy books.

20. Photographs can provide a good deal of useful information, but need to be accompanied by a proper specimen. Provide all the necessary information as for pressed specimens.

#### E. ENQUIRIES

Plants for identification can be sent to:

National Botanical Research Institute  
8Orban Street  
Windhoek

or

Private Bag 13184  
Windhoek  
Tel.: (061) 202 9111  
Fax: (061) 258 153

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