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Bryophytes from Saiwa Swamp National Park, Kenya

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Abstract. 57 species of bryophytes belonging to 30 families are reported from Saiwa Swamp National Park, of which 57 species are new for Saiwa Swamp National Park and 10 records are new for Kenya, indicated by * and ** respectively. Although small in surface area (15.5 sq.km.) the park represents an undercollected area in Kenya with a good diversity of bryophytes.

Saiwa Swamp National Park (fig.2), at 1850 m, is one of the smallest national parks in Kenya (fig.1), covering an area of only 15.5 sq.km. It lies 22 km northeast of Kitale. The Kipsain and Saiwa swamps form a Y-shaped stream and swamp system. The land surrounding the swamps varies from flat to steeply sloped, with patches of isolated gallery forest occurring at intervals along the swamp margin.

The Saiwa Swamp is a narrow area c. 6 km in length while the width varies between c. 90 m to c. 360 m (Owen 1970). The vegetation consists mainly of large stands of *Typha domingensis, Echinochloa pyramidalis* and *Pycreus lanceus.* There are occasional small areas of open water.

This study is based on collecting specimens in the field and their identifications carried out in the laboratory. The collections were made from specimens growing on the ground, on shrubs and trees, on dead wood, on rocks and from those growing in water with other aquatic plants.

All the specimens were collected by the author in June 1995 and the specimens are deposited in the University of Nairobi Herbarium (NAI). Records new to Saiwa Swamp are indicated by an asterisk while two asterisks indicate species new for the country of Kenya.

BRYOPSIDA

FISSIDENTACEAE

***Fissidens glaucissimus* Welw. ex Duby**

The plants are 1) small, less than 0.5cm.tall, 2) the leaves are long and narrow, costate with 3) limbidia present on all leaves, 4) the leaf cells are highly papillose and the cells are obscured by the papillae.

Distribution : West, West Central, East and South

Tropical Africa.
ssnp 103a, terricolous on termite mound.

**Fissidens intramarginatus* (Hampe) Mitt.
The plants are 1) small, less than 3mm. tall, 2) the leaves are oblong with 3) limbidia present on all leaves, 4) the leaf cells are papillose but the cells are not obscured by papillae.

Distribution : Neotropics, Reunion, Madagascar, Tanzania, central Africa.
ssnp 72a, terricolous.

***Fissidens molliculus* P.Varde
The plants are 1) small and delicate, 2) leaves lanceolate with reticulate cell network, apex acute, 3) costa absent, 4) mid-leaf cells 50-60 *um.*

Distribution : Zaire.

ssnp 72b. terricolous.

POTTIACEAE

**Hyophila acuminata* Broth. & P.Varde
The plants are 1) small, loosely caespitose, 2) the stems are erect, 3) the leaves are oblong-elliptical with acute apex and the leaf margins are plane to denticulate.

Distribution : Ivory Coast East Africa, Madagascar, Zambia.
ssnp 63, terricolous.

**Leptodontium pungens* (Mitt.) Kindb.
The plants are 1) medium-sized, about 2 cm tall, forming loose tufts, greenish above, reddish brown below, 2) stems densely tomentose below, 3) leaves lanceolate, 4) the leaf cells are rounded, incrassate and papillose and 5) leaf apex serrulate.

Distribution : Tropical America, Mts. Cameroun, Kilimanjaro, Meru and Kenya.
ssnp 50b, 45a, epiphytic.

***Tortella xanthocarpa* (C.Müll.) Broth.
The plants are 1) small, about 1 cm tall, yellowish-green above, brownish below, 2) the leaves are crowded above, incurved, linear with acute apex, 3) the basal cells strongly differentiated, hyaline, incrassate, extending up margin.

Distribution : Southern Africa.
ssnp 109d, epiphytic.

