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## Bryophytes of Uganda. 2. New and interesting records

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**Abstract.** 51 hepatics and 46 mosses are reported new to Uganda, including one moss new to Africa, one hepatic and two mosses new to mainland Africa, and 2 hepatics that are otherwise known only from their type collection.

### INTRODUCTION

This is the first paper giving preliminary results of the British Bryological Society (BBS) Tropical Bryology Group (TBG) expeditions to Uganda, supported by the UK Darwin Initiative Fund. Details of this three-year project are given in the first paper of the series (Wigginton, *et al.* 1999). Most of the collections listed in this paper were made during TBG expeditions to Uganda in 1996 and 1997, although we have included some new identifications from collections of earlier workers, which had been lodged unidentified in BM and NMW. Only a small proportion of the TBG collections have so far been examined, and so additional collections of many of the taxa listed

in this paper are to be expected. A number of identifications have been made in genera yet to be revised, and it has not been possible to check all of these against types. Where comment is made about any taxon, the author's initials are added in square brackets.

For each record, the site name is followed by its number in parentheses. For further details of each numbered site (longitude and latitude, UTM grid, collection date, habitat), reference should be made to Wigginton *et al.* (1999). Nomenclature follows O'Shea (1995) for mosses, and Wigginton & Grolle (1996) for liverworts, except where otherwise stated.

Collection numbers are prefixed by the letter U on packets. The first collection will be held at the Royal Botanic Garden, Edinburgh (E), with duplicates at Makerere University, Kampala (MHU), and providing there is sufficient material, also in institutional and personal herbaria.

Abbreviations: NP: National Park; MUBFS: Makerere University Biological Field Station; ITFE: Institute of Tropical Forest Ecology; BM: Natural History Museum, London; NMW: National Museum of Wales, Cardiff.

#### NEW AND INTERESTING RECORDS

\* = new to Uganda

† = new to Africa

#### Hepatics

*Acrolejeunea emergens* (Mitt.) Steph. var. *emergens* MASINDI. Budongo Forest Reserve, Royal Mile (4a), on bark of roadside tree with *Frullania* spp., *Schiffneriolejeunea polycarpa*, 1070 m, *Wigginton 8401a*. MPIGI. Entebbe Botanic Garden (96), on trunk of *Canarium schweinfurthii*, *Porley 1a*, and on trunk of smooth-barked tree, 1130 m, *Hodgetts 4000a*. The range of this species is extended to Masindi district. It is likely to be widespread in Uganda, as also it is in tropical Africa.

\**Adelanthus decipiens* (Hook.) Mitt. KISORO. Mgahinga NP, Sabinio (89f), on stems of tree-heath, 3300 m, *Porley 693a*. Previously recorded from the Virunga Mountains, but in Zaire and Rwanda only (Fischer, 1993). In Africa it is mainly a plant of the high East African mountains, and known also from Mt. Cameroon.

\**Aneura pseudopinguis* (Herz.) Pócs KABAROLE. Kibale NP, Sebitoli (31a), on rotten branches on forest path, 1440 m, *Hodgetts 4415a*. Likely to be widespread in tropical Africa, with many collections probably also recorded under *A. pinguis*.

\**Aphanolejeunea capensis* (S.W. Arnell) S.W. Arnell KABALE. Bwindi NP (83b), on fallen branch on forest floor, 2005 m,

*Wigginton 5018h*. Congo (Zaire) to South Africa.

\**Arachniopsis diacantha* (Mont.) Howe RUKUNGIRI. Bwindi NP, Bukirobwomugogo (58), on humus on forest floor, 1750 m, *Porley 181a*; Bwindi NP, Buhoma (71), on rotten wood in forest, 1460 m, *Porley 249a*; Kitahurira (64b), on tree trunk, and on rotten logs and branches, 1500 m, *Hodgetts 4190h, 4193n*. Widespread in tropical Africa.

*Archilejeunea africana* Steph. MASINDI. Budongo Forest, Nyakafunjo Nature Reserve (6), on stem of small sapling in forest, 1040 m, *Wigginton 3114a*. Most records of this species are from West and Central Africa, there being only one other record from East Africa (from Mahale Mountains NP, western Tanzania).

\**Archilejeunea abbreviata* (Mitt.) Vanden Berghen MPIGI. Mpanga Forest nature reserve (94), on trunk of large tree by forest ride, in mixed hepatic mat, with *Metzgeria*, *Lejeunea* and other Lejeuneaceae, 1190 m, *Wigginton 5245a, 5253a*. The separation of *A. africana* and *A. abbreviata* seems problematical because of the apparently uncertain delimitation of the species, and further study of these taxa is indicated. Vanden Berghen (1951) described differences in leaf cells and keel, but later (1972) cast doubt on their taxonomic value. Jones, in Jones & Harrington (1983) considered that *A. africana* often seems distinct in its habit, with closely-spaced long-beaked perianths ranked along one side of the branches of the cyme, whereas *A. abbreviata* is more irregularly branched with sub-gynoecial innovations not again quickly fertile. He also comments (in MS) that the development of cell-wall thickenings and dorsal perianth keel are variable and likely to be greatly modified by environmental factors. All the present collections (*3114a, 5245a, 5253a*) have leaf cells with more or less conspicuous intermediate thickenings, and all are similar in the development of the dorsal perianth keel. Collection *3114a* has ranked perianths, with long beaks (100 µm), and on that basis is assigned to *A. africana*. In the other two collections the perianths tend

to occur singly or well-spaced on a stem, though sometimes with two fairly close together, and are assigned to *A. abbreviata*, for the time being. [MJW]

\**Bazzania decrescens* (Lehm. & Lindenb.) Trev. ssp. *pumila* (Mitt.) Pócs RUKUNGIRI. Bwindi NP, Bitanwa (60), on rotten wood on forest floor, 1790 m, *Porley 103a*; Bwindi NP, Kasiru (56), on shaded soil bank, and on trunk of *Psycotria* tree in forest, 2060 m, *Porley 140a, 153a*.

\**Bazzania nitida* (F.Web.) Grolle RUKUNGIRI. Bwindi NP, Kasiru (56), on soil bank along forest path, 2110 m, *Porley 144a*. It appears to be mainly a species of Central and East Africa (and the islands), with outlying records from Cameroon and South Africa.

\**Calypogeia afrocaerulea* E.W.Jones KABALE. Bwindi NP, Ruhijja ITFE Guest House (79), on vertical soil bank of road cutting, 2250 m, *Hodgetts 4020a*. Local in Cameroon and East Africa, but probably under-recorded.

\**Calypogeia fissa* (L.) Raddi KABALE. Bwindi NP (80), on rotting log, 2415 m, *Stevenson 3030d*. RUKUNGIRI. Bwindi NP, Kasiru (56), on soil on forest floor, 2050 m, *Porley 137a*; Rukubira (68), on rotting log with *Syrrophodon lamprocarpus*, 1600 m, *Porley 260b*. Widespread in tropical Africa.

\**Caudalejeunea hanningtonii* (Mitt.) Schiffn. RUKUNGIRI. near Rukubira (69), on canopy twigs of fallen tree, 1600 m, *Matcham 1150a*. In Uganda, previously recorded (though unpublished) only from Mpanga forest, Mpigi district, but probably widely distributed. Widespread in West and East tropical Africa south to South Africa.

*Caudalejeunea lewallei* Vanden Berghen BUSHENYI. Kalinzu Forest (49), on trunk of small forest tree, 1430 m, *Porley 580a*. Second record for Uganda, and recorded also from Ethiopia to Zimbabwe, and Madagascar.

\**Cephaloziella garsidei* S.W.Arnell KASESE. Kilembe Copper Mine (45), on presumed copper-rich gritty soil on steep stream bank, growing with *C. transvaalensis*, 1360 m, *Porley 542a*, det. J.Vána. This plant was named with some doubt because of the uncertain taxonomy of *Cephaloziella* in

Africa. The only other record of this species is the type collection from Cape Province, South Africa (Arnell, 1954).

