ADDITIONS TO THE MOSS FLORA OF THE TAITA HILLS AND MOUNT KASIGAU, KENYA

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Abstract. Based on our recent collections we report 43 moss species as new to the Taita Hills and Mount Kasigau in SE Kenya, 15 of the species being also new to the country. The number of moss species known from the region rises from the previously reported 85 to 128, and from 506 to 521 for the whole country. The most noteworthy findings are Fissidens splendens Brugg.-Nann., previously known only from Tanzania, and Barbella capillicaulis (Renauld & Cardot) Cardot var. capillicaulis (Renauld & Cardot) Cardot, previously reported from Mauritius, Madagascar and Uganda. The taxa reported represent the families Anomodontaceae (1 sp.), Brachytheciaceae (3 spp.), Calymperaceae (3 spp.), Dicranaceae (8 spp.), Erpodiaceae (1 sp.), Fissidentaceae (3 spp.), Hedwigiaceae (1 sp.), Hookeriaceae (1 sp.), Hypnaceae (3 spp.), Leucodontaceae (1 sp.), Meteoriaceae (3 spp.), Neckeraeae (5 spp.), Orthotrichaceae (1 sp.), Piontiaceae (1 sp.), Polytrichaceae (1 sp.), Pterigynandraceae (1 sp.), Pterobryaceae (2 spp.), Pylaisiadelphaceae (1 sp.), Sematophyllaceae (1 sp.), Stereophyllaceae (1 sp.), and Thuidiaceae (1 sp.).

Key words: bryofloristics, mosses, Africa

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INTRODUCTION

The Taita Hills and Mt. Kasigau in south-eastern Kenya form the northernmost section of the Eastern Arc Mountains (Fig. 1A). Together with the coastal forests of Tanzania and Kenya the moist montane forests of the Eastern Arc Mountains form a hotspot of global biodiversity (EACF, Myers et al. 2000) with a high number of endemic animals and vascular plants (e.g., Beentje 1988; Bytebier 2001; Burgess et al. 2007), but also some endemic and subendemic bryophyte species (e.g., Pócs 1998; Bytebier & Chuah-Petiot 2002).

The Taita Hills rise abruptly from the surrounding plains at ca 600–1000 m to a series of ridges, reaching 2208 m at the highest peak Vuria (Fig. 1A & 3A). Semiarid plains isolate the Taita Hills from other mountain blocks, including Mount Kasigau some 50 km to the southeast (Fig. 1B). Mt. Kasigau rises very steeply from the surrounding plains: from ca 600 to 1641 m in less than two kilometres.

The upper slopes of mountains in the Taita region benefit from moisture brought by the trade winds from the Indian Ocean and capture enough moisture to sustain moist evergreen montane forests (Aerts et al. 2011). The windward slopes of the summits receive the most rain, and even during the dry months the mountain summits are often surrounded in cloud and fog (Fig. 2A). The western rainshadow side of the Taita Hills is very distinctive with Euphorbia species even at 1700 m a.s.l, while the smaller Mount Kasigau does not have a significant rainshadow effect. The moist and relatively cool climate provides favourable conditions for the development of species-rich bryophyte communities, and, in places, considerable epiphyte biomass (Fig. 2B & 4). At lower elevations (<1000 m) there
is a gradual transition from mixed evergreen forests (Fig. 2C) and deciduous woodlands (Fig. 2D) on the foothills to *Acacia-Commiphora* bushland on the surrounding plains.

While the potential natural vegetation on the upper slopes of the Taita Hills consists of closed montane forest, long-lasting and intensive human influence has split the indigenous forest into remnant patches (Fig. 1A). The largest remaining patches of indigenous moist montane forests in the Taita Hills are Mbololo (220 ha), Ngangao (120 ha), Chawia (86 ha), Yale (16 ha), Fururu (8 ha), Macha (3 ha), Mwachora (2 ha), and Vuria (1 ha). In addition to these patches, there are numerous smaller fragments of indigenous forest vegetation, many of them in traditionally protected sites (Himberg 2011). The upper slopes of Mt. Kasigau support 203 ha of moist evergreen forest (Kallio 2011). In contrast to most forests in the Taita Hills, this gazetted forest has remained in relatively pristine condition.

