

Beiträge zur Flora von Afrika. XIV.

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herausgegeben

von

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Musci africani. II.

Von

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Weisiaceae.

Anoetangium Hedw., Br. eur.

A. torquatum Broth. n. sp.

Syn. *Zygodon torquatus* Broth. in ENGL., Ostafrika V, Pflanzenwelt C. p. 70 (nomen).

Dioicum; subrobustum, caespitosum, caespitibus densis, fuscescenti-viridibus; caulis ad 15 mm usque altus, erectus, strictus, basi radiculosus dense foliosus, simplex; folia sicca arcte spiraliter contorta, humida erecto-patentia, carinato-concava, lanceolato-linearia, acuta, marginibus erectis, minutissime papillosis, integerrimis, nervo crasso, lutescente, cum apice evanido vel in mucronem brevissimum excedente, dorso minute papilloso, cellulis pellucidis, incrassatis, rotundatis vel quadratis, 0,007—0,009 mm, minutissime papillosis, basilaribus ad nervum breviter rectangularibus. Caetera ignota.

Usambara: an Felsen (Holst n. 125).

Species *A. compacto* Schwaegr. affinis, sed statura robustiore et foliis pellucidis faciliter dignoscenda.

Dicranaceae.**Dicranodontium Br. eur.**

D. leptodrepanium C.-Müll. n. sp. in sched.; dioicum; caespitosum, caespitibus rigidis, densis, latissimis, usque ad 8 cm altis, pallide viridibus, substramineis, nitidis; caulis erectus, flexuosus, tomentosus, dense foliosus, ramosus; folia falcata, a basi lanceolata sensim longe convolutaceo-setacea, summo apice denticulata, nervo latissimo, partem superiorem subulae fere totam occupante, cellulis teneris, superioribus irregularibus, plerumque subrhomboideis, basilaribus internis laxis, subrectangularibus, subinanibus, externis angustis, limbum hyalinum e seriebus cellularum usque ad 10 formatum, alaribus paucis, hyalinis, fugacibus; bractee perichaetii e basi vaginante subito longe setaceae, summo apice denticulatae, laxius areolatae; seta 1 cm alta, cygnea, lutea, aetate fusca, laevis; theca oblonga, fuscidula, sicca plicata; calyptra straminea, basi nuda, multifida, laevis. Caetera ignota.

Kamerun: an Baumästen oberhalb Buea 2500 m (DUSÉN).

Species habitu *Dicrano albicanti* Br. eur. sat similis.

Campylopus Brid.

C. atro-sordidus C.-Müll. n. sp. in sched.; dioicus; rigidus, caespitosus, caespitibus ad 5 cm usque altis, densis, latissimis, atris, superne sordide lutescenti-vel fuscescenti-viridibus; caulis erectus, flexuosus, rigidus, inferne tomentosus, dense foliosus, parce ramosus, apice comosus; folia sicca imbricata, humida erecto-patentia, canaliculato-concava, e basi elongata sensim acuminata, pilo longiusculo, hyalino, stricto, serrato terminata, marginibus integerrimis, superne conniventibus, nervo basi $\frac{5}{8}$ partem folii occupante, dorso alte et dense lamellato, cellulis alaribus sat numerosis, fuscis, supraalaribus rectangularibus, hyalinis, caeteris chlorophyllosis, rhombeis vel rhomboideis, valde incrassatis, lumine angusto, obliquo; bractee perichaetii e basi elongata, convolutacea raptim in subulam angustam, strictam, apice hyalinam attenuatae, integerrimae, cellulis teneris, elongatis, hyalinis; setae aggregatae, breves, cygnae; theca ovalis, paulum asymmetrica, sicca plicatula, fuscidula; peristomium simplex; exostomii dentes c. 0,45 mm longi et c. 0,40 mm lati, aurantiaci, dense papilloso, ultra medium in cruribus duobus, filiformibus, papillosis, superne hyalinis divisi. Caetera ignota.

Kamerun: an Felsen und Steinen oberhalb Buea 2400—3000 m (DUSÉN n. 347).

Diese Art, welche dem *C. polytrichoides* de N. sehr nahe verwandt ist, soll nach DUSÉN ein der gewöhnlichsten Moose zwischen 2400 und 3000 m sein.

C. macrotis C.-Müll. n. sp. in sched.; dioicus; robustus, rigidus, caespitosus, caespitibus parvis, laxis, lutescenti-vel fuscescenti-viridibus,

haud nitidis; caulis ad 4 cm usque altus, rigidus, adscendens, tomento rubiginoso usque ad apicem vestitus, laxe foliosus, foliis comalibus tantum dense confertis, simplex; folia sicca flexuosula, humida horride divaricata vel reflexa, comalia erecto-patentia, canaliculato-concava, e basi truncata, valde auriculata, c. 0,9 mm lata sensim longe subulata, nervo excedente longe cuspidata, 6—7 mm longa, marginibus apice serrulatis, nervo basi dimidiam partem folii occupante, partem folii supremam totam occupante, dorso sulcato, subintegro, cellulis medianis magnis, hyalinis, dorsalibus et ventralibus parvis, cellulis laminae lutescentibus, subrhomboideis, marginalibus minoribus, subquadratis, basilaribus intramarginalibus laxis, breviter rectangularibus, alaribus permultis, laxissimis, rubiginosis, in ventrem distinctissimum congestis. Caetera ignota.

Kamerun: Rumpigebirge, an Baumstämmen und Baumästen bei Vevoka 620 m (DUSÉN n. 699).

Species distinctissima, *C. erythrocauloni* Broth. et *C. horrido* Welw. Dub. affinis, sed foliis horride divaricatis vel reflexis jam primo intuitu dignoscenda.

C. dissitus C.-Müll. n. sp. in sched.; speciei praecedenti valde affinis; sed colore viridissimo, foliis superne argutius serratis, nervo dorso superne serrato jam dignoscenda.

Kamerun: an Baumstämmen oberhalb Buea c. 1450 m (DUSÉN).

C. viridatulus C.-Müll. n. sp. in sched.; dioicus; rigidus, caespitosus, caespitibus densiusculis, parvis vel sat extensis, laete viridibus, haud nitidis; caulis 2—3 cm altus, erectus, strictus vel flexuosus, tomento rubiginoso usque ad apicem dense vestitus, dense foliosus, simplex; folia rigida, sicca imbricata, humida erecto-patentia, canaliculato-concava, lanceolato-subulata, nervo excedente cuspidata, 4—6 mm longa, c. 0,75 mm lata, marginibus superne serrulatis, nervo basi dimidiam partem folii occupante, partem folii supremam totam occupante, dorso sulcato, superne serrulato, cellulis medianis magnis, hyalinis, dorsalibus et ventralibus parvis, cellulis laminae lutescentibus, rhomboideis, marginalibus minoribus, quadratis, basilaribus intramarginalibus laxis, breviter rectangularibus, subquadratis, alaribus multis, laxissimis, rubiginosis, interdum decoloratis, in ventrem distinctissimum congestis; bractee perichaetii e basi elongate convolutae, pellucide et elongate reticulata longissime setaceae, marginibus superne serrulatis, nervo in aristam elongatam, argute serratam excedente; setae plures, 4 cm altae, cygneae, sordide luteae, theca asymmetrica, oblonga, microstoma, strumifera, siccitate curvatula, sulcata, sordide lutescens; peristomium simplex; exostomii dentes c. 0,66 mm longi et c. 0,06 mm lati, purpurei, dense papilloso, ultra medium in cruribus duobus, grosse papilloso, superne hyalinis divisi; operculum e basi conica oblique rostratum; calyptra cucullata, sordide fusca, basi dense fimbriata.

Kamerun: Bomana 670 m, Buea 950 m und Jonje (DUSÉN). Nach DUSÉN

sehr verbreitet an Steinen der Erosionsthäler von der Küste bis wenigstens 1000 m, doch selten in größerer Menge.

A speciebus supra descriptis, quibus foliorum structura accedit foliis nitore destitutis, densioribus, siccis adpressis jam differt.

C. afro-concolor C.-Müll. n. sp. in sched.; dioicus; rigidiusculus, caespitosus, caespitibus densiusculis, extensis, viridibus, haud nitidis; caulis ad 3 cm usque altus, flexuosus, usque ad apicem fusco-tomentosus, dense foliosus, simplex; folia sicca imbricata, humida patentia, canaliculato-concava, breviter lanceolato-subulata, nervo excedente breviter cuspidata, vix ultra 4 mm longa, c. 0,7 mm lata, marginibus apice serratis, nervo basi tertiam partem folii occupante, dorso sulcato, superne serrato, cellulis medianis magnis, inanibus, dorsalibus et ventralibus parvis, cellulis laminae viridibus, subrhomboideis, marginalibus minoribus, subquadratis, basilaribus intramarginalibus, breviter rectangularibus, alaribus sat numerosis, quadratis, plerumque decoloratis. Caetera ignota.

Kamerun: an modernden Stämmen bei Jumbo im Rumpigebirge 1400 m (DUSÉN n. 653).

A specie praecedente proxima foliis multo brevioribus et nervo angustiore jam differt.

C. nanophyllus C.-Müll. n. sp. in sched.; dioicus; gracilis, caespitosus, caespitibus humilibus, densis, late extensis, viridibus, haud nitidis; caulis vix 4 cm altus, erectus, inferne parce fusco-tomentosus, dense foliosus, simplex vel parce ramosus; folia sicca imbricata, humida erecto-patentia, canaliculato-concava, e basi oblonga breviter acuminata, nervo excedente breviter cuspidata, 2—3 mm longa et c. 0,47 mm lata, marginibus integris vel subintegris, nervo basi tertiam partem folii occupante, dorso parum sulcato integro, in cuspidem brevem, summo apice parce denticulatum excedente, cellulis laminae irregulariter subrhombeis, basilaribus intramarginalibus multo majoribus, laxis, subquadratis, alaribus indistinctis, fuscidulis vel decoloratis. Caetera ignota.

Kamerun: an Steinen bei Victoria (DUSÉN n. 305).

Species statura humili, gracilitate, foliis imbricatis, brevibus, integris vel subintegris insignis.

C. flavicoma C. Müll. n. sp. in sched.; dioicus; caespitosus, caespitibus parvis, densis, lutescenti-viridibus, haud nitidis; caulis 4 cm altus, erectus, tomento usque ad apicem dense vestitus, dense foliosus, simplex vel divisus; folia sicca crispula, humida homomalla, canaliculato-concava, e basi lanceolata longissime subulato-setacea, usque ad 10 mm longa, c. 0,57 mm lata, apice argute serrata, nervo basi vix tertiam folii occupante, dorso superne argute serrato, cellulis laminae superne quadratis, dein sensim longioribus, basin versus anguste rectangularibus, pellucidis, alaribus amplis, vesiculosus, rubiginosis. Caetera ignota.

Kamerun: an Baumstämmen oberhalb Buea 2425 m (DUSÉN n. 299).

Inter species africanas *C. doloso* Besch. affinis, sed foliis longissimis jam optime diversa.

Leucoloma Brid.

L. scabricuspes Broth. n. sp.; dioicum; caespitosum, caespitibus densiusculis, pallidis, nitidiusculis; caulis erectus, 4,5 cm altus, dense foliosus, simplex vel furcatus; folia sicca crispatula, humida patentia, subsecunda, profunde canaliculato-concava, e basi lanceolata sensim subulata, obtusa, c. 4 mm longa et c. 0,5 mm lata, dorso scabra, superne scaberrima, summo apice aculeato-serrata, limbata, limbo hyalino, basi c. 0,045 mm lato, superne sensim angustiore, usque ad apicem producto, nervo tenui, hyalino, dorso laevi, cellulis alaribus magnis, ventricosis, subquadratis, fusco-aureis, basilaribus infimis aureis, dein hyalinis, linearibus, superioribus minutis, subquadratis. Caetera ignota.

Deutsch-Ostafrika: Uluguru, Bergwald 1500—1700 m, an Baumwurzeln (STUHLMANN n. 8725).

Species *L. sinuosulo* C.-Müll. valde affinis, sed foliis longioribus et angustioribus, subsecundis nec falcatis dignoscenda.

L. Volkensii Broth. n. sp.; dioicum; robustum, caespitosum, caespitibus mollibus, laxis, fuscescenti-lutescentibus, nitidiusculis; caulis 2—3 cm altus, adscendens, dense foliosus, simplex; folia falcata, sicca flexuosa, profunde canaliculato-concava, e basi late lanceolata sensim longissime subtubuloso-setacea, c. 10 mm longa et c. 0,9 mm lata, dorso laevia, apice dense serrulata, limbata, limbo hyalino, basi angusto, medio latiore, superne sensim angustiore, longe infra apicem evanido, nervo tenui, hyalino, excurrente, dorso laevi, cellulis alaribus numerosis, magnis, ventricosis, aureis, basilaribus infimis aureis, dein hyalinis, elongatis, valde incrassatis, in eisdem limbalibus sensim transeuntibus, superioribus pellucidis, minutis, subquadratis, laevibus. Caetera ignota.

Kilimandscharo: Landschaft Marangu, häufiges Moos an Bäumen 2000 m (VOLKENS n. 2262).

Species *L. terricolo* Broth. affinis, sed foliis longissimis primo intuitu discernenda.