\**Cephaloziella transvaalensis* S.W.Arnell KASESE. Kilembe Copper Mine (45), on a steep gravelly stream bank, with *C. garsidei*, 1360 m, *Porley 542b*. Otherwise known only from South Africa, and Umtali, Zimbabwe (Arnell, 1963), the latter locality overlooked in Wigginton & Grolle (1996).

*Chandonanthus hirtellus* (F.Web.) Mitt. ssp. *hirtellus* RUKUNGIRI. Bwindi NP, Bukirobwomugogo (58), on branches and twigs fallen from forest canopy, 1900 m, *Porley 170b*; Bwindi NP, Buhoma (70), on fallen branches with *Frullania serrata*, *Leptodontium viticulosoides* and *Mastigophora diclados*, 1560 m, *Porley 654c*. Perianths are present in collection 654c. This subspecies has been recorded only twice before in Uganda, and is rarer than ssp. *giganteus*, which was recorded more frequently during the present expedition and is represented by several previous collections (Lye & Pócs, 1997). Ssp. *giganteus* tends to occur at higher altitudes, although the subspecies may occur in the same habitat with similar associates. [RDP]

\**Cheilolejeunea intertexta* (Lindenb.) Steph. MPIGI. Mpanga Forest nature reserve (94), on trunk of mature tree by forest ride, 1190 m, *Wigginton 5267b*. Most records of this species are from West Africa, the only other African records being from Tanzania, South Africa, Madagascar and Réunion. It is likely to be more widespread in East Africa.

*Chonecolea ruwenzorensis* E.W.Jones KABALE. Bwindi NP, S. of Ruhijja (82), on soil by nature trail path, 2280 m, *Hodgetts 4032a*. The type collection from the Rwenzori (Uganda) is the only other one known.

\**Cololejeunea apiculata* (E.W.Jones) R.M.Schust. RUKUNGIRI. Bwindi NP, Buhoma (70), abundant epiphyll on a broad-leaved herbaceous plant, with small quantity of *Taxilejeunea conformis*, in forest understorey by waterfall, 1500 m, *Porley 225a*; Bwindi NP, Kitahurira Bridge (64a), epiphyllous on *Cyathea*, with *Cololejeunea bolombensis*, *C. obtusifolia*, *Drepanolejeunea*

- cultrella* and *Leptolejeunea astroidea*, in humid forested valley, 1480 m, *Wigginton 5035a*. An apparently rare species, otherwise known only from Mt. Cameroon (1300 m) and the Uluguru Mts, Tanzania (1500 m).
- Cololejeunea cuneifolia*** Steph. RUKUNGIRI. Bwindi NP, above Ihihizo River, Kitahurira (64b), epiphyllous on ferns in forest, 1500 m, *Hodgetts 4187a*. Gabon, and East Africa.
- \****Cololejeunea dentata*** (E.W.Jones) R.M.Schust. RUKUNGIRI. Bwindi NP, Buhoma (70), on fern fronds in moist forest, with *Colura calyptrifolia*, 1460 m, *Porley 211b*. Known from West and East Africa.
- \****Cololejeunea distalopapillata*** (E.W.Jones) R.M.Schust. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphyllous on forest shrubs, 2050 m, *Hodgetts 4068b*. KABALE. Bwindi NP, S. of Ruhiiija (83b), epiphyllous on forest shrub, 2005 m, *Wigginton 5021d*. Tropical East Africa and the islands.
- \****Cololejeunea minutissima*** (Sm.) Schiffn. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphytic on twigs of forest shrubs, 2050 m, *Hodgetts 4069c*. East Africa and the islands.
- \****Cololejeunea obtusifolia*** (E.W.Jones) P.Tix. KABALE. Bwindi NP, near Mubwindi Swamp (81b), epiphyll on forest shrubs, 2015 m, *Hodgetts 4056a, 4060a*. MASINDI. Murchison Falls NP, Rabongo Forest (3), epiphyll on forest shrub, 915 m, *Wigginton 5223a*. RUKUNGIRI. Bwindi NP, Rukubira (69), epiphyllous on fern and shrubs in shaded dry forest, 1680 m, *Porley 282a, 283a*; Bwindi NP, Kitahurira Bridge (64a), epiphyllous on *Cyathea* with *Cololejeunea apiculata*, *C. bolombensis*, *Drepanolejeunea cultrella* and *Leptolejeunea astroidea*, in humid forested valley, 1480 m, *Wigginton 5035a*. This is one of the more widely distributed epiphyllous hepatics in tropical East and West Africa, often occurring in climatically marginal (drier) districts.
- \****Cololejeunea zenkeri*** (Steph.) E.W.Jones KABALE. Bwindi NP, S. of Ruhiiija (83b), epiphyllous on forest shrub, 2005 m, *Wigginton 5021b*. RUKUNGIRI. Bwindi NP, valley E. of Kasiru (56), epiphyllous on forest shrub, 2050 m, *Hodgetts 4096a, 4097b*. Local in West and East Africa.
- Colura calyptrifolia*** (Hook.) Dum. RUKUNGIRI. Bwindi NP, Buhoma (70), on fern in moist forest, associated with *Cololejeunea dentata*, 1460 m, *Porley 211a*. The only species of the genus to show an oceanic-temperate Afro-American distribution, occurring also in Europe. In Africa it is tropical montane, occurring from Uganda south to South Africa.
- \****Colura tenuicornis*** (A.Evans) Steph. Epiphyllous on shrubs, ferns and herbs (including *Impatiens burtonii*) and epiphytic on twigs and stems of climbers in moist forest, 1280-2050 m. Also noted on fronds of *Cyathea*, associated with *Diplasiolejeunea symoensii* and *Odontolejeunea lunulata*. Often with other *Colura* species on a single leaf, particularly *C. digitalis*. BUSHENYI. Kalinzu Forest (49, 51), *Porley 572a, 591a*. KABAROLE. Itwara Forest Reserve (23), *Porley 494a*. RUKUNGIRI. Bwindi NP, Kasiru (56, 57), *Porley 130a, 157a*; Bwindi NP, Bukirobwomugogo (58), *Porley 173b*; Bwindi NP, Buhoma (70), *Porley 205a, 646a*. A montane species, widespread in tropical Africa.
- Cyathodium cavernarum*** Kunze in Lehm. (Srivastava & Dixit 1996). BUSHENYI. Kasyoha-Kitomi Forest (53), on shaded moist bank, 1350 m, *Hodgetts 4581a, Porley 600a*. KABAROLE. near Kabata (26), wet soil in seepages and on muddy tree base, forested slopes near small waterfall, tributary of Mahoma River (26), 1200 m, *Hodgetts 4462a, Porley 506a, Wigginton 8005a*. Two previous records for Uganda, both in Mbale District. Apparently more widespread in western than in eastern Africa.
- \****Cylindrocolea atroviridis*** (Sim) Vána KABALE. Bwindi NP, Mubwindi Swamp path (81a), on fallen bark of forest tree, 2310 m, *Hodgetts 4040a*; Bwindi NP, Ruhiiija (82), on rotten wood on forest floor, with perianths, 2400 m, *Porley 60a*. MASINDI. Murchison Falls NP, Rabongo Forest (3), on rotting fallen trunk of *Cynometra alexandri*, 915 m, *Wigginton 5215a*. A fairly widespread species in West Africa, and in East Africa

southwards to South Africa.

\**Diplasiolejeunea aulae* E.W.Jones RUKUNGIRI. Bwindi NP, near Ihihizo River, Kitahurira (64b), on dead twigs and small branches fallen to the forest floor, 1500 m, *Hodgetts 4188f*. This species is otherwise known only from Ghana, Rwanda and Madagascar.

\**Diplasiolejeunea kraussiana* (Lindenb.) Steph. KABALE. Bwindi NP, S. of Ruhiiija (83b), on fallen branch on forest floor, 2005 m, *Wigginton 5019j*. East to South Africa.