Many forest patches in the Taita Hills are heavily disturbed and surrounded or partly mixed with exotic plantation trees like *Eucalyptus saligna* Sm., *Pinus patula* Schtdl. & Cham., *Cupressus lusitanica* Mill., and *Acacia mearnsii* De Wild.
The forests are embedded in an intensively used agricultural landscape, with mangoes, cassava, banana, maize and beans among the main crops (Pellikka et al. 2009).

Here we report 43 moss species as new to the Taita Hills and Mount Kasigau, 15 of them being new to Kenya. All the specimens were collected during two recent field excursions (2010 and 2011) focusing on the diversity and ecology of bryophytes and lichens in the region. Voucher specimens of the species are kept at the East African Herbarium (EA) in Nairobi, with duplicates at the Botanical Museum (H) of the University of Helsinki. The names of vascular plants were checked from the Tropicos database (http://www.tropicos.org/Home.aspx).

COLLECTING LOCALITIES IN THE TAITA HILLS

WUNDANYI


CHAWIA


FURURU


Plot I39. Small patch of moist indigenous forest with *Albizia gummiufera*, *Tabernaemontana stapfiana*,

MBOLOLO


Between Plots I50 and I67. Mature moist forest with e.g., Macaranga capensis. UTM 439296, 9633160. 1752 m. 29 Jan. 2011. Nyqvist 010444.


Plot I74. Mature moist forest with Cola greenwayi, Strombosia scheffleri, Chrysophyllum gorgonosanum, Craibia zimmermannii, and Draceaena steudneri. UTM 439579, 9633900. 1714 m. 27 Jan. 2011. Nyqvist 111392.


Plot I82. Moist indigenous forest at edge of plantation with Phoenix reclinata, Macaranga capensis, Psychotria lauracea, Pauridiantha paucineris, and Piper capense. UTM 438843, 9631422. 1507 m. 26 Jan. 2011. Nyqvist 111371.


Near plot I83. Mature moist forest with e.g., Teclea trichocarpa. 1731 m. 28 Jan. 2011. Nyqvist 010433.

Plot I84. Mature forest with Cola greenwayi,


Ndiwenyi

Ngango


Near forest guard’s hut. Moist forest with Macaranga conglomerata, Polyscias fulva, Chrysophyllum...

RONGE
Plot E34. Dry pine forest on steep slope. UTM 437766, 9630440. 1357 m. 1 Feb. 2011. Nyqvist 010457.


VURIA


Near mountain summit (north of road). Closed moist secondary forest with Maesa lancolata, Nuxia congesta, Psychotria sp., Prunus melanophloeo, Xylosmonospora, and Dracaea afromontana (Fig. 3B). On branches of evergreen trees. UTM 421273, 9623012. 2150 m. 19 Jan. 2011. Nyqvist 111822, 111825.

WERUGHA

COLLECTING LOCALITIES ON MOUNT KASIGAU

NORTHERN SLOPE, MWAKULOMBA – KASIGAU

Plot 6 (Fig. 2B). Dry semi-open woodland with Commiphora baluensis, Manilkara sulcata, Commiphora africana, and Acacia mellifera. UTM 461975, 9579515. 1000 m. 14 Jan. 2010. Rikkinen 10K063.


EASTERN SLOPE, MAKWASINYI – KASIGAU


SOUTHERN SLOPE, BUNGULE – KASIGAU

Plot 43. Dense vine-rich forest with Newtonia bucha-
nana, Sorindeia madagascarensis, Teclea trichocarpa, Xymalos monospora, and Ficus sp. UTM 462044, 9576252. 1150 m. 16 Jan. 2010. Rikkinen 10K433.