L. syrrhopodontoides Broth. n. sp.; dioicum; tenellum, caespitosum, caespitibus laxis, humilibus, pallide glauco-viridibus, aetate albescentibus, nitidiusculis; caulis fusco-niger, vix ultra 5 mm altus, flexuosus, basi radiculosus, dense foliosus, simplex; folia sicca flexuosula, humida erecto-patentia, comalia subsecunda, e basi lanceolata sensim convolutaceo-setacea, c. 3 mm longa, marginibus apice serrulatis, dorso asperrima, limbata, limbo hyalino, basi lato, superne sensim angustiore, summo apice vix conspicuo, cellulis minutis, quadratis, valde papillosis, basilaribus elongatis, incrassatis, infimis brevioribus, aureis, alaribus permultis, magnis, ventricosis, fusco-aureis vel decoloribus. Caetera ignota.

Pondoland: ohne nähere Standorte an Baumrinde (BACHMANN n. 10).

Species elegantula, habitu *Syrrhopodontibus* nonnullis simillima, inter congeneres africanas cum *L. ambreano* Ren. Card. comparanda. Haecce species autem foliis minus papillois, secundis, brevioribus, marginibus integris jam differt.

Leucobryaceae.

Leucobryum Hampe.

L. bistratosum Broth. n. sp.; gracile, caespitosum, caespitibus ad 5 cm usque altis, rigidis, compactis, glauco-viridibus; caulis erectus, ramosus, ramis erectis, strictis, obtusiusculis, densissime foliosis; folia erecto-patentia, plus minusve homomalla, canaliculato-concava, e basi angustiore lanceolata, breviter acuminata, mucrone hyalino terminata, 3—3,5 mm longa et c. 0,9 mm lata, dorso sicca et humida laevissima, marginibus superne involutaceis, integerrimis, limbata, limbo hyalino, inferne e seriebus cellularum 7—8 formato, superne angustiore, apice obsoleto, lamina e stratis cellularum aequalium duobus composita. Caetera ignota.

Deutsch Ostafrika: Uluguru 1400 m (STUHLMANN n. 8862).

Species cum *L. molliculo* Broth. comparanda, sed rigiditate, statura graciliore nec non foliis brevioribus, latius limbatis dignoscenda.

L. molliculum Broth. Engl. botan. Jahrb. XX p. 180.

Deutsch Ostafrika: Uluguru 1500—1700 m (STUHLMANN n. 8795^a). Steril.

Tortulaceae.

Barbula Hedw., Lindb.

B. Dusenii C.-Müll. n. sp. in sched.; dioica; gracilis, caespitosa, caespitibus mollibus, laxiusculis, latiusculis, viridibus, haud nitidis; caulis tenuis, ad 3 cm usque altus, erectus, flexuosus, inferne radiculosus, laxe foliosus, simplex; folia sicca arcuato-appressa vel subtortilia, humida patentia, carinato-concava, e basi semiamplexicauli, paullum decurrente lanceolata, obtusiuscula vel obtusa, marginibus ultra medium folii angustissime revolutis, integerrimis vel summo apice indistincte denticulatis, nervo crassiusculo, rufescente, infra summum apicem evanido, dorso laevi, cellulis pellucidis, superioribus quadratis, inferioribus breviter rectangularibus, basilaribus infimis laxis, oblongis, omnibus laevibus; bracteae perichaetii erectae, semivaginantes, laxius reticulatae; seta 1 cm alta, tenuissima, flexuosa, rubra, laevissima; theca erecta, leptodermis, brevis, late subcylindrica, fuscidula; peristomium simplex, dentibus valde papillois, remote articulatis, semel contortis; operculum conico-subulatum, longitudinem thecae circiter adaequans.

Kamerun: Batoki, an Steinen in Bächen (DUSÉN n. 120).

Species *B. comosae* D. M. valde affinis, sed foliis latioribus, obtusioribus nec non theca brevior et latior, dentibus semel contortis dignoscenda.

B. Elliottii Broth. n. sp.; dioica; robusta, caespitosa, caespitibus mollibus, laxiusculis, sordide viridibus; caulis 2 cm altus, erectus, flexuosus, inferne fusco-radiculosus, dense foliosus, simplex; folia sicca laxe arcuato-appressa, humida patula, carinato-concava, e basi semiamplexicauli, paullum decurrente late lanceolata, obtusa, c. 2,5 mm longa et 0,75—0,85 mm lata, marginibus ultra medium folii angustissime revolutis, integerrimis vel apice indistincte crenulatis, nervo crasso, viridi, infra summum apicem evanido, dorso laevi, cellulis pellucidis, superioribus quadratis, inferioribus rectangularibus, omnibus laevibus. Caetera ignota.

Seengebiet: Ru-Nssóro, Kasagamvao, 5200' (SCOTT ELLIOTT n. 127).

Species quoad areolationem foliorum cum specie praecedente conveniens, sed statura multo robustiore nec non foliis multo latioribus facillime dignoscenda.

Tortella (C.-Müll.).

T. ruvenzorensis Broth. n. sp.; dioica; caespitosa, caespitibus ad 8 cm usque altis, laxiusculis, sordide lutescenti-viridibus, haud nitidis; caulis erectus, flexuosus, parce rufo-tomentosus, dense foliosus, simplex vel dichotome ramosus; folia sicca crispula, humida horizontalia, carinato-concava, lanceolato-lineararia, acuta, c. 4 mm longa et 0,57—0,67 mm lata, marginibus ubique erectis, integerrimis, nervo basi c. 0,43 mm lato, rufescente, superne sensim angustiore, infra summum apicem evanido, dorso laevi, cellulis pellucidis, subquadratis, basilaribus interioribus laxe rectangularibus, inanibus, ad marginem multo angustioribus, omnibus laevibus. Caetera ignota.

Seengebiet: Ru-Nssóro, Butagu valley (SCOTT ELLIOTT n. 271).

Species habitu *T. angustatae* (Mitt.) similis, sed foliorum areolatione diversissima.

Timmiella Limpr.

T. Cameruniae Broth. n. sp.; dioica; caespitosa, caespitibus laxiusculis, lutescenti-viridibus; caulis ad 4 cm usque altus, erectus, basi radiculosus, superne dense foliosus, simplex; folia rigida, sicca subcircinatim involuta, difficiliter emollita, humida erecto-patentia, lineararia, acutiuscula, c. 3 mm longa et c. 0,75 mm lata, marginibus incurvis, e medio ad apicem obtuse serrulatis, nervo crasso, rufescente, cum apice evanido, cellulis pellucidis, subrotundis, 0,040—0,042 mm diam., basilaribus rectangularibus, hyalinis; seta 2 cm alta, sicca flexuosula, tenuis, rubra. Caetera ignota.

Kamerun: auf Erde im Gebirge c. 2400 m (JUNGNER n. 110).

Species *T. anomalae* (Br. eur.) habitu similis, sed inflorescentia, foliis brevioribus, rigidioribus, cellulis majoribus optime diversa.

Leptodontium Hamp.

L. Volkensii Broth. n. sp.; species *L. epunctato* (C.-Müll.) valde affinis, sed robustior, foliis longioribus et bracteis perichaetii multo majoribus;

a *L. stellato* (Brid.), cui statura accedit, foliis squarrosis, marginibus parce revolutis nec non cellulis laevioribus jam longius recedit.

Kilimandscharo: Wäldchen am Kifinika-Vulkan, an Bäumen des Gürtelwaldes und der Waldparzellen darüber, 2800 m (VOLKENS 1887^a, 1888, 1896^a) und Landschaft Marangu an Bäumen 2400 m (2083^b). Mit Früchten.

L. abyssinicum Broth. n. sp.; dioicum; robustum, molle, sordide lutescenti-viride; caulis ad 5 cm usque altus, erectus, flexuosus, inferne radiculosus, dichotome ramosus, dense foliosus; folia sicca imbricata, apice incurva, humida squarrosa, carinato-concava, longe decurrentia, brevia, e basi ovali late lanceolata, acuta, marginibus inferne revolutis, superne dense et argute serratis, nervo infra summum apicem evanido, dorso minutissime papilloso, cellulis superioribus rotundatis, 0,040—0,042 mm, valde verrucosis, basilaribus ad marginem rotundatis, dense verrucosis, internis hyalinis, oblongis, parce papillosis; bracteae perichaetii minutae, haud exsertae; seta 7 mm alta, fortiter dextrorsum torta, lutescenti-rubra. Caetera ignota.

Abyssinia: Bachit, auf feuchtem Boden, 3600 m (SCHIMPER 6/3 1840). Mit jungen Früchten.

Species *L. radicoso* (Mitt.) et *L. pungenti* (Mitt.) affinis, sed foliis valde verrucosis et bracteis perichaetii haud exsertis optime diversa.

L. latifolium Broth. n. sp.; dioicum; robustum, molle, laete viride; caulis ad 6 cm usque altus, erectus, flexuosus, inferne rufo-tomentosus, simplex, laxe foliosus; folia squarrosa, carinato-concava, longe decurrentia, e basi ovali latissime lanceolata, acuta, apiculo recurvo, marginibus inferne revolutis, ultra medium grosse et inaequaliter serratis, nervo infra summum apicem evanido, dorso minutissime papilloso, cellulis superioribus rotundatis, 0,042—0,045 mm, valde verrucosis, basilaribus hyalinis, rectangularibus, parce papillosis, infimis laevibus, marginalibus multo angustioribus, limbum 5-seriatum efformantibus. Caetera ignota.

Seengebiet: Ru-Nssóro, Nyamwambu 14000' (SCOTT ELLIOTT n. 275).

Species distinctissima, a congeneribus foliis latissimis jam dignoscenda.

L. subintegrum Broth. n. sp.; dioicum; gracile, laxe caespitosum, viridissimum; caulis ad 4 cm usque altus, erectus, flexuosus, inferne fusco-radiculosus, densiuscule foliosus, dichotome ramosus; folia fragilia, sicca e basi adpressa, albida, nitida crispula, humida e basi erecta patula, carinato-concava, decurrentia, anguste oblongo-lanceolata, breviter aristata, marginibus ubique erectis, summo apice tantum denticulis paucis praeditis, nervo breviter excedente, dorso laevi, cellulis superioribus rotundato-quadratis, 0,040—0,042 mm, minute verrucosis, basilaribus rectangularibus, hyalinis, laevibus, marginalibus angustioribus, limbum indistinctum efformantibus. Caetera ignota.

Seengebiet: Ru-Nssóro, an Steinen im Walde 7000—8600' (SCOTT ELLIOTT n. 185).

Species distinctissima, a congeneribus foliis subintegrifaciliter dignoscenda.

Syrrhopodontaceae.**Syrrhopodon** Schwaegr.

S. Dregei Hornsch., *Linnaea* XV, p. 116.

Pondoland: ohne nähere Standorte zwischen Steinen (BACHMANN n. 7, BEYRICH n. 19 pp.). Steril.

S. Stuhlmanni Broth. n. sp.; dioicus; robustus, caespitosus, caespitibus densis, elatis, viridibus, vaginis foliorum albo-nitentibus; caulis ad 7 cm usque altus, flexuoso-adscendens, inferne rufo-tomentosus, dense foliosus, simplex vel parce ramosus; folia sicca flexuoso-patentia, humida strictiuscula, e basi erecta, oblonga subito elongata et angustissime linearia, acuta, 10—12 mm longa, marginibus erectis, in parte basilari superiore dense ciliatis, in parte laminali e medio ad apicem grosse geminatim serratis, limbata, limbo lutescente, in parte vaginali lato, e cellulis elongatis, angustissimis formato, in parte laminali angustiore, nervo lutescente, cum apice evanido, superne scabro, cellulis laminalibus minutissimis, subrotundis, verrucosis, in parte basilari laxis, breviter rectangularibus, inanibus, laevibus. Caetera ignota.

Deutsch-Ostafrika: Uluguru, Bergwald 1600 m (STUHLMANN n. 8809).

Species *S. lamprocarpo* Mitt. similis, sed foliis basi ciliatis jam dignoscenda.

Grimmiaceae.**Grimmia** Ehrh., C.-Müll.

G. (Rhacomitrium) alaris Broth. n. sp.; dioica; caespitosa, caespitibus laxis, pallide viridibus, inferne nigrescentibus; caulis procumbens, ramosus, ramis adscendentibus, 2—3 cm altis, dense foliosis, dichotome ramulosis; folia sicca adpressa, humida patula, carinato-concava, e basi auriculata, ovali vel breviter oblonga sensim angustata, obtusiuscula vel acuta, apiculo hyalino terminata, marginibus inferne revolutis, dein erectis, integerrimis, nervo basi c. 0,09 mm lato, cum apice evanido, cellulis omnibus linearibus, valde sinuosis, laevibus, alaribus magnis, vesiculososis, aureis. Caetera ignota.

Seengebiet: Ru-Nssóro, Nyamwambu c. 3000 m (SCOTT ELLIOTT n. 273 p. p.).

Species *Gr. sudeticae* (Funck) habitu similis, sed a congeneribus foliis auriculatis, cellulis alaribus vesiculososis facillime dignoscenda.

G. (Rhacomitrium) dura C.-Müll. n. sp. in sched.; dioica; caespitosa, caespitibus densiusculis, latis, fuscescenti-viridibus; caulis procumbens, ramosus, ramis densis, adscendentibus, brevibus vel longioribus, usque ad 4 cm altis, dense foliosis, simplicibus vel breviter ramulosis; folia sicca adpressa, humida patula, subsecunda, carinato-concava, e basi breviter decurrente, ovali sensim angustata, acuta, pilifera, marginibus plus minusve revolutis, integerrimis, nervo basi c. 0,075 mm lato, in pilum

brevem, strictum vel longiorem, flexuosum, subintegrum producto, cellulis omnibus linearibus, valde sinuosis, basilaribus ad marginem haud sinuosis, laxis, subquadratis, aureis. Caetera ignota.

