Bryophytes of Uganda, 6. New and additional records, 3.


1 141 Fawnbrake Avenue, London, SE24 0BG, UK
2 36 Big Green, Warmington, Peterborough, PE8 6TU, UK
3 Griffensteijinseplein 23, 3703 BE Zeist, Netherlands
4 Department of Cryptogamic Botany, Swedish Museum of Natural History, Box 50007, SE-104405, Stockholm, Sweden
5 21 Temple Bar, Strettington, Chichester, W. Sussex, PO18 0LB, UK
6 Botanisches Institut der Universität, Meckenheimer Allee 170, D-53115 Bonn, Germany
7 English Nature, Foxhold House, Crookham Common, Thatcham, Berks., RG19 8EL, UK
8 Department of Botany, Natural History Museum, Cromwell Road, London SW7 5BD, UK
9 23 Dane Hill, Margate, Kent CT9 1QP, UK
10 Department of Biology, Imperial College at Silwood Park, Ascot, SL5 7PY, UK
11 Katedra Botaniki Biologika Faculty, Univerzity Karlovy, Benátská 2, 12801 Praha 2, Czech Republic

Abstract 12 hepatics and 32 mosses are reported new to Uganda, 1 moss being also new to Africa, and 1 liverwort new to mainland Africa. *Ectropothecium plumigerum* (Broth.) Hedenäs is a new combination (basionym: *Isopterygium plumigerum* Broth.) with a new synonym *Taxicaulis plumirameus* Müll.Hal. nom. nud., and *Taxiphyllum maniae* (Renauld & Paris) M. Fleisch. is a new synonym of *Taxiphyllum taxirameum* (Mitt.) M. Fleisch. Three mosses are removed from the Uganda list.

INTRODUCTION

This is the sixth paper giving results of the British Bryological Society (BBS) Expedition to Uganda, supported by the UK Darwin Initiative Fund. The first paper of the series (Wigginton, et al. 1999) provides the background to the expeditions, and full details of the numbered collecting sites. Reference should be made to that paper for latitude/longitude and UTM reference points and the general habitat. Most of the records were made during the BBS Expeditions to Uganda in 1996, 1997 and 1998, although some were collected by earlier workers and lodged unidentified in BM, and others were collected by G. & S. Miehe and K. Wesche from.
University of Marburg, Germany, as part of their studies on tropical montane ecology. Only a small proportion of the BBS collections have so far been examined, and so additional collections of at least some 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.

Nomenclature follows O’Shea (1999) for mosses, and Wigginton (2002) for liverworts, except where otherwise stated. For each record we give the district, site name, site number in parentheses, habitat, altitude, date, collector and specimen number. Specimens will be deposited at the Royal Botanic Garden, Edinburgh, and at the Herbarium, Department of Botany, Makerere University, Kampala.

Abbreviations: NP: National Park; FR: Forest Reserve; MUBFS: Makerere University Biological Field Station (at Kanyawara, Kibale NP, Fort Portal).

* = new to Uganda
** = new to Africa

**LIVERWORTS**

*Gongylanthus ericetorum* (Raddi) Nees

KAPCHORWA: Mt. Elgon NP: Siti River (133), on humic soil overlying rock, with *Cephaloziella umtaliensis*, Bryum spp., 2800 m, 16 July 1998, *Porley 9299a*, det. M.J. Wigginton, conf. J. Váňa. Otherwise known only from single collections in Malawi, Mozambique and Zimbabwe. [MJW]

*Gongylanthus renifolius* (Mitt.) Steph.

