Bol. Soc. Brot. Sér. 2, 53: 549-553 (1980).

DRYING HERBARIUM SPECIMENS IN MOIST TROPICAL CONDITIONS

by

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Dedicated to
Prof. Dr. A. Fernandes

In July 1979 I visited the Gurue Mountains in north Moçambique, some 300 km north of Quelimane.

A girdle of tea-plantations surrounds Gurue, the pleasant little town, formerly called Vila Junqueiro. Towards Namuli Peaks one passes between the roads flanked by the tea-bushes and soon, at some higher altitudes, the mountainous range is reached.

We were a small party, three Europeans and four Moçambicans, and we formed the Brigada 4 of the July Activities, executed by the University Eduardo Mondlane of Maputo. I was a visitor only and the others all officials of the University, working in the botany department (Herbarium). Our purpose was two-fold: collect plants and contact the people living in the region. The plant-specimens to be added to the Maputo Herbarium and eventually to the University botanical garden now being developed. The contacts to obtain information concerning the way of living and wishes of the local population, and to instruct and raise interest in matters of development and cooperation as regards plants and plant-exploration.

It was decided to put up the tents at about 1100 m. altitude, in a lovely spot. A softly sloping grassy field, bordered on one side by a cristal clear brook, possibly a tributary of Licungo river, seemed an ideal site. Two sturdy, broad-leaved trees, *Syzygium cordatum* Hochst. ex Krauss spread their branches above our tents.

The sward consists only partly of grasses; a species of *Centella* is at least as frequent. This indicated a high amount of rain or other humidity, and the mountain slopes, which were covered in large areas by a dense vegetation of *Aframomum* sp., further stressed the presence of moisture.

We needed not being convinced. The Gurue Mountains raise above the plains, which continue for more than 200 kilometres towards the ocean. The eastern winds carry rains and dew and clouds which hit the mountains and come down. Almost every day. The result is an overwhelmingly rich and fascinating plant-cover, especially as regards lower plants.

The original vegetation is almost destroyed. It seems a pity that no timely measure was taken to protect some samples of the natural plant-cover, which disappeared together with the varied and abundant game (antilopes, zebra, lion, leopard etc.) that once must have made the region a true paradise. However, in small remnants, inaccessible to the ever roaming cattle because of rocks and steep slopes, some forest remains, housing an amazing treasure of ferns, lichens, bryophytes, algae, and the like.

The shrubs surrounding our camping site were mainly *Harungana madagascariensis* interspersed with *Dissotis princeps* (Kunth) Triana.

Dissotis was flowering abundantly. A few hours of sunshine brightened the deep purple flowers and contrasted them beautifully against the dull dark-green *Harungana* leafage. And while we enjoyed our stay and collected whatever could be reached and seemed of interest, we all felt pleased when, at our return of when staying in the camp, the bushes covered by *Dissotis* flowers decorate our place.

Being so fortunate as to be able to do research in these magnificent surroundings, we remembered botanists who had stayed in the region before us. They are not many and it was many years ago. And this brought to mind the name of professor Dr. A. FERNANDES, who together with Mrs. FERNANDES named our *Dissotis: Dissotis princeps* var. *candolleana* (Cogn.) A. & R. Fernandes.

A problem arose when our collections increased. The specimens had to be dried and we employed the wooden contraption constructed in the Laboratory for Plant Taxonomy at Wageningen (Holland). The Mondlane University and the Wageningen Laboratory cooperate in matters of scientific botany. The specimens were placed between paper and corrugated aluminium-sheets, and above burning butane gas in the wooden chimney.

The University had supplied us with tents, food, transport and what not, as much as was possible. But possibilities are at present limited. And butane gas not always easy to obtain so, after 5 days of plant-drying, our gas supply was exhausted and there was no way of getting new supplies. How to dry our plants in this particularly humid atmosphere?

An oven was constructed. Two parallel stockades carry a roof of small poles over a 1 m. deep hole. The outher sides of the stockade are covered by a thick earthen wall, and the further part of the roof also. This means that the fire on the bottom of the hole can be fed from one side, and the smoke escapes by the other end.

The packets of plant specimens are placed vertically on the roof. The hot air and smoke passes between the poles. One man is permanently needed to keep the fire going and to guard against overheating. A leaf-roof protects him, the specimens and the fire against the rain. Three drawings illustrate our drying oven. The results were excellent. It seemed useful to make this method known because botanists in similar circumstances might profit.

Being asked to contribute to a volume in honour of professor FERNANDES, after my return from Moçambique, it seemed to me that this modest report nevertheless answers the question. Because of FERNANDES' modest but effective way of promoting scientific botany and taxonomy and because it is so much pleasure to recall his courtesy, his numerous excellent publications, and his never failing cooperation and good-fellowship.