Western slope, Rukanga – Kasigau

Plot 45. Rocky dry forest with Polyscias stuhlmannii, Commiphora baluensis, Euphorbia quinquecostata, Manilkara sulcata, and Ficus sp. UTM 460180, 9577873. 750 m. 17 Jan. 2010. Rikkinen 10K455.


Plot 49. Dense vine-rich forest with Manilkara sulcata, Syzygium guineense, Garcinia volkensii, and Ochna holstii. UTM 461227, 9577322. 1200 m. 17 Jan. 2010. Rikkinen 10K498.


Plot 53 (Fig. 2C). Mature moist forest with Newtonia buchananii, Strombosia scheffleri, Coffea fadenii, Syzygium guineense, and Tabernamontana stapfiana. UTM 461669, 9577024. 1500 m. 17 Jan. 2010. Rikkinen 10K533.

Fig. 3. Taita Hills. A – the mountains as seen from the southwest during the dry season in September 2012, B – moss-rich montane forest near the summit of Vuria, the highest peak of the Taita Hills.
Plot 56 (Fig. 2D). Moss-rich moist forest with Syzygium guineense, Newtonia buchananii, Ochna holstii, Psychotria petitii, and Tabernanonta stapfiana. UTM 461908, 9577127. 1500 m. 17 Jan. 2010. Rikkinen 10K565, 10K566.

FLORISTIC NOVELTIES

A preliminary checklist of the Taita Hills bryophytes was published by Bytebier and Chuah-Petiot (2002). They reported 85 mosses species and 39 liverwort species. The present contribution adds 43 species to the Taita Hills’ moss flora, raising the number of moss species known from the Taita Hills to 128.

According to O’Shea (2006) 493 moss species were known from Kenya. The report by Pócs and Luke (2007) from the Chyulu Range close to the Taita Hills included 13 species new to Kenya, and we here add a further 15, which makes a total of 521. Some essential reports on the Kenyan moss flora are by Chau-Petiot (1995, 1997); she has also published a very useful, illustrated book that treats the bryophyte species more or less common in Kenya (Chau-Petiot 2003).

The distribution data by countries is from O’Shea (2006). The taxa that are new to Kenya are marked with an asterisk (*). Those lacking an asterisk are new to the Taita region (Taita Hills and Mount Kasigau). The same collecting number may appear more than once as in many cases several bryophyte species were collected into the same paper bag.

ANOMODONTACEAE

Anomodon pseudostristis (Müll. Hal.) Kindb.

This species is widely distributed in the warm to tropical regions (Granzow-de la Cerda 1997). Although not common in Africa, it is known from Kenya (Mt. Kenya, Nairobi), Tanzania, Swaziland, South Africa, Rodriguez, Réunion, and Mauritius. O’Shea (2000) discussed its status in Africa especially relative to A. tristis, a morphologically quite similar species. The specimen cited below was mixed with Papillaria africana.

Specimen examined: Kasigau (plot 24): Rikinen JR10K249 (tree trunk)

BRACHYTHECIACEAE

Aelorindigia capillacea (Hornsch.) M. Menzel

This epiphyte, the single species of its genus (cf. Menzel 1991), is distributed in the Neotropics and Africa (Menzel 1991). In mainland Africa it occurs in the East and Central African mountain regions, and is also known from Madagascar. First reported from Kenya (Chyulu Range) by Pócs and Luke (2007).


Specimen examined: Vuria: Nyqvist 111809 (plot 190, Macaranga trunk). 111810 (plot 190, hardwood trunk). 111825 (no plot number, near summit, evergreen tree branches).

*Rhynchostegium comorae* (Müll. Hal.) A. Jaeger

Reported from Comoros, Madagascar, Reunion, Tanzania and Zaire.