Kamerun: an Baumzweigen oberhalb Buea c. 2425 m (DUSEN n. 296) und an Steinen in Bächen c. 2700 m (JUNGNER n. 445).

Species *Gr. heterostichae* (Hedw.) proxima, sed foliis cellulis usque ad apicem linearibus nec non alaribus laxis, subquadratis dignoscenda.

Zygodon Hook. Tayl.

Z. Volkensii Broth. n. sp.; synoicus; robustus, viridis; caulis ad 3 cm usque altus, erectus, tomento ferrugineo obtectus, innovando ramosus, ramis fastigiatis, laxe foliosis; folia sicca erecta, flexuosa, humida squarrosa, breviter decurrentia, lineari-lanceolata, mucronata, marginibus erectis, apice argute serratis, nervo breviter excedente, dorso laevi, cellulis hexagono-rotundatis, minute papillosis, basilaribus lutescentibus, elongatis, laevibus; seta 45—47 mm alta, tenuis, flava; theca erecta, longicolla, subcylindraceo-elliptica; sicca sulcata, microstoma, pallida, aetate fuscescens. Caetera ignota.

Kilimandscharo: Wäldchen am Kifinika Krater 2800 m (VOLKENS n. 4896 f).

Species *Z. Reinwardtii* (Hornsch.) valde affinis, sed foliis squarrosis, lineari-lanceolatis dignoscenda.

Macromitrium Brid.

M. (Leiostoma) rugifolium C.-Müll. n. sp. in sched.; dioicum; caespitosum, caespitibus densis, latissime extensis, rigidis, ochraceis, nitore destitutis; caulis longe repens, vage ramosus, ramis repentibus, dense ramulosis, ramulis erectis, simplicibus vel dichotome ramulosis, dense foliosis, obtusis; folia ramulina sicca horride crispula, humida valde patula, carinato-concava, valde rugosa, brevia, lanceolata, breviter acuminata, marginibus basi uno latere paulum revolutis, apice inaequaliter serrulatis, nervo rufescente, paulum infra apicem evanido vel brevissime excedente, laevi, cellulis minutissimis, rotundatis, sublaevibus, basilaribus elongatis, lumine angustissimo, tuberculoso-papillosis, infimis uno latere ad nervum laxis, hyalinis, calymperoideis; bractee perichaetii foliis subsimiles, intimae haud rugosae, subintegrae, cellulis laevibus; seta 4,5 cm alta, superne sicca dextrorsum spiraliter torta, rubra, laevis; theca erecta, globoso-ovata, laevis, infima basi tantum indistincte plicata; operculum? calyptra fusca, nuda.

Kamerun: an Bäumen oberhalb Buea 2425 m (DUSEN n. 263).

Species *M. Menziesii* Mitt. et *M. undatifolio* C.-Müll. affinis, sed rigiditate, foliis brevioribus, horride patulis, valde rugosis, apice argutius serrulatis discernenda.

M. (Leiostoma) Dusenii C.-Müll. n. sp. in sched.; caespitosum, caespitibus humilibus, densis, late extensis, sordide fusco-viridibus, nitore

destitutis; caulis repens, vage ramosus, ramis repentibus, dense ramulosis, ramulis brevissimis, erectis, dense foliosis, obtusis; folia ramulina sicca imbricata, indistincte spiraliter contorta, humida patentia, oblongo-ligulata, nervo breviter excedente mucronata, marginibus basi uno latere reflexis, integerrimis, nervo rufescente breviter excedente, cellulis magnis, rotundatis, 0,010—0,012 mm, sublaevibus, basilaribus elongatis, valde incrassatis, lumine angusto, papillosis, juxta nervum ovalibus; bractea e perichaetii foliis subsimiles; seta 5 mm alta, sicca dextrorsum spiraliter torta, pallide rubra, laevis; theca minuta, erecta, ovata, badia, laevis, collo tantum indistincte plicata; peristomium? operculum? calyptra dense aureo-pilosa.

Kamerun: an Baumästen bei Ekundu Etitti (DUSÉN n. 73).

Foliorum forma nec non calyptra dense pilosa ab omnibus congeneribus africanis primo intuitu distinguendum.

M. sarcotrichum C.-Müll. n. sp. in sched.; caespitosum, caespitibus densis, latissime extensis, ferrugineis, apice plerumque lutescentibus vel lutescenti-viridibus, rarissime viridibus, nitore destitutis; caulis longe repens, vage ramosus, ramis repentibus, densissime ramulosis, ramulis brevibus, erectis, dense foliosis, siccitate acutis, simplicibus vel subsimplicibus; folia ramulina sicca arcte spiraliter contorta, humida erecto-patentia, carinato-concava, oblongo-lanceolata in acumen loriforme, longiusculum, strictum, fragile attenuata, marginibus ubique erectis, basi minutissime vel indistincte denticulata excepta integerrimis, limbata, limbo luteo, e cellulis elongatis, angustis, extimis laxioribus hyalinis composito, basi latiusculo, superne sensim angustiore, ad medium folii evanido, nervo lutescente, cum apice evanido, laevi, cellulis minutissimis, rotundatis, superioribus minute, inferioribus grosse papillosis, basilaribus infimis uno latere ad nervum laxis, hyalinis, calymperoideis. Caetera ignota.

Kamerun: an Baumstämmen und Baumästen bei Etome, Lifenja, Bonge, Itoki und Ekumba-Liongo (DUSÉN).

Diese Art, welche nach DUSÉN in Kamerun sehr verbreitet ist, ähnelt im Blattbau *M. retusum* Hf. W. aus Neu-Seeland. Die eigentümliche Blattspitze ist sehr zerbrechlich, was für die vegetative Vermehrung wichtig ist. Fruchtragende Exemplare sind bis jetzt unbekannt.

M. thraustophyllum C.-Müll. n. sp. in sched.; speciei praecedenti quoad foliorum structura omnino conveniens, sed statura multo graciliore, ramulis laxius dispositis, foliis crispulo-imbricatis, summo apice ramuli tantum indistincte spiraliter contortis, dorso rugulosis dignoscenda.

Kamerun: an Bäumen und Ästen bei Bibundi, Tokko und Buea (DUSÉN).

Splachnaceae.

Tayloria Hook.

T. kilimandscharica Broth. n. sp.; dioica; caespitosa, caespitibus humilibus, densiusculis, viridibus, aetate pallescentibus; caulis brevis,

erectus, inferne longe et dense radicans, densiuscule foliosus, simplex; folia faciliter emollita, erecto-patentia, planiuscula, oblonga vel obovato-oblonga, apiculata, marginibus inferne parce revolutis, apice minute et obtuse serrulatis, elimbata, nervo crasso, rubescente, infra apicem evanido, cellulis pellucidis, laxissimis, oblongo-hexagonis, supremis ovali-hexagonis; seta 1 cm alta, erecta, crassiuscula, sicca superne sinistrorsum torta, pallide rubra, laevissima; theca erecta, cylindrica, c. 2 mm alta et c. 0,75 mm lata, sicca abbreviata, pallida, laevis, subito in collum brevem contracta; peristomium simplex; dentes 16, valde hygroscopici, tandem bifidi, sicci subcirrhosi, humidi circinatim involuti, intense rubiginosi; columella longe exserta; operculum alte conicum, obtusum; calyptra ventricosconica, basi laciniata, fuscidula, laevissima.

Kilimandscharo: in einer feuchten Schlucht oberhalb des Kiboschwaldes 3400 m an einem Stamm von *Senecio Johnstoni* (VOLKENS).

Species pulcherrima, *T. splachnoidi* (Schleich.) affinis, sed statura multo minore jam dignoscenda.

Funariaceae.

Funaria Schreb., Lindb.

F. (Enthostodon) *Volkensii* Broth. n. sp.; caespitosa, caespitibus laxis, humilibus, lutescenti-viridibus; caulis erectus, 5 mm altus, inferne fusco-radiculosus, superne comoso-foliosus, simplex vel e basi ramosus; folia difficiliter emollita, erecta, inferiora minuta, superiora c. 4 mm longa, oblonga, obtusa, apiculata, marginibus erectis, superne indistincte et obtuse serrulatis, limbata, limbo lutescente ex una serie cellularum formato, nervo rufescente, infra apicem evanido, cellulis laxis, superioribus rhombeis, basilaribus elongatis; seta 12 mm alta, erecta, stricta vel arcuatula, tenuis, pallide rubra, laevis; theca subhorizontalis, clavato-pyriformis, curvata, laevis, collo theca paulum longiore, sicco plicatulo, pallide fusca; annulus 0; peristomium bene evolutum, simplex; exostomii dentes lanceolato-subulati, c. 0,45 mm alti, superne anguste perforati, aurantiaci; spori 0,030 mm, ferruginei, verruculosi; operculum plano-convexum, siccum planum, cellulis spiraliter dispositis. Calyptra ignota.

Kilimandscharo: im Grunde der Johannes-Schlucht, auf feuchter Erde 3200 m (VOLKENS n. 4225).

Species distinctissima, *F. Templetoni* Sm. affinis, sed *F. mediterraneae* Lindb. habitu similis.

Bryaceae.

Brachymenium Hook.

B. procerrimum Broth. n. sp.; autoicum; robustum, caespitosum, caespitibus densis, 3 cm altis, inferne fusco-tomentosis, pallide fuscis, innovationibus laete viridibus, nitidiusculis; caulis erectus, innovationibus 1—3, erectis, 1,5 cm altis, infra perichaetium oriundis; folia

caulina distantia, apicalia conferta, sicca imbricata, humida erecto-patentia, concava, oblonga vel oblongo-obovata, acuta, nervo breviter excedente aristata, 4—4,5 mm longa et basi c. 1 mm lata, marginibus longe ultra medium revolutis, superne erectis et ibidem serratis, limbata, limbo lato, lutescente, 4—5 seriato, apice angustiore, nervo crassiusculo, lutescente, in aristam brevem, rigidam, integram excedente, cellulis ovali-vel oblongo-hexagonis, basilaribus oblongis, aureis, innovationum densiuscula, sicca contracta, haud contorta, conformia, marginibus minus revolutis; bractee perichaetii multo minores, intimae lanceolatae, marginibus parce revolutis, serrulatis, limbatae, nervo longius excedente; seta 4—5 cm alta, erecta, sicca flexuosula, pallide rubra, nitidiuscula; theca erecta, clavaeformi-pyriformis, longicollis, badia, laevis; operculum intensius coloratum, conicum, obtusum; perigonium gemmaeforme, ad basin perichaetii.

Seengebiet: Ru-Nssóro, Kiwata, im Walde c. 2400 m (SCOTT ELLIOTT n. 203).

Species pulcherrima, *B. nepalensi* Hook. affinis, sed notis supra expositis faciliter dignoscenda.

Wilsoniella C.-Müll.

W. crispidens C.-Müll. n. sp. in sched.; autoica; caespitosa, caespitibus laxissimis, latissime extensis, glauco-viridibus, haud nitidis; caulis ad 1 cm usque altus, erectus, inferne fusco-radiculosus, densiuscule foliosus, simplex; folia decurrentia, e basi erecta patula, sicca flexuosula, flaccida, difficile emollita, elongate lanceolato-lineararia, obtusa, marginibus erectis, summo apice obtuse dentatis, nervo angusto, infra apicem evanido, cellulis elongatis, laxis, prosenchymaticis, leptodermibus; bractee perichaetii longiores; seta vix ultra 1 cm alta, erecta, stricta, sicca dextrorsum torta, flavida, tenuissima, laevissima; theca subcernua, e collo brevi oblonga, cum collo 1,5 mm longa, c. 0,5 mm crassa, deoperculata sub ore constricta, fusca, laevis; annulus latus, persistens; peristomium simplex, dentibus 0,38 mm longis, usque basin fissis, cruribus filiformibus, strictis, spiraliter incrassatis, papillois; spori 0,020—0,022 mm, ferruginei, papilloi; operculum conico-aciculare, rectum, c. 1 mm altum; calyptra conica, supremam partem thecae obtegens, basi profunde multifida, straminea, laevis.

Kamerun: Victoria, an Wegrändern sehr häufig (DUSÉN n. 308).

Species distinctissima, a *W. pellucida* C.-Müll., habitu simili, foliis longioribus, lanceolato-linearibus, summo apice denticulatis jam dignoscenda.

Pohlia Hedw., Lindb.

P. Myurella Broth. n. sp.

Syn. *Bryum* (Senodictyon) *Myurella* C.-Müll. n. sp. in sched.

Dioica; tenella, filiformis, caespitosa, caespitibus parvis, laxius-

culis, viridibus, haud nitidis; caulis ad 2 cm usque altus, gracilis, basi radiculosus, dense foliosus, simplex; folia sicca arcte imbricata, apice recurvulo, humida erecta, concava, e basi breviter decurrente late ovato-lanceolata, breviter sed anguste acuminata, marginibus infima basi revolutis, dein erectis, summo apice minute denticulatis, elimbata, nervo excurrente, cellulis teneris, laxis, elongate rhomboideis, basilaribus infimis brevibus, omnibus hyalinis, inanibus vel subinanibus. Caetera ignota.