KAPCHORWA: Mt. Elgon NP: Hunter’s Cave to Piswa trail (127), on compacted peaty soil of path, with *G. ericetorum*, 3500 m, *Porley 9156a*, det. M.J. Wigginton. This taxon is distinguished from *G. ericetorum* by the somewhat larger size, the lingulate leaves, the conspicuous trigones of leaf cells, and the larger number of smaller oil-bodies. The oil-bodies in *Porley 9156a* closely match those described and illustrated in Kis & Pócs (1997). *G. renifolius* is apparently very local in Africa, the only other records coming from Rwanda, Tanzania and South Africa. [MJW]

*Cephaloziella umtaliensis* S.W.Arnell

KAPCHORWA: Mt. Elgon NP: Siti River (133), on humic soil overlying rock, with *Gongylanthus ericetorum*, Bryum spp., 2800 m, 16 July 1998, *Porley 9299a*, det. M.J. Wigginton, conf. J. Váňa. Otherwise known only from single collections in Malawi, Mozambique and Zimbabwe. [MJW]

*Gongylanthus vaginans* Steph.

KAPCHORWA: Mt. Elgon NP: caldera rim (120), soil in rock crevices, 4280m, 8 July 1998, *Porley 9081a*; caldera rim (123a), on soil, 3995 m, 10 July 1998, *Matcham 12358b*, both det. J. Váňa. Scattered records from tropical and southern Africa. [JV]

*Cylindrocolea gittinsii* (E.W.Jones) R.M.Schust.

USHENYI: East of Kalinzu Forest Reserve, ca. 100 m S. of forest (52), on steeply sloping rock above drainage ditch by main road, 1490 m, 4 February 1997, *Hodgetts 4577e*, det. J. Váňa. This is the second record from Uganda, the other from being from the banks of the Nile near Murchison Falls (coll. Gittins 7a, 1956). Otherwise known from Kenya and Rwanda, and doubtfully from Cameroon. [JV]

*Kymatocalyx dominicensis* (Spruce) Váňa

RUUNGIRI: Bwindi-Impenetrable Forest NP, Buhoma, Munyaga waterfall (7), on wet rocks, in pure patches or intermixed with *Riccardia* sp., associated with *Jungermannia* sp., *Campylopus* sp., *Fissidens* sp., 1700 m, 7, 8 February 1997, *Hodgetts 4630a*; *Wigginton 8335a*, both conf. J. Váňa. A species known mainly from the neotropics, but recently detected in collections from Madagascar (Gradstein & Váňa 1999). The first record from mainland Africa [MJW]

**ARNELLIACEAE**

*Gongylanthus ericetorum* (Raddi) Nees

KAPCHORWA: Mt. Elgon NP: Siti River (133), on humic soil overlying rock, with *Cephaloziella umtaliensis*, Bryum spp., 2800 m, 16 July 1998, *Porley 9299b*; Hunter’s Cave to Piswa trail (127), on compacted peaty soil of path, with *G. renifolius*, 3500 m, 11 July 1998, *Porley 9156a*, both det. M.J. Wigginton. Widespread montane species in tropical Africa. [MJW]

*Gongylanthus renifolius* (Mitt.) Steph.

KAPCHORWA: Mt. Elgon NP: Hunter’s Cave to Piswa trail (127), on compacted peaty soil of path, with *G. ericetorum*, 3500 m, *Porley 9156e*, det. M.J. Wigginton. This taxon is distinguished from *G. ericetorum* by the somewhat larger size, the lingulate leaves, the conspicuous trigones of leaf cells, and the larger number of smaller oil-bodies. The oil-bodies in *Porley 9156e* closely match those described and illustrated in Kis & Pócs (1997). *G. renifolius* is apparently very local in Africa, the only other records coming from Rwanda, Tanzania and South Africa. [MJW]
JUNGERMANNIACEAE

Andrewsianthus bilobus (Mitt.) Grolle
KAPCHORWA: Mt. Elgon, S. of Piswa Hut (128), epiphyte on Olea africana, 2820 m, 13 July 1998, Matcham 11504a, det. J. Váňa. This appears to be the first record from the Ugandan side of Mt. Elgon. Other Uganda records are from Mt. Rwenzori and Mt. Muhavura. Very local in tropical West and East Africa. [JV]

*Lophozia decolorans (Limpr.) Steph. MBALE: Mt. Elgon, on stone in Erica-regeneration area, 3460 m, 7 March 1997, K. Welche 1034, det. J. Váňa; Mt. Elgon, W flanks of Mt. Elgon, Sironko Escarpment above Dirigana valley, isolated shrubs of Erica trimera on basalt plateau, surrounded by rock grassland, 4000 m, 25 January 1997, G. and S. Miehe U 02-1067903, det. J. Váňa. Rare in Africa, the other records from Cameroon, Tanzania and D.R. Congo. [JV]