Schimperella bello-intricata (Müll. Hal. ex Broth.) W. R. Buck

This genus of just two species was revised by Buck (1985), and a nomenclatural correction concerning the present species was included in a later paper by him (Buck 1993). This species is known from many Central and East African countries, and from the island of Bioko. In Kenya it has been reported under a synonymous name from the Aberdare Range and Mt. Kenya (cf. Kis 1985; Chau-Petiot 1997).

Illustration: Buck (1985: figs 13–20, as S. kataleensis).

Specimen examined: Chawia (plot E18): Nyqvist 111759 (Cupressus trunk).

CALYMPERACEAE

Octoblepharum albidum Hedw.

This is a pantropical lowland species distributed throughout tropical Africa. It was first
reported from Kenya by Egunyomi (1978), but he did not cite any specimens. It is with certainty known from the Shimba Hills near Mombasa and quite close to the Taita Hills (Chuah-Petiot 2001).

**ILLUSTRATION:** Chuah-Petiot (2003: fig. 39).

**SPECIMEN EXAMINED:** RONGE (plot 163): Nyqvist 010460 (hardwood trunk).

*Syrrhopodon asper* Mitt.

A widely distributed Afromontane species (Orbán 1993), apparently not rare in the Taita Hills either. According to Orbán (1993) it is encountered between 1000 and 2500 m.

**ILLUSTRATION:** Chuah-Petiot (2003: fig. 40, as *S. usambaricus*).

**SPECIMENS EXAMINED:** MBOLOLO: Nyqvist 111379 (plot 145, rotten log), 111386 (plot 144, terricolous). NGANGAO (no plot number, along forest trail): Nyqvist 111716 (hardwood trunk), 111718 (saxicolous), 111723 (saxicolous).

*Syrrophodon gaudichaudi*ii Mont.

Widely distributed in the neotropics and Africa. Orbán (1993) considered it ‘one of the commonest species in tropical Africa’. Nevertheless, it has not been reported from Kenya before. It thrives between 1300 and 2700 m, mainly as an epiphyte but also on rocks (Orbán 1993).

**ILLUSTRATION:** Sharp et al. (1994: fig. 147).

**SPECIMENS EXAMINED:** FURURU (plot E67): Nyqvist 111327 (rotten stump). VURIA (plot I90): Nyqvist 111807 (rotten stump and trunk)

**DICRANACEAE**

*Campylopus* specimens were identified using the key in Frahm and O’Shea (1996).

*Campylopus arctocarpus* (Hornsch.) Mitt. subsp. *madecassus* (Besch.) J.-P. Frahm

Previously known from Comoros, Madagascar, Mauritius, Malawi, Reunion, Rio Muni, South Africa, Seychelles, and Tanzania. According to Frahm and O’Shea (1996) it is not common in continental Africa.

**SPECIMENS EXAMINED:** VURIA (no plot numbers): Nyqvist 111819 (forest trail to mountain summit, rotten stump), 111822 (near mountain summit, evergreen tree branches).

*Campylopus crateris* Besch.

Previously known from Uganda, Kenya, Comoros, Madagascar and Reunion. According to O’Shea (2006) this species was first reported from Kenya by Frahm (1985).

**SPECIMEN EXAMINED:** MBOLOLO (no plot number): Nyqvist 010454 (yard of ‘teacher’s house’, hardwood trunk).

*Campylopus hildebrandtii* (Müll. Hal.) A. Jaeger

Widely distributed in tropical Africa, and also morphologically variable. It mainly grows on soil above ca 2000 m (Frahm & O’Shea 1996). According to Chuah-Petiot (2003) it also thrives on deadwood and rotting wood between 1700 and 2000 m.

**ILLUSTRATION:** Chuah-Petiot (2003: fig. 15).

**SPECIMEN EXAMINED:** VURIA (no plot number): Nyqvist 111820 (forest trail to mountain summit, terricolous).

*Campylopus johannis-meyeri* (Müll. Hal.) Kindb.