Kamerun: an Steinen bei Victoria (DUSÉN).

Species distinctissima, caulibus filiformibus, foliis arcte imbricatis, apice recurvulo nec non cellulis teneris, laxis facillima a congeneribus dignoscenda.

Bryum Dill., Schimp.

B. (Anomobryum) lonchophyllum Broth. n. sp.

Syn. Br. (Sclerodictyon) zonatum C.-Müll. in sched. nec. Schimp.

Dioicum; caespitosum, caespitibus densissimis, late extensis, inferne nigrescentibus, superne luteo- et fusco-zonatis, nitidiusculis; caulis 2,5 cm altus, erectus, flexuosulus, dense foliosus, inferne radiculosus, simplex; folia firma, sicca et humida imbricata, subaequalia, elongate oblonga, obtusa, usque ad 2 mm longa, 0,4—0,5 mm lata, marginibus erectis, integris, nervo rubro, infra summum apicem evanido, cellulis incrassatis, lineari-rhomboideis, apicalibus vermicularibus, basilaribus rectangularibus, rubris. Caetera ignota.

Kamerun: an nassen Basaltfelsen bei Buea 2140 m (DUSÉN n. 340).

Species distinctissima, cum nulla alia commutanda.

B. (Doliolidium) perimbricatum C.-Müll. n. sp. in sched.; dioicum; caespitosum, caespitibus parvis, humilibus, rigidiusculis, laete viridibus, haud nitidis; caulis erectus, strictus, basi fusco-radiculosus, dense foliosus, gemmulis foliosis, minutis, numerosis, axillaribus praeditis, simplex; folia sicca arcte imbricata, humida erecta, concava, oblongo-ovata, breviter acuminata, nervo excedente longe aristata, c. 4 mm longa et 0,46—0,5 mm lata, marginibus parce revolutis, summo apice minutissime denticulatis, vix limbata, nervo crasso, lutescente, in aristam longam, rigidam, recurvulam, integram excedente, cellulis oblongo-hexagonis, basilaribus subrectangularibus. Caetera ignota.

Kamerun: an Mauern bei Bibundi (DUSÉN n. 362).

A Br. *Schweinfurthii* C.-Müll., Br. *Mariei* Besch. aliisque speciebus affinibus caespitibus rigidiusculis, foliis arcte imbricatis nec non gemmulis axillaribus differre videtur.

B. areoblastum C.-Müll. Flora 1886, p. 280.

Fernando Po: an Erde (DUSÉN n. 74).

Kamerun: Bataki und Jonje (DUSÉN).

Specimina e Bataki et e Jonje a planta thomeana foliis brevius aristatis, e Fernando Po foliis nervo vix excedente differunt. Discrimina alia mihi observare haud contigit.

B. (Eubryum) depressum C.-Müll. n. sp. in sched.; dioicum; caespitosum, caespitibus densis latiusculis, depressis, viridi- et vinoso-

rubicundis, nitentibus; caulis 4,5 cm altus, strictiusculus, inferne radiculosus, e basi jam dense ac plumose foliosus, simplex; folia patentia; carinato-concava, breviter decurrentia, anguste lanceolata, acuminata, nervo excedente aristata, c. 2,5 mm longa et c. 0,55 mm lata, marginibus fere ad apicem anguste revolutis, apice minute denticulatis, anguste limbata, nervo purpurascente in aristam longiusculam, minute denticulatam producta, cellulis elongate hexagonis, basilaribus laxioribus, brevioribus, rubescentibus. Caetera ignota.

Kamerun: an nassen Felsen bei Jumbo im Rumpigebirge 1400 m (DUSÉN n. 663).

Speciei praecedenti affinis, sed foliorum forma recedens.

B. (Eubryum) bullosum C.-Müll. n. sp. in sched.; dioicum; sat robustum, caespitosum, caespitibus densis, lutescenti-viridibus, nitidis; caulis 2 cm altus, strictus, basi radiculosus, dense foliosus, simplex; folia imbricata, cymbiformi-concava, e basi breviter angustata oblonga, breviter acuminata, 2,5—3 mm longa, marginibus erectis, subintegris, anguste limbata, nervo crassiusculo, lutescente, superne flexuosula, cum apice vel infra summum apicem evanido, cellulis elongate hexagonis, inferioribus laxioribus, subrectangularibus, basilaribus infimis fusco-aureis. Caetera ignota.

Kamerun: an Steinen in Bächen bei Bomana 670 m (DUSÉN).

Species statura robusta foliisque cymbiformi-concavis memorabilis, habitu *Br. laevigato* Hook. f. Wils. sat similis.

B. (Eubryum) lepto-torquescens C.-Müll. n. sp. in sched.; dioicum; gracile, caespitosum, caespitibus laxis, late extensis, viridissimis, haud nitidis; caulis ad 4 cm usque altus, erectus, basi fusco-radiculosus, laxiuscule foliosus, simplex; folia flaccida, sicca contracta, difficiliter emollita, humida patula, planiuscula, decurrentia, late ovato-vel oblongo-lanceolata, breviter acuminata, marginibus e basi ad medium folii revolutis, dein erectis, argute serratis, dentibus inaequalibus, saepe recurvatulis, limbata, limbo lutescente, angustissimo, nervo lutescente, infra summum apicem evanido, cellulis oblongo-hexagonis leptodermibus. Caetera ignota.

Kamerun: an Felsen in Bächen bei Buea (DUSÉN n. 208).

Species foliis decurrentibus, superne argute serratis, nervo infra summum apicem evanido dignoscenda.

B. perspinidens Broth. n. sp.; species *Br. spinidenti* Ren. Card. simillima, sed foliis margine longissime spinoso-dentatis, dentibus usque ad 0,125 mm longis, dignoscenda.

Seengebiet: Ru-Nssóro 3300—3600 m (SCOTT ELLIOTT n. 266). Steril.

B. (Rhodobryum) Jungneri Broth. n. sp.; dioicum; robustum, fuscescenti-viride; caulis cum innovationibus usque ad 7 cm altus, erectus, dense fusco-tomentosus, foliis in rosulam congestis, innovationibus

usque ad 7 cm altus, erectus, dense fusco-tomentosus, foliis in rosulam congestis, innovationibus 2 cm altis, terminalibus, singulis, tomentosis, apice rosulatum foliosis pluries prolificans; folia planiuscula, patula, oblongo-spathulata, nervo excedente breviter aristata, usque ad 12 mm longa, basi 3—3,5 mm, superne 4—5 mm lata, marginibus e basi ultra medium revolutis, superne erectis et ibidem serratis, dentibus minutis, patulis, limbata, limbo lutescente, angusto, 1—2 seriato, nervo e basi rufescente sensim tenuiore, in aristam brevem, erectam producto, cellulis basilaribus oblongis, superioribus rhomboideo-hexagonis, c. 0,40 mm longis et c. 0,03 mm latis, omnibus utriculo s. d. primordiali valde constricto; seta 3 cm alta, stricta, rubra, haud nitida; theca deoperculata pendula, brevicollis, cylindrica, haud arcuata, ore aequali, rubra, c. 6 mm longa et c. 4,5 mm lata; peristomium duplex; exostomii dentes lutei, 0,8 mm longi et 0,47 mm lati, densissime alte lamellati; endostomium sordide lutescens, minute papillosum; corona basilaris supra medium dentium producta; processus lati, late perforati; cilia terna, longe appendiculata. Caetera ignota.

Kamerun: »die Höhlen« c. 2400 m (JUNGNER n. 472).

Ob staturam valde robustam cum *Br. giganteo* (Hook.) comparandum, cum nulla specie africana commutandum.

B. (*Rhodobryum*) *Staudtii* Broth. n. sp.; dioicum; robustum, caespitosum, caespitibus laxiusculis, viridibus, aetate fuscescentibus; caulis cum innovationibus usque ad 40 cm altus, erectus, fusco-tomentosus, foliis in rosulam congestis, innovationibus usque ad 5 cm altis, terminalibus, singulis vel binis, inferne remote, apice rosulatum foliosis pluries prolificans; folia comalia multo majora, planiuscula, patula, acumine reflexiusculo, spathulato-obovata, acuta, nervo excedente breviter aristata, usque ad 40 mm longa, basi c. 4,5 mm, superne 4 mm lata, marginibus e basi supra medium revolutis, superne erectis et ibidem spinuloso-serratis, limbata, limbo lutescente, latiusculo, 3-seriato, apice tenuiore, nervo e basi rufescente sensim tenuiore, in aristam brevem, reflexiusculam excedente, cellulis basilaribus oblongis, superioribus rhomboideo-hexagonis, 0,06—0,08 mm longis et c. 0,025 mm latis. Caetera ignota.

Kamerun: Lolodorf, an schattigen Felsabhängen (STAUDT n. 366).

Species statura *B. Jungneri* similis, sed innovationibus remote foliosis nec non foliis latius limbatis, spinuloso-serratis jam dignoscenda.

B. *Preussii* Broth. in ENGL., Bot. Jahrb. XX p. 488.

Syn. *B. (Mniobryum) altissimum* C.-Müll. n. sp. in sched.

Kamerun: am Erdboden oberhalb Buea 2425 m (DUSEN n. 280). Mit Früchten.

B. (*Rhodobryum*) *chalarorhodon* C.-Müll. n. sp. in sched.; dioicum; gregarium, viridissimum; caulis usque ad 3 cm altus, erectus, rigidus, fusco-radiculosus, innovationibus singulis, apice tantum foliosis,

4 cm altis; folia inferiora minuta, remota, comalia multo majora, in rosulam dense congesta, patula, planiuscula, oblongo-spathulata, nervo excedente breviter aristata, usque ad 8 mm longa, superne 2,5—3 mm, infima basi c. 1,5 mm lata, marginibus e basi supra medium revolutis, apice erectis et ibidem breviter serratis, limbata, limbo lutescente, nitido, angusto, 2—3-seriato, nervo e basi crasso sensim tenuiore, in aristam brevem, reflexiusculam, integram excedente, cellulis basilaribus oblongo-hexagonis, superioribus brevioribus, rhomboideo-hexagonis, c. 0,06 mm longis et c. 0,025 mm latis, omnibus utriculo s. d. primordiali valde constricto. Caetera ignota.

Kamerun: an Steinen bei Buea 950 m (DUSÉN n. 207) und an Steinen bei Jumbo im Rumpigebirge 1100 m (n. 660).

Species *B. Quintasi* Broth. affinis, sed statura robustiore nec non foliorum forma dignoscenda.

B. (Rhodobryum) saprophilum C.-Müll. n. sp. in sched.; a *Br. Quintasi* statura minore, foliis tenerioribus, siccitate valde contractis, e basi anguste spathulata subito late ovalibus differt.

Kamerun; an modernden Stämmen bei Bonge (DUSÉN n. 752).

B. (Rhodobryum) alto-roseum C.-Müll. n. sp. in sched.; dioicum; gracile, gregarium, viridissimum; caulis cum innovationibus usque ad 7 cm altus, erectus, dense fusco-tomentosus, foliis in rosulam congestis, innovationibus longiusculis (1—5 cm), terminalibus, singulis, inferne remote, apice rosulatim foliosis pluries prolificans; folia comalia majora, planiuscula, patula, acumine reflexiusculo, e basi angusta, breviter spathulata ovalia, obtusa, nervo excedente breviter aristata, 4—5 mm longa, basi 4 mm superne 2—3 mm lata, marginibus e basi supra medium revolutis, superne erectis et ibidem serratis, dentibus patulis, limbata, limbo lutescente, 2—3 seriato, nervo e basi rufescente, crasso sensim tenuiore, in aristam brevem reflexiusculam producta, cellulis basilaribus oblongis, superioribus brevioribus, rhomboideo-hexagonis, c. 0,06 mm longis et c. 0,025 mm latis, omnibus utriculo s. d. primordiali valde constricto. Caetera ignota.

Kamerun: an Steinen bei Bomana 670 m (DUSÉN n. 784) und Buea (n. 235).

Species distinctissima, ob folia innovationum inferiora remota, bene evoluta cum *Br. Preussii* comparanda, sed foliis nervo in aristam excedente nec longe infra apicem evanido jam dignoscenda.

B. (Rhodobryum) fluminale C.-Müll. n. sp. in sched.; dioicum; caespitosum, caespitibus laxis, humilibus, mollibus, obscure viridibus, haud nitidis; caulis tenuis, vix ultra 4 cm altus, erectus, basi radiculosus, ubique laxe foliosus, simplex; folia difficile emollita, flaccida, sicca valde contracta, humida patentia, planiuscula, inferiora minora, comalia obovata vel subspathulato-obovata, obtusa, nervo excedente breviter aristata, 4 mm

longa et 2 mm lata, marginibus inferne anguste revolutis, superne breviter serratis, limbata, limbo lutescente, 2—3-seriato, nervo crasso, in aristam brevem sed rigidam, recurvulam producto, cellulis basilaribus oblongis, superioribus rhomboideis c. 0,06 mm longis et c. 0,025 mm latis, parce chlorophyllosis, utriculo s. d. primordiali nullo. Caetera ignota.

Kamerun: an Steinen in Bächen bei Jumbo im Rumpigebirge 1100 m (DUSÉN n. 666).

Species a *Rhodobryis* caeteris foliis flaccidis jam dignoscenda.

Bartramiaceae.

Bartramia Hedw.