*Jungermannia pumila With. MALE: Mt. Elgon, Dirigana River above Dirigana falls, over wet rocks in waterfall, 6/644279, 3580 m, 6 March 1996, K. Wesche 9094, det. J. Váňa (Herb. Miehe). The other sub-Saharan records are from Malawi, Rwanda, Tanzania, eastern D.R. Congo and the Comoros Islands. [JV]

LEJEUNEACEAE

*Lejeunea cyathearum E.W.Jones BUSHENYI: Kalinzu Forest (49), on trunk of Cyathea, humid place by stream, 1440 m, 14 February 1997, Wigginton 8058b, det. M.J. Wigginton. An apparently local species, with a few records from Malawi, Rwanda, Tanzania, eastern D.R. Congo and the Comoros Islands. [JV]

*Lejeunea villumei (Steph.) Grolle RUKONGI: Bwindi NP: Nyakafunjo Nature Reserve (6), on twigs near top of fallen tree, 1060 m, 24 January 1997, Hodgetts 4349a, and on tree trunk in Royal Mile (4b), 26 January 1997, Hodgetts 4397a, both det. M.J. Wigginton. M. auriculata was common in the surveyed areas of Budongo Forest, occurring on tree trunks and shrubs. In contrast, M. nigra was infrequently collected. One other record from Uganda (Rakai District). Fairly widespread in tropical West and East Africa. [MJW]

RICCIACEAE

*Riccia stricta (Lindenb.) Perold KABAROLE: Kibale NP: near Dura River on road to Kanyanchu (35), on damp mud in stormwater gully on roadside, 1265 m, 25 February 1996, Wigginton 5274a; Rwenzori NP: path to Mahoma river crossing (39c), on damp soil by path, 1820 m, 2 February 1997, Wigginton 8421a. In Uganda, previous records of this widespread species are from Kasese, Kitgum, Mpagi and Mubende Districts. Widespread in tropical to southern Africa. [MJW]

SCAPANIACEAE

*Scapania cuspiduligera (Nees) Müll.Frib. KAPCHORWA: Mt. Elgon NP: Hunter’s Cave to caldera rim (118), on shaded rocks, with Pseudosymblepharis bombayensis, Barbula indica and Campylopus sp., 3890 m, 10 July 1998, Duckett 11235a, det. H.W. Matcham. In Africa, otherwise recorded only from Lesotho and D. R. Congo; widely disjunct in Europe, North and South America, Siberia and Japan. [HWM]
**MOSSES**

**CALYMPERACEAE**

All collections in the family identified or confirmed by L.T. Ellis.

*Syrrhopodon africanus ssp. africanus* (Mitt.) Paris

Bushenyi: E. of Kalinzu FR: Rushisha stream (51), on tree branch in forest, 1500 m, 4 February 1997, Wigginton 8080d; on trunk of young tree in forest, above ravine, 1460 m, Hodgetts 4575a. The subspecies is endemic to Africa, mainly in the west but also in D.R. Congo, Tanzania and Madagascar. There are two other subspecies, one endemic to Africa, one to the neotropics. [LTE]

*Syrrhopodon incompletus var. incompletus* Schwägr.

Kabarole: Kanyawara (N) (32b), on shaded tree trunk 1.5 m above ground, 1550 m, 27 January 1998, Bates 8517a; Kibale NP: Kanyawara (S) (32a), 1470 m, on moderately well-lit face of tree buttress in moist forest, 30 January 1998, Bates 8545a. Mainly a new world species but known in Africa from D.R. Congo and Tanzania. [LTE]

*Syrrhopodon perdusenii* W.D.Reese

Rukungiri: Bwindi NP: Bukirobwomogogo and path to Meizimeru camp (58), 1750 m, 29 January 1996, epiphytic on rachis of *Tectaria* sp., Porteus 172c; Bwindi NP: Buhoma, main path, and path to waterfall (70), on branch fallen from forest canopy, 1650 m, 7 February 1997, Wigginton 8315d. Only known previously from 3 collections from Cameroon. [LTE]

**CINCLIDOTACEAE**

*Cinclidotus fontinaloides* (Hedw.) P.Beauv.

Kapchorwa: Mt. Elgon, Hunters’ Cave to Piswa Trail (127), on compacted damp soil of path, 3500 m, 11 July 1998, Porley 9156b, det. J.-P. Frahm. Occasional in eastern and southern Africa, and the Indian Ocean islands, but probably overlooked. [JPF]

*Campylopus cambouei* Renaud & Cardot.

Kabale: Bwindi NP, near Ruhija, nature reserve path (82), on earth bank, 2270 m, 25 January 1996, Porteus 19b, det. J.-P. Frahm. Widespread, but uncommon. [JPF]

*Campylopus crateris* Besch.

Kapchorwa: Mt. Elgon, caldera floor, below rim (121), on caldera floor amongst grass, 3990 m, 8 July 1998, Porteus 9089a, det. J.-P. Frahm. Known previously only from one collection in the Aberdare mountains in Kenya, and a few more in the Indian Ocean islands (Comoros, Madagascar and Réunion). [JPF]

*Campylopus decaryi* Thér.

Kasese: Kilembe copper and cobalt mine, level 45 (45), on gravel edge of stream, 1360 m, 1 February 1997, Porteus 541a, det. J.-P. Frahm. Rare, otherwise known only from D.R. Congo and Madagascar. [JPF]

*Campylopus kivuensis* P.de la Varde & Thér.

Kapchorwa: Mt. Elgon, caldera floor, below rim (121), damp rock on caldera floor, 3990 m, 8 July 1998, Porteus 9090b, det. J.-P. Frahm. Otherwise known only from the type locality and one other collection in Kivu, eastern D.R. Congo (Zaire), and an unlocalised collection. [JPF]

*Campylopus praetermissus* J.-P.Frahm

Kabale: Bwindi NP, Ruhija, main track to Kabale, ca. 175 m from barrier (79), on loamy forest bank by the track, 2300 m, 25 January 1996, Bates 2046b, det. J.-P. Frahm; Bwindi NP, along trail to NE (83a), on tree trunk by forest trail, 2025 m, 28 January 1996, Bates 2150b, det. J.-P. Frahm. Rukungiri: Bwindi NP, Buhoma waterfall (70), on wet rocks, 1580 m, 8 February

**DICRANACEAE**

*Aongstroemia julacea* (Hook.) Mitt.

Kapchorwa: Mt. Elgon, Hunters’ Cave to Piswa Trail (127), on compacted damp soil of path, 3500 m, 11 July 1998, Porteus 915b, det. J.-P. Frahm. Occasional in eastern and southern Africa, and the Indian Ocean islands, but probably overlooked. [JPF]

*Campylopus cambouei* Renaud & Cardot.

Kabale: Bwindi NP, near Ruhija, nature reserve path (82), on earth bank, 2270 m, 25 January 1996, Porteus 19b, det. J.-P. Frahm. Widespread, but uncommon. [JPF]

*Campylopus crateris* Besch.

Kapchorwa: Mt. Elgon, caldera floor, below rim (121), on caldera floor amongst grass, 3990 m, 8 July 1998, Porteus 9089a, det. J.-P. Frahm. Known previously only from one collection in the Aberdare mountains in Kenya, and a few more in the Indian Ocean islands (Comoros, Madagascar and Réunion). [JPF]

*Campylopus decaryi* Thér.

Kasese: Kilembe copper and cobalt mine, level 45 (45), on gravel edge of stream, 1360 m, 1 February 1997, Porteus 541a, det. J.-P. Frahm. Rare, otherwise known only from D.R. Congo and Madagascar. [JPF]

*Campylopus kivuensis* P.de la Varde & Thér.

Kapchorwa: Mt. Elgon, caldera floor, below rim (121), damp rock on caldera floor, 3990 m, 8 July 1998, Porteus 9090b, det. J.-P. Frahm. Otherwise known only from the type locality and one other collection in Kivu, eastern D.R. Congo (Zaire), and an unlocalised collection. [JPF]

*Campylopus praetermissus* J.-P.Frahm

Kabale: Bwindi NP, Ruhija, main track to Kabale, ca. 175 m from barrier (79), on loamy forest bank by the track, 2300 m, 25 January 1996, Bates 2046b, det. J.-P. Frahm; Bwindi NP, along trail to NE (83a), on tree trunk by forest trail, 2025 m, 28 January 1996, Bates 2150b, det. J.-P. Frahm. Rukungiri: Bwindi NP, Buhoma waterfall (70), on wet rocks, 1580 m, 8 February
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**ERPODIACEAE**

*Erpodium beccarii* var. *beccarii* Müll.Hal. ex Venturi **MBARARA**: Lake Mburu NP, epiphyte on branch of *Rhus* sp., 1250 m, 20 July 1998, *Duckett 11396a*, det. H.W. Matcham. This species is widespread in eastern and southern Africa. [HWM]

**FISSIDENTACEAE**

All collections in this family identified or confirmed by M.A. Bruggeman-Nannenga.

*Fissidens angustifolius* Sull. **BUSHENYI**: Kasese, near Nkombe sawmill (49), on rotten wood (bark), 1440 m, 4 February 1997, *Porley 575a*; on rotten log in forest, *Hodgetts 4552c*; bark of dead tree, *O'Shea 2978a*. A pantropical species. [MABN]

*Fissidens bogosicus* Müll. Hall. **TORO**: Queen Elizabeth NP, Mweya Lodge, on rock at base of wall, always moist during rain. *Lock 88/24* (BM-Kew). South and East Africa, also reported from the Cape Verde Islands. [MABN]

*Fissidens curvatus* Hornsch. **RUKUNGIRI**: Bwindi NP, Ishasha Gorge (75a), on stone by river, 1180 m, 7 February 1997, *Hodgetts 4596a* (mixed with the *F. schmidii*). KAPCHORWA: Rwenzori NP, Mahoma River (39e), 2100 m, 2 February 1997, *Porley 552d*, *Hodgetts 4520a*, *4522b* and *Wigginton 8052c*. MBELE: Bulago, on wet rocks below falls, ± 200 m. *Thomas 2582* (BM). Endemic to Africa, common and widespread [MABN].


*Fissidens lachmanii* Bizot **BUSHENYI**: Kasese, 2850 m, 12 July 1998, *Porley 9164a*, *9177b*. A pantropical species. [MABN]

*Fissidens robynsianus* P. de la Varde in Demar. & P. de la Varde **KAPCHORWA**: Mt Elgon, wet rock in afro-alpine zone, 3870 m, 1998, *Bates 8630a*. Known from Africa and the neotropics. [MABN]
Wesche 1907 (herbarium Bruggeman-Nannenga). A rare, rheophilous African species also known from high altitudes in D.R. Congo [MABN]

*Fissidens submarginatus Krauss* Selected specimens: **BUTHENY**: Kasiyoha-Kitomi FR, near tributary of Chambura R (53), on soil bank by path in forest, 1350 m, 5 February 1997, *Hodgetts 4587a*. **KABALE**: Bwindi Forest, near Mubwindi Swamp (81b), on rotting log by forest path, 26 January 1996, 2150 m, *Wigginton 5115a*. **KABAROLE**: Sebitoli Forest: S of Mpanga R, N of Fort Portal-Kampala road (31a), very old rotten tree trunk, 1400 m, 28 January 1997, *O'Shea 2776a*. **RUKUNGIRI**: Bwindi-Impenetrable NP, Buhoma, Waterfall trail (70), soil in path, 1650 m, 7 February 1997, *O'Shea 5510a*; soil bank by path, forest near waterfall, 1680 m, *Wigginton 8327a*. Not uncommon in Uganda. Probably often identified as *F. intramarginatus* [MABN]

