

Taxonomic Results of the BRYOTROP Expedition to Zaire and Rwanda

16. Leucophanaceae

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For family description see Salazar Allen 1992.

Leucophanes Brid.

For a worldwide monograph see Salazar Allen 1986.

Plants glaucous green, in loose to dense turfs; stems sparingly branched; leaves lanceolate from a broad to narrow base, slightly to strongly keeled, \pm overlapping when dry, slightly spreading when moist, acuminate, acute apiculate to truncate-retuse and revolute; hyaline lamina occupying 1/5-1/3 length of leaves; hyalocysts quadrate, oblong rectangular to hexagonal in 1-3(-4) layers on the abaxial and adaxial sides of the central chlorophyllous layer; costa narrow or broad, spinose at apex or smooth; margins serrate to smooth. Dioicous, rarely monoicous (*L. serratum*), male and female plants similar in appearance; perichaetial leaves hyaline through most of their length or not differentiated with a broad hyaline base; setae 4.4-12 mm long; capsules 1.7-3.5 mm long, cylindrical; peristome with a prostome 2-3 cells high; haplolepideous of

16 narrow to broadly lanceolate teeth, papillose-foveolate on both plates to smooth on dorsal plate or with semicircular to longitudinal thickenings; spores 7.5-17.5(-20) μ m, gemmate.

Key to species:

1. Leaves erect-spreading, apex of mature leaves straight, acuminate, abaxial hyalocysts at apex rounded quadrate to oblong rectangular (7.5-)12.5-22.5(-36) μ m long, (4.3-)7.5-12.5(-17.5) μ m wide.....*Leucophanes angustifolium*

1. Leaves flexuose spreading, apex of mature leaves recurved, acute, obtuse, retuse to emarginate-erose, abaxial hyalocysts at apex oblong quadrate to long rectangular 21.0-82.5(-100) μ m long, 5.0-12.0 μ m wide*Leucophanes molleri*

**L. angustifolium* Ren. & Card. (*L. denticuspis* C. Muell. ex Dus., *L. massarti* Ren. & Card., *L. prasiophyllum* Besch., *L. tahiticum* Besch., *L. mayottense* Card.). Plate I, figs. 1-7.