B. aristifolia Broth. n. sp.; dioica; caespitosa, caespitibus 4—5 cm altis, rigidis, densis, rufo-tomentosis, viridibus, aetate fuscescentibus; caulis erectus, flexuosus, dense foliosus, dichotome ramosus, ramis erectis, apice arcuatulis, cuspidatis; folia sicca arcte imbricata, humida erecto-patentia, fragilia, e basi hyalina, superne dilatata subito lanceolato-subulata, nervo excedente longe aristata, marginibus erectis, in parte laminali inferne minutissime, superne argute aculeato-serratis, nervo in parte vaginante lato, in lamina multo tenuiore et ab illa usque ad apicem distincta, in aristam aculeato-serratam producto, superne dorso grosse serrato, cellulis basilaribus hyalinis, linearibus, laminalibus rectangularibus, scaberrimis; bracteae perichaetii longissime aristatae, arista fragillima. Caetera ignota.

Kamerun: an Lavafelsen 8000' (JUNGNER n. 170 pp.).

Species distinctissima, *B. vulcanicae* Brid. affinis, sed foliis fragilibus, aculeato-serratis facillime dignoscenda.

B. afro-ithyphylla Broth. n. sp.; synoica; caespitosa, caespitibus laxis, glauco-viridibus; caulis ad 2 cm usque altus, rufo-tomentosus, dense foliosus, parce ramosus; folia sicca erecto-patentia, humida recurvulopatula, e basi hyalina, superne dilatata subito lanceolato-subulata, nervo excedente aristata, marginibus erectis, in parte laminali inferne minute, superne argute serratis, nervo a lamina usque ad apicem distincto, in aristam argute serratam producto, superne dorso serrato, cellulis basilaribus hyalinis, linearibus, in parte dilatata laxioribus et brevioribus, laminalibus rectangularibus, scaberrimis; bracteae perichaetii foliis similes; seta 1,5—2 cm alta, flexuosa, pallide rubra, nitida; theca cernua, subglobosa, sicca plicata, pallide fusca. Caetera ut in *B. ithyphylla*.

Kilimandscharo: am Kifinika-Vulkan, an Bäumen in den Waldparcellen oberhalb des Gürtelwaldes 2700 m (VOLKENS n. 1167 a).

Species *B. ithyphyllae* Brid. simillima, sed foliis parte vaginante superne dilatata, argute serratis, nervo excedente aristatis nec non cellulis scaberrimis dignoscenda.

B. ruvenzorensis Broth. n. sp.; synoica; caespitosa, caespitibus densiusculis, viridissimis; caulis ad 4 cm usque altus, fusco-tomentosus,

dense foliosus, superne innovans, innovationibus 2 cm altis, erectis, dense foliosis; folia sicca erecta, humida patentia, e basi hyalina, superne dilatata subito lanceolato-subulata, nervo excedente aristata, marginibus erectis, in parte laminali inferne minutissime serrulatis, superne argute serratis, nervo a lamina usque ad apicem distincto, in aristam argute serratam producto, superne dorso serrato, cellulis basilaribus hyalinis, linearibus, in parte dilatata laxioribus et brevioribus, laminalibus rectangularibus, scaberrimis; bracteae perichaetii foliis subsimiles; seta ob innovationes pseudo-lateralis, 1,5 cm alta, pallide rubra, nitidiuscula; theca erecta, magna, quadrato-globosa, sicca profunde plicata, fuscidula; peristomium simplex; exostomii dentes dolabriformes, aurantiaci, lamellis c. 14; operculum minutum, conicum, obtusum.

Seengebiet: Ru-Nssóro c. 3000 m (SCOTT ELLIOTT n. 274).

Species distinctissima, theca erecta, quadrato-globosa nec non peristomio simplici facillime dignoscenda.

B. Elliottii Broth. n. sp.; robusta, caespitosa, caespitibus densiusculis, mollibus, fuscescenti-viridibus; caulis ad 4 cm usque altus, erectus, strictiusculus vel arcuatus, rufo-tomentosus, dense foliosus, dichotome ramosus; folia sicca laxe imbricata, humida recurvo-patentia, e basi breviter oblonga sensim longe et anguste subulata, marginibus inferne paullum revolutis, integris, superne erectis argute serratis, nervo in aristam argute serratam producto, cellulis rectangularibus, chlorophyllosis, papillosis, basilaribus hyalinis, internis linearibus, externis multo brevioribus. Caetera ignota.

Seengebiet: Mau c. 2400 m (SCOTT ELLIOTT n. 74).

Ex affinitate *B. strictae* Brid., sed mollitie, statura robustiore nec non foliorum forma optime diversa.

Philonotis Brid.

Ph. brevicuspes Broth. n. sp.

Syn. *Bartramia* (*Philonotula*) *brevicuspes* C.-Müll. in sched.

Gracilis, caespitosa, caespitibus laxis, viridibus, haud nitidis; caulis elongatus, tenuissimus, fusco-radiculosus, flexuosus, parce ramosus, laxe foliosus; folia patentia, carinato-concaviuscula, lanceolata, obtusiuscula vel obtusa, 0,75—0,85 mm longa et c. 0,24 mm lata, marginibus erectis, e basi jam serratis, nervo lutescente, dorso serrato, infra apicem evanido, cellulis laxis, oblongis, grosse papillosis. Caetera ignota.

Kamerun: am Dorfe Batoki an nassen Felsen (DUSEN).

Species foliis obtusiusculis vel obtusis, nervo infra apicem evanido a congeneribus africanis optime diversa.

Ph. perconferta Broth. n. sp.

Syn. *Bartramia* (*Philonotula*) *perconferta* C.-Müll. in sched.

Dioica; gracilis, caespitosa, caespitibus humilibus, rigidiusculis, densis, pallide viridibus, haud nitidis; caulis plantae foemineae vix ultra 5 mm altus, fusco-tomentosus, apice ramosus, ramis plerumque 4, stric-

tiusculis vel curvatulis, aequalibus, 4 mm altis, dense foliosis; folia sicca imbricata, vix homomalla, humida erecto-patentia, carinato-concaviuscula, ovato-lanceolata, acuta, marginibus revolutis, dense duplicato-serratis, nervo lutescente, dorso serrato, cum apice evanido, cellulis laxiusculis, oblongis, apicalibus angustioribus, grosse papillosis; bractee perichaetii erectae, e basi lata oblongo-ovata, tenera, laxe reticulata elongate subulatae, nervo excedente longe aristatae; seta 12 mm alta, flexuosula, tenuis, rubra; theca subhorizontalis, oblongo-globosa, haud plicata, fusca; peristomium duplex, normale. Planta mascula ignota.

Kamerun: am Dorfe Batoki an Erde (DUSÉN n. 1049).

Species cum *Ph. nanothecia* C.-Müll. comparanda, statura rigidiore, foliis ovato-lanceolatis, angustius reticulatis nec non theca subhorizontali, globoso-oblonga dignoscenda.

Ph. microthamnia Broth. n. sp.

Syn. *Bartramia* (*Philonotula*) *microthamnia* C.-Müll. in sched.

Dioica; gracillima, caespitosa, caespitibus laxis, viridibus, haud nitidis; caulis plantae foemineae 1—3 cm altus, tenuis, ferrugineo-tomentosus, apice ramosus, ramis 4—6, gracillimis, strictiusculis vel flexuosulis, aequalibus, 3—5 mm altis, laxiuscule foliosis; folia sicca imbricata, vix homomalla, humida erecto-patentia, carinato-concaviuscula, ovato-lanceolata, nervo excedente breviter cuspidata, marginibus revolutis, dense duplicato-serratis, nervo lutescente, dorso serrato, breviter excedente, cellulis anguste oblongis, apice angustioribus, papillosis; bractee perichaetii erectae, e basi late ovata, tenera, laxe reticulata elongate subulatae, subula anguste reticulata, nervo excedente aristatae; seta 15 mm vel paulum ultra alta, flexuosula, pallide rubra, tenuis, nitidiuscula; theca horizontalis, oblongo-globosa, plicatula, fusca; peristomium duplex normale. Planta mascula parce ramosa, perigoniis crassiusculis, aurantiacis, bracteis e basi ovata longe aristatis, teneris.

Kamerun: am Dorfe Bomana c. 670 m an Steinen in Bächen, am Dorfe Batoki und am Dorfe Basse an Felsen in Bächen (DUSÉN).

Species elegantissima, statura elata, gracillima jam primo intuitu dignoscenda.

Ph. mniobryoides Broth. n. sp.

Syn. *Bartramia* (*Philonotula*) *capillaris* C.-Müll. in sched.

Gracillima, caespitosa, caespitibus mollibus, densiusculis, extensis, 1—2 cm altis, pallide viridibus, haud nitidis; caulis tenuissimus, flexuosus, parce radiculosus, ubique laxissime foliosus, simplex; folia flaccida, patentissima, oblongo-lanceolata, breviter acuminata, marginibus erectis, dense sed minute duplicato-serrulatis, nervo lutescente, tenui, infra summum apicem evanido, cellulis tenerrimis, laxis, oblongis, parce papillosis. Caetera ignota.

Kamerun: Bibundi an verrotteten Baumstämmen (DUSÉN n. 402).

Species distinctissima, foliis valde remotis, patentissimis, tenerrime reticulatis, parce papillosis jam prima scrutatione dignoscenda, cum nulla alia commutanda.

Ph. Jungneri Broth. n. sp.; dioica; tenella, rigida, caespitosa, caespitibus densiusculis, viridibus, haud nitidis; caulis plantae foemineae 5 mm altus, fusco-radiculosus, apice ramosus, ramis 3—7, brevissimis, vix ultra 2 mm altis, strictis, aequalibus, dense foliosis; folia arcte imbricata, brevia, lata ovato-lanceolata, acuta, marginibus leniter recurvis, minutissime serrulatis, nervo crassiusculo, basi rufescente, infra summum apicem evanido, dorso scabriusculo, cellulis laxis breviter oblongis, parce papillo-sis; bractee perichaetii erectae, intimae e basi late ovata anguste subulatae; seta 4 cm alta, flexuosa, tenuis, pallide rubra; theca erecta, oblongo-globosa, fuscidula, laevis; peristomium? Planta mascula ignota.

Kamerun: im Gebirge c. 3300 m (JUNGNER).

Species distinctissima, pulchella, rigiditate, foliis arcte imbricatis, brevibus, minutissime serrulatis jam dignoscenda, cum *Ph. Griffithii* Mitt. comparanda.

Ph. marangensis Broth. n. sp.; dioica; gracilis, caespitosa, caespitibus densis, late extensis, 4—6 cm altis, pallide vel lutescenti-viridibus, haud nitidis; caulis plantae foemineae fusco-tomentosus, apice ramosus, ramis compluribus, gracilibus, flexuosis, elongatis, usque ad 4 cm altis, laxe foliosis; folia plus minusve homomalla, carinato-concaviuscula, ovato-lanceolata, marginibus leniter recurvis, dense duplicato-serrulatis, nervo crassiusculo, lutescente, cum apice vel paulum infra apicem evanido, dorso serrulato, cellulis laxis, breviter oblongis, laevibus; bractee perichaetii erectae, minutae, intimae e basi late ovata subulatae, tenerrima reticulatae; seta 2 cm alta, flexuosa, pallide rubra, nitidiuscula; theca horizontalis, subglobosa, curvatula, plicatula, rubra; peristomium normale; operculum? Planta mascula parce ramosa, perigoniis crassiusculis, aurantiacis, bracteis e basi late ovali subito lanceolato-subulatis.

Kilimandscharo: Marangu-Station, häufig in der Culturregion, wo sie auf Steinen in und an den Böschungen am Wasser dichte Polster bildet (VOLKENS n. 590 u. 2279).

Species distinctissima, ramis flexuosis, elongatis, permultis nec non foliorum cellulis laevibus prima secutatione cognoscenda.

Polytrichaceae.

Polytrichum Dill., Ehrh.

P. armatum Broth. n. sp.; dioicum; elatum, robustum, brunneum, apice obscure viride; caulis ad 20 cm usque altus, erectus, flexuosus, infima basi tomentosus, dein longe squamato-foliosus, superne dense foliosus, simplex; folia sicca adpressa, humida recurvo-patula, canaliculato-concava, e basi vaginante, rufescente subito lanceolato-subulata, arista rubra terminata c. 12 mm longa, marginibus laminae basi ciliato-serratis, superne argute serratis, nervo lato, in aristam rigidam, rubram,

serratam excurrente, lamellis densis, c. 64, cellula terminali majore, bifido cellulis laminalibus quadratis, infimis transverse rectangularibus, in parte vaginante linearibus, versus marginem sensim angustioribus. Caetera ignota.

Deutsch Ostafrika: Uluguru, Lukwangulo 2300 m am Waldrand (STUHLMANN n. 9496).

Zambezia: Shiri Highlands (BUCHANAN).

Species robusta, habitu *P. calopogoni* Besch. similis, sed foliis basi ciliato-serratis, superne argute serratis facillime dignoscenda.

Das von BUCHANAN gesammelte Moos hielt ich früher als eine verschiedene Art und habe es im Hb. Berol. als *P. Buchanani* bezeichnet. Da es indessen nur steril gesammelt worden ist und im anatomischen Baue mit *P. armatum* recht gut übereinstimmt, halte ich es für besser, die Pflanze vorläufig als eine f. *minor* desselben zu betrachten.

Neckeraceae.

Rhacocarpus Lindb.