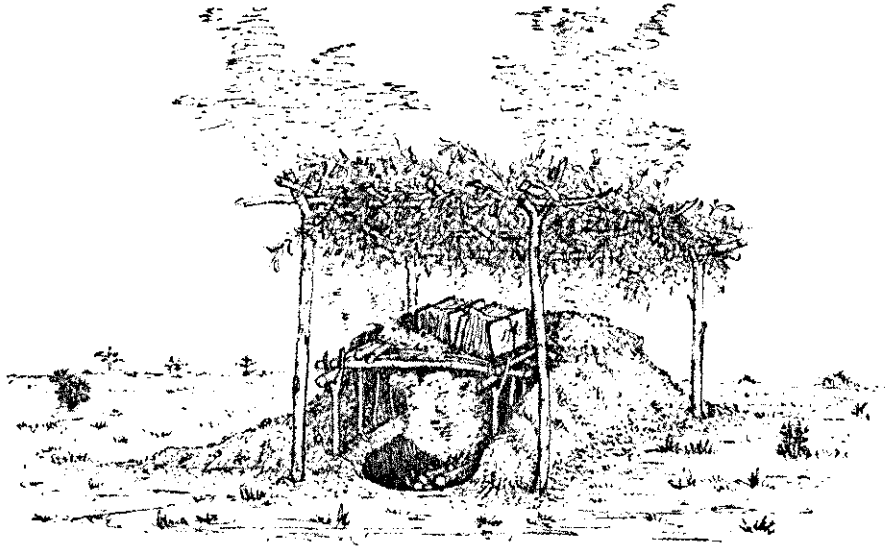

Fig. 1. — General.

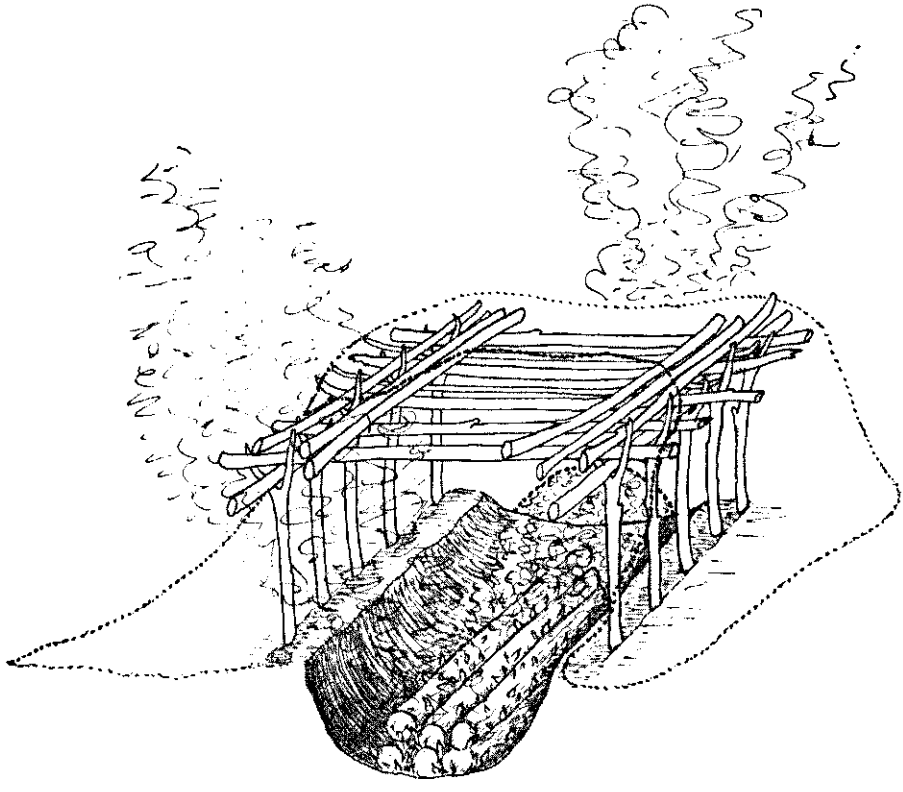

Fig. 2. — Schematic (dotted line surface of earth-cover).

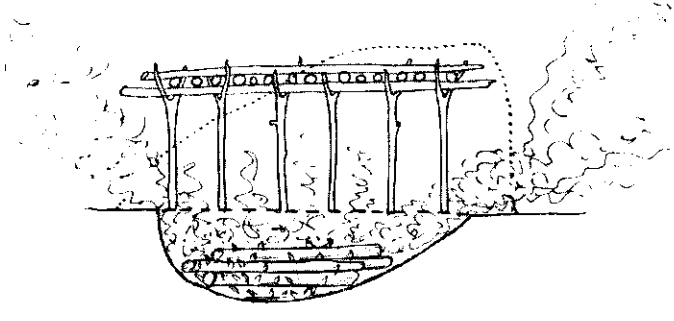

Fig. 3. — Length section, schematic