\**Diplasiolejeunea runssorensis* Steph. KABALE. Bwindi NP, near Mubwindi Swamp (81b), on twigs in swampy forest, 2015 m, *Hodgetts 4058c*; Bwindi NP, S. of Ruhiiija (83b), on fallen branch on forest floor, 2005 m, *Wigginton 5019b*. Local in East tropical Africa.

\**Diplasiolejeunea symoensii* Vanden Berghen KABALE. Bwindi NP, near Mubwindi Swamp (81b), on twigs in swampy forest, 2015 m, *Hodgetts 4058d*. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphyllous on forest shrubs, 2050 m, *Hodgetts 4068i*; Bwindi NP, Buhoma (70), on fronds of *Cyathea* with *Colura tenuicornis*, *Microlejeunea africana* and *Odontolejeunea lunulata*, 1500 m, *Porley 218a*. Local in East tropical Africa.

\**Dumortiera hirsuta* (Sw.) Nees KABALE. Bwindi NP, Mubwindi (81b), on shaded bank of stream, 2050 m, *Hodgetts 4051a*, *Porley 87b*. KABAROLE. Kibale NP, Sebitoli (31a), on shaded banks of water-course, 1320 m, *Porley 477a*; MUBFS, Kanyawara (32a), moist soil bank in forest, 1500 m, *Wigginton 5282a*. RUKUNGIRI. Bwindi NP, valley E. of Kasiru (56), on banks and detritus by forest stream, 2050 m, *Hodgetts 4087a*; Buhoma, Munyaga River valley (70), on rocks and banks by river, 1400 m, *Hodgetts 4238b*. Typical associates include *Fissidens* sp. and *Riccia stricta*. Widespread in tropical Africa.

*Frullania caffraria* Steph. KABALE. Bwindi NP, SE of Ruhiiija (82), on tree trunk, 2250 m, *Porley 21a*; near Ruhiiija (83a), decorticated log, 2170 m, *Matcham 1087a*; near Ruhiiija (82), on tree trunk with *Radula quadrata* and *Syntrichia fragilis*, c. 2200 m,

*Matcham 1010a*. KABAROLE. Kabale NP, Sebitoli Field Station (31a), on trees in open habitat, with *Syntrichia fragilis*, 1400 m, *Porley 447b*; Fort Portal (18, 21), on roadside trees, with *Frullania arecae*, 1460 m, *Porley 483a*, *488c*. MASINDI. Budongo Forest, Royal Mile (4), on trunk of roadside tree, 1075 m, *Wigginton 8402a*. The only other record from Uganda is from the Ruwenzori (Scott Elliot, collected in 1893/4), but this species is now shown to be as widespread in western Uganda as it is in adjacent Congo (Zaire). Widespread in tropical Africa, with most records from East Africa.

\**Frullania depressa* Mitt. KABALE. Bwindi NP, near Ruhiiija Guest House (79, 82), on trunk and branch of tree in well lit location, 2250 m, *Hodgetts 4021b*; *Porley 20c*, *24a*; and with *Schiffneriolejeunea pappeana*, *Matcham 1031c*; Bwindi NP, Mubwindi Swamp path (81a), on fallen rotten log in forest, 2310 m, *Hodgetts 4042b*. RUKUNGIRI. Bwindi NP, near Rukubira (69), on twig fallen from forest canopy, 1690 m, *Stevenson 3298f*. Widespread in tropical Africa, with most records from East Africa.

\**Frullania diptera* (Lehm.) Drège KABAROLE. Kabata, Mahoma Falls (27), on twig overhanging path near waterfall, 1320 m, *Hodgetts 4471e*. RUKUNGIRI. Bwindi NP, Buhoma (70), on trunk of fallen *Neoboutonia*, associated with *Syntrichia fragilis* and *Papillaria* sp., 1480 m, *Porley 216c*. Of fairly wide occurrence in West, East and southern Africa.

\**Frullania lindenbergi* Broth. RUKUNGIRI. Bwindi NP, roadside 1 km N. of Kitahurira bridge (65), on twigs of branch fallen from forest canopy, 1480 m, *Wigginton 5080c*, conf. N.G.Hodgetts. Recorded locally from Kenya southwards to South Africa.

\**Frullania schimperi* Nees KABALE. Bwindi NP, Ruhiiija ITFE Guest House (79), on trunk of roadside *Cupressus* tree, 2250 m, *Hodgetts 4006d*. Cameroon, and Ethiopia to Tanzania.

*Frullania socotrana* Mitt. KABALE. Bwindi NP, near Ruhiiija Guest House (79), trunk of planted roadside *Cupressus*, associated with *Zygodon trichomitrius* var. *mildbraedii*, 2250 m, *Matcham 1078b*. RUKUNGIRI. Bwindi

NP, Ishasha Gorge (75a), on twig fallen from forest canopy, 1200 m, *Porley 626a*. The third record for Uganda, new for Rukungiri District. Eastern to southern Africa, with widespread outliers in Cameroon, the Cape Verde and Socotra.

\**Frullania spongiosa* Steph. KABALE. Bwindi NP, near Mubwindi Swamp (81b), on isolated tree at edge of swamp, 2015 m, *Hodgetts 4057c*. Local in West and East Africa, with outliers in southern Africa.

\**Frullania vandenberghenii* Pócs (*F. epiphylla*, *sensu* Vanden Berghen, 1976). RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphyllous on forest shrubs, 2050 m, *Hodgetts 4068j*, det. N.G.Hodgetts. Formerly known only from Madagascar. This small species is characterised by the obliquely-angled lobule, the small leaf cells and the entire (not bilobed) ventral lobe of the hemiphyll (Vanden Berghen 1976).

\**Frullanoides tristis* (Steph.) Slageren KABALE. Bwindi NP, near Ruhijja ITFE Guest House (79), on trunk of roadside tree and twigs on forest floor, 2250 m, *Hodgetts 4008g, 4015a*. MASINDI. Budongo, Pabidi Forest Reserve (10a), with *Frullania arecae* on branch fallen from canopy of forest tree, 970 m, *Wigginton 3140a*. A widespread species in both West and East Africa.

*Herbertus capensis* (Steph.) Sim RUKUNGIRI. Bwindi NP, 2 km E of ITFE Guest House (83a), on decorticated log shaded by shrubs in humid valley, 2025 m, *Matcham 1136a*, det. N.G.Hodgetts. The genus *Herbertus* in Africa is currently being revised and the three species listed here are given names according to current understanding. *Herbertus capensis* includes usually greenish or brownish (not red or orange) plants with leaves divided to 3/5 or more, with a relatively poorly-developed vitta. [NGH]

*Herbertus doggeltianus* (Steph.) Demaret KISORO. Mgahinga NP, near summit of Sabinio (89f), on stem of tree-heath, 3100 m, on giant *Senecio*, 3635 m, on rock in tree-heath zone, with *Polytrichum* sp., 3440 m, *Porley 664a, 671a, 680a, 692b*, det. N.G.Hodgetts. This is a large orange species with leaves divided to about 1/2, that may

prove to be no more than a robust form of *H. dicranus*. [NGH]

*Herbertus lobatus* (Steph.) Demaret KISORO. Mgahinga NP, summit of Sabinio (89f), on tree-heath, mixed with *Tetralophozia cavallii*, 3400 m, *Porley 690a*, det. N.G.Hodgetts. *Herbertus lobatus* appears to be quite a variable taxon, but it is characterised by the strongly lobate leaf margins, making the leaves crisped when dry and flexuose when wet. [NGH]

\**Heteroscyphus dubius* (Gott.) Schiffn. KABALE. Bwindi NP, Mubwindi Swamp path (81a), on rotting log in forest, 2310 m, and on bank by path, 2110 m, *Hodgetts 4043a, 4046c*. RUKUNGIRI. Bwindi NP, valley E. of Kasiru (56), on detritus on stream bank in forest, 2050 m, *Hodgetts 4091a*; Bwindi NP, Kitahurira Bridge (64b), on trunk and roots of forest tree, 1500 m, *Hodgetts 4191d, 4191f*. Widespread in Africa.