Rh. Humboldtii (Spreng.) Lindb.

Syn. *Harrisonia Humboldtii* Spreng., Syst. Veg. IV I p. 145.

Seengebiet: Ru-Nssóro, Nyamwambu c. 3000 m (SCOTT ELLIOTT n. 273 p. p.). Steril.

Braunia Br. eur.

B. Elliottii Broth. n. sp.; caespitosa, caespitibus densis, rigidis, pallide lutescenti-viridibus, nitidiusculis; caulis repens, dense ramosus, ramis ad 4 cm altis, adscendentibus, flexuosis, teretibus, dense foliosis, obtusis, vage ramulosis, simplicibus vel subsimplicibus; folia sicca arcte imbricata, laevia, humida patula, concaviuscula, breviter decurrentia, ovalia, brevissime acuminata, marginibus ubique erectis, summo apice tantum indistincte serrulatis, enervia, cellulis incrassatis, internis anguste ellipticis, lateralibus sensim brevioribus, seriatis, haud angulatis, basilaribus internis linearibus, aureis, externis transverse dispositis, omnibus laevibus. Caetera ignota.

Ostafrika: Shire Highlands, Sotchi (SCOTT ELLIOTT).

Species pulchra, a congeneribus foliis margine ubique erectis prima scrutatione dignoscenda.

Leucodon Schwaegr.

L. Cameruniae Broth. n. sp.

Syn. *Scleromnium tenax* C.-Müll. n. sp. in sched.

Dioicus; rigidus, caespitosus, caespitibus sat densis, pallide vel fuscescenti-viridibus, haud nitidis; caulis longe repens, dense ramosus, ramis teretibus, dense foliosis, brevibus, strictis vel longioribus, arcuatis, sensim et longe attenuatis, simplicibus; folia sicca imbricata, plicata, humida erecto-patentia, concaviuscula, ovato-ovalia, breviter et late acuminata, marginibus ubique valde revolutis, superne minutissime crenulatis,

nervo lutescente tenui, infra apicem evanido, cellulis elongatis, angustissimis, flexuosulis, dorso papillois, alaribus numerosis subquadratis. Caetera ignota.

Kamerun: an Baumstämmen und Ästen bei Ekumbi-Liongo (DUSÉN n. 423).

Species distinctissima, a *L. geniculato* Mitt. foliis papillois, a *L. sekistos* Welw. Duby foliis nervo praeditis raptim dignoscenda.

Antitrichia Brid.

A. kilimandscharica Broth. n. sp.; habitu *A. curtispendulae* simillima, sed foliis nervo multo tenuiore nec non cellulis angustissimis dignoscenda.

Seengebiet: Kilimandscharo, Wäldchen am Kifinikakrater 2800 m (VOLKENS n. 1349^a, 1896^d); Ru-Nssóro, Butagu im Walde c. 3000 m (SCOTT ELLIOTT n. 264). Steril.

Cyrtopus Brid.

C. Cameruniae Broth. n. sp.

Syn. *Garovaglia simplex* C.-Müll. in sched.

Dioicus; rigidus, caespitosus, caespitibus parvis, laxis, viridibus, nitidiusculis; caulis primarius repens, ramosus, ramis 4—3 cm longis, strictis vel arcuatulis, teretibus, simplicibus, obtusis; folia scariosa, dense conferta, sicca et humida horride divaricata, concava, cordato-ovata, breviter acuminata, marginibus erectis, superne minutissime serrulatis, nervo tenui, ultra medium evanido, cellulis elongatis, angustissimis, inter se porosis, basilaribus infimis brevibus, laxis, aureis, alaribus indistinctis, omnibus laevissimis; bractae perichaetii foliis minores, erectae, e basi convolutacea longiuscule acuminatae, minutissime serrulatae; seta 5 mm alta, crassiuscula, rubra, laevissima; calyptra cucullata, fusca, scaberula. Caetera ignota.

Kamerun: an Baumstämmen bei Ekumba N'dene und Bonga-Lisoni c. 580 m (DUSÉN n. 444).

Calypothecium Mitt.

C. subacutifolium Broth. n. sp.; dioicum; valde complanatum, laete viride; caulis primarius repens, divisionibus densis, usque ad 8 cm altis, flexuosis, rigidis, simplicibus vel pinnatim ramulosis, ramulis brevibus, vix ultra 7 mm longis, patulis, dense foliosis, obtusis, interdum flagelliformibus, microphyllinis; folia complanata, sicca rugulosa, nitidula, patentissima, e basi cordata ovato-ligulata, breviter acuminata, acuta, marginibus basi uno latere inflexis, caeterum erectis, integerrimis vel minutissime serrulatis, nervo tenui, ultra medium producto, cellulis linearibus, angustissimis, subvermicularibus, basilaribus infimis laxis, fusco-aureis, omnibus laevissimis. Caetera ignota.

Pondoland: Egorawald, an weicher, korkiger Baumrinde rankend (BEYRICH n. 40).

Species *C. acutifolio* (Brid.) valde affinis, sed colore, ramulis valde complanatis, brevibus nec non foliis patulis, angustioribus dignoscenda.

C. Dusenii Broth. n. sp.

Syn. *Garovaglia Dusenii* C.-Müll. in sched.

Dioicum; caespitosum, caespitibus laxis, late extensis, pendulis, lutescentibus, nitidiusculis; caulis primarius repens, dense ramosus, ramis rigidis, 3,5—7 cm longis, strictis vel arcuatulis, teretibus, obtusis, dense pinnatim ramulosis, ramulis 1—2 cm longis, strictis vel arcuatulis, patulis, teretibus, obtusis, rarissime in processum flagelliformem productis; folia dense conferta, sicca imbricata, dorso laevia, ramulina indistincte seriata, humida, erecto-patentia, cymbiformi-concava, e basi cordata, auriculis circinatis, caulem amplexantibus panduraeformi-ovalia vel late oblonga, abrupte breviter acuminata, marginibus, erectis, apice subconniventibus, integerrimis, enervia, cellulis angustissimis, linearibus, inter se porosis, basilaribus aureis, multo brevioribus et laxioribus, alaribus paucis, laxis, incrassatis, fusco-aureis, omnibus laevissimis; bractee perichaetii foliis multo majores, e basi elongata, convolutacea longius acuminatae, integerrimae; seta brevissima, vix 4 mm alta, stricta; theca immersa, erecta, ovato-oblonga, c. 2,5 mm longa et c. 1 mm crassa, pachydermis, fusca, laevis; peristomium duplex? exostomii dentes infra orificium oriundi, anguste lanceolato-subulati, nodose trabeculati, linea media notati, albidi, laeves; endostomium? spori 0,08—0,095 mm, virides, laeves; operculum conico-acuminatum, curvulum. Calyptra ignota.

Fernando Po: Pic Clarence 2500 m (F. NEWTON). Steril.

Kamerun: an Baumästen oberhalb Buea 1600 m (DUSEN n. 289).

Pilotrichella C.-Müll.

P. cuspidata Broth. n. sp.; robustiuscula, viridis, nitida; caulis primarius repens, divisionibus pendulis, approximatis, usque ad 16 cm altis, rigidis, flexuosis, breviter stipitatis, dein densiuscule pinnatim ramulosis, ramulis patulis, usque ad 15 mm longis, curvatulis, attenuatis, turgide et dense seriatim foliosis, apicem versus decrescentibus; folia caulina imbricata, cochleariformi-concava, e basi cordata subpanduraeformi-oblonga, in cuspidem c. 0,38 mm longum, latiusculum, strictum, integerrimum subito attenuata, marginibus inferne minutissime serrulatis, apice incurvis, nervis binis, brevissimis vel obsoletis, cellulis linearibus, angustissimis, basilaribus infimis brevibus, aureis, alaribus minutis, paucis, aureis, omnibus laevissimis, ramulina minora, distinctius serrulata, caeterum eisdem caulinis similia. Caetera ignota.

Pondoland: in feuchtem Laubgebüsch an dem Unterholz an allen

Zweigen und an den Bäumchen rankend und wie Bartmoos herabhängend nur in einem Gebüsch des Egorawaldes gefunden, daselbst aber eine große Strecke des Gebüsches damit behangen (BEYRICH n. 38, BACHMANN n. 6).

Species distinctissima, ab affinibus foliis longe cuspidatis facillime dignoscenda.

P. Stuhlmanni Broth. n. sp.; gracilis, rigida, pallide viridis, nitidiuscula; caulis primarius repens, divisionibus approximatis, pendulis, usque ad 18 cm altis, flexuosis, dense pinnatim ramulosis, ramulis horizontalibus, vix ultra 1 cm longis, strictis vel curvatulis, teretibus, dense foliosis, foliis indistincte orthostichaceis, apice ramulorum saepius delapsis; folia caulina imbricata, cochleariformi-concava, e basi auriculata, auriculis bene evolutis, circinatis breviter ovato-oblonga, in cuspidem brevem, strictum subito attenuata, marginibus integris, apice incurvis, nervis binis brevissimis vel obsoletis, cellulis linearibus, angustissimis, alaribus minutis, obscuris, omnibus laevissimis, ramulina minora, minutissime serrulata, caeterum eisdem caulinis similia. Caetera ignota.

Seengebiet: Bukoba (STUHLMANN), Mau, an Bäumen c. 2400 m (SCOTT ELLIOTT n. 73).

Species a congeneribus africanis statura gracili et rigiditate jam dignoscenda.

P. incurva Broth. n. sp.; mollis, pallide viridis, nitidiuscula; caulis primarius repens, divisionibus longissimis, pendulis, flexuosis, dense pinnatim ramulosis, ramulis brevibus, obtusis, valde arcuatis, horizontalibus, teretibus, dense foliosis, foliis indistincte orthostichaceis; folia caulina laxa imbricata, cochleariformi-concava, e basi auriculata, auriculis bene evolutis ovato-oblonga, in cuspidem brevem, strictum subito attenuata, marginibus minutissime crenulatis, apice incurvis, nervis binis brevibus vel indistinctis, cellulis leptodermibus, laxa linearibus, apice subrhomboideis, alaribus minutis, obscuris, omnibus laevissimis, ramulina minora, caeterum eisdem caulinis similia. Caetera ignota.

Angola: Huilla (ANTUNES).

Species statura *P. imbricatulae* (C.-Müll.) similis, sed ramulis valde arcuatis nec non foliis laxius areolatis facilliter dignoscenda.

Thamnium Schimp.

Th. scariosum Broth. n. sp.; dioicum; robustum, rigidissimum, viride, nitidiusculum; caulis repens, dense ramosus, ramis crassis, erectis, inferne simplicibus, superne pinnatim ramulosis, ramulis complanatis, dense foliosis, brevibus, simplicibus, obtusis; folia stipitis parva, squamaeformia, patula, triangularia, acuta, marginibus ad medium vel paulum ultra revolutis, subintegris, nervo supra medium producto vel brevior, ramea valde scariosa, disticha, patula, asymmetrica, oblonga vel late ovato-oblonga, apiculata, marginibus uno latere basi reflexis, superne grosse serratis, medio serratis, inferne integris, nervo crasso, longe ultra medium abrupto, dorso aculeo brevi coronato, cellulis linearibus, chlorophyllosis, laevibus, ramulina rameis similia, sed minora. Caetera ignota.

Deutsch-Ostafrika: Uluguru (STUHLMANN n. 9169b).

Species robusta, a congeneribus foliis scariosissimis faciliter dignoscenda.

Porotrichum Brid.

P. (*Anastrephidium*) *molliculum* Broth. n. sp.; dioicum; gracile, caespitosum, caespitibus mollibus, pallide viridibus, nitidiusculis; caulis longe repens, divisionibus usque ad 40 cm altis, erectis vel adscendentibus, longiuscule stipitatis, inferne foliis squamaeformibus praeditis, dein dense pinnatis, ramulis subteretibus vel paulum complanatis, flexuosis, attenuatis, simplicibus vel ramulosis; folia stipitis minuta, sicca adpressa, humida erecto-patentia, late ovato-lanceolata, breviter acuminata, integerrima, nervo vix ultra medium producto, caulina patula, planiuscula, asymmetrica, late ovato-oblonga, apiculata marginibus basi plus minusve revolutis et integris, apice subaequaliter serratis, nervo ultra medium producto, cellulis ellipticis, apice abbreviatis, laevissimis, ramulina minuta, ovato-ovalia, cellulis abbreviatis. Caetera ignota.

Kilimandscharo: Landschaft Schira im Gürtelwalde an Bäumen beim Abstieg vom Kibo zur Culturregion 2500 m (VOLKENS n. 1941).

Seengebiet: Ru-Nssóro, Wimi valley, an Bäumen c. 2400 m (SCOTT ELLIOTT n. 260).

Species *P. Stuhlmannii* Broth. simillima, sed mollitie nec non foliis laxius reticulatis optime diversa.

Hookeriaceae.

Hookeria Sm.

H. (*Euhookeria*) *cheiloneura* C.-Müll. n. sp. in sched.; synoica; caespitosa, caespitibus densiusculis, late extensis, laete viridibus, nitidiusculis; caulis elongatus, vage ramosus, ramis valde complanatis, cum foliis 3—3,5 mm latis, densiuscule foliosis, obtusis; folia sicca vix mutata, faciliter emollita, lateralia patula, arcuatula, asymmetrica, breviter oblonga, apiculata, marginibus superne serrulatis, limbata, limbo angustissimo, uniseriato, hyalino, apice indistincto, nervis binis, divergentibus, vix ultra medium folii productis, laevibus, cellulis laxis, basilaribus oblongis, superioribus subrotundo-hexagonis, parce chlorophyllosis, laevissimis, dorsalia et ventralia oblongo-ovata, acuta, nervis brevioribus; seta 42 mm alta, sicca flexuosula, tenuissima, rubra, laevissima; theca horizontalis, minuta, ovalis, sicca deoperculata sub ore valde constricta, atro-purpurea; operculum rostratum; calyptra pallida, apice fuscidula, scabriuscula.

