

A checklist of the mosses of Karnataka, India

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Abstract: A first checklist of the mosses reported for the state of Karnataka in India is given, which includes 152 species.

The state of Karnataka is situated in southern India between Kerala in the south., Tamil Nadu in the SE, Andhra Pradesh in the east, Goa in the North and Maharashtra in the NE. It is 191.790 km² large and thus has more than half the size of Germany but 61 millions inhabitants (Germany 82 millions). The state consists of the coastal plain, the Western Ghats reaching more than 1900 m altitude and the highland of Dekkan. The climate is influenced by the monsoon, providing seasonal rainfalls with a gradient from about 3500 mm in the west, with maximums up to 5000 mm, to 5-600 mm in the east. The temperatures vary accordingly between an average of 27° along the coast and much higher temperatures but under drier conditions in the interior

The state of Karnataka is one of the bryologically less known states of India. Although it includes the northern parts of the Western Ghats, the bryological highlight of southern India, it is less explored. The bryoflora of the Western Ghats is documented in numerous publications, mainly by the French bryologists Potier de la Varde and Foreau, which concerns the southern parts in the state of Kerala. Accordingly, places such as Palni Hill, Kodaikanal, and others are best known as type localities of dozens of species. A recent checklist of the state of Kerala was presented by Manju et al. (2008), which contains 307 species of mosses. For Tamil Nadu, even 493 taxa of mosses were recorded (Daniels 2010).

There seem to be only few publications dealing with the moss flora of Karnataka.

The first seems to be that of Brotherus (1899), who identified a collection of mosses made by T.L. Walker in the Coorg district.

Dixon (1909, 1911, 1912) made several contributions to the mosses of India collected by various persons, also in the “Western Ghats”, although these records are not easily to locate since the states were not given and the political boundaries different from today. For example, the state of Karnataka was founded in 1973 and consists of the former states of Coorg and Mysore as well as parts of Hyderabad, Madras and Bombay. Some times it is possibly to conclude from remarks in the introductions that they can be referred to Karnataka. For example, as outlined by Dixon (1909) Sedgwick collected in the “Bombay Presidency” or Mr. Maxwell in the “Kanara jungles”....”not far from Coorg from which Brotherus described a rich collection”... However, in the description of *Pterobryopsis kanarensis*, the Kanara jungles are placed in the Bombay presidency, “prope litus maritimum”, that Kanara is most probably not identical with the present Kanara district. Many

collections made by Sedgwick from the “Western Ghats” turned out to be from the Maharashtra state.

In 1919, L.J. Sedgwick made a trip to the Garsoppa Falls. during the trip he collected some mosses in the “little worked Kanara district”, which were identified by H.N. Dixon (1912).

Almost fifty years later, R. Sundara Raghavan and B.M. Wadhwa collected in the Agumbe-Hulical ranges of the Shimoga (=Shivamogga?) district, as the preceding collections also made in the Western Ghats (Raghavan & Wadhwa 1968).

The different publications include different species numbers. Brotherus (1899) lists 98 species, Dixon (1912) 43, Raghavan & Wadhwa (1968) 28.

A trip to the western Ghats made by the first authors in the district of Coorg, Karnataka, revealed the necessity to obtain an overlook of the species which were already known from this area and from Karnataka in general. Therefore an attempt was made to compile the available literature and compile the first checklist of the mosses for Karnataka, supported by the junior author.

All species listed in the literature were checked against the TROPICOS database (at the Missouri Botanical Garden) and the nomenclature was changed when necessary. The names in brackets refer to the original publications.

! = approved by TROPICOS

* = not found in TROPICOS

!Actinodontium raphidostegum (C.Mueller) Bosch & Lac.
Kanara (Gangulee, 1974)

Aerobryidium filamentosum (Hook.) Fleisch. (Meteorium filamentosum (Hook.) Mitt.)
Coorg: Verajpet (Brotherus 1899 as Meteorium, Gangulee, 1974).

Aerobryopsis longissima (Doz. & Molk.) Fleisch. (Aerobryum longissimum (Doz. & Molk.) C. Müll.)
Coorg: Murnad (Brotherus 1899, Gangulee, 1974).

!Anoetangium walkeri Broth.
Coorg: Mercara (Brotherus 1899, type). ?: Panchgani (Dixon 1912).

Anomobryum auratum (Mitt.) Jaeh. (Anomobryum cymbifolium Broth.)
Coorg: Sidapur (Brotherus 1899). Kanara: Mahbleswar (Dixon 1911). ?: Lonavli (Dixon 1909).

!Archidium birmannicum Mitt. ex Dix.)
Kanara: Karwar (Dixon, type).

!Barbella rufifolia (Thw. & Mitt.) Broth.
Kanara: Siddhapur (Dixon 1912).

!Barbella trichophora (Mont.) Fleisch. (Barbella cubensis (Mitt.) Broth.)
Coorg (Gangulee, 1974)

Barbelopsis trichophora (Mont.) Buck (Meteorium enerve Thw. & Mitt.)
Coorg: Mercara; Paluru; Nalknad Palace (Brotherus 1899 as Meteorium).

Barbula arcuata Griff. (Barbula comosa (Dozy & Molk.) Mitt.)
Coorg: Mercara, Hatur (Brotherus 1899)

Barbula consanguinea (Thw. & Mitt.) Jaeg,
Kanara: Shiggaon (Dixon 1912).

Barbula dharwaensis Dix. (not in TROPICOS)
Kanara: Nigadi, seven miles W of Dharwar (Dixon, type).

Barbula indica (Hook.) Brid.
Coorg: Verajpet (Brotherus 1899). Kanara: Sampkhand (Dixon 1912).
Brachymenium bryoides Hook. & Schwaegr. (*Brachymeneium weisia* (Harv.) C. Müll.)
Coorg: Mercara; Murnad; Hatur (Brotherus 1899). Indian endemic.

Barbula spathulifolia
Mangalore, Kankanady, Foreau 1923 (Aziz & Vohra 2008).

Brachymenium nepalense Hook.
Coorg: Mercara; Murnad; Verajpet; Hatur; Sidapur; Pollebeta (Brotherus 1899). Shimoga: Hulical (Rhagavan & Wadhwa 1968). ?: Lonavli (Dixon 1909).

Brachymenium turgidum Broth. & Dix.
?: Panchgani (Dixon 1911); Lonavli (Dixon 1909). Endemic to the Western Ghats of India (Ochi 1985)

Brachymenium walkeri Broth.
Coorg: Mercara; Paluru; Murnad; Verajpet; Pollebeta (Brotherus 1899, syntypes). ?: Panchgani (Dixon 1911). Indian endemic.

Brachythecium buchananii (Hook.) Jaeg. (*Hypnum buchananii* Hook.)
Coorg: Hatur (Brotherus 1899).

Brachythecium procumbens (Mitt.) Jaeg. (*Hypnum procumbens* Mitt.)
Coorg: Verajpet (Brotherus 1899).

Bryosedgwickia densa (Hook.) Biz. & P. Varde
Shimoga: Agumbe (Rhagavan & Wadhwa 1968) New record for India and previously reported from Mexico and Ecuador.

Bryum apalodictyoides C. Müll. (not in Ochi 1985)
Coorg: Hatur; Nalknad Palace (Brotherus 1899)

Bryum apiculatum Schwaegr. (*Bryum ghatense* Broth. ex Dix.)
Shimoga: Agumbe (Rhagavan & Wadhwa 1968)

Bryum argenteum (Hedw.) Mitt,
Coorg: Mercara; Hatur /Brotherus 1899). Shimoga: Agumbe (Rhagavan & Wadhwa 1968).

Bryum billarderi Schwaegr. (*Bryum ramosum* (Hook.)Mitt.)
Coorg: Verajpet (Brotherus 1899)

Bryum coronatum Schwaegr. (*Bryum doliolum* Duby)
Shimoga: Agumbe; Kannagalgudda; Hulical (Rhagavan & Wadhwa 1968). ?: Lonavli (Dixon 1909). Coorg: Pollebeta; Ponnappet; Titimati (Brotherus 1899 as *B. doliolum*)

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Bryum medianum Mitt.

Coorg: Ponnepet (Brotherus 1899). Nepal & South India.

Bryum porphyroneuron C. Mueller, var. *erythrinum* (Mitt.) Fleischer

Coorg : Gangulee (1974)

Bryum srilankense Mohamed

Coorg: damp earth near Nalknad Palace, T.L. Walker 329 (H) (Mohamed, 1982)

Bryum thomsonii Mitt. (*Bryum erythrinum* Mitt.)

Coorg: Verajpet; Pollebetta; Gonikopaul; Mercara (Brotherus 1899)

Bryum wightii Mitt,

Coorg: Nalkad Palace; Mercara (Brotherus 1899). Shimoga: Kanagalgudda; Hulical (Rhagavan & Wadhwa 1968). Known from India and Sri Lanka.

! *Callicostella papillata* (Mont.) Jaeg.

Kanara: Sampkhand (Dixon 1912).

Calymperes erosum C. Müll. (*Calymperes fordii* Besch.)

Kanara: Siddhapur (Dixon 1912).

Calymperes lonchophyllum Schwaegr. (*Calymperes nietneri* C. Müll. var. *atri-viride* Dix.)

Kanara: Siddhapur (Dixon 1912).

Calymperes mangalorensis Dix. & P. Varde

? : Mangalore, Kankanady, Nov. 1925, G. Foreau 22, type (Ellis, 1989)

Calyptothecium urvilleanum (C. Müll.) Broth. (*Meteorium tumidum* (Dicks.) Mitt., also placed in *Pterobryopsis* and *Pilotrichum*)

Coorg: without locality (Brotherus 1899, Gangulee, 1974).

Calyptothecium wightii (Mitt.) Fleisch. (*Pterobryon patulum* Broth.)

Coorg: Murnad (Brotherus 1899, type of *P. patulum*).

Campylopus fragilis (Brid.) B.S.G. ssp. *goughii* (Mitt.) Frahm (*C. goughii* (Mitt.) Jaeg.)

Coorg: Paluru (Brotherus 1899).

Campylopus umbellatus (Arn.) Par. (*Campylopus nigrescens* (Mitt.) Jaeg.)

Coorg: Murnad; Mercara (Brotherus 1899).

Chameleion peguense (Besch.) L.T. Ellis & A. Eddy

? : Mangalore as *Heliconema peguense* (Ellis, 1989).

! *Chionostomum rostratum* (Griff.) C. Müll.

Coorg: Marcara; Sidapur; Tandiamamol peak; Verajpet (Brotherus 1899, Gangulee, 1980).

Cryptopapillaria fuscescens (Schimp.) M. Menzel (*Papillaria fuscescens* (Schimp.) Britt.)

Coorg: Paluru; Hatur; Verajpet; Murnad; Mercara (Brotherus 1899, Gangulee, 1974). Shimoga: Agumbe (Rhagavan & Wadhwa 1968)

Cyathophorum adianthum Mitt.

Coorg: Tandiandamol peak (Brotherus 1899).

Cyrto-Hypnum tamariscellum (C. Müll.) Buck & Crum (*Thuidium tamariscellum* (C. Müll.) Sande & Lac.)

Coorg: Verajpet (Brotherus 1899, Gangulee, 1980).

! *Daltonia reticulata* C. Müll.

Coorg: Tandiandamol peak (Brotherus 1899).

! *Dendropogonella rufescens* (Schimp.) Britt,

Shimoga: Someshwar, new to India (Guatemala, Mexico) (Rhagavan & Wadhwa 1968)

Diaphanodon blandus (Harv.) Ren. & Card. (*Trachypus blandus* (Harv.) Mitt.)

Coorg: Verajpet (Brotherus 1899, Gangulee, 1974).

! *Dicranella griffithii* (Mitt.) Jaeg.

Coorg: Paluru; Mercara; Verajpet (Giese and Frahm, 1985).

! *Dicranella pomiformis* (Griff.) Jaeg.

Coorg, Mercara (Brotherus 1899)

! *Ectropothecium compressifolium* (Mitt.) Jaeg. & Sauerb.

Kanara: N Kanara forests (Dixon 1921, type).

! *Ectropothecium cyperoides* (Hook.) Jaeg. & Sauerb.

Coorg: Mercara; Gonikopaul; Watekoli near Verajpet; Pollebetta; Tandiandamol peak; Sidapur (Brotherus 1899).

! *Ectropothecium stereodontoides* (Dix.) Wijk. & Marg. (*Ctenidium stereodontoides* Dix.)

Kanara: Samphkand (Dixon, type).

Entodon plicatus C. Müll.

Coorg: Murnad; Pollebetta (Brotherus 1899). Kanara: Anmod; Lingmalla (Dixon 1912, Gangulee, 1980). Shimoga: Begar (Rhagavan & Wadhwa 1968); ?: Lonavla (Dixon 1912).

Entodontopsis anceps (Bosch & Sande Lac.) Buck & Irel. (*Stereophyllum anceps* (Bosch & Sande Lac.) Broth.)

Kanara: Konankeri (Dixon 1912).

Entodontopsis wightii (Mitt.) Buck & Irel. (*Stereophyllum wightii* (Mitt.) Jaeg. & Sauerb.)

Coorg: Ponnepet; Mercara; Pollebetta; Watekoli near Verajpet (Brotherus 1899); Kanara (Gangulee, 1980).

Erythrodonium julaceum (Schwaegr.) Par. (*Erythrodonium juliforme* (Mitt.) Par. nom. illeg.)

Coorg: Mercara (Brotherus 1899; Gangulee, 1980).

! *Fissidens anomalus* Mont.

Coorg: Mt. Tandiandamol (Brotherus 1899).

Fissidens bryoides subsp. *schmidii* (C.Muell.) Norkett
Mangalore (Gangulee, 1969)

**Fissidens carnonis* Broth.
Coorg: near Hatur (Brotherus 1899, type)

Fissidens coorgensis Broth.
Coorg: Sidapur (Brotherus 1899, type)

Fissidens crispulus Brid. (*Fissidens zippelianus* Doz. & Molk.)
Kanara: Karwar; Guddahalli Hill; Sampkhand (Dixon 1912).

**Fissidens exceedens* Broth
Coorg: Sidapur (Brotherus 1899, type)

**Fissidens fuscoviridis* Mitt.
Coorg: Watakoli; Verajpet (Brotherus 1899).

**Fissidens immutatus* Dix.
Kanara: Sirsi (Dixon 1921, type).

!*Fissidens karwarensis* Dix.
Kanara: Karwar (Dixon 1921, type).

Fissidens lutescens Broth.
Coorg: Verajpet (Brotherus 1899, type).

!*Fissidens macrosporus* Dix.
Kanara: Gairsoppa Falls (Dixon 1921, type).

!*Fissidens sedgwickii* Broth. & Dix.
Kanara: Castle Rock (Dixon 1912).

!*Fissidens subfirmus* Dix.
Kanara: Anmod (Dixon 1921, type)

Fissidens sylvaticus var. *auriculatus* (C.Muell) Gangulee
Coorg; (Gangulee, 1969).

Fissidens walkeri Broth.
Coorg: Bhagamandala (Brotherus 1899, type). Kanara: Anmond; Sampkhand; Sirsi (Dixon 1912)
var. *elimatus* (Broth.) Dix. (*Fissidens elimatus* Broth.)
Coorg: Mt. Tandiandamol (Brotherus 1899).

!*Fissidens zollingeri* Mont.
Kanara: Mirjan (Dixon 1912, Gangulee, 1969).

!*Floribundaria floribunda* (Dozy & Molk.) Fleisch. (*Papillaria floribunda* (Doz. & Molk.) C. Müll.
Coorg: Pollebetta; Paluru; Verajpet (Brotherus 1899, Gangulee, 1974).

Funaria hygrometrica Hedw.

Shimoga: Hannageregudda; Hulical; Agumbe; Kanagalgudda (Rhagavan & Wadhwa 1968). ?: Lonavli (Dixon 1909).

var. *calvescens* (Schwaegr.) Mont. Agumbe (Rhagavan & Wadhwa 1968)

**Funaria leptophylla* Griff.

Coorg: Paluvu; Mercara; Watekoli; Fraserpet; Verajpet (Brotherus 1899)

Garckea phascoides (Hook.) C.Müll.

Coorg: Mercara; Verajpet; Murnad; Watekoli (Brotherus 1899)

Himanthocladium cyclophyllum (C. Müll.) Enroth. (*Neckera rugulosa* Mitt.)

Coorg: Verajpet (Brotherus 1899 as *Neckera*).

!*Homaliodendron flabellatum* (*Homalia flabellata* (Dicks) Br. jav.)

Coorg: Tandiandamol peak (Brotherus 1899, Gangulee, 1974).

Hymenostomum edentulum (Mitt.) Besch.

Dharwar: Konankeri (Dixon 1912).

Hyophila cylindrica (Hook.) Jaeg.

Coorg: Mercara; Murnad; Verajpet; Sidapur; Gonikopaul; Titimati (Brotherus 1899). ?: Lonavli (Dixon 1909). According to Dixon (1912) not different from *H. involuta*.

Hyophila involuta (Hook.) Jaeg.

Coorg: Verajpet; Fraserpet (Brotherus 1899). Shimoga: Agumbe (Rhagavan & Wadhwa 1968). Kanara: numerous gatherings (Dixon 1912).

Hypnum vagans Harv. hom. illeg.

Coorg: Verajpet (Brotherus 1899).

!*Isopterygium lignicola* (Mitt.) Jaeg.

Coorg: Sidapur; Pollebetta; Hatar; Verajpet (Brotherus 1899, Gangulee, 1980).

**Lepidostegium raphidostegium* (C. Müll.) Broth.

Kanara: Gairsoppa Falls (Dixon 1912).

!*Leucobryum imbricatum* Broth.

Coorg: Verajpet; Murnad (Brotherus 1899, type)

!*Leucobryum wightii* Mitt.

Coorg: near Nalknad Palace (Brotherus 1899)

Leucoloma taylorii (Schwaegr.) Mitt. (*Leucoloma walkeri* Broth.)

Coorg, without locality (Brotherus 1899, type of *L. walkeri*). Kanara: Sampkhand (Dixon als *L. walkeri*).

Leucoloma tenerum Mitt. (*Leucoloma strictifolium* Dix., *Leucoloma renauldii* Broth.)

Coorg: Verajpet (Brotherus 1899, type of *L. renauldii*). Shimoga: Agumbe; Someshwar (Rhagavan & Wadhwa 1968 as *L. renauldii*). Kanara: Sampkhand (Dixon, type of *L. strictifolium*); Jog (Dixon as *L. renauldii*).

Leucomium aneurodictyon (C. Müll.) Jaeg.
Dharwar: without locality (Dixon 1912).

Macgregorella indica (Broth.) Buck. (*Schwetschkea indica* Broth.)
Coorg: Pollebetta (Brotherus 1899, type).

!*Macromitrium leptocarpum* Broth.
Coorg: Mercara; Verajpet (Brotherus 1899). Shimoga: Someshwar (Rhagavan & Wadhwa 1968).

!*Macromitrium moorcroftii* Schwaegr,
Coorg: Verajpet (Brotherus 1899)

Macromitrium nigricans Mitt.
Coorg: without locality, "in arborum ramulis" herb. van den Bosch (Mitten 1859, type).

Macromitrium sulcatum Brid.
Coorg: Verajpet; Ponnepet; Gonikopaul; Hatur; Tandiamamol (Brotherus 1899, Gangulee, 1974).
Shimoga: Someshwar (Rhagavan & Wadhwa 1968). ? Panchgani (Dixon 1911). Kanara: Kanara
jungle (Dixon 1909).

Meesia uliginosa Hedw,
Shimoga: Agumbe (Rhagavan & Wadhwa 1968).

Mesonodon flavescens (Hook.) Buck (*Campylodontium flavescens* (Hook.) Bosch & Lac.)
Coorg: Murnad; Mercara; Verajpet (Brotherus 1899); Mysore (Gangulee, 1980).

Meteoreopsis reclinata (C. Müll.) Fleisch. (*Meteorium reclinatum* (C. Müll.) Mitt.)
Coorg: Mercara, Mangalore; Verajpet (Brotherus 1899 as *Meteorium*, Gangulee, 1974).

Meteriopsis squarrosa (Hook.) Fleisch. (*Meteorium squarrosus* (Hook.) Mitt.)
Coorg: Verajpet (Brotherus 1899, Gangulee, 1974). Shimoga: Someshwar (Rhagavan & Wadhwa
1968)

var. *longicuspis* Nog.
Canara, Mt. Kudremukh, Pfeleiderer, Bryotheca E.Levier 6469 (Noguchi, 1976).

Microcampylopus khasianus (Mitt.) Giese & Frahm (*Campylopodium kasianum* (Griff.) Par.)
Coorg: Mercara (Brotherus 1899, Giese and Frahm, 1985)

!*Neckeropsis andamana* (C. Müll.) Fleisch.
Kanara: Siddhapur (Dixon 1912); Karwar (Dixon 1912).

Octoblepharum albidum (Hedw.) Mitt.
Coorg: Verajpet. Shimoga: Hulical (Rhagavan & Wadhwa 1968).

!*Oxyrrhynchium vagans* (A. Jaeger) Ignatov & Huttunen (*Rhynchostegium vagans* A.Jaeger)
Coorg: Gangulee (1980)

Pelekium velatum Mitt. (*Thuidium trachypodium* (Mitt.) Dozy & Molk.)
Coorg: Pollebetta (Brotherus 1899). Kanara: Guddahalli Hill, Karwar; Jog (Dixon 1912).
Shimoga: Hulical (Rhagavan & Wadhwa 1968).

!Physcomitrium coorgense Broth.

Coorg: Verajpet (Brotherus 1899, type, Gangulee, 1974)

!Philonotis angusta Mitt.

Coorg: Mercara (Brotherus 1899)

Philonotis hastata (Duby) Wijk & Marg. (Philonotis heterophylla Mitt., Philontis imbricatula Mitt.)

Coorg: Paluru; Verajpet (Brotherus 1899 as P. heterophylla); Verajpet; Marnad; Sidapur (Brotherus 1899 as P. imbricatula).

!Philonotis mollis (Doz. & Molk.)

Coorg: Mercara; Marnad; Gonikopaul; Verajpet (Brotherus 1899). Kanara: Siddhapur (Dixon 1912, Gangulee, 1974).

Philonotis thwaitesii Mitt. (Philonotis revoluta v.d.Bosch & Lac.)

?: Lonavli (Dixon 1909, 1912).

Pinnatella alopecuroides (Mitt.) Fleisch. (Porotrichum alopecuroides (Hook.) Bosch. & Lac.)

Coorg: Pollebetta (Brotherus 1899, Gangulee, 1974).

!Pinnatella calcutensis (C. Müll.) Fleisch.

Kanara: numerous gatherings (Dixon 1912, Gangulee, 1974 as var.).

!Pinnatella limbata Dix.

Kanara: Samphkand (Dixon, type). Shimoga: Agumbe (Rhagavan & Wadhwa 1968)

Platygyriella densa (Hook.) W.R. Buck (Bryosedgwickia densa (Hook.) Biz. & P. Varde

Shimoga: Agumbe (Rhagavan & Wadhwa 1968) New record for India and previously reported from Mexico and Ecuador.

Platygyriella kirtikarii (Card. & Dix.) Buck (Bryosedgwickia kirtikarii Card. & Dix.)

?: Panchgau (Dixon 1912, syntypes).

!Platyhypnidium riparioides (Hedw.) Dix.

Shimoga: Agumbe (Rhagavan & Wadhwa 1968)

Pogonatum microstomum (R.Br.) Brid.

Shimoga: Hulical (Rhagavan & Wadhwa 1968)

Pogonatum neesii (C. Müll.) Dozy (Polytrichum neesii C. Müll. incl. Indian records of Pogonatum aloides (Hedw.) P. Beauv.)

Coorg: Mercara (Brotherus 1899). Kanara: Shimoga: Begar (Rhagavan & Wadhwa 1968); Gangulee (1969 as P. aloides forma neesii).

Polytrichum hexagonum (Mitt.) Dix. (Pogonatum hexagonum Mitt.)

Coorg: Mercara; Verajpet; Paluru (Brotherus 1899, Gangulee, 1969).

Pseudotrachypus convolvens (Mitt.) W.R.Buck (Barbella convolvens (Mitt.) Broth.)

Mysore (Gangulee, 1974)

Pterobryopsis foulkesiana (Mitt.) Fleisch. (*Pterobryon gracile* Broth.)

Coorg: near Pollabetta; Verajpet hill; Murnad (Brotherus 1899, syntypes of *P. gracile*). Species of *Pterobryopsis* cannot sufficiently be determined. Of the six species (incl. *Pterobryon*) reported from Karnataka, only three are described and illustrated by Gangulee (1969-72), who includes three more species from the Himalayas.

Pterobryopsis frondosa (Mitt.) Fleisch. (*Pterobryon frondosum* (Mitt.) Broth.)

Coorg: Tandiandamol peak (Brotherus 1899, Gangulee, 1974).

Pterobryopsis kegeliana (C.Müll.) Fleisch. (*Pterobryon walkeri* Broth.)

Coorg: Mercara; Mangalore Road; Hatur (Brotherus 1899, syntypes of *P. walkeri*).

Pterobryopsis schmidii (C. Müll.) Fleisch. (*Pterobryon schmidii* (C. Müll.) Broth.)

Coorg: Tandiandamol peak (Brotherus 1899, type of *P. schmidii*).

Pterobryopsis tumida (Dicks. ex Hook.) Dix. (*Pterobryopsis maxwellii* Card. & Dix.)

Coorg: Gangulee (1974). Kanara: "Kanara jungle" (Dixon 1909, type); Guddahalli, Karwar; Gairsoppa Falls; Anmond (Dixon 1912).

Pterobryopsis walkeri (Broth.) Broth. (*Pterobryopsis kanarensis* Card. & Dix.)

Kanara: Guddahalli Hill, Karwar (Dixon 1909); "Kanara jungles" (Dixon 1909 as *P. kanarensis*, type).

Racopilum cuspidigerum (Schwaegr.) Aongstr. (*Racopilum indicum* Mitt., *Racopilum schmidii* (C. Müll.) Mitt.)

Coorg: Gonikopaul; Hatur (Brotherus 1899). Shimoga: Agumbe (Rhagavan & Wadhwa 1968).

**Rhamphidostegium tristiculum* (Mitt.) Jaeg.

Coorg: Verajpet; Ponnepet; Sidapur; Mercara (Brotherus 1899).

!*Rhodobryum giganteum* (Hook.)

Coorg: Tandiandamol peak (Brotherus 1899)

Rhynchostegium herbaceum (Mitt.) Jaeg. (*Hypnum herbaceum* Mitt.)

Coorg: Murnad (Brotherus 1899, Gangulee, 1980).

!*Rosulabryum tuberosum* (Mohamed & Damanhuri) J.R. Spence (as *Bryum tuberosum* Mohammed & Dhamanhuri (Nair et al. 2004).

?: Reported as a new record for India from the plains of Uduppi in Karnataka.

Schoenobryum concavifolium (Griff.) Gangulee (*Acrocryphaea concavifolia* (Griff.) Boisch & Sande Lac.)

Coorg: Verajpet; Hatur; Murnad (Brotherus 1899).

!*Sematophyllum angusticuspis* Broth.

Coorg: Verajpet; Tandiandamol peak; Gonikopaul (Brotherus 1899).

!*Symphyodon perrottetii* Mont.

Kanara: Anmond; Samphkand; (Dixon 1912).

Symphysodontella involuta (Thw. & Mitt.) Fleisch. (*Pterobryum involutum* Thw. & Mitt.)
Coorg: Tandiandamol peak (Brotherus 1899).

Syntrichia fragilis
Coorg: coll. Walker (Aziz & Vohra 2008).

!*Syrrophodon semiliber* (Mitt.) Besch,
Kanara: Siddhapur (Dixon 1912)

Taxiphyllum taxirameum (Mitt.) Fleisch. (*Isopterygium taxirameum* (Mitt.) Jaeg.)
Coorg: Nalknad Palace; Verajpet; Hatur; Pollebetta (Brotherus 1899, Gangulee, 1980).

!*Taxithelium nepalense* (Harv.) Jaeg.
Guddahalli, karwar; Samphkand; Anmod (Dixon 1912); Kanara: Gangulee (1980).

Tayloria schmidii (C. Müll.) Broth.
Coorg: Pollebetta (Brotherus 1899)

!*Thuidium blepharophyllum* (C. Müll.) Jaeg. & Sauerb.
Coorg: Tandiandamol peak (Brotherus 1899).

Thuidium glaucinum (Mitt.) Sande & Lac.
Coorg: verajpet (Brotherus 1899).

Thuidium meyenianum (Hamp.) Dozy & Molk.
Coorg: Gangulee (1980).

!*Tortella walkeri* (Broth.) Zander (*Hyophila walkeri* Broth.)
Coorg: on tree trunks, Verajpet; Hatur; Ponnepet (Brotherus 1899, syntypes). Kanara: Karwar (Dixon 1912).

Trachypodopsis serrulata (P. Beauv.) Besch. var. *crispatula* (Hook.) Zant. (*Trachypus crispatulus* (Hook.) Mitt.)
Coorg: Tandiandamol peak (Brotherus 1899).

Trematodon longicollis Michx. (*Trematodon ceylonensis* C. Müll., *Trematodon paucifolius* C. Müll.)
Coorg: Mercara (Brotherus 1899 as *T. ceylonensis*); Sidapur, Mercara, Verajpet (Brotherus 1899 as *T. paucifolius*).

Trichosteleum monostictum (Thw. & Mitt.) Broth.
Coorg: Bhagamandala; Tandiandamol peak (Brotherus 1899). Kanara: Samphkand (Dixon 1912).

!*Trichostomum duriusculum* (Mitt.) Broth.
Shimoga: Someshwar (Rhagavan & Wadhwa 1968).

Trichostomum hyalinoblastum (Broth.) Broth. (*Tortella hyalinoblasta* Broth.)
Coorg: on trunks of trees, Pollebetta; Ponnepet (Brotherus 1899, syntypes)

!*Vesicularia levieri* Card.
Kanara: N. Kanara (Dixon, syntype).

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!Vesicularia reticulata (Dozy & Molk.) Broth. (Ectropothecium reticulatum (Dozy & Molk.) Jaeg. & Sauerb.)

Coorg: Pollebeta; Nager Riber near Mysore frontier (Brotherus 1899 as Ectropothecium). Shimoga: Someshwar (Rhagavan & Wadhwa 1968)

!Vesicularia succosa (Mitt.) Broth. ex Dix.

Shimoga: Someshwar (Rhagavan & Wadhwa 1968)

!Weisia edentula Mitt. (Hymenostomum edentulum (Mitt.) Besch.)

Coorg: Mercara (Brotherus 1899). Shimoga: Agumbe (Rhagavan & Wadhwa 1968).

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List of types from the region

Anoetangium walkeri Broth.
 Archidium birmannicum Mitt. ex Dix.
 Barbula dharwaensis Dix. (not in TROPICOS)
 Brachymenium turgidum Broth. & Dix.
 Brachymenium turgidum Broth. & Dix.
 Brachymenium walkeri Broth.
 Bryosedgwickia kirtikarii Card. & Dix.
 Bryum ghatense Broth. ex Dix.
 Calymperes mangalorensis Dix. & P. Varde
 Ctenidium stereodontoides Dix.
 Ectoprotecium compressifolium (Mitt.) Jaeg. & Sauerb.
 Fissidens karwarensis Dix.
 Fissidens carnonis Broth.
 Fissidens coorgensis Broth.
 Fissidens exceedens Broth.
 Fissidens immutatus Dix.
 Fissidens lutescens Broth.
 Fissidens macrosporus Dix.
 Fissidens subfirmus Dix.
 Fissidens walkeri Broth.
 Hyophila walkeri Broth.
 Leucobryum imbricatum Broth.
 Leucoloma renauldii Broth.
 Leucoloma strictifolium Dix.,
 Leucoloma walkeri Broth.
 Macromitrium nigricans
 Physcomitrium coorgense Broth.
 Pinnatella limbata Dix.
 Pterobryon gracile Broth.
 Pterobryon patulum Broth.
 Pterobryon schmidii (C. Müll.) Broth.
 Pterobryopsis kanarensis Card. & Dix.
 Pterobryopsis tumida (Dicks. ex Hook.) Dix.
 Pterobryum walkeri Broth.
 Schwetschkea indica Broth
 Tortella hyalinoblasta Broth.
 Vesicularia levieri Card.

List of Synonyms:

Acrocryphaea concavifolia (Griff.) Bosch & Sande Lac. = Schoenobryum concavifolium (Griff.)
 Gangulee

- Aerobryum longissimum* Doz. & Molk. = *Aerobryopsis longissima* (Doz. & Molk.) Fleisch.
Anomobryum cymbifolium Broth. = *Anomobryum auratum* (Mitt.) Jaeg.
Barbella convolvens (Mitt.) Broth. = *Pseudotrachypus convolvens* (Mitt.) W.R. Buck
Barbella cubensis (Mitt.) Broth. = *Barbella trichophora* (Mont.) Fleisch.
Barbula comosa (Dozy & Molk.) Mitt = *Barbula arcuata* Griff.
Brachymenium weisia (Harv.) C. Müll. = *Brachymenium bryoides* Hook. & Schwaegr.
Bryosedgwickia densa (Hook.) Biz. & P. Varde = *Platygyriella densa* (Hook.) W.R. Buck
Bryosedgwickia kirtikarii Card. & Dix. = *Platygyriella kirtikarii* (Card. & Dix.) Buck
Bryum doliolum Duby = *Bryum coronatum* Schwaegr.
Bryum erythrinum Mitt. = *Bryum thomsonii* Mitt.
Bryum ghatense Broth. ex Dix. = *Bryum apiculatum* Schwaegr.
Bryum ramosum (Hook.) Mitt. = *Bryum billarderi* Schwaegr.
Bryum tuberosum Mohammed & Dhamanhuri = *Rosulabryum tuberosum* (Mohamed & Damanhuri) J.R. Spence
Calymperes fordii Besch. = *Calymperes erosum* C. Müll.
Calymperes nietneri C. Müll. var. *atri-viride* Dix. = *Calymperes lonchophyllum* Schwaegr.
Campyloodontium flavescens (Hook.) Bosch & Lac. = *Mesonodon flavescens* (Hook.) Buck
Campylopodium kasianum (Griff.) Par. = *Microcampylopus khasianus* (Mitt.) Griese & Frahm
Campylopus goughii (Mitt.) Jaeg. = *Campylopus fragilis* (Brid.) B.S.G. ssp. *goughii* (Mitt.) Frahm
Campylopus nigrescens (Mitt.) Jaeg. = *Campylopus umbellatus* (Arn.) Par.
Ctenidium stereodontoides Dix. = *Ectropothecium stereodontoides* (Dix.) Wijk. & Marg.
Ectropothecium reticulatum (Dozy & Molk.) Jaeg. & Sauerb. = *Vesicularia reticulata* (Dozy & Molk.) Broth.
Erythrodonium juliforme (Mitt.) Par. = *Erythrodonium julaceum* (Schwaegr.) Par.
Fissidens zippelianus Doz. & Molk. = *Fissidens crispulus* Brid.
Homalia flabellata (Dicks.) Bosch & Sande Lac. = *Homaliendron flabellatum* (Dicks.) Fleisch.
Hymenostomum edentulum (Mitt.) Besch. = *Weisia edentula* Mitt.
Hyophila walkeri Broth. = *Tortella walkeri* (Broth.) Zander
Hypnum buchananii Hook. = *Brachythecium buchananii* (Hook.) Jaeg.
Hypnum herbaceum Mitt. = *Rhynchostegium herbaceum* (Mitt.) Jaeg.
Hypnum procumbens Mitt. = *Brachythecium procumbens* (Mitt.) Jaeg.
Isopterygium taxirameum (Mitt.) Jaeg. = *Taxiphyllum taxirameum* (Mitt.) Fleisch.
Leucoloma renauldii Broth. = *Leucoloma tenerum* Mitt.
Leucoloma strictifolium Dix. = *Leucoloma tenerum* Mitt.
Leucoloma walkeri Broth. = *Leucoloma taylorii* (Schwaegr.) Mitt.
Meteorium enerve Thw. & Mitt. = *Barbellopsis trichophora* (Mont.) Buck
Meteorium filamentosum (Hook.) Mitt. = *Aerobryidium filamentosum* (Hook.) Fleisch. (
Meteorium reclinatum (C. Müll.) Mitt. = *Meteriopsis reclinata* (C. Müll.) Fleisch.
Meteorium squarrosum (Hook.) Mitt. = *Meteriopsis squarrosa* (Hook.) Fleisch.
Neckera rugulosa Mitt. = *Himanthocladium cyclophyllum* (C. Müll.) Enroth.
Papillaria floribunda (Doz. & Molk.) C. Müll. = *Floribundaria floribunda* (Doz. & Molk.)
Papillaria fuscescens (Schimp.) Britt. = *Cryptopapillaria fuscescens* (Schimp.) M. Menzel
Philonotis heterophylla Mitt. = *Philonotis hastata* (Duby) Wijk & Marg.
Philonotis revoluta v.d. Bosch & Lac. = *Philonotis thwaitesii* Mitt.
Philonotis imbricatula Mitt. = *Philonotis hastata* (Duby) Wijk & Marg.
Pogonatum aloides (Hedw.) P. Beauv. = *Pogonatum neesii* (C. Müll.) Dozy
Pogonatum hexagonum Mitt. = *Polytrichum hexagonum* (Mitt.) Dix.
Porotrichum alopecuroides (Hook.) Bosch. & Lac. = *Pinnatella alopecuroides* (Mitt.) Fleisch.
Pterobryon gracile Broth = *Pterobryopsis foulkesiana* (Mitt.) Fleisch.
Pterobryon patulum Broth. = *Calyptothecium wightii* (Mitt.) Fleisch.

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- Pterobryon schmidii* (C. Müll.) Broth. = *Pterobryopsis schmidii* (C. Müll.) Fleisch.
Pterobryopsis kanarensis Card. & Dix. = *Pterobryopsis walkeri* (Broth.) Broth.
Pterobryopsis maxwellii Card. & Dix. = *Pterobryopsis tumida* (Dicks. ex Hook.) Dix.
Pterobryum involutum Thw. & Mitt.) = *Symphysodontella involuta* (Thw. & Mitt.) Fleisch.
Pterobryum walkeri Broth. = *Pterobryopsis kegeliana* (C.Müll.) Fleisch.
Racopilum indicum Mitt. = *Racopilum cuspidigerum* (Schwaegr.) Aongstr.
Racopilum schmidii C. Müll. = *Racopilum cuspidigerum* (Schwaegr.) Aongstr.
Schwetschkea indica Broth. = *Macgregorella indica* (Broth.) Buck.
Stereophyllum anceps (Bosch & Sande Lac.) Broth. = *Entodontopsis anceps* (Bosch & Sande Lac.)
Buck & Irel.
Stereophyllum wightii (Mitt.) Jaeg. & Sauerb. = *Entodontopsis wightii* (Mitt.) Buck & Irel.
Thuidium tamariscellum (C. Müll.) Sande & Lac. = *Cyrto-Hypnum tamariscellum* (C. Müll.) Buck
& Crum
Tortella hyalinoblasta Broth. = *Trichostomum hyalinoblastum* (Broth.) Broth.
Trachypus blandus (Harv.) Mitt. = *Diaphanodon blandus* (Harv.) Ren. & Card.
Trematodon ceylonensis C. Müll. = *Trematodon longicollis* Michx.
Trematodon paucifolius C. Müll. = *Trematodon longicollis* Michx.