This is a Central – East African species, reported from Cameroon, Zaire, Malawi, Tanzania and Kenya. According to Frahm and O’Shea (1996) it is an alpine and subalpine species, but in open places thrives also at lower elevations.

**SPECIMEN EXAMINED:** FURURU (plot E58): Nyqvist 111305 (saxicolous).

*Campylopus nanophyllus* Müll. Hal. ex Broth.

This is a fairly widely distributed species of tropical Africa, closest to Kenya in Malawi and Rwanda, but ‘infrequently collected’ (Frahm & O’Shea 1996).

**SPECIMEN EXAMINED:** NGANGAO (no plot number): Nyqvist 112202 (along forest trail, Cupressus trunk).
'Campylopus thwaitesii' (Mitt.) A. Jaeger

Distributed in East Africa and the islands in western Indian Ocean. On the continent it occurs scattered from Lesotho to Rwanda and eastern Zaire, but it has not been reported from Tanzania for example.

SPECIMEN EXAMINED: FURURU (plot E59): Nyqvist 111322 (Eucalyptus branch).

'Leucoloma rutenbergii' (Geh.) C. H. Wright var. elatum Renauld

Previously known from Madagascar, Reunion and Tanzania.

SPECIMEN EXAMINED: MBOLolo (near plot I83): Nyqvist 010433 (fallen on the ground).

Leucoloma zuluense Broth. & Bryhn var. zuluense

Reported from Kenya, South Africa, Tanzania and Zimbabwe. In Kenya previously known from Mt. Kenya (LaFarge 2002) and SE parts of the country (Chuah-Petiot 2003, but without exact locality).

ILLUSTRATION: LaFarge (2002: fig. 28; map. fig. 29).


ERPodiaceae

Erpodium beccarii Müll Hal. ex Venturi

This species is known from tropical America, Africa and Australia; it has a wide distribution in east Africa. It was characterized as ‘xerophytic epiphyte’ by Pócs and Luke (2007). According to Chuah-Petiot (2003) it grows between 550 and 2700 m and is ‘common even on roadside and park trees in urban areas’.

ILLUSTRATION: Chuah-Petiot (2003: fig. 101).

SPECIMEN EXAMINED: KASIGAU (plot 6): Rikkinen JR10K063 (tree trunk).

Fissididentaceae

Fissidens borgenii Hampe

This species has a wide distribution in tropical Africa. It was first reported from Kenya (Cherangani Hills, Kerio, Shimba Hills) by Chuah-Petiot (2001). According to Chuah-Petiot (2003) it grows on decaying wood or soil near waterfalls or streams in lowland and montane forests between 75 and 2550 m.

ILLUSTRATION: Chuah-Petiot (2003: fig. 29).

SPECIMENS EXAMINED: KASIGAU: Rikkinen 10K035 (plot 3, terricolous), 10K433 (plot 43, tree base).

Fissidens leucocinctus Hampe

Distributed from Cameroon and Gabon to East Africa and Madagascar. According to Bruggemann-Nannenga (1993) it is ‘saxicolous in places that are regularly inundated at altitudes from 850 to 2000 m’. In Kenya it was previously reported from Massaoia, Sappa, Ighembe (Gura Valley), and Mt. Kenya (Kis 1985, as F. crispopachyloma).


‘Fissidens splendens’ Brugg.-Nann.

This species was previously known only from Morogoro in NE Tanzania (Bruggeman-Nannenga 1978). The identity of the present specimen was verified from a duplicate by Ida Bruggeman-Nannenga.

SPECIMEN EXAMINED: MBOLolo (plot I45): Nyqvist 111379 (rotten log).

Hedwigiaceae

Braunia camptoclada P. de la Varde & Thér.