Kamerun: am Boden bei Bibundi (DUSÉN).

Ab *H. Preussii* Broth. affini foliis apiculatis nec subpiliformi-acuminatis, angustissime limbatis nervisque multo brevioribus jam differt.

H. (*Euhookeria*) *Staudtii* Broth. n. sp.; caespitosa, caespitibus laxis, pallide viridibus, nitidiusculis; caulis repens, vage ramosus, ramis

valde complanatis, cum foliis 3 mm latis, densiuscule foliosis, obtusis; folia sicca vix mutata, faciliter emollita, lateralia patula, arcuatula, asymmetrica, oblonga, apiculata, c. 2 mm longa et c. 0,75 mm lata, marginibus superne minutissime serrulatis, limbata, limbo angustissimo, uniseriato, hyalino, apice indistincto, nervis binis, divergentibus, vix ultra medium folii productis, laevibus, cellulis laxis, basilaribus oblongis, superioribus ovali-hexagonis, laevissimis; dorsalia et ventralia ovato-oblonga, acuta, nervis brevioribus. Caetera ignota.

Kamerun: Johann Albrechtshöhe, an faulendem Holz (STAUDT n. 721).

Species optima, ab *H. cheiloneura* foliis multo longioribus jam dignoscenda.

H. (Callicostella) leptocladula C.-Müll. n. sp. in sched.; synoica; caespitosa, caespitibus densis, depressis, late extensis, caulibus intertextis, glauco-viridibus; caulis elongatus, repens, flexuosus, vage ramosus, ramis plus minusve dense ramulosis, ramulis valde complanatis, cum foliis vix 2 mm latis, dense foliosis, obtusis; folia sicca haud crispula, facillime emollita, lateralia patentia, asymmetrica, oblonga vel ovato-oblonga, apiculo brevi, latiusculo, obliquo coronata, superne eroso-denticulata, nervis binis, viridibus, divergentibus, sub apice abruptis, dorso superne serratis, cellulis pellucidis, superioribus oblongis, papilla singula, minuta instructis, basilaribus laxioribus, laevibus, dorsalia et ventralia ovato-acuminata, cellulis omnibus elongatis, subinanis, nervis brevioribus, dorso laevibus; bracteae perichaetii minores, ovatae, acuminatae, laevissimae, integrae vel subintegrae, nervis indistinctis; seta 4,5 cm alta, sicca flexuosula, tenuis, rubra, infima parte excepta ubique scabra; theca horizontalis, ovalis, brevicollis, sicca sub ore paulum constricta, atro-purpurea; operculum rostratum; calyptra brunnescens, basi profunde multifida, apice scaberrima.

Kamerun: auf faulendem Holz bei Bibundi (DUSÉN n. 47).

Species a caeteris *Callicostellis* africanis seta parte infima excepta ubique scabra jam dignoscenda.

H. (Callicostella) brevipes Broth. n. sp.; synoica; caespitosa, caespitibus densis, depressis, latis, rufis; caulis elongatus, repens, dense pinnatim ramosus, ramis subaequalibus, 5 mm longis, arcuatulis, valde complanatis, cum foliis c. 2 mm latis, dense foliosis, obtusis; folia sicca haud crispula, facillime emollita, lateralia patentia, asymmetrica, late oblonga, truncata, apiculata, apice serrulata, nervis binis, rufescentibus, divergentibus, superne arcuatis, sub apice abruptis, dorso superne parce serratis, cellulis pellucidis, superioribus ovalibus, minutissime papillosis, basilaribus oblongis, laevibus, dorsalia et ventralia e basi oblongo-ovata acuminata, nervis brevioribus, dorso laevibus, cellulis longioribus, laevibus; bracteae perichaetii minores, e basi ovata anguste acuminatae, integrae vel subintegrae, nervis indistinctis, cellulis laevissimis; seta 4 cm alta, tenuis, rubra, apice scaberula; theca horizontalis vel

nutans, ovalis, brevicollis, sicca sub ore haud constricta, atro-purpurea; operculum rostratum; calyptra brunnescens, multifida, ob lamellas prominulas apice scabra.

Kamerun: auf faulendem Holz bei Cap Delumscha (JUNGNER n. 240).

Species colore rufo, caule regulariter pinnato, foliis lateralibus late oblongis, truncatis, apiculatis, nervis dorso parce serratis nec non seta brevi faciliter dignoscenda.

Chaetomitrium Doz. Molk.

C. Dusenii C.-Müll. n. sp. in sched.; dioicum? depressum, pallide viride, nitidum; caulis repens, dense pinnatim ramosus, ramis prostratis, complanatis, dense foliosis, simplicibus vel dense pinnatim ramulosis, obtusis; folia erecto-patentia, concava, e basi minute auriculata oblonga, apice cucullato-contracta, acuminata, marginibus inferne plerumque revolutis, inferne minute, apice argutius serrulatis, nervis binis, brevibus, cellulis elongatis, angustissimis, dorso papillosis, basilaribus infimis brevioribus, laxioribus. Caetera ignota.

Kamerun: an Baumästen bei Bonge (DUSÉN n. 421).

Species *Ch. comorensi* Hamp. affinis, sed foliis serrulatis jam dignoscenda.

Daltonia Hook.-Tayl.

D. Dusenii C.-Müll. n. sp. in sched.; synoica; robustiuscula, mollis, laete viridis, inferne nigrescens, nitidiuscula; caulis ad 3 cm usque altus, flexuosus, basi fusco-radiculosus, superne dichotome ramosus, dense foliosus; folia flaccida, sicca contracta, crispatula, humida erecto-patentia, indistincte carinato-concava, subplana, e basi elliptica lanceolato-ligulata, breviter acuminata, acuta, 3—3,5 mm longa et c. 0,8 mm lata, limbata, limbo lutescente, basi latissimo, e seriebus cellularum elongatarum, angustarum usque ad 10 composito, superne sensim angustiore, minutissime denticulato, usque ad apicem producto ibidemque ex unica serie cellularum formato, nervo infra apicem evanido, cellulis ovalibus, inferne oblongis, limitibus rotundatis, utriculo s. d. primordiali valde constricto, basilaribus infimis brevibus, laxis, pulcherrime fusco-aureis, omnibus laevissimis; bracteae perichaetii minutae, lanceolatae, vix limbatae, enerves, minutissime denticulatae; seta 4—7 mm longa tenuis, rubra, superne grosse papillosa; theca deoperculata erecta, obovata, fusca, laevis. Caetera ignota.

Kamerun: an Baumästen oberhalb Bomana c. 1000 m (DUSÉN n. 776).

Lepidopilum Brid.

L. (Eulepidopilum) callochlorum C.-Müll. n. sp. in sched.; autoicum; robustiusculum, flaccidum, viridissimum, nitidum; caulis 2—3 cm altus, simplex vel parce ramosus, ramis valde complanatis, cum foliis 4 mm latis, dense foliosis, obtusis; folia sicca contracta, faciliter emollita, flaccida, lateralia reflexo-patula, asymmetrica, late ovato-lanceolata, breviter acuminata, marginibus inferne leniter reflexis, apice serru-

latis, elimbata, enervia vel nervis binis brevissimis, tenuissimis, cellulis tenuerrimis, elongatis, utrinque acutis, laevissimis; bractae perichaetii minutae, lanceolatae, integerrimae, enerves; seta 5—7 mm alta, aciculis densissimis ubique aspera; theca horizontalis, oblonga, fusca. Caetera ignota.

Kamerun: an Baumzweigen oberhalb Buea, c. 1550 m (DUSEN n. 258^a).

Species a *L. Dusenii* C.-Müll. foliis lateralibus late ovato-lanceolatis, enerviis vel subenerviis, tenerrime reticulatis jam dignoscenda.

L. (Eulepidopilum) subdevexum Broth. n. sp.; autoicum; sat robustum, laete viride, nitidum; caulis ad 6 cm usque altus, flexuosus, simplex vel vage ramosus, ramis valde complanatis, cum foliis 4—5 mm latis, dense foliosis, obtusis; folia sicca contracta, faciliter emollita, lateraliter reflexo-patula, asymmetrica, oblongo-lanceolata, breviter acuminata, marginibus inferne parce revolutis, apice argute serratis, elimbata, nervis binis, tenuibus, divergentibus, tertiam partem folii vel paulum ultra attingentibus, cellulis elongatis, utrinque acutis, pellucidis, laevissimis; bractae perichaetii minutae, lanceolatae, integerrimae, enerves; seta 5 mm alta, tenuis, pallide rubra, rugosa; theca erecta, minuta, ovalis, fuscidula; peristomium duplex, normale. Caetera ignota.

Kamerun: an Baumästen bei Ekundu Etitti (DUSEN).

Species a *L. devexo* Mitt. foliis breviter acuminatis, nervis brevioribus nec non theca erecta dignoscenda.

Actinodontium Schwaegr.

A. Dusenii Broth. n. sp.

Syn. *Lepidopilum integrum* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus parvis, 2 cm altis, amoene viridibus, nitidiusculis; caulis erectus vel adscendens, fusco-radiculosus, ramosus, ramis erectis, laxiuscule foliosis; folia erecto-patentia, oblonga, breviter acuminata, apiculata, marginibus fere ad apicem revolutis, integerrimis, nervis binis, tenuibus, divergentibus, ultra medium evanidis, cellulis anguste oblongo-hexagonis, utriculo s. d. primordiali valde constricto, basilaribus infimis laxis, pulchre fusco-aureis, omnibus laevissimis; bractae perichaetii minores, subconformes; seta 4 cm. alta, strictiuscula, purpurea, laevissima; theca erecta, cylindrica, fusca, laevis; peristomium ut in *A. adscendente*; operculum breviter rostratum; calyptra fusca, conico-mitriformis, laciniata, thecam vix ad tertiam partem obtegens.

Kamerun: an Baumzweigen oberhalb Bomana c. 900 m (DUSEN).

A. streptopogoneum Broth. n. sp.

Lepidopilum streptopogoneum C.-Müll. in sched.

Autoicum et synoicum; a specie praecedente valde affini colore

sordide viridi, foliis densius confectis, nervis crassioribus longe ultra medium productis dignoscendum.

Kamerun: an Baumstämmen bei Ekundu (DUSÉN). Mit Früchten.

Stereodontaceae.

Entodon C.-Müll.

E. (Campylodontium) Dusenii Broth. n. sp.

Syn. *Campylodontium Dusenii* C.-Müll. n. sp. in sched.

Species *E. flavescenti* (Hook.) Mitt. simillima et sterilis haud nisi foliis longus acuminatis diversa.

Kamerun: Tokko im N'gololande, an Baumstämmen (DUSÉN).

Wahrscheinlich werden sich schärfere Charaktere im Baue des Peristoms finden lassen. Leider sind die von DUSÉN gesammelten Exemplare steril. Die früher bekannten Arten der Section *Campylodontium* kommen in Südasien und Südamerika vor.

Stereodon (Brid.) Mitt.

S. (Heterophyllum) albo-alaris Broth. n. sp.; autoicum; caespitosum, caespitibus densis, mollibus, lutescentibus, nitidiusculis; caulis elongatus, repens, per totam longitudinem radiculosus, paraphylliferus, paraphyllis foliiformibus, dense pinnatim ramosus, ramis brevibus, vix ultra 1 cm altis, adscendentibus, teretibus, dense foliosis, obtusis; folia sicca laxa imbricata, humida patentia, concaviuscula, ovato-oblonga, subito in acumen longum, subloriforme attenuata, marginibus ubique revolutis, superne serrulatis, nervis binis, crassiusculis, lutescentibus, brevibus, cellulis anguste ellipticis, alaribus laxis, hyalinis, omnibus laevissimis. Caetera ignota.

Englisch Ostafrika: Shire Highland, Sochi (SCOTT ELLIOTT).

Pylaisia Bruch. Schimp.

P. Dusenii C.-Müll. n. sp. in sched.; caespitosa, caespitibus densiusculis, latiusculis, viridibus, nitidiusculis; caulis elongatus, repens, dense foliosus, dense pinnatim ramosus, ramis teretibus, dense foliosis, adscendentibus, perbrevibus, vix 5 mm altis, obtusis; folia caulina sicca imbricata, apicalia subhomomalla, humida erecto-patentia, concaviuscula, late subcordato-ovata, piliformi-attenuata, marginibus erectis, integerrimis, nervis binis, brevissimis, cellulis linearibus, minute papillosis, alaribus numerosis, viridibus, minutis, subquadratis, ramea concava, brevius acuminata. Caetera ignota.

Kamerun: an Baumstämmen bei Ekumba-Liongo (DUSÉN n. 840).

Species distinctissima, foliis papillosis a congeneribus prima scrutatione dignoscenda.

Campylium Sull.

C. squarriifolium Broth. n. sp.

Syn. *Hypnum* (*Campylium*) *squarriifolium* C.-Müll. n. sp. in sched.