\**Jensenia spinosa* (Lindenb. & Gott.) Grolle KISORO. Mgahinga NP, Sabinio (89f), on soil in Afroalpine zone, 3400 m, *Porley 688a*. Known from East to South Africa, and from the East African Islands and St. Helena.

\**Lejeunea acuta* Mitt. KABALE. Bwindi NP, Ruhijja (79, 82), on cliff face and steep earthy bank by road, associated with *L. tabularis*, 2250 m, *Hodgetts 4031a, Matcham 1038a, Porley 65a, Wigginton 5010a*. RUKUNGIRI. Bwindi NP, Kasiru and Bukirobwomugogo (57, 58), epiphytic on shrubs, also on ferns and stem of *Cyathea*, 1750-2050 m, *Porley 113b, 172a, 179a, 180a*. With a oddly restricted distribution in Africa, known from the Biafran islands and Cameroun, and locally in East Africa.

*Lejeunea confusa* E.W.Jones KABALE. Bwindi NP, near Mubwindi Swamp (81b), epiphyllous on forest shrub, 2015 m, *Hodgetts 4060h*. One previous record for Uganda, from Masaka District. Eastern and western tropical Africa.

\**Lejeunea flavovirens* Aongstr. KABALE. Bwindi NP, near Ruhijja (83b), on small branch fallen from forest canopy, 2005 m, *Wigginton 5024b*. Jones (1968) gives one possible record for Uganda. Known also from Rwanda, Tanzania and Congo (Zaire),

with a possible record from Sierra Leone.

***Lejeunea isophylla*** E.W.Jones KABALE. Bwindi NP, near ITFE Guest House (79), on vertical soil exposure, 2250 m, *Hodgetts 4007a*; S. of Ruhijja (81a), epiphyllous on forest shrub, *Wigginton 5021e*. RUKUNGIRI. Bwindi NP, Buhoma (70), epiphyllous on *Leptodontium viticulosoides* on fallen branch, 1560 m, *Porley 654e*. First published for Uganda in Lye & Pócs (1997), of collections made in 1968 and 1972 in three other Districts. Ivory Coast, and from Kenya to South Africa.

\****Lejeunea lyratiflora*** Steph. A locally abundant epiphyll on understory shrubs, including *Laplea mayambesis*, in moist forest. RUKUNGIRI. Bwindi NP, Hayomugando (59), 1750 m, *Porley 188a*; Buhoma, Munyaga Falls path (70), 1520 m, *Hodgetts 4622a*. A species readily identified in the field by its distinctive 5-carinate lobed perianths. Of restricted range in Africa, and otherwise known only from Cameroon, Burundi, Rwanda and Tanzania.

***Lejeunea rhodesiae*** (Sim) R.M.Schust. KABALE. Bwindi NP, Mubwindi Swamp path (81a), on fallen rotten log in forest, 2310 m, *Hodgetts 4042a*. Central and East tropical Africa.

\****Lepidozia stuhlmannii*** Steph. var. *abyssinica* (S.W.Arnell) Pócs KISORO. Mgahinga NP, Sabinio (89f), under rock overhang in tree-heath zone, 3400 m, *Porley 694a*. Known also from Cameroon, and Ethiopia to Malawi.

\****Leptolejeunea astroidea*** (Mitt.) Steph. RUKUNGIRI. Bwindi NP, Kitahurira bridge (64a), epiphyllous on *Cyathea*, with *Cololejeunea apiculata*, *C. bolombensis*, *C. obtusifolia* and *Drepanolejeunea cultrella*, near river in humid forested valley, 1480 m, *Wigginton 5035b*. Widespread in West and East Africa.

***Leptolejeunea maculata*** (Mitt.) Schiffn. BUSHENYI. Kalinzu Forest (49), epiphyllous on leaves of monocotyledonous herb, with *Colura digitalis* and *C. tenuicornis*, 1420 m, *Porley 572b*. The second record for Uganda, the other being from Masaka district. Widespread in West and East Africa.

\****Lophocolea concreta*** Mont. KABALE.

Bwindi NP, Mubwindi Swamp path (81a), on fallen rotting log on path in forest, 2110 m, *Hodgetts 4047a*. RUKUNGIRI. Bwindi NP, near Rukubira (69), on rotting wood on forest floor, 1685 m, *Stevenson 3292j*. Widespread in tropical Africa.

***Lophocolea muricata*** (Lehm.) Nees On stem of *Cyathea*, on fern stool, on decaying detritus and on soil with *Telaranea nematodes*, 1640-2350 m. KABALE. Bwindi NP, Ruhijja (82), *Porley 46b*; Mubwindi (81a), *Porley 82b*; near Ruhijja, nature reserve path (82), *Matcham 1073a*, *Stevenson 3066c*. RUKUNGIRI. Bwindi NP, Kasiru (57), *Porley 120b*; Bwindi NP, Buhoma (70), *Porley 640b*. Cameroon, and Ethiopia to Zimbabwe, and previously known in Uganda only from Rwenzori.

***Lopholejeunea revoluta*** E.W.Jones MPIGI. Mpanga Forest nature reserve (94), on trunk of tree by forest ride, 1190 m, *Wigginton 5262a*. This species was described in Jones (1957) from the type collection from Budongo Forest, Uganda, where it was found in 1955. This is the second (copious and fertile) collection of the species, which remains unknown outside Uganda. Vanden Berghen (1984) remarked on the close similarity of *L. revoluta* and *L. multilacera*, the main difference being in the size of the median cells of the lobe; those of *L. revoluta* given as 15-22 µm long, and of *L. multilacera* 24-30(-32) µm long. He considered both should be retained as species, at least provisionally. In the present collection, the median cells are about 18-25 µm long (mean 20 µm). The strongly revolute margins of leaves and bracteole in the dry plant is an easily observed field character. [MJW]

\****Mastigophora diclados*** (Brid. ex F.Web.) Nees On branches fallen from forest canopy, with *Chandonanthus hirtellus*, *Leptodontium viticulosoides* and *Frullania serrata*, and on twigs in swampy forest, 1560-1800 m. RUKUNGIRI. Bwindi NP (6 sites): Murugongo (60), *Porley 104b*; Bukirobwomugogo (58), *Porley 170a*; Nyakagera River (69), *Hodgetts 4267a*; near Meizimeru camp (58), *Hodgetts 4159a*; Rukubira (68), *Porley 270b*; Buhoma,

Manyaga Falls path (70), *Hodgetts 4644a*, *Porley 654a*; Rukubira (68), on fallen branch, *Matcham 1116a*. Widespread but local in tropical Africa.

***Metzgeria agnewii*** Kuwahara KABALE. Bwindi Forest, towards Mubwindi swamp (81b), epiphyllous on forest shrubs, 2015 m, *Hodgetts 4056b*. The third record for Uganda, and known also from Ethiopia, Kenya, Rwanda and Tanzania.

**\**Metzgeria consanguinea*** Schiffn. KABALE. Bwindi NP, nature trail near Ruhija Guest House (82), on rotten log in path, 2280 m, *Hodgetts 4027c*; Mubwindi Swamp path (81b), epiphyllous on shrubs in swampy forest, 2015 m, *Hodgetts 4060b*. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphyllous on forest shrub, 2050 m, *Hodgetts 4068f*. Known from Kenya, Rwanda, Tanzania and Congo (Zaire).

**\**Microlejeunea kamerunensis*** Steph. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), epiphyllous on forest shrub, 2050 m, *Hodgetts 4068k*. Widespread in tropical Africa.

**\**Odontolejeunea lunulata*** (F.Web.) Schiffn. A locally frequent epiphyll on *Cyathea*, *Calcasia*, *Monstera* and other shrubs and herbs, recorded associates including *Colura tenuicornis*, *Diplasiolejeunea symoensii*, *Leptolejeunea maculata* and *Microlejeunea africana*, 1080-1750 m. Only one collection from each District is cited here. BUSHENYI. Kalinzu Forest (49) *Porley 572d*. KABALE. Bwindi NP, Bukirobwomugogo (58), *Porley 174a*. MASINDI. Budongo Forest, Nyakafunjo nature reserve (6), *Porley 415a*. RUKUNGIRI. Bwindi NP, Buhoma (70), *Porley 210a*. Widespread and the sole species in tropical Africa.

***Pallavicinia lyellii*** (Hook.) Carruth. RUKUNGIRI. Bwindi NP, Bitwana (60), on shaded soil banks in forest, 1800 m, *Porley 101a*; Bwindi NP, Kasiru (56), soil banks in forest, 2250 m, *Porley 138a, 141a*; Buhoma, Munyaga Waterfall trail (70), on dry shaded rock face by stream, 1560m, 1600 m, *Hodgetts 4639a, Stevenson 3263c*. Two previous records for Uganda, both from the Rwenzori Mts. East Africa, Sao Tomé and

South Africa.

***Plagiochila heterostipa*** Steph. KABALE. Bwindi NP, near Mubwindi Swamp (81b), pendent on forest shrub, 2015 m, *Hodgetts 4055h*. RUKUNGIRI. Bwindi NP, Meizimeru camp (55), on trunk of forest shrub, 2050 m, *Hodgetts 4130e*; Kitahurira (64b), on twigs, branches and rotting logs, 1500 m, *Hodgetts 4184b, 4185b, 4193f*; Bwindi NP, Kaseresere path, near stream (83a), tree trunk with *Leucobryum cucullatum*, 2025 m, *Matcham 1094d*. Central and East Africa south to South Africa.

**\**Plagiochila pectinata*** (Willd. ex F.Web.) Lindenb. KABALE. Bwindi NP, Mubwindi Swamp path (81a), on tree trunk in forest, 2310 m, *Hodgetts 4044a*. Most records from West Africa and the East African islands, and presumably overlooked in East Africa.

**\**Plagiochila squamulosa*** Mitt. var. *crispulocaudata* (Gott.) Vanden Berghen KABALE. Bwindi NP (80), epiphyte on forest tree, 2415 m, *Stevenson 3025d*. MASINDI. Budongo Forest, shallow valley S. of Sonso, west of road (9), on twigs overhanging stream in forest, 1040 m, *Hodgetts 4392e*. RUKUNGIRI. Bwindi NP, near Rukubira (69), on twigs fallen from forest canopy, 1690 m, *Stevenson 3298d*. Cameroon, and Ethiopia to South Africa.

**\**Prionolejeunea grata*** (Gott.) Schiffn. RUKUNGIRI. Bwindi NP, S. of Buhoma camp (70), epiphyll on *Radula boryana* on twig of sapling, and on stem of *Cyathea*, 1500-1560 m, *Matcham 1097d, 1108a, 1115a*. Widespread in tropical Africa.

**\**Radula comorensis*** Steph. MASINDI. Budongo Forest, Royal Mile (4a), epiphytic on shrub, 1050 m, *Porley 405a*. On the African mainland, known elsewhere only in Rwanda and eastern Congo (Zaire).

**\**Radula stenocalyx*** Mont. RUKUNGIRI. Bwindi NP, Bukirobwomugogo (58), epiphyllous on *Calcasia* sp. and *Alchonea* sp., 1750 m, *Porley 174d, 175b*; valley E. of Kasiru (56), on stem of tree-fern, 2050 m, *Hodgetts 4099g*. Widespread in tropical Africa.

**\**Schiffneriolejeunea altimontana*** Vanden Berghen KABALE. Bwindi NP, near Ruhija



(79, 82), on trunks of trees, on fallen branches and on rotten wood (with *Porotrichum usagarum* in one collection), 2005-2350 m, *Matcham 1067a*, 1091b, *Porley 52a*, *Wigginton 5017m*, *5018m*, *5022a*; near Ruhijja (79), in hepatic mat on rock in road cutting, 2335 m, *Stevenson 3090a*. A montane species, apparently with a restricted range, otherwise known only from Rwanda, western Tanzania and eastern Congo (Zaire).

***Schiffneriolejeunea polycarpa*** (Nees) Gradstein MASINDI. Budongo Forest Reserve, Royal Mile (4a), on bark of roadside tree with *Acrolejeunea emergens*, *Frullania* spp., *Porella abyssinica* ssp. *hoehnelii*, 1070 m, *Wigginton 8401a*. The second record for Uganda of a species which is likely to be found more widely in the country. Widespread in tropical Africa.

***Teleranea nematodes*** (Gott. ex Aust.) Howe On soil and rotten wood in forest, and (in *4634a*) on shaded dry vertical rock face in forest. KABALE. Bwindi NP, Mubwindi (81a), 2100 m, *Porley 82a*; c. 8 km SE of ITFE Guest House (80), 2415 m, *Stevenson 3040b*. RUKUNGIRI. Bwindi NP, valley E. of Kasiru (56), 2050-2075 m, *Hodgetts 4088a*, *4091d*, *Porley 147a*; Buhoma, Munyaga Falls path (70), 1500-1600 m, *Hodgetts 4634a*, *Stevenson 3249f*. One previous record for Uganda (Lye & Pócs 1997). Occurring throughout tropical Africa.

## Mosses

***Aerolindigia capillacea*** (Hornsch.) Menzel KABAROLE. Rwenzori NP, Mahoma R. crossing trail west from Nyakalengija (39e), dangling from twig hanging over river, 2040 m, *Hodgetts 4531c*, *4532b*, *4540d*, *O'Shea 2952a*. This plant has been collected only once before from Uganda, in the Rwimi valley of the Rwenzori Mts by G.F. Scott Elliot, as the type of *Lindigia africana* Broth. It is known also from Congo (Zaire), Rwanda and Madagascar, as well as from central and southern America. It is characterised by its meteoriceous habit and general appearance, but with thin-walled, non-papillose cells, and short setae. There are illustrations and

descriptions in De Sloover (1976) and Menzel (1991). [BJO]

**\**Barbella capillicaulis*** (Ren. & Card.) Card. var. ***capillicaulis*** RUKUNGIRI. Bwindi, Meizimeru camp (55), hanging from twigs of shrub in humid montane forest with *Lejeunea acuta*, 2050 m, *Porley 163a*. New to mainland Africa; known previously from Madagascar and Mauritius. This taxon differs from the two other taxa of this genus in Africa in the possession of papillae (usually two per cell). [RDP]

**\**Barbula indica*** (Hook.) Spreng. var. ***indica*** KABAROLE. Near Mahoma River crossing (25), on soil bank by unmetalled road with *Didymodon rigidulus* and *Marchantia debilis*, 1300 m, *Porley 504a*. Widespread in tropical Africa.

**\**Campylopus pyriformis*** (Schultz.) Brid. var. ***pyriformis*** RUKUNGIRI. Bwindi NP, Rukubira (69), on fallen decorticated branch, 1540 m, *Matcham 1109b*. Known from Cape Verde, Congo (Zaire), East and South Africa and Réunion.

**\**Daltonia latimarginata*** Besch. var. ***madagassa*** Ren. RUKUNGIRI. Bwindi NP, Buhoma (70), on twigs of low shrub in humid forest, 1540 m, *Matcham 1111a*. New to mainland Africa, previously known only from Madagascar.