A Central African species, known from Kenya, Tanzania and Zaire. Reported from Mt. Kenya, the Aberdare Range and from the Cherangani Hills (Kis 1985 and the references therein; Chuah-Petiot 1995, 1997, 2001). According to Chuah-Petiot (2003) it is a very common epiphyte between 1350 and 3260 m.
Hookeriaceae

*Hookeriopsis ambigua* P. de la Varde

Previously known from Burundi, Gabon, Rwanda and Zaire.

**Illustration:** De Sloover (1975: fig. 57–64).

**Specimen examined:** Chawia (plot I34): *Nyqvist 111353* (fallen on the ground). *Kasigau* (plot 29): Rikkinen *10K295* (vertical cliff face).

Hypnaceae

*Ectropothecium regulare* (Brid.) A. Jaeger

This is a widely distributed species in tropical Africa.

**Specimen examined:** Ngangao (plot E15): *Nyqvist 010486* (*Cupressus* trunk).


Widely distributed in Central and eastern Africa etc. Apparently not rare in the Taita Hills either. The genus *Rhacopilopsis* was revised by Watling and O’Shea (2000), resulting in an extensive synonymy and two accepted species.

**Illustration:** Watling & O’Shea (2000: fig. 2).


*Rhacopilopsis variegata* (Welw. & Duby) M. C. Watling & O’Shea

Also this species has a wide distribution in tropical Africa (Watling & O’Shea 2000).

**Illustration:** Watling & O’Shea (2000: fig. 3).

**Specimens examined:** Mboolo (plot I48): *Nyqvist 111388* (vine). Ngangao (no plot number, near forest guard’s hut): *Nyqvist 111739* (terricolous on trail).

Leucodontaceae

*Leucodon sciuroides* (Hedw.) Schwägr. var. *sciuroides*


**Illustration:** Ignatov & Ignatova (2004: fig. 451).

**Specimen examined:** Vuria (plot I90): *Nyqvist 111809* (*Macaranga* trunk).

Meteoriaceae

*Barbella capillicaulis* (Renaudl & Cardot) Cardot var. *capillicaulis* (Renaudl & Cardot) Cardot

Previously known from Mauritius, Madagascar and Uganda. The Ugandan record (Porley et al. 1999) comes from Rukungiri in the SW corner of the country.

**Specimens examined:** Chawia (plot I29): *Nyqvist 111339* (fallen on the ground). Ngangao (plot I15): *Nyqvist 010482* (*Macaranga* base).

*Trachypus bicolor* Reinw. & Hornsch. var. *viridulus* (Mitt.) Zanten.

Three varieties of *T. bicolor* are recognized in Africa, but none of them was recorded for Kenya before. *Trachypus bicolor* var. *viridulus* was known from Madagascar, Reunion, South Africa, São Tome and Tanzania. In the latter country it has been reported from Mt. Meru, Uluguru Mts., Usambara Mts. and Rungwe Mts (Kis 1985).

**Illustration:** Magill & van Rooy (1998: Fig. 156: 9–16).

**Specimen examined:** Mboolo (plot I85): *Nyqvist 010423* (fallen on the ground).
**Floribundaria vaginans** (Welw. & Duby) Broth.

Widespread in tropical Africa. The previous report from Kenya was from Nzoia near Lake Victoria (Townsend 1987, as *F. patentissima*).

**Specimens examined:** chawia (plot E18); Rikkinen 010072 (*Cupressus* trunk). MBOLolo: Nyqvist 111377 (plot I46, *Tabernaemontana* trunk and base), 111396 (plot E29, *Cupressus* trunk), 111400 (plot E30, fallen log).

NECKERACEAE

**Alleniella remota** (Müll. Hal.) S. Olsson, Enroth & D. Quandt

A fairly common central and East African species (De Sloover 1977, as *Neckera remota*). In Kenya it has been reported from various parts of the country (Kis 1985).

**Illustrations:** De Sloover (1977: figs 22–44, as *Neckera remota*); Chuah-Petiot (2003: fig. 141, as *Neckera remota*).


**Homaliodendron piniforme** (Brid.) Enroth

A widely distributed tropical amphi-Atlantic species, reported from Africa under several synonymous names (Enroth 1990).

**Illustration:** Enroth (1990: fig. 1).

**Specimens examined:** chawia (plot I29): Nyqvist 111339 (fallen on the ground). MBOLolo: Nyqvist 010420 (plot 176, fallen log), 010431 (plot 183, *Strombozia* trunk), 010443 (plot 150, tree trunk). KASIGAU: Rikkinen JR10K155 (plot 15, tree trunk), 10K565 (plot 56, tree trunk).

**Orthostichella capillicaulis** (Müll. Hal. ex Kindb.) B. H. Allen & Magill

Fig. 4A

Widely distributed in eastern tropical Africa (Allen & Magill 2007). Bytebier and Chuah-Petiot (2002) reported *O. pandurifolia* from several places in the Taita Hills, but probably at least some of the specimens represent *O. capillicaulis*. The two species do, however, occur together in Kenya (Allen & Magill 2007). All of the specimens here reported as *O. capillicaulis* had caducous leaves in the branch tips, a character that best distinguishes this species from *O. pandurifolia*.

**Illustration:** Allen & Magill (2007: fig. 1).

**Specimens examined:** fururu: Nyqvist 111788 (no plot number, towards maize fields from the ‘skull cave’, rotten wood), 111789 (plot I93, *Prunus africana* trunk), 111790 (plot I93, *Lobelia*), 111791 (plot I93, hardwood trunk), 111798 (plot 8, stump). MBOLolo: Nyqvist 010411 (plot 172, tree branches), 010422 (plot 168, *Strombozia* trunk). NGANGAO: Nyqvist 111722, 111723 (no plot number, along forest trail, saxicolous), 111742 (no plot number, along forest trail, hardwood trunk), 111743 (no plot number, along forest trail, hardwood trunk). Vuria: Nyqvist 111815 (plot I91, fallen on the ground), 111818 (plot I92, hardwood trunk). KASIGAU: Rikkinen 10K118 (plot 11, tree branches), 10K254A (plot 25, twigs), 10K273 (plot 27, twigs), 10K504 (plot 50, fallen twig).

**Porotrichodendron madagassum** (Kiaer ex Besch.) S. Olsson, Enroth & D. Quandt

The single African species of an essentially Neotropical genus, but widely distributed in tropical Africa (De Sloover 1983, as *Porotrichum madagassum*). Known from several places in Kenya (Kis 1985).

**Illustration:** De Sloover (1983: figs 193–216, as *Porotrichum madagassum*).

**Specimens examined:** vuria: Nyqvist 111815 (plot I91, fallen on the ground), 111818 (plot I92, hardwood trunk).

**Porotrichum elongatum** (Welw. & Duby) A. Gepp

Widely distributed in Central and tropical Africa (De Sloover 1983). In Kenya reported from


ORTHOTRICHACEAE

Schlotheimia percuspidata Müll. Hal.

Known from South Africa, Zimbabwe, Malawi, Tanzania, Uganda and Kenya. The previous Kenyan reports were from the Kakamega Forest Reserve in the North Kavirondo District, near Lake Victoria (Wilbraham 2008).

ILLUSTRATION: Wilbraham (2008: fig. 8).

PILOTTRICHACEAE

Lepidopilum lastii Mitt.

Widely distributed in tropical Africa. Reported from W Kenya by Chuah-Petiot (2003), who described the species as ‘usually epiphytic on trees and shrubs in submontane forest at 1650 m’.

ILLUSTRATION: De Sloover (1975: fig. 83–91).

SPECIMEN EXAMINED: VURIA (no plot number, near summit): Nyqvist 111825 (evergreen tree branches).

POLYTRICHACEAE

Pogonatum belangeri (Müll. Hal.) A. Jaeger.

Widely distributed in tropical Africa. In Kenya reported from Mt. Kenya (De Sloover 1986).


SPECIMEN EXAMINED: MBOLolo (plot E40): Nyqvist 111363 (terricolous).

PTERIGYNANDRACEAE

Trachyphyllum inflexum (Harv.) A. Gepp

A paleotropical species, which according to Pócs and Luke (2007) prefers relatively dry habitats. In Kenya previously known from the SW part of the country (Chuah-Petiot 2003).

ILLUSTRATION: Chuah-Petiot (2003: fig. 191).

SPECIMEN EXAMINED: KASIGAU (plot 45): Rikkinen 10K455 (tree base).

PTEROBRYACEAE

*Hildebrandtiella phleoides* (Desv. ex Brid.) B. H. Allen & Magill


Previously known from Mauritius, Reunion, Rodrigues and Tanzania. It is quite common in the Taita Hills.

ILLUSTRATION: Argent (1973: fig. 11, as *H. pachyclada*).

SPECIMENS EXAMINED: CHAWIA: Nyqvist 111752 (plot I18, Eucalyptus trunk), 111753 (plot I18, fallen tree trunk), 111756 (plot E18, Tabernaemontana trunk), 111759 (plot E18, Cupressus trunk), 111767 (plot I24, fallen twigs); Rikkinen 010073 (plot E18, Eucalyptus trunk). MBOLolo: Nyqvist 010443 (plot I50, hardwood trunk), 111376 (plot I79, Albizzia base), 111377 (plot I46, Tabernaemontana trunk and base), 111392 (plot I74, Cedrus trunk), 111395 (plot I84, fallen on the ground). NGANGAO: Nyqvist 010482 (plot I15, Macaranga base), 111742 (no plot number, along forest trail, hardwood trunk).

Calyptothecium planifrons* (Renauld & Paris)

Argent


ILLUSTRATIONS: Argent (1973: fig. 1); Chuah-Petiot (2003: fig. 129).


PYLAIASIADELPHACEAE


Previously reported from Gabon, Sudan, Tanzania, Uganda and Zaire. It is apparently not rare in the Taita Hills. The present material matches the description of *I. mbangae* provided by Buck (1993).

SEMATOXYLACEAE

*Sematophyllum elgonense* (Dixon) Broth.

Known from Ethiopia, Kenya, Rwanda, Tanzania, Uganda, Zaire, and Zambia. In Kenya previously reported from the Aberdare Range (Kis 1985).

**Specimens examined:** FURURU: Nyqvist 111303 (plot E58, Cedrus trunk), 111317 (plot E67, Eucalyptus trunk), 111333 (plot I39, hardwood trunk). RONGE (plot E34): Nyqvist 010457 (Pinus trunk).

STEREOXYLACEAE

*Entodontopsis nitens* (Mitt.) W. R. Buck & Ireland

Widely distributed in the tropics, being known from Central and South America, Africa and India. In Kenya previously reported from the Kakamega Forest Reserve in the North Kavirondo District (Townsend 1987).

**Illustration:** Sharp et al. (1994: fig. 720).

**Specimens examined:** CHAWIA: Nyqvist 111355 (plot I31, Celtis africana trunk), 111756 (plot E18, Tabernaemontana trunk), 111758 (plot E18, Tabernaemontana trunk), 111763 (plot I22, vine), 111766 (no plot number, near link tower at southern rim of Bura Bluff, fallen on the ground).

THUIDIACEAE

*Pelekium varians* (Welw. & Duby) Touw

A widespread tropical African species (see Touw 1976, as *Thuidium varians*, for a distribution map). First reported in Kenya from Shimba Hills near Mombasa (Chuah-Petiot 2001).

**Illustration:** Touw (1976: fig. 19).

**Specimens examined:** KASIGAU (plot 48): Rikkinen 10K485 (saxicolous).

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