Dioicum; gracile, caespitosum, caespitibus latiusculis, densiusculis, lutescenti-viridibus, nitidiusculis; caulis procumbens, dense ramosus, ramis elongatis, pinnatim ramulosis, densiuscule foliosis, ramulis patentibus, brevibus, strictis, densiuscule foliosis; folia patula, secunda, concaviuscula, ovato-lanceolata, breviter acuminata, marginibus erectis, superne minute serrulatis, nervis binis, brevibus, lutescentibus, cellulis elongate linearibus, alaribus paucis, magnis, hyalinis, fugacibus, omnibus laevissimis. Caetera ignota.

Kamerun: N'dian, an überrieselten Felsen am Flusse (DUSÉN n. 709).

Microthamnium Mitt.

M. saproadelphum Broth. n. sp.

Hypnum (*Microthamnium*) *saproadelphum* C.-Müll. in sched.

Autoicum; tenellum, caespitosum, caespitibus mollibus, densis, latissime extensis, pallide vel lutescenti-viridibus, sericeis; caulis repens, valde flexuosus, vage ramosus, ramis arcuatis, dense pinnatim ramulosis, ramulis gracilibus, brevissimis, vix ultra 4 mm longis, patulis, strictis vel arcuatulis, densiuscule foliosis; folia patentia, concaviuscula, laevia, caulina e basi truncata sensim angustata, piliformi-attenuata, marginibus basi parce recurvis, integerrimis, enervia, cellulis elongatis, angustissimis, laevissimis, basilaribus infimis omnibus laxis, vesiculosus, hyalinis, ramulina eisdem caulinis similia, sed angustiora, marginibus distinctius revolutis, apice subintegris; bracteae perichaetii erectae, e basi vaginante sensim longe piliformi-attenuatae, superne minutissime denticulatae, basi laxae areolatae, enerves; seta vix 4,5 cm alta, flexuosula, tenuis, purpurea, laevissima; theca nutans, turgide ovalis, minutissima, sicca deoperculata sub ore haud constricta, fusca; operculum e basi cupulato brevissime rostratum; calyptra ignota.

Kamerun: auf faulendem Holz bei Etome c. 360 m (DUSÉN n. 499), an Baumstämmen bei Buea, 3000 m (JUNGNER n. 96).

Species elegantissima, tenella, mollitie nec non theca minutissima jam dignoscenda.

M. palmarum Broth. n. sp.

Hypnum (*Microthamnium*) *palmarum* C.-Müll. in sched.

Autoicum; gracillimum, caespitosum, caespitibus densis, latissimis, pallide viridibus, aetate albescentibus, nitidiusculis, caulibus valde intertextis; caulis tenuissimus, elongatus, repens, flexuosus, laxae foliosus, vage ramosus, ramis laxae pinnatim ramulosis, ramulis brevibus, plerumque arcuatulis, laxae foliosis; folia patula, concaviuscula, laevia, caulina ovato-

lanceolata, piliformi-acuminata, marginibus infima basi parce recurvis, integerrimis, enervia, cellulis elongatis, angustissimis, laevissimis, basilaribus infimis omnibus laxis, vesiculosus, hyalinis, ramulina eisdem caulinis similia, marginibus distinctius recurvis; bracteae perichaetii erectae, e basi oblongo-ovata longe lanceolato-acuminatae, integrae, basi laxae areolatae, enerves; seta 1,5 cm alta, flexuosa, tenuissima, pallide rubra, laevissima; theca nutans, minuta, ovalis, sicca deoperculata sub ore haud constricta, pallide fusca, laevis; operculum brevissime rostratum; calyptra ignota.

Kamerun: an Stämmen von *Elaeis guineensis* (DUSÉN n. 470).

M. plano-squarrosum Broth. n. sp.

Syn. *Hypnum* (*Microthamnium*) *plano-squarrosum* C.-Müll. n. sp. in sched.

Species *M. subelegantulo* Broth. affinis, sed rigiditate, colore viridissimo, statura multo minore nec non ramulis valde complanatis dignoscenda.

Kamerun: N'dian (DUSÉN n. 696) und bei Lifenja, an faulenden Baumstämmen. Steril.

M. afro-elegantulum Broth. n. sp.

Syn. *Hypnum* (*Microthamnium*) *afro-elegantulum* C.-Müll. n. sp. in sched.

Robustum, caespitosum, caespitibus densis, lutescenti-viridibus; caulis repens, dense foliosus, pinnatim ramosus, ramis teretibus, patulis, brevibus, curvatulis, dense foliosis, obtusis; folia caulina sicca laxae imbricata, homomalla, indistincte plicata, humida erecto-patentia, concaviuscula, ovata, breviter acuminata, marginibus inferne revolutis, superne serrulatis, nervis binis, elongatis, lutescentibus, cellulis breviter linearibus, papillosis, basilaribus infimis laxis, brevibus, ramulina argutius serrulata; bracteae perichaetii e basi ovata longe subulatae, subintegrae; seta 1,5 cm alta, flexuosula, rubra, laevis; theca cernua, ovali-cylindrica, badia, laevis. Caetera ignota.

Kamerun: Buea, an Bäumen c. 4000 m (JUNGNER n. 76) und 2500 m (DUSÉN).

Species *M. elegantulo* (Hook.) habitu simillima, sed foliis caulinis ovatis, laxius reticulatis facilliter dignoscenda.

M. horridulum Broth. n. sp.; autoicum; robustiusculum, caespitosum, caespitibus rigidis, densis, viridibus, nitidiusculis; caulis repens, flexuosus, vage ramosus, ramis dense foliosis, pinnatim ramulosis, ramulis complanatulis, brevibus, curvatulis, dense foliosis, obtusis; folia caulina sicca et humida horride patula, laevia, late cordata, breviter acuminata, acumine curvato, marginibus erectis, superne minutissime serrulatis, nervis binis, longiusculis, lutescentibus, cellulis breviter linearibus, minute papillosis, ramulina ovata, argutius serrulata; bracteae perichaetii e basi ovata longe subulatae, acumine reflexo, integrae; seta 1 cm alta,

flexuosula, tenuis, pallide rubra, laevis; theca nutans, turgide ovalis, sicca sub ore constricta, pallida, laevis; peristomium duplex; exostomii dentes lanceolato-subulati c. 0,42 mm longi et c. 0,08 mm lati, alte lamellati, aurantiaci, apice hyalini; endostomium ciliis binis, bene evolutis praeditum; operculum alte conicum, obtusum; calyptra parce pilosa.

Pondoland: ohne nähere Standorte (BACHMANN n. 8).

Species *M. patenti* (Hamp.) affinis, sed caespitibus rigidis, ramulis minus complanatis, horride foliosis, foliis cellulis brevioribus nec non theca sub ore constricta optime diversa.

Isopterygium Mitt.

I. plumigerum Broth. n. sp.

Syn. *Plagiothecium plumigerum* C.-Müll. in sched.

Species *I. intorto* (P. B.) Besch. simillima, sed foliis in acumen strictum, longiusculum subito contractis, integerrimis nec non seta breviora dignoscenda.

Kamerun: Batoki, an Felsen von verwittertem Basalte am Flusse Kelle (DUSÉN n. 121).

Taxicaulis plumirameus C.-Müll. in Musci Africani n. 683, von DUSÉN bei Lifenja an faulenden Baumstämmen gesammelt, scheint mir von *I. plumigerum* kaum verschieden zu sein.

I. conangium Broth. n. sp.

Syn. *Taxicaulis conangius* C.-Müll. n. sp. in sched.

Autoicum; tenellum, caespitosum, caespitibus densis, latis, depressis, viridissimis, nitidis; caulis longe repens, pinnatim ramosus, ramis brevissimis, patulis, complanatis, dense foliosis, obtusis; folia disticha, patula, concaviuscula, caulina ovato-lanceolata, breviter acuminata, marginibus erectis, integerrimis, enervia, cellulis elongatis, angustissimis, basilaribus infimis laxis, omnibus laevissimis, ramea acuta nec acuminata, superne minutissime serrulata; bracteae perichaetii internae e basi oblonga subulatae, subintegrae, laxius reticulatae, cellulis basilaribus aureis; seta 4 cm alta, flexuosula, tenuis, lutescenti-rubra, laevissima; theca nutans, minuta, ovalis, macrostoma; operculum e basi conica breviter acuminatum.

Kamerun: an lebenden und faulenden Baumstämmen nicht selten, Bonge (DUSÉN n. 872), N'dian (n. 1034), Ekundu N'dene.

Species *I. subleptoblasto* (C.-Müll.) Besch. affinis, sed colore viridissimo nec non foliis caulinis brevius acuminatis, rameis acutis nec acuminatis dignoscenda.

I. Antunesii Broth. n. sp.; autoicum; robustum, caespitosum, caespitibus densiusculis, depressis, viridibus, nitidis; caulis repens, vage ramosus, ramis elongatis, complanatis, acutiusculis, densiuscule foliosis, pinnatim ramulosis, ramulis 4 cm vel paulum ultra longis, complanatis; folia disticha, laxe imbricata, concaviuscula, oblongo-lanceolata, marginibus basi paulum revolutis, integerrimis, nervis binis, tenuibus, lutescentibus,

longiusculis, rarius obsoletis, cellulis elongatis, angustissimis, basilaribus infimis laxis, omnibus laevissimis; bracteae perichaetii erectae, e basi lanceolata longissime loriformi-attenuatae, subintegrae, laxius reticulatae; seta 10—15 mm alta, flexuosa, lutescenti-rubra, laevissima; theca cernua, breviter oblonga, fuscidula; operculum e basi conica apiculatum.

Angola: Huilla (ANTUNES n. 206).

Species distinctissima, statura robusta nec non foliis laxe imbricatis jam dignoscenda.

Taxithelium Spruc.

T. rotundatum Broth. n. sp.

Syn. *Sigmatella rotundatula* C.-Müll. in sched.

[Autoicum; caespitosum, caespitibus depressis, laxis, late extensis, pallide lutescenti-viridibus; caulis repens, vage ramosus, ramis elongatis, repentibus, flexuosis, compressis, pinnatim ramulosis, ramulis compressis, patulis, strictis vel arcuatulis, 5—15 mm longis, dense foliosis, obtusis; folia ramulina laxe imbricata, concava, e basi constricta ovalia, obtusiuscula, marginibus erectis, superne minute denticulatis, enervia, cellulis elongatis, angustissimis, seriatim papillois, alaribus 3—5 vesiculaeformibus, hyalinis vel aureis, supraalaribus paucis, hyalinis, quadratis veb subnullis; bracteae perichaetii lanceolatae, longe et anguste acuminatae, laxius areolatae, cellulis superioribus tantum papillois; seta 2 cm alta, flexuosa, tenuis, pallide lutescenti-rubra; theca cernua vel subhorizontalis, parva, valde asymmetrica, ovalis, fuscidula; annulus 0; peristomium duplex; exostomii dentes lutei, apice hyalini, lanceolato-subulati, 0,4 mm longi et 0,08 mm lati, dense lamellati; endostomium papillosum, sordide luteum; processus profunde carinati, angustissime perforati; cilia singula, hyalina, papillosa; operculum aurantiacum, conicum, obtusum.

Kamerun: N'dian, an Baumwurzeln (DUSÉN n. 703).

A *T. plano* (Brid.), habitu simili, foliorum forma raptim dignoscitur.

T. compressicaule Broth. n. sp.

Syn. *Taxicaulis compressicaulis* C.-Müll. in sched.

Autoicum; robustum, caespitosum, caespitibus depressis, densiusculis, sat extensis, pallide lutescenti-viridibus, nitidiusculis; caulis repens, cortici arcte adnatus, densissime pinnatim ramulosus, ramulis patulis, compressis, strictis vel arcuatulis, vix ultra 5 mm longis, dense foliosis, obtusis; folia ramulina laxe imbricata, concava, oblonga vel ovato-oblonga, breviter acuminata, marginibus erectis, superne minute denticulatis, enervia, cellulis elongatis, angustissimis, laevibus, alaribus 5—6 vesiculaeformibus, aureis, supraalaribus paucis, hyalinis, quadratis. Caetera ignota.

Kamerun: Bibundi, an Baumrinde (DUSÉN n. 758).

Species habitu et foliorum cellulis glabris *T. glabrato* Broth. Geh. Bull. l'Herb. Boiss. T. IV, p. 444 similis, sed foliorum forma facilliter dignoscenda.

T. glabriusculum Broth. n. sp.

Syn. *Sigmatella glabriuscula* C.-Müll. in sched.

Isopterygium anomalum Broth. Mitt. aus d. deutsch. Schutzgeb. 1893, III (nomen).

Speciei praecedenti foliorum structura omnino similis, sed colore viridissimo, statura minore et ramulis maxime compressis primo intuitu dignoscenda.

Liberia: Monrovia, an Steinen (DUSÉN).

Togo: Bismarckburg (BÜTTNER).

T. lepto-punctatum Broth. n. sp.

Syn. *Sigmatella lepto-punctata* C.-Müll. in sched.

T. glabriusculo habitu simillimum, sed foliorum cellulis seriatim papillosis faciliter dignoscendum.

Liberia: Monrovia, an Steinen (DUSÉN).

T. ramivagum Broth. n. sp.

Syn. *Isopterygium ramivagum* C.-Müll. n. sp. in sched.

Robustum, pallide viride, nitidiusculum; caulis elongatus, repens, dense pinnatim ramosus, ramis horