

Edinburgh, 21.05.2001

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Professor J. Grace
Convenor of the
Davis Expedition Fund Committee
Division of Biological Sciences
The University of Edinburgh
Michael Swann Building
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re.: Madagascar Expedition March - April 2001

Dear Professor Grace,

I returned from Madagascar in April 2001 from the botanical Expedition from March 18 until April 13, 2001.

The expedition was partly successful and unifoliate (*Streptocarpus itremensis*), rosulate (*Streptocarpus ibityensis*, *Colpogyne betsiliensis*) and caulescent (*Streptocarpus thompsonii*) Gesneriaceae species were collected in the south of the capital on the Central Plateau, in the Itremo Mts and Ibity Mts. East of the capital Antananarivo in the Maromiza Mts (Perinet), *Streptocarpus hilsenbergii*, *S. muscosus* and the very rare *Hovanella vestita* was collected. However, plant collecting in the North along the Sambirano river was not successful, and not a single plant of Gesneriaceae was found. This was very unfortunate, but is simply the result of very intensive agricultural activities along the river, with paddy rice fields and village replacing primary rain forest. Even on the mountains nearby the forest had disappeared.

As before, a para-taxonomist from the Parc Botanique et Zoologique Tsimbazaza accompanied me on the different field trips, acting as guide and local translator (Frank Rakotonasolo to the North, Jackie Andriantiana to the Southern Mts). For the former it was the first time to visit the Sambirano region.

As usual, surplus field equipment and research material was left in Madagascar to support excellent botanic work at PBZT.

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Deposition of the collected herbarium specimens will be in the herbaria of the Royal Botanic Garden Edinburgh, Botanical Institute and Botanic Garden Vienna, PBZT Antananarivo, the 'Muséum National d'Histoire Naturelle' Paris and the Royal Botanic Gardens, Kew.

Enclosed please find the preliminary report to the official bodies involved in permitting the field work in Madagascar, the 'Direction des Eaux et Forêts' (DEF), and the scientific counterpart the 'Parc Botanique et Zoologique de Tsimbazaza' (PBZT).

I like to thank the Davis Expedition Fund Committee for their kind financial support.

Yours sincerely

(Dr. Michael Moeller)



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Preliminary Research Report:

Madagascar Expedition from March 18, 2001 to April 13, 2001

Regions observed:

- | | |
|--|---------------|
| 1. Region around Perinet, Distr. Ankay, Prov. Toamasina
Maromiza Mts. | 22.03.-24.03. |
| 2. Massif d'Itremo, Col d'Itremo, Prov. Fianarantsoa | 25.03.-26.03. |
| 3. Ibity Mts., Prov. Fianarantsoa | 27.03.-28.03. |
| 4. Sambirano river, Prov. Antsiranana | 01.04.-05.04. |

Result:

67 specimen collected as herbarium material
125 specimen sampled as leaf material dried in silica gel
66 specimen collected as living plants (rooted plants, cuttings)
61 specimen collected as seeds
12 specimen collected as seeds

Further notes on individual field trips:

1. Region around Perinet, Distr. Ankay, Prov. Toamasina, Maromiza Mts. (RN 2, ~150 km East of Antananarivo). [coll. nos.: MMO 0101 - MMO 0116, alt.: 1000-1150m; coll.: Michael Moeller (RBGE), Jackie Andriantianana (PBZT)].

The forests on Mt Maromiza were visited. Near the top of Maromiza a quarry is established (!) and active. At the top, a relatively undisturbed evergreen rainforest was found. There *Streptocarpus hilsenbergii* and *S. thompsonii* was found in small populations. The plants were not in flower.

Further to the NE along mountain ridges, bamboo has taken over the original understorey vegetation. many orchids and a few *Impatiens* could still be seen, as well as *Plectranthus*. SW of the peak, at the far end of a small agricultural area, *Hovanella vestita* was found growing on massive rock boulders in moderate numbers. Alongside, a *Streptocarpus* was found, believed to be *S. muscosus*, but this is uncertain, as the plants were in fruit and bud.

2. Massif de l'Itremo, Col d'Itremo, Prov. Fianarantsoa (~370 km South of Antananarivo, west of Ambatofinandrahana). [coll. nos.: MMO 0117 – MMO 0130; alt.: 1550 - 1620m; coll.: Michael Moeller (RBGE), Jackie Andriantianana (PBZT), Thomas Haevermans (P), Simon Randriamanantsoa (CNRE)].

At and around the Col d'Itremo numerous populations of *Colpogyne betsiliensis* and *Streptocarpus ibityensis* were observed and sampled for population genetic analyses. The plants were just past their flowering period (*Colpogyne*) or in the middle of flowering (*S. ibityensis*). The flowers of the latter showed dark purple stripes in the throat and purple margins of the petal lobes. Both species were numerous present under many larger rocks and from seedling establishment observations and from the number of adult plants in flower it was obvious that both species are not under any threat of becoming endangered in the near future.

3. Ibity Mts., Prov. Fianarantsoa (~180 km South of Antananarivo). [coll. nos.: MMO 0131 – MMO 0142; alt.: 1450 – 1730m; coll.: Michael Moeller (RBGE), Jackie Andriantianana (PBZT), Thomas Haevermans (P), Simon Randriamanantsoa (CNRE)].

Here too, *Streptocarpus ibityensis* was observed in larger numbers and several populations sampled, to be compared to the Itremo populations. Here this species exhibited a nearly

white corolla, except for purple stripes in the throat. As with the Itremo populations, the plants were in flower and seed set and seedling establishment suggests no immediate threat of them becoming endangered. However, the extend of agricultural and forestry area has encroached much further up the mountain slopes, as compared to 1997, and *Eucalyptus* trees have been planted all the way up to the more rockier, steeper slopes, near where the first *Streptocarpus* plants can be found. *Streptocarpus itremensis* was found in larger numbers than 1997, particular on the northern slopes. However, this may only reflect a more extended exploration of the area this year, compared to 1997. The plants had just started flowering.

4. Sambirano river, Prov. Antsiranana. [coll. nos.: MMO 0143 – MMO 0148; alt.: 110 – 150m; coll.: Michael Moeller (RBGE), Franck Rakotoarisoa (PBZT)].

The region along the Sambirano river was approached from Nosy Be, after a flight from Antananarivo and a boat trip to Ankifi, and by car to Moravato, and by foot to Marotolana and Andranomafana. along the Sambirano. From Marotolana to Andranomafana several tributaries of the Sambirano river were investigated, but as with the Samirano itself no primary forest was found and no Gesneriaceae sighted. Thus, it was decided to visit several remaining apparently primary forest pockets North of Andranomafana. But here also the forest systems appeared to be grossly disturbed and no Gesneriaceae found. It appears to be obvious again, that plants of this family are amongst the first to disappear upon any disturbance of the forest ecosystem. This was also observed before in the South of Madagascar, around the Andohahela Strict Nature Reserve. As there seemed to be little chance of finding Gesneriaceae outside the reserves and the permit not valid inside the reserves it was decided to return to the Antananarivo.