**Tortula atrovirens* (Sm.) Lindb.
The plants are 1) small, less than 0.5cm. tall, forming tufts, dark green, 2) leaves twisted and contorted when dry, widespreading when wet, 3) costa mucronate, 4) leaf cells papillose.

Distribution : Eritrea, Kenya, Lesotho, Namibia, South Africa.
ssnp 64, 89a, terricolous, epiphytic. (to rechk on 89a.)

BRYACEAE

**Brachymenium capitulatum* (Mitt.) Kindb.
The plants are 1) robust, much branched, up to about 2.5cm. tall, 2) leaves oblong, 3) costa excurrent with long hair point, 4) upper leaf margin serrulate and 5) leaf border of thick walled cells in 2-3 rows.

Distribution : West Africa, East Africa, Central Africa, Zambia.
ssnp 74b, epiphytic.

**Bryum argenteum* Hedw.
The plants are 1) silvery green in appearance with julaceous stems, 2) broad, ovate, concave leaves with acuminate apices, 3) leaf margins unbordered, 4) hyaline upper laminal cells and 5) costa ending below apex.

Distribution : cosmopolitan, widespread in Tropical Africa.
ssnp 85a, terricolous.

**Bryum keniae* C.Müll.
The plants are 1) large, robust, gregarious, green above, reddish brown below, 2) stems erect, frequently branching, tomentose below, 3) leaves in rosettes terminally, distant and reduced below; twisted when dry, widespreading when wet, 4) margins denticulate above, border 2-3 cells wide, 5) costa short, excurrent.
Distribution : widespread afromantane species.
ssnp 40a, terricolous.

**Bryum pseudotriquetrum* (Hedw.) Gaertn., Meyer & Schreb.
The plants are 1) light green above, reddish-brown below, 2) leaves ovate-lanceolate, concave,3) margin entire, denticulate near apex, 4) costa reddish-brown, short excurrent.

Distribution : cosmopolitan.
ssnp 50c, 82, 85b, terricolous, epiphytic.

**Rhodobryum commersonii* (Schwaegr.) Par.
The plants are 1) robust, gregarious, green above, brownish below, 2) stems erect from rhizomes, tomentose below, 3) leaves crowded or loosely rosulate above, distant and smaller below, twisted when dry, flat to weakly undulate when wet, obovate, 4) margin denticulate, border 1-3 cells wide.

Distribution : East African Mountains.
ssnp 107, 36a, 40a, 48a, 52b, terricolous, epiphytic.

MNIACEAE

**Plagiomnium rhynchophorum* (Hook.) Kop.
The plants are 1) in loose mats, dark green, 2) stems erect, radiculose, prostrate stolons arising from various parts of erect stem, long, creeping with distant leaves, the prostrate stolons anchored to substrate by rhizoid tufts, 3) stem leaves larger and crowded towards apex, oblong to oblong-spathulate, stolon leaves distant, orbicular.

Distribution : pantropical, widespread from Camerouns to Ethiopia and to Zimbabwe.
ssnp 30, 113a. terricolous, epiphytic.

ERPODIACEAE

**Erpodium beccari* C.Müll. ex Vent.
The plants are 1) small, forming green mats, 2) stems branched and creeping, 3) leaves appressed, horizontally spreading, concave, ovate-lanceolate, ending in a long hyaline hair point, margins plane, 4) costae absent.

Distribution : widespread in Central and South America, East Africa.
ssnp 12, epiphytic.

ORTHOTRICHACEAE

**Orthotrichum affine* Brid.
Plants olive-green above, brown below, 2) leaves spread out easily when moistened, lanceolate, 3) margins entire, recurved to below apex, 4) costae percurrent, 5) capsules immersed, symmetrical, cylindrical, 6) peristome yellowish, double, exostome 200-300*µm.* long, papillose, 7) Spores greenish-brown, globose, papillose, 16-18*um.*in diameter.

Distribution : South Africa.
ssnp7a, 74d. epiphytic.

**Orthotrichum arborescens* Thér. & Nav.
The plants are 1) yellowish-green above, brownish below, 2) leaves spread out rapidly when moistened, lanceolate, apex acuminate, 3) margins entire, recurved to below apex, 4) capsules exerted, symmetrical, cylindrical, 4) peristome double, pale yellow, papillose, exostome to 140*um.* long, 5) spores greenish-brown, globose, 28-32*um.*,

Distribution : Central and East Africa
ssnp 100c. epiphytic.

RACOPILACEAE

**Racopilum africanum* Mitt.
The plants form 1) wide, flat, dark green mats, 2) stems long often closely rhizoid-tomentose, more or less regularly pinnate, 3) leaves numerous and complanate, dimorphous, the branches when dry often curled up, side leaves distichous, ovate and hair pointed, 4) nerve strong, single, excurrent.

Distribution : Widespread in Tropical Africa, from Guinea to East African Islands.
ssnp 28, 33, 47d, 59, 70a, 98. terricolous, epiphytic.

HEDWIGIACEAE

**Braunia secunda* (Hook.) B.S.G.
The stems are 1) irregularly branched, loosely caespitose, 2) leaves concave, ovate, acuminate, apex denticulate, 3) nerve absent.

Distribution : pantropical, afromontane.
ssnp 27, 117b, 119b. epiphytic.

CRYPHAEACEAE

**Cryphaea robusta* Broth. & Thér.
The plants are 1) robust, dark-green, 2) stems erect, irregularly pinnate, 3) branch leaves generally similar to stem leaves, leaves concave, lanceolate with acuminate apex, margins plane to revolute, entire, 4) sporophytes borne laterally on branches ans stems, capsules immersed.
Distribution : montane in East Africa
ssnp 20, 22b, 54b, 108b, 112a, 117c. epiphytic.

**Forsstroemia flagellacea* (C.Müll.) Par.
The plants are 1) small, slender and delicate, pinnately branched, 2) stem leaves and branch leaves similar, leaves ovate-lanceolate, tapering to a long acuminate apex, margins plane, entire, 3) costa single, wide from 3/5 to nearly 4/5 up leaf, 5)

all laminal cells thick walled.

Distribution : Kenya.
ssnp 62, 87b, 117c. epiphytic.

**Forstroemia producta* (Hornsch.) Par.
The plants are 1) irregularly branched, up to 4cm. tall, 2) leaves concave, ovate with acute apex, margin entire, 3) costa single to 3/5 up leaf, 4) sporophyte immersed.

Distribution : East Africa, from Kenya to Cape.
ssnp 9a, 17b, 95b, 117c. epiphytic

**Schoenobryum robustum* (Broth.) Manuel
The plants are 1) robust, up to 4cm. tall, 2) branch leaves similar to stem leaves, leaves concave, ovate with acuminate apex, margin entire, 3) costa single sometimes double.

Distribution : widespread, Central and East Africa , submontane and montane species.
ssnp 9b, 50a, 74a, 97, 115a, 124a. epiphytic.

PTEROBRYACEAE

**Calyptothecium hoehnelii* (C.Müll.) Argent
The plants are 1) robust, dendroid, up to 5cm. tall, 2) leaves oblong-lanceolate, margin plane, entire, 3) costa absent.

Distribution : Kenya, Tanzania and Malawi.
ssnp 116c. epiphytic.

METEORIACEAE

**Floribundaria floribunda* (Dozy & Molk.) Fleisch.
The plants are 1) light-green to pale yellowish, 2) main stem long, prostrate, 3) main leaves shortly lanceolate with a wide base, all other leaves lanceolate-subulate from a clasping or subcordate base and arranged usually in four rows, 4) nerve single, to halfway up leaf, 5) leaf margin denticulate towards apex.

Distribution : palaeotropical, widespread in tropical African mountains from Cameroons to Mascarenes.
ssnp 44, 45b, 49b, 68. epiphytic.

**Papillaria africana* (C.Müll.) Jaeg.
The main stem is 1) creeping and rooting, secondary stems numerous, usually long and hanging, pinnate, 2) leaves ovate-acute with a wider lower portion , rounded in to the base and slightly decurrent, 3) apex usually subulate, 4) leaf margin entire, 5) nerve single 1/4 up leaf.

Distribution : widespread in East and South Africa, East African Islands.
ssnp 60. epiphytic.

**Pilotrichella ampullacea* (C.Müll.) Jaeg.
The main stem is 1) shorter than the *Pilotrichella cuspidata*, 2) stems bipinnate, 3) leaves cochleate, concave with a long subula at leaf apex, leaf margin entire, 4) nerve absent.

Distribution : Malawi, Zambia, Kenya, Tanzania and Uganda
ssnp 9c, 24, 34a, 90. epiphytic.

**Pilotrichella cuspidata* Broth.
The plants are 1) long and slender, brownish-green, usually hanging frm tree branches, 2) main stem long, secondary stems numerous, more or less pinnate, 3) leaves concave, more or less boat-shaped, more or less distinctly auricled at the base and abruptly cucullate-mucronate at the apex, leaf margin serrate near apex, 4) nerve absent

Distribution : widespread in East Africa, submontane and montane species.
ssnp 15, 49a, 116a. epiphytic.

NECKERACEAE

**Neckera platyantha* (C. Müll.) Par.
The plants are 1) robust, 2) stems pinnately branched, 3) leaves complanate, concave, transversely undulate, ovate-oblong, gradually tapering to acute apex, margin incurved, faintly denticulate near apex, 4) nerve absent, 5) laminal cells incrassate, 6) seta short, capsule immersed, erect, symmetrical.

Distribution : widespread from Ethiopia to Tanza-

nia, montane species.
ssnp 11a, 14, 17a, 25, 57b, 65, 96, 109b, 120a. epiphytic.

HYPOPTERIGIACEAE

**Hypopterygium mildbraedii* Broth.
The plants are 1) robust, dendroid up to 3cm. tall, 2) leaves orbicular, denticulate near apex, 3) leaf margin denticulate near apex, 4) costa single up to one-third up leaf.

Distribution : Malawi, Tanzania and Kenya, montane.
ssnp8a, 31a, 35a, 37. terricolous and epiphytic.
FABRONIACEAE

**Fabronia abyssinica* C.Müll.
The plants are 1) small and delicate, 2) stems are prostrate and straggling 3) leaves oblong-lanceolate, gradually tapered to a long acuminate apex, 4) leaf margins strongly ciliate, from base to near apex, 5) nerve absent.

Distribution : Known from scattered localities from Ethiopia to Cape.
ssnp 123. epiphytic.

** *Fabronia congolensis* Card.
The plants are 1) small and delicate, 2) stems are prostrate and straggling 3) leaves ovate-lanceolate, gradually tapered to a long, acuminate apex, 4) leaf margins weakly serrulate in upper half and 5) nerve absent.
Distribution : Known from Mt.Meru in Tanzania.
ssnp 10a. epiphytic.

LESKEACEAE

**Hylocomiopsis cylindricarpa* Thér.
The plants are 1) medium-sized, 2) stems more or less pinnately branched, 3) leaves ovate-acuminate, plicate, margin entire, slightly denticulate towards apex, 4) nerve single ending below apex, 5) paraphyllia present.

Distribution : widespread from Cameroon and Ethiopia to South Tanzania., montane.
ssnp109a. epiphytic.

**Lindbergia patentifolia* Dix.
The plants are 1) small, laxly tufted, brownish-green, 2) stems prostrate, closely leaved, forked, the forks irregularly pinnate, paraphyllia absent, 3) leaves spreading, concave, 4) nerve strong, ending below apex.

Distribution : uncommon, occuring in Uganda, Kenya, Tanzania, submontane.
ssnp 4, 78, 83. epiphytic.

THUIDIACEAE

**Thuidium chenagonii* C. Müll. ex Ren. & Card.
The plants are 1) small and slender, 2) stems more or less arcuate, pinnate, stems with paraphyllia, 3) stem leaves from broad base, widely ovate, gradually narrowed to acuminate apex, margin recurved below, denticulate above, 4) nerve strong, ending below apex, 5) laminal cells incrassate, 6) branch leaves concave, ovate-lanceolate.

Distribution : widespread in Tropical Africa from Guinea to Zimbabwe, Mozambique and East African Islands, submontane and montane.
ssnp 19, 31b, 39a, 55, 105a, 111, 114a. terricolous, epiphytic.

***Trachyphyllum inflexum* (Harvey) Gepp
The plants are 1) green, in dense mats, 2) stems creeping, the branches are long and straight when dry, 3) branch leaves imbricate, concave, orbicular to broadly ovate, apex acute, margins plane, entire to serrulate near apex, 4) costa double, ending between 1/3 and 3/5, upper cells short and broad, papillae clearly visible, 5) alar cells extending shortly up margin.

Distribution : Sudan, Tanzania, Malawi, Indian Ocean Islands, India Thailand, New Caledonia, Australia.
ssnp 56, 95a. terricolous, epiphytic.

AMBLYSTEGIACEAE

***Amblystegium serpens* (Hedw.) B.S.G.
The plants are 1) slender, 2) stems are procumbent, irregularly branched, 3) stem leaves ovate-lanceolate tapering to a long acuminate apex,

margin plane, entire, 4) nerve single, to ¼ up leaf, 5) branch leaves similar to stem leaves but smaller.

Distribution : widespread boreal and temperate species of Northern Hemisphere and Uganda.
ssnp 42c, 87a, 103b. terricolous, epiphytic.

BRACHYTHECIACEAE

Brachythecium gloriosum (C.Müll) Kindb..
The plants are 1) slender, prostrate, much branched, 2) stem leaves similar to branch leaves, concave, smooth, ovate-lanceolate, apex acute, margin entire, slightly denticulate near apex, 3) nerve single, 2/3 to 4/5 up leaf.

Distribution : Central and East Africa.
ssnp 26, epiphytic.

PLAGIOTHECIACEAE

**Plagiothecium nitens* Dix.
The plants are 1) prostrate, 2) leaves concave, complanate, curving downwards, lanceolate, tapering to acute apex, margin entire, slightly denticulate near apex, 3) nerve absent.

Distribution : Central and East Africa.
ssnp 101c. epiphytic.

SEMATOPHYLLACEAE

**Sematophyllum brachytheciiforme* (Broth.) Broth..
The plants are 1) small and slender, 2) stems procumbent, pinnately branched, 3) leaves soft, concave, slightly asymmetrical, ovate-lanceolate, apex acute.

Distribution : East Africa.
ssnp 67, 80a. terricolous, epiphytic.
HYLOCOMIACEAE

**Hylocomium splendens* (Hedw.) B.S.G.
The plants are 1) slender, 2) stems are procumbent, 3) stem leaves ovate, apex acute, margin plane, denticulate near apex, 4) nerve double, 5) branch leaves similar to stem leaves but smaller.

Distribution : widespread in Northern Hemisphere, in the south known only in New Zealand and East African Mountains.
ssnp 52, 95. terricolous, epiphytic.

HEPATICOPSIDA

LOPHOCOLEACEAE

**Lophocolea cuspidata* Limpr.
The plants have 1) relatively strong shoots, 2) leaves with the front margin strongly arched, the hind margin straighter, 3) leaves bilobed, sinus is broad, obtuse or lunate, the lobes finely apiculate, the apicule parallel or diverging, ending in a 2-3 uniseriate cells which are 1.5 times as long as wide. 4) underleaves deeply bilobed into 2 narrowly triangular laciniae each with a subsidiary lacinia or tooth near the base of the outer margin.

Distribution : Tropical Africa, montane.
ssnp 42b, 69b. terricolous, epiphytic.

PLAGIOCHILACEAE

**Plagiochila divergens var. myriocarpa* (Pears.) E.W.Jones
The plants have 1) light-green, bipinnate fronds to 8cm. long, 2) shoots to 3.5mm. wide, 3) leaves with antical margins almost straight or weakly arched, postical margin at 90°, gently convex, apex rounded, 4) postical margin with 8-14 teeth all along ist whole length, the apex with 4-5 teeth, all the teeth ending in 2-4 uniseriate cells.

Distribution : afromontane.
ssnp39c. terricolous.

**Plagiochila haumanii* Herz.
The plants are 1) small, 2) shoots to 1.7mm. broad, 3) leaves postically deflexed, narrowly decurrent antically, antical margin entire, straight, postical base shortly decurrent, running from the insertion in the direction of the stem and then passing gradually into the arched postical margin; postical margin bear several spiniform teeth.

Distribution : East African Mountains.
ssnp 42a. epiphytic.

**Plagiochila squamulosa* Mitt. *var. crispulo-caudata* Gott.
The plants have 1) bipinnate fronds which form pendant brackets, 2.5cm. long, 1.5cm. broad, 2) shoots 3mm. broad, 3) female inflorescences numerous, terminal on short branches, sterile branches longer, 4) leaves 1.8-2.0mm. long, apex of leaf broad, rounded, 5) postical margin at 90°, straight, not undulate, the whole postical margin and apex bear spiniform teeth that end in 2 uniseriate cells.

Distribution : Zaire, Southern Africa to Cape.
ssnp 16a. epiphytic.

**Plagiochila squamulosa* Mitt. *var. sinuosa* Mitt.
The plants have 1) robust bipinnate fronds which form pendant brackets up to 6.5cm. long, 2.5cm. broad, 2) shoots 3mm. broad, 3) female inflorescences numerous, terminal on short branches, 4) leaves 1.8-2.0mm. long, apex of leaf broad, rounded, postical margin at 90°, straight, weakly undulate , postical base forms a crest, longly decurrent in a highly crisped wing, 5) postical margin and apex bear spiniform teeth that end in 1-2 uniseriate elongate cells.
Distribution : East Africa, montane.
ssnp 58, 76b, 105c. epiphytic.

**Plagiochila squamulosa* Mitt. *var squamulosa*
The plants have 1) strong pinnate to bipinnate fronds which form pendant brackets to 3.75cm. long, 3cm. broad, 2) shoots to 4mm. broad, 3) female inflorescences numerous, terminal on short branches, 3) leaves 1.8-2.2mm. long, apex of leaf broad, rounded, postical margin at 90°, straight or weakly arched, not undulate, postical base forms a crest, longly decurrent in a highly crisped wing, the whole postical margin bears spiniform teeth that end in 2-3 uniseriate elongate cells.
Distribution : afromontane
ssnp 58, 76b,105c. epiphytic.

CEPHALOZIELLACEAE

***Cephaloziella gittinsii* E.W.Jones
The plants are 1) minute, slender, bright green, 2) shoots 360*µm.* wide, with 3) stems 60*um.*in diameter, 4) leaves distant, obliquely inserted, leaf lobe bilobed to a third, sinus acute, narrow, more or less pointed, 5) margins of lobe entire 6) leaf lobe cells 14-17*µm.* without trigones and 7) rhizoids numerous, colourless.
Distribution : Uganda.
ssnp 122b. epiphytic.

***Cephaloziella ugandica* E.W.Jones
The plants are 1) minute, slender and delicate, 2) shoot with leaves 680*µm.* wide, with 3) stems 40-60*um.*in diameter, 4) leaves obliquely inserted, distant, bilobed to one-third, margins entire, 5) spores brownish, 12-14*µm.*in diameter.

Distribution : Uganda.
ssnp 122a. epiphytic.

RADULACEAE

**Radula recurvifolia* Steph.
The plants are 1) light green to yellow-green creeping over bark, 2) shoots about 1mm. broad, stems about 0.1mm. in diameter, 3) leaf lobes oval, imbricate, the base crossing the stem but not auriculate, mature leaves often with gemmae on the margins, 4) lobules large, keel nearly straight, making an angle of 50 to 80° with stem, the base extends far across the stem but not auriculate, forming half or more of the width of the lobe, the front margin overlapping the next younger lobules, apex of lobule bluntly rectangular, 5) mid lobe cells 12-18*µm.* with thin walls, and small trigones, 6) Sporangium 1.3mm. long, spores 40-44*µm,* finely papillose, elaters 8*um.*in diameter.

Distribution : East Africa, Madagascar, Mascarenes, montane.
ssnp 5a, 7b, 46. epiphytic.

PORELLACEAE

**Porella hoehnelii* Steph.
The plants have 1) robust, bipinnate shoots, brown below, green above, 2) lobes imbricate, oblong-oval, 3) lobules large, about equal to the underleaves in size, oblong-oval, entire, 4) underleaves oblong-oval, apex broadly rounded, plane, sides plane, decurrent at the base in crisped auricles, 5) underleaves and lobules usually flat, closely imbricate, concealing the stem.

Distribution : from Ethiopia to South Africa to Madagascar, East Africa, montane.
ssnp 43a, 48d. epiphytic.
FRULLANIACEAE

**Frullania caffraria* Steph.
The plants are 1) robust, green, forming mats, 2) stems pinnate, 3) leaf lobes imbricate, 4) lobe concave, oval, rounded at apex, 5) lobule varies from hood to helmet structured, 6) underleaves distant, bilobed to 1/3 the length of underleaf.

Distribution : widespread in Africa, Central, East to Southern Africa to East African Islands.
ssnp 3, 6b, 21, 73, 86, 91, 99, 101b, 102, 105b. epiphytic.

**Frullania obscurifolia* Mitt.
The plants are 1) small and delicate forming thin open mats, reddish-brown, 2) stems pinnate up to 3cm. long, 3) leaf lobes distant, lobe oval, rounded at apex, 4) lobule erect, subcylindrical, more or less parallel to stem, relatively big, longer than broad, 5) underleaves generally distant, oval, bilobed to ¼ the length of underleaf.

Distribution : West, Central East, Southern Africa to East African Islands (Mauritius and Rodriguez).
ssnp 53, 74e, 84, 104, 106. epiphytic.

LEJEUNEACEAE

***Lejeunea letabaensis* S.Arn.
The plants are 1) small, 2) leaves gently convex, oval with broadly rounded apex and well developed lobules, 3) lobules inflated with strongly arched keel extending 2/5 the distance from insertion to lobe apex, making a wide sinus with the arched postical margin of the lobe, free margin incurved, 4) underleaves one and a half times the width of the stem, orbicular, bilobed to a half, the lobes triangular, acute, widely pointed.

Distribution : Tropical Africa, south of the Equator
ssnp 2a, 42d. epiphytic.

***Cheilolejeunea pocsii* E.W.Jones
The plants are 1) light green to brown, 2) shoots 1.0mm. wide, 3) stems 0.1mm. in diameter, 4) leaves imbricate, ovate to oval, asymmetrical, antical base arched to the far side of the stem, antical margin strongly arched, postical margin weakly arched or nearly straight, forming a sinus of about 90° with the keel, apex convex, decurved, obtusely pointed, 5) lobule proximally inflated, distally contracted to a narrow, curved neck, the free margin inrolled, apical tooth straight, spiniform, 20-25*µm.* long, 6) underleaves3-4.5 times the width of the stem, broader than long, apex truncate, bilobed to 1/5 or 1/4, the lobes obtusely pointed, sinus V-shaped, the base contracted, 7) leaf lobe cells with large trigones.