**\**Daltonia latolimbata*** Broth. KISORO. Mgahinga NP, Sabinio (89e, 89f), in the southern Virunga range, growing on *Dendrosenecio* and *Lobelia*, and on the nodes of *Sinarundinaria alpina* from 2600-3634 m, *Porley 678a*, *683c*, *686a*, *703a*. This species was recently reported new to Africa (Kis, 1996). It was previously known from only a single collection from the Bolivian Andes, described in 1916, and thus thought to be an Andean endemic. The species is characteristic of the Afroalpine and the upper Afromontane zones and is known to occur in the high volcano regions of Congo (Zaire), Rwanda, Kenya and Tanzania, and is consequently an Andean-Afroalpine species. It is also known from the Comoro Archipelago at 750 m. It is the only African species to have elongated juxtacostal cells. [RDP]

- †*Didymodon rigidulus* Hedw. var. *rigidulus* KABAROLE. Kabata, near Mahoma River crossing (25), on earth bank by unmetalled road with *Barbula indica* var. *indica* and *Marchantia debilis*, 1300 m, *Porley 504b*. This taxon is new to Africa, although var. *acutus* is known from Tanzania.
- \**Distichophyllum rigidicaule* (Dus.) Broth. BUSHENYI. Kasyoha-Kitomi Forest (53), on wet dripping rocks in shaded situation, 1350 m, *Porley 605a*. RUKUNGIRI. Bwindi NP, Buhoma (70), on rotten log, 1460 m, *Porley 207a*. Known previously only from Ivory Coast, Gabon and Cameroon, this is the first record for East Africa.
- \**Fissidens borgenii* Hampe RUKUNGIRI. Bwindi NP, Rukubira (69), on sandstone in deep shade of high forest, 1680 m, *Matcham 1117a*; Bwindi NP, valley E. of Kasiru (56), on rotting tree stump and trunk of tree fern, 2050 m, *Hodgetts 4088b, 4099c*. Widely distributed in Africa.
- \**Fissidens enervis* Sim BUSHENYI. Kasyoha-Kitomi Forest (53), on soil of path in forest, 1350 m, *Porley 595a*. An ecostate species known from Tanzania, Zimbabwe and Natal.
- \**Fissidens metzgeria* (Müll. Hal) Broth. (Bruggeman-Nannenga, 1997) BUSHENYI. Kasyoha-Kitomi Forest (53), on soil and rocks in sheltered moist forest, 1350 m, *Porley 603a*. KABALE. Bwindi Forest, N. end of swamp, nr. Nyakigali R.(81b), on muddy bank by stream, 2050 m, *Hodgetts 4051c*. RUKUNGIRI. Bwindi NP, Buhoma (70), on soil and rocks in sheltered moist forest, 1500 m, *Porley 227a*. An ecostate species known from Guinea, Niger, Cameroon, Gabon, Central African Republic, Rwanda and Congo (Zaire).
- \**Fissidens usambaricus* Broth. KABALE. Bwindi NP, Ruhiiija (82), on steep path in forest, 2350m, *Porley 45a*. KABAROLE. Rwenzori NP, above Nyakalengija (39d), from fibrous stem of *Cyathea*, 1910 m, *Porley 561a*. MASINDI. Budongo Forest (4a), on soil bank in forest, 1050 m, *Porley 410a*. RUKUNGIRI. Bwindi NP, Rukubira (68), on soil bank in forest, 1610 m, *Porley 267a*; Bwindi NP, Buhoma, near Rukubira (69), vertical bank above swift flowing stream, 1520 m, *Matcham 1126a*; (70), on soil of path through forest, 1620 m, *Porley 636a, 641a*. An ecostate species, widespread in tropical Africa.
- \**Groutiella laxotorquata* (Besch.) Wijk & Marg. BUSHENYI. Kasyoha-Kitomi Forest (53), on twigs fallen from forest canopy with *Schlotheimia* sp. and *Macromitrium* sp., 1350 m, *Porley 609c*. KABAROLE. Kibale NP, Kanyanchu (36), on twigs fallen from forest canopy with *Cryphaea* sp. and *Macromitrium orthostichum*, 1200 m, *Porley 518b*, conf. D.H.Vitt. Widespread in tropical Africa.
- \**Holomitrium cylindraceum* (P.Beauv.) Wijk. & Marg. var. *cucullatum* (Besch.) Wijk & Marg. KABAROLE. Itwara Forest (23), tuft fallen from canopy, 1300 m, *O'Shea 2846a*; Kibale NP, Sebitoli (31a), on fallen branches, 1320 m, *Porley 473d, 474b*. RUKUNGIRI. Bwindi NP, Rukubira (68), on fallen branch, 1600 m, *Porley 259a*. This epiphyte is known from Central African Republic, Tanzania, Zimbabwe, South Africa (Cape, Natal and Transvaal), Madagascar and Réunion.
- \**Hylocomiopsis cylindricarpa* Thér. KABALE. Bwindi NP, Ruhiiija (79), on branch of evergreen sapling, 2400 m, *Matcham 1031b*. RUKUNGIRI. Bwindi NP, Buhoma (70), on trunk of fallen *Neoboutonia*, associated with *Macromitrium* sp. and *Erythrodontium* sp., 1480 m, *Porley 215b*. This epiphyte is known from Cameroon, Congo (Zaire), Ethiopia, Kenya, Burundi, Rwanda, and Tanzania.
- \**Hyophila baginsensis* Müll. Hal. KASESE. Queen Elizabeth NP, Lake Kitagata (47), on soil alongside track through *Acacia* scrub, 1060 m, *Porley 279a*. The normally entire leaf margins and characteristic stellate gemmae distinguish this species from *H. involuta*. Known from Central African Republic, and from Kenya south to South Africa.
- \**Hypopterygium laricinum* (Hook.) Brid. KABALE. Bwindi NP, Ruhiiija (80, 81a), on soil banks in forest, 2350 m, *Porley 39a, 72a*; Bwindi NP, N. end of swamp, nr. Nyakigali R. (81b), on detritus on swampy forest floor, 2015 m, *Hodgetts 4061b*; Bwindi NP, nature

reserve path (82), on trunk of evergreen tree and on decorticated log, 2100-2300 m, *Matcham 1070a, 1089a*. KABAROLE. Itwara Forest (23), on trunk of forest tree, 1300 m, *Porley 501a*; Kibale NP, Sebitoli Forest (31a), on rotten log, 1320 m, *Porley 448a*; Kibale Forest, Kanyantale (36), on tree trunks and branches, 1300 m, *Hodgetts 4492i*; Kibale NP, Kanyawara, on buttress of tree, 1480 m, *Porley 538a*; Rwenzori, lower Mubuku valley (39e), on rocks by river, 2020 m, *Hodgetts 4530a*. RUKUNGIRI. Bwindi NP, near Kasiru (56), on rotten log in moist forest, 2080 m, *Porley 149a*; Bwindi NP, valley E. of Kasiru (56), on trunk of tree fern, 2050 m, *Hodgetts 4090a*. Present in most forests that were visited, and throughout Africa: the only species of this genus in Africa (Krujjer, 1997).

\**Lepidopilidium subdevexum* (Broth.) Broth. var. *intermedium* P. Varde BUSHENYI. Kasyoha-Kitomi Forest (53), on twigs of shrub overhanging stream, 1350 m, *Porley 604a*. Previously known only from Central African Republic.

\**Lepidopilidium theriotii* Nav. in Dix. KABALE. Bwindi NP, ca. 2 km E of Ruhijja camp (83a), on fallen branch and on stem of evergreen shrub, in humid forest, 2025-2150 m, *Matcham 1135a, 1147c*. Known previously only from Rwanda and Congo (Zaire).

\**Lepidopilium lastii* Mitt. KABALE. Bwindi NP, N. end of swamp, nr. Nyakigali R. (81b), on detritus on swampy forest floor and on roots (stilts) and bases of waterlogged trees, 2050 m, *Hodgetts 4060i, 4061e, Porley 95a*. RUKUNGIRI. Bwindi NP, Buhoma (70), on woody climber and shrubs, 1500 m, *Porley 194a, 228a*; Bwindi NP, valley E of Kasiru (56), epiphyllous and on banks by stream, 2050 m, *Hodgetts 4087d, 4089d*. It is known also from Rwanda and Congo (Zaire).

\**Leptodontium capituligerum* Müll. Hal. KABALE. Bwindi NP, near Ruhijja (79, 80), on litter overlying earth bank in forest, 2250 m, *Porley 25a, 63a*; on volcanic shale and decaying fern litter, 2260-2420 m, *Matcham 1011a, 1037a, 1063a*. Most specimens had gemmae. Known also from Ethiopia and

Kenya.

\**Leucobryum cucullatum* Broth. KABALE. Bwindi NP, Ruhijja (79), epiphyte on trunk of large tree, 2025 m, *Matcham 1094a*. This moss is known also from Gabon, Angola, Congo (Zaire), East Africa, Zambia and Madagascar.

\**Leucophanes hildebrandtii* Müll. Hal. RUKUNGIRI. Bwindi NP, Buhoma (71), on base of small forest tree, 1460 m, *Porley 247a*. Most records are from the East African islands, with one other from the mainland (Tanzania).

\**Lopidium struthiopteris* (Brid.) Fleisch. KABAROLE. Kibale NP, Sebitoli Forest (31a), epiphytic on buttresses and branches of trees and on woody climbers near a river in moist forest, associated with *Pinatella minuta* and *Lejeunea* sp., 1320 m, *Hodgetts 4418f, Porley 465a*. RUKUNGIRI. Bwindi NP, Buhoma (70), lianas and trees by river, 1450 m, *O'Shea 5521a, 5534a, Porley 236a*. Known from Kenya, Tanzania and Réunion.

\**Macrocoma abyssinica* (Müll. Hal.) Vitt KISORO. Mgahinga NP, Sabinio (89e), on nodes of *Sinarundinaria alpina*, 2500 m, *Porley 659b*. A species characteristic of the high African mountains. Vitt (1980) mentioned that he had seen specimens from Uganda, though no details are given.

\**Macrocoma tenuis* (Hook. & Grev.) Vitt ssp. *tenuis* KABALE. Bwindi NP, Ruhijja (79), on trunk of introduced *Cupressus* sp., 2260 m, *Hodgetts 4029a, Matcham 1005a, 1084a*. KABAROLE. Kibale NP, Sebitoli Forest (31a), on twigs fallen from forest canopy mixed with *Cryphaea* sp., *Papillaria* sp. and *Schiffneriolejeunea pappeana*, 1320 m, *Porley 473g, 475b*; Kibale NP, Kanyanchu (36), on twigs fallen from forest canopy, 1200 m, *Porley 518g*; Kibale NP, Kanyantale (36), pendent from branches in canopy, 1300 m, *Hodgetts 4493c*. KISORO. Mgahinga NP, lower north-eastern slopes of Sabinio (89a), epiphytic on *Myrica* in scrub below bamboo forest, 2500 m, *Hodgetts 4662b*. MASINDI. Budongo Forest (6), on twigs fallen from forest canopy, 1060 m, *Porley 414a*. A species of the forest canopy, widespread in tropical and southern Africa.

- \**Macromitrium orthostichum* Nees ex Schwaegr. KABAROLE. Kibale NP, Sebitoli Forest (31a), on fallen twigs, rich in other epiphytes including *Cryphaea* sp., *Floribundaria* sp., *Holomitrium cylindraceum* var. *cucullatum*, *Leucodon* sp., *Macrocoma tenuis* var. *tenuis*, *Schlotheimia* sp., and *Schoenobryum latifolium*, 1320 m, *Porley 473c*; Kibale NP, Kanyanchu (36), on twigs fallen from the forest canopy with *Cryphaea* sp. and *Groutiella laxotorquata*, 1200 m, *Porley 518c*. This is the first use of this name in Africa (det. D.H. Vitt). However, there are a large number of African species described in this genus, and it is probable that one or more of them are the same as this species. A revision is urgently needed in this genus. [MJW]
- \**Macromitrium sulcatum* (Hook.) Brid. KABALE. Bwindi NP, near Ruhija (79), on fallen branch, 2025 m, *Matcham 1093a*. RUKUNGIRI. Bwindi NP, Buhoma (70), on fallen branches, 1540-1600 m, *Matcham 1109a*; near Rukubiro (69), *Matcham 1123a*; Bwindi NP, Kasiru (56), on twigs fallen from forest canopy with *Frullania serrata*, 2050 m, *Porley 139a*; Bwindi NP, Meizimeru camp (55), on tree branches in canopy, 2050 m, *Hodgetts 4128e*. Widespread in tropical and southern Africa.
- \**Papillidiopsis complanata* (Dix.) Buck & Tan BUSHENYI. Kalinzu Forest, tributary of Kiryantama R., W of Kayanga (50), on tree fern in valley near stream, 1440 m, *Hodgetts 4543d*. RUKUNGIRI. Bwindi NP, Buhoma, Waterfall Trail (70), *Cyathea* trunk in forest, 1640 m, *O'Shea 5539a*, *Wigginton 8343a*. This is the first use of this name for Africa, but no doubt some previous African collections (probably of *Trichosteleum*) will prove to be the same taxon, although no species of *Trichosteleum* has previously been recorded for Uganda. The species is described and illustrated in O'Shea (1998). [BJO]
- \**Phyllocladon truncatus* (Welw. & Duby) Buck MASINDI. Budongo Forest, Nyakafunjo Nature Reserve (6), rotten logs in forest, 1050-1060 m, *O'Shea 2646a*, *Wigginton 3116a*. Recorded from eight West African countries, but also from Congo (Zaire) and (unpublished) from Malawi. See O'Shea (1999) for an explanation of the use of this name in Africa.
- \**Physcomitrella patens* (Hedw.) Bruch, Schimp. & W. Gümbel ssp. *magdaleneae* (De Sloover) Tan KABALE. Bwindi NP, Mubwindi Swamp path (81b), on compacted bare soil of forest track with *Pseudephemerum nitidum*, 2050 m, *Porley 93a*. Apparently a very rare taxon, known only from the type collection, Rwanda, 1974 (De Sloover, 1975).
- \**Pseudephemerum nitidum* (Hedw.) Reim. KABALE. Bwindi NP, Mubwindi Swamp path (81b), on compacted bare soil of forest track with *Physcomitrella patens* ssp. *magdaleneae*, 2050 m, *Porley 93b*. Known previously from Congo (Zaire), Rwanda, Kenya, Tanzania and Madagascar.
- \**Pseudosymblypharis angustata* (Mitt.) Hilp. KISORO. Mgahinga NP, lower north-eastern slopes of Sabinio (89b), on stone in path in bamboo forest, 2600 m, *Hodgetts 4667a*. According to Sollman (pers. comm.) there is only one, pantropical, species of this genus. [NGH]
- \**Regmatodon polycarpus* (Griff.) Mitt. BUSHENYI. Kalinzu Forest, Rushisha River, below forest office, W. of road (51), on branch overhanging stream in gully in secondary forest, 1480 m, *Hodgetts 4574a*. KABAROLE. Kibale NP, Sebitoli Forest (31a), on fallen tree and branches fallen from forest canopy, 1400 m, *Porley 479a*, *O'Shea 2803a*; Kibale NP, MUBFS, Kanyawara (32a), fallen branch in forest, 1480 m, *O'Shea 2914a*. There is only one species of *Regmatodon* in Africa (O'Shea, 1997), and it is probably more widespread in tropical Africa than records indicate. [BJO]
- \**Rhizofabronia persoonii* (Schwaegr.) Fleisch. var. *persoonii* MBALE. Mt. Elgon, Bulambuli, on stem of tree fern by stream, ca 3000 m, 1935, *Budd s.n.* (NMW) det. Matcham. More restricted than var. *sphaerocarpa*, known from Sao Tomé, Rwanda, Tanzania, Mauritius and Réunion.
- \**Rhizofabronia persoonii* (Schwaegr.) Fleisch. var. *sphaerocarpa* (Dus.) Bizot ex Ochyra BUSHENYI. Kasyoha-Kitomi Forest (53),

- 1350 m, *Porley 602a*; Kalinzu Forest, tributary of Kiryantama River, W. of Kayanga (49), 1440 m, *Hodgetts 4543a*. KABAROLE. Rwenzori NP, Nyakalengija (39d), 1780 m, *Hodgetts 4509a*; 1800 m, *Porley 548a*. RUKUNGIRI. Bwindi NP, Rukubira (68), 1600 m, *Porley 262a*; Bwindi NP, Buhoma (70), 1500 m, *Porley 217a*; Bwindi NP, Muntaga Falls (70), 1700 m, *Hodgetts 4633a*; Bwindi NP, Kasiru (57), 2050 m, *Porley 119a*; Bwindi NP, Hayomugando (59), 1780 m, *Porley 186a*; Bwindi NP, valley E of Kasiru (56), 2050 m, *Hodgetts 4078a*; Bwindi NP, Meizimeru camp (55), 2050 m, *Hodgetts 4127a*. All localities on stems of the tree fern *Cyathea*, in forest. Mainly a plant of East Africa, but also known from Cameroon.
- \**Schimperella bello-intricata* (Müll. Hal. ex Broth.) Buck MASINDI. Budongo Forest, Busingiro eco-tourism area, N. of road (13), pendent on shrub in forest hollow, 1000 m, *Hodgetts 4369b*. KABAROLE. Kabata, Mahoma Falls (27), on twigs overhanging path near waterfall, 1320 m, *Hodgetts 4471a*; Rwenzori, lower Mubuku valley, Nyakalengija-Nyabitaba (39e), on rotting twigs hanging over river, 2020 m, *Hodgetts 4529f*. RUKUNGIRI. Bwindi NP, Ishasha Gorge (75a), on fallen twigs in forested ravine, 1180 m, *Hodgetts 4608b*. Previously known from Cameroon and elsewhere in East Africa.
- \**Schoenobryum latifolium* (Broth. & P. Varde) Manuel KABAROLE. Itwara Forest Reserve (23), fallen branch, 1300 m, *O'Shea 2831a*; Fort Portal, Mountains of the Moon Hotel (19), shrub in hotel garden, 1520 m, *O'Shea 2854a*; Kibale NP, Sebitoli Forest (31a), twigs fallen from forest canopy, 1320-1400 m, *Porley 473a*, *O'Shea 2791a*, *2794a*. KASESE. Rwenzori, near Minimba Camp, on rock, 2225 m, 21 Jan 1962, *J.P. Loveridge 384* (BM), det. O'Shea. RUKUNGIRI. Bwindi, Buhoma, Munyaga river trail (72), tree bark, 1420 m, *O'Shea 5470a*. Recorded previously only from Central African Republic and Congo (Zaire), but possibly confused with the following species. It is surprising that such a frequent genus with a published key to species (Bizot & Pócs, 1982) should not have been recorded before in Uganda. However, the key does not always work, and a taxonomic review of this genus is due. [BJO]
- \**Schoenobryum robustum* (Broth.) Manuel MASINDI. Budongo Forest, Busingiro (13), twigs by path in forest, 1000 m, *O'Shea 2694a*. KABAROLE. Kibale NP, Kanyanchu (36), fallen twigs from canopy, 1200 m, *Porley 518a*. RUKUNGIRI. Bwindi NP, Buhoma (70), branches of shrub in forest, 1480 m, *Porley 214a*; Bwindi NP, Buhoma, Munyaga river trail (72), stone by path, 1420 m, *O'Shea 5468a*; Bwindi NP, Buhoma, NP office (72), tree bark, 1440 m, *O'Shea 5471a*. Widespread in East Africa. See notes under *S. latifolium*.
- \**Scopelophila ligulata* (Spruce) Spruce KASESE. Kilembe Copper Mine, near Kasese (45), on sandy vertical bank in presumed copper-rich area, 1360 m, *Hodgetts 4502a*, *4504a*, *Porley 544a*. Recently recorded new to Africa (Sollman, 1993), known from only a single collection from Rwanda.
- \**Streptopogon calymperes* Müll. Hal. ex Geh. RUKUNGIRI. Bwindi NP, Kasiru (57), on leaf petioles of shrub in forest, 2050 m, *Porley 114b*. Known only from Madagascar and Rwanda.
- Syntrichia amphidiacea* (Müll. Hal.) Zander. KABALE. Bwindi NP, Ruhija (79), on branch of evergreen shrub, 2400 m, *Matcham 1035c*. KABAROLE. Fort Portal (18), on roadside trees, 1520 m, *Porley 483f*. KAMPALA. Kampala, Makerere University campus (98), on introduced tree (*Thevetia peruviana*) with *Pterogonium gracile*, 1200 m, *Porley 5a*, (this collection published new to Uganda by Sollman (1998)). Known previously only from Cape Verde, Tanzania and Zimbabwe.
- \**Syrrhopodon gardneri* (Hook.) Schwaegr. RUKUNGIRI. Bwindi NP, Buhoma (70), on shaded soil and litter, 1490 m, *Porley 199a*; Bwindi NP, Ihihizo River bridge, Kitahurira (64b), base of trunk of large forest tree, 1500 m, *Hodgetts 4192h*; Bwindi NP, Rukubira (68, 69), on soil overlying rock and on trunk

- of dead tree, 1680 m, *Matcham 1118a*, *Porley 268a*, *273a*. Widespread in tropical Africa.
- \**Syrrhopodon lamprocarpus* Mitt. RUKUNGIRI. Bwindi NP, near Buhoma (69), on trunk of evergreen tree, 1605 m, *Matcham 1139a*; Bwindi NP, Rukubira (68), on base of tree *Chrysophyllum albidum*, and on rotten log, 1600 m, *Porley 259a*, *260a*; Bwindi NP, Munyaga Falls (70), on base of small tree by forest path, 1520 m, *Hodgetts 4623a*; Bwindi NP, Bukirobwomugogo (58), on trunk of large forest tree *Pachystera brevipes*, associated with *Pyrrhobryum spiniforme*, *Frullania* sp. and *Plagiochila* sp., 1750 m, *Porley 171a*. Known from Equatorial Guinea (Bioko), Sao Tomé, Cameroon, Gabon, Congo (Brazzaville), Congo (Zaire) and Rwanda.
- \**Syrrhopodon parasiticus* (Brid.) Besch. RUKUNGIRI. Bwindi NP, Rukubira (68), on twigs fallen from forest canopy, 1650 m, *Porley 269a*. Previously known from only Cameroon and Madagascar.
- \**Tayloria orthodonta* (P. Beauv.) Wijk. & Marg. KABALE. Bwindi NP, Mubwindi (81a), on rotten logs, 2100-2310 m, *Hodgetts 4033a*, *4043b*, *4047b*, *Porley 75a*, *83a*; Bwindi NP, near Ruhija (82), on decorticated log, 2050 m, *Matcham 1096a*. Widespread in montane tropical Africa.
- \**Thuidium intricatum* Jaeg. MASINDI. Budongo Forest, Royal Mile (4a), on exposed tree root by road at forest edge, 1060 m, *Hodgetts 4309a*. KABALE. Bwindi NP, Mubwindi (81b), on tree stumps and rotten wood in forest, 2060 m, *Hodgetts 4060k*, *4064a*, *Porley 98a*. KABAROLE. Rwenzori, lower Mubuku valley, Nyakalengija-Nyabitaba (39e), on rotting twigs overhanging river, 2020 m, *Hodgetts 4529d*. Known from Cameroon, Congo (Zaire), Rwanda and Burundi.
- \**Trachypodopsis serrulata* (P. Beauv.) Fleisch. var. *crispatula* (Hook.) Zant. RUKUNGIRI. Bwindi NP, Buhoma (70), on branch of small tree in forest, 1440 m, *Porley 202a*; Bwindi NP, path to Meizimeru camp, Hayomugando River (59), on trunk of tree fern (*Cyathea*), 1780 m, *Hodgetts 4166a*; Bwindi NP, Munyaga Falls (70), tree branches in canopy, 1600 m, *Hodgetts 4640b*. Known from Nigeria, Cameroon and Tanzania.
- \**Zygodon dioicus* Broth. KABALE. Bwindi NP, Ruhija (79), on trunk of *Cupressus* by track in forest, associated with *Frullania ericoides* and *Hypnum* cf. *cupressiforme*, 2250 m, *Matcham 1079b*. Known previously from Congo (Zaire), Rwanda and Tanzania.

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