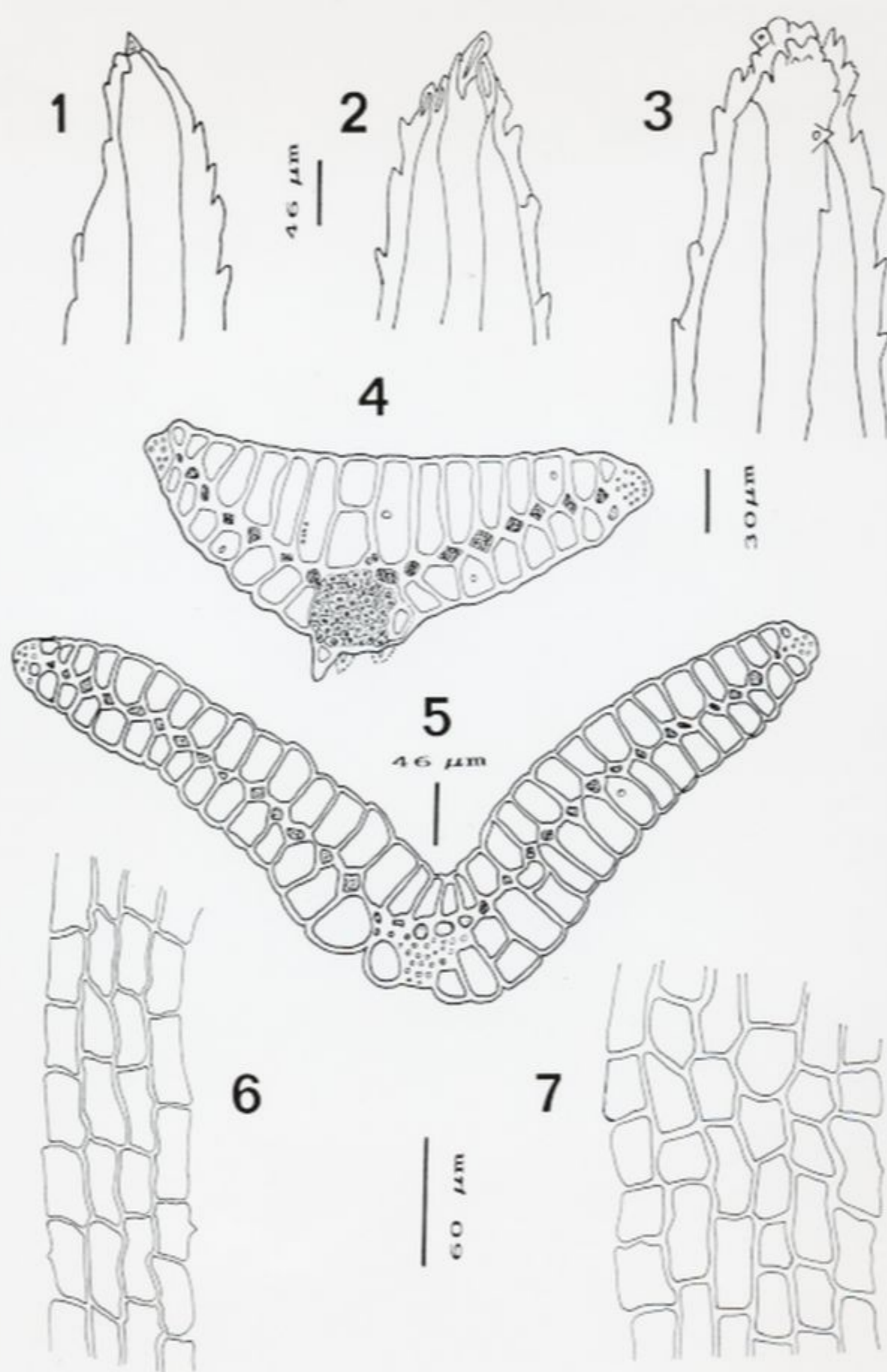


Plate I. *Leucophanes angustifolium* Ren. & Card. Figs. 1-3. Leaf apices. Figs. 4-5. Transverse sections of leaves. 4. At apex. 5. At midleaf. Figs. 6-7. Abaxial hyalocysts. 6. At apex. 7. At midleaf. 1. From Rodriguez s.n. (PC). 2-7. From Pócs 6760 (PMA).

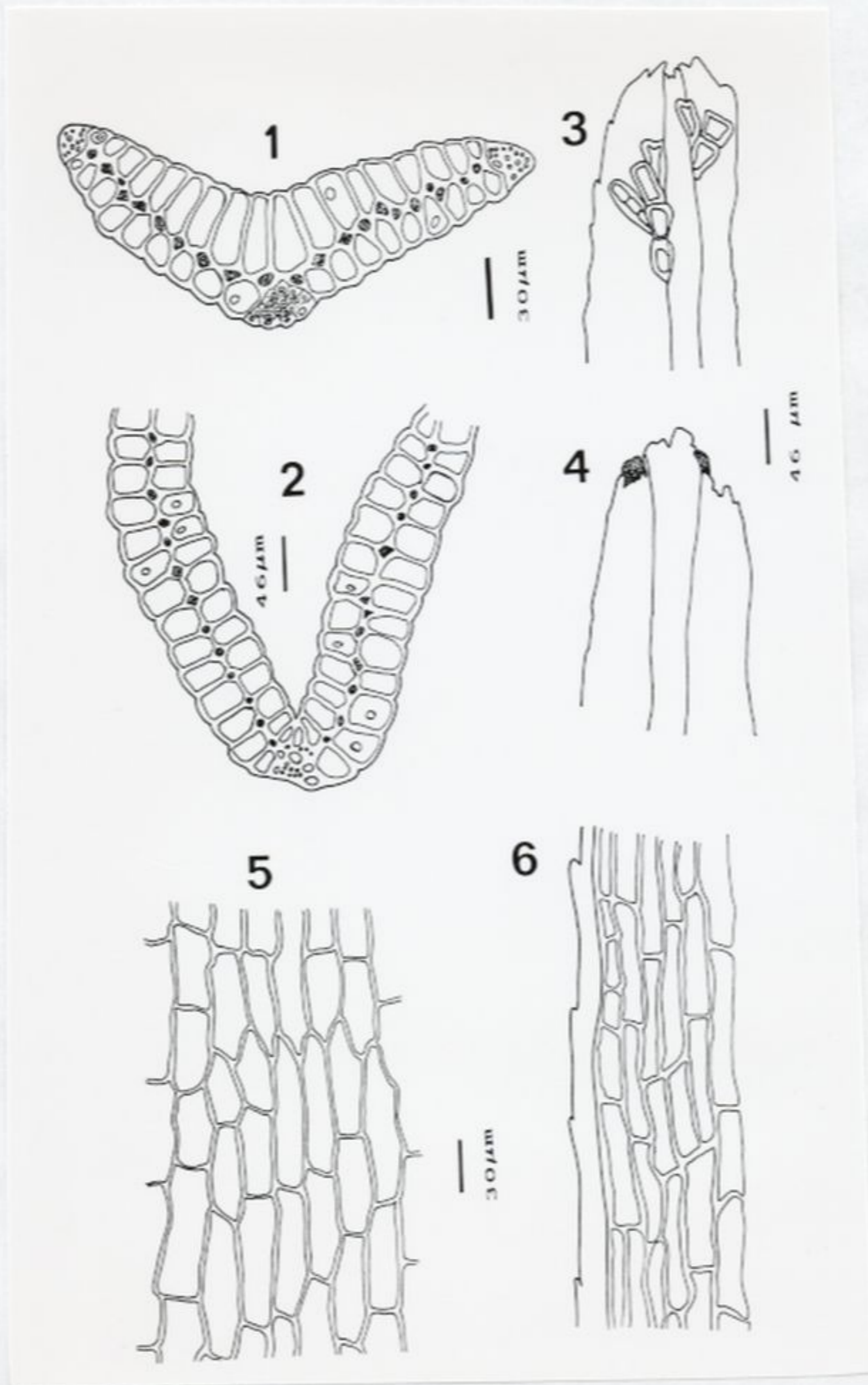


Plate II. *Leucophanes molleri* C. Müll. Figs. 1-2. Transverse sections of leaves. 1. At apex. 2. At midleaf. Figs. 3-4. Abaxial view of leaf apices. Figs. 5-6. Abaxial hyalocysts. 5. At midleaf. 6. At apex. From Pócs 6817 (PMA).

Leaves in this species are long (to 10 mm) and strongly keeled at base, in transverse section with 1-3 irregular layers of hyalocysts on the abaxial and adaxial sides of the central chlorophyllous layer. Thickness of the leaf varies among populations, some have thicker leaves with 2-3 irregular layers of hyalocysts through most of their leaves while others have them restricted to certain areas.

The species is distributed in Australia, Southeast Asia, the South Pacific, Central Africa (Cameroon, Ghana, Tanzania), the East African islands of Comoro (Mayotte), La Réunion and Seychelles (Mahé). It is here reported for the first time for Zaire. It occurs from lowland to forests at 2000 m. It is primarily a corticolous epiphyte on trees, shrubs and tree ferns though it also occurs on rotten logs and rocks as indicated in herbarium labels. It has been observed in mixed collections with *L. octoblepharioides*, *L. glaucum*, *L. hildebrandtii*, *Syrrhopodon* and various species of leafy hepatics.

KB: 123, *Pócs* 6760.

L. mollerii C. Muell. (*L. lecomptei* Besch., *L. cameruniae* C. Muell. ex Dus., *L. calymperaceum* C. Muell. ex Dus., *L. obtusatum* C. Muell. ex Dus., *L. calymperatum* C. Muell., *L. horridulum* Broth., *L. brasiliense* Broth., *L. mittenii* Card. in Paris). Plate II. figs. 1-6.

Leaves in this species are narrowly lanceolate to 5 mm long, erect and \pm twisted above midleaf when dry, in transverse section with a single layer of hyalocysts on the abaxial and adaxial sides of the central chlorophyllous layer.

This species is distributed in Central Africa from Tanzania to Zaire, São Tomé island, Cameroon, Ghana, Ivory Coast and Liberia. Its range extends to the Neotropics from Brazil and Ecuador through Central America (to Nicaragua) and the Caribbean. It has the most delicate and slender plants of all *Leucophanes*. Populations in the Americas (except for some Brazilian specimens) are mostly represented by delicate and small plants (5-10 mm) while African popu-

lations have robust (1-4 cm) and delicate plants. Both male and female gametophytes and sporophytes have been observed in African populations whereas only female gametophytes have been observed in the Neotropics. The species is a corticolous epiphyte although it may occur on decomposing logs and in soil.

KB: 126, *Pócs* 6817.

Abbreviations::

* New record for Rwanda viz. Zaire

KB: Kahuzi-Biega (Zaire)

Ka: Karisimbi (Rwanda)

Ny: Nyungwe Forest (Rwanda)

Ak: Akagera region (Rwanda)

Ki: Kigali region (Rwanda)

100-171, number of collecting site.

For locality data and a description see the contribution by E. Fischer on the vegetation of the study area in this volume (*Tropical Bryology* 8: 13-37, 1993). The specimens are deposited at the Botanical Museum Berlin as well as in the herbarium of the author (except for unicates).

LITERATURE CITED

Salazar Allen, N. 1986. A revision of the Pantropical moss genus *Leucophanes*. Ph.D. dissertation. University of Alberta., 314 pp.

_____. 1992. *Leucophanaceae*. *Flora Neotropica* Monograph 59. The New York Botanical Garden. Bronx, New York.