*Fissidens schmidii* Müll. Hal. **KAPCHORWA**: Mt. Elgon National Park, central part of caldera near Makutano, floating in a large permanent stream, UTM 36N/0601/731272 (E 34°33' N 10°3'), 3800 m, 17 Mar 1996, *K. Wesche H-9038* (E), det. B.J. O’Shea, conf. R.D. Porley. Not previously known from East Africa, although recorded from Ethiopia, Eritrea and South Africa’s Cape province. This taxon, along with *Fontinalis squamosa*, has usually been considered as an introduction to South Africa with fish from northern Europe, but this is more difficult to argue for the Horn of Africa as *F. antipyretica* is known from several of the North African Mediterranean countries, and it could be regarded as almost within the normal distribution range, although all Ethiopian/Eritrean collections are from altitudes between 2000 and 2800 m. Mt. Elgon at 3800 m fits neither pattern very well, and although it could have been an introduction with fish, it could also be an introduction by birds to an area with conditions that parallel those of its normal home. [BJO]

**GRIMMIACEAE**


**HYPNACEAE**

*Ectropothecium plumigerum* (Broth.) Hedenäs, comb. nov. 
Taxicaulis plumirameus Müll. Hal., Index Bryologicus 709. 1897, nom. nud., syn. nov.
Orig. mat.: Cameroun, ad Lifenja pagum, In trunci patridis, 3 April 1892, P. Dusén 683 (S; reg. no B78022, B78023, B78024).

Mpi: Mpanga Forest Reserve, near Entebbe, E. W. Jones 623 (E); Kaboro: Kibale Forest, Kanyanchu (38), 1220 m, 31 January 1997, Wigginton 8042a, with Vesicularia galerulata (Duby) Broth. BUSHENYI: Kalinzu Forest, Rushisha stream (51), 1430 m, 4 February 1997, Wigginton 8089d. MASINDA: Budongo FR, Pabidi Forest (10a) 980 m, 25 January 1997, Wigginton 3124a. Previously known from Cameroon and Gabon.

**Hypnum revolutum** (Mitt.) Lindb.
Kapchorwa: Mt. Elgon, Caldera rim, Mubiyi, (122), in rock cleft, 4210 m., 9 July 1998, Porley 9131b, det. L. Hedenäs. Mainly a plant of high latitudes, most widespread in the northern hemisphere, but also known from the mountains of Iran through Pakistan, India and into China, and from Mexico. [BJO]

*Plagiomnium rhynchophorum var. reidii* (Dixon) T.J.Kop. KAPCHORWA: Mt. Elgon NP, S of Piswa Hut (112), 2800 m, 12 July 1998, Porley 9169a, det. M.C. Watling. An African endemic, mostly in the south but also in eastern Africa. [BJO]

POTTIACEAE


SEMATOPHYLLACEAE

*Gammelia ceylonensis* (Broth.) B.C.Tan & W.R.Buck RUKUNGI: Bwindi-Impenetrable NP, Buhoma, Waterfall Trail, 1585 m, 7 February 1997, M.J. Wigginton 8345e, det. B.J. O’Shea. (This record already published in O’Shea 2003, in a review of this genus in Africa.)

DELETIONS
The following three records must be deleted from the Uganda list:

*Leucophanes angustifolium* Renauld & Cardot in Cardot. This taxon is recorded for Uganda based on Potier de la Varde’s report (1956); however the specimen concerned, G.H.S.Wood 1030, was identified by Salazar Allen (1993) as *L. molleri* (conf. L.T. Ellis).

*Leucophanes hildebrandtii* Müll.Hal. Recorded for Uganda in Porley et al. (1999) based on R.D. Porley 247a; this has now been re-identified as *L. molleri* (conf. L.T. Ellis).

*Syrrophodone parasiticus* (Sw. ex Brid.) Besch. This taxon was added to the Uganda list (Porley et al., 1999) based on *R.D. Porley 269a*, but this

MNIACEAE

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collections has been re-identified as *S. africanus* (conf. L.T. Ellis; new to Uganda, see above).

References