Distribution : Tanzania.
ssnp 41b, 74c, 109c. epiphytic.

***Taxilejeunea heterofolia* Steph. - fig.57.
The plants are 1) small and delicate, 2) leaves oval, apex broadly rounded with short apiculus, 3) underleaves two times the width of the stem, 4) mid leaf cells 20-24*µm.*

Distribution : Cameroon.
ssnp 80b. epiphytic.

METZGERIACEAE

**Metzgeria agnewii* Kuw.
The plants are 1) small, thalloid, thalli dichotomously branched, blue coloured when dried, especially at the thalli apices, 2) two forms of thalli, one gradually long tapered, the other non-tapered and broadly obtuse at the apices, 3) sparsely hirsute at the thallus margins, 4) laminal gemmae abundantly produced at thallus margin near tapered apices.

Distribution : Peru, Aberdares, Cherangani (Kenya), Ngorongo Crater (Tanzania), montane.
ssnp 89b, 100d, 101a. epiphytic.

RICCIACEAE

**Riccia stricta* (Lindenb.) Perold.
The plants are 1) thalloid, not in rosettes, small, green, 2) branches linear, ribbon-like, branches 2-3 times dichotomously furcate, apex rounded, 3) thallus margin glabrous.

Distribution : cosmopolitan, widespread in Tropical Africa.
ssnp 118, 121a, 125. terricolous and aquatic.

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Bibliography

Brotherus, V.F. 1925. in Engler & Prantls Die Naturlichen Pflanzenfamilien. Vol. 11. Musci. Part 2. Wilhelm Engelmann, Leipzig. 1925.

Bruggeman-Nannenga, M.A. 1993. Taxonomic Results of the BRYOTROP Expedition to Zaire and Rwanda. 15. *Fissidens.* Tropical Bryology. 8 : 141-148.

Jones, E.W. 1962. African Hepatics. XV. *Plagiochila* in Tropical Africa. Trans. Br.Bryol. Soc. 4 : 254-325.

Jones, E.W. 1963. African Hepatics. XVI. *Porella* in Tropical Africa. Trans. Br. Bryol. Soc. 4 : 446-461.

Jones, E. W. 1977. African Hepatics XXX. The genus *Radula* Dumortier. J. Bryol. 9 : 461-504.

Kis, G. 1985. Mosses of South-East Tropical Africa. An annotated list with distributional data. Inst. Ecol. Bot. Hung. Acad. Sci. Vacratot. 170pp.

Lewinsky, J. 1978. The genus *Orthotrichum* Hedw. (Musci) in Africa South of the Tropic of Cancer. Saertryk Af. Bot. Tids. 72 : 61-85.

Ochi, H. 1972. A Revision of African Broideae, Musci (First Part). J. Fac. Educ. Tottori Univ., Nat. Sci. 23 : 1-126.

OShea. B. 1995. Checklist of the mosses of subsaharan Africa. Trop.Bryol. 10 : 91-198.

Owen, R.E.A. 1970. Some Observations on the Sitatunga in Kenya. E.Afr. Wildl. J. 8 : 181-195.

Petit, E. 1978. Clefs pour la détermination des familles et des genresdes mousses pleurocarpes (Musci) dAfrique. Bull. Jard Bot. Nat. Belg. 48 : 135-181.

Sim, T.R. 1923. The Bryophyta of South Africa. Trans. Roy. Soc. S. Afr. 15. 475pp.

Touw, A. 1976. A taxonomic revision of *Thuidium, Pelekium* and *Rauiella* (Musci : Thuidiaceae) in Africa south of the Sahara. Lindbergia. 3 : 135-195.

Vanden Berghen, C. 1976. Frullaniaceae (Hepaticae) africanae. Bull. Jard. Bot. Nat. Belg. 46 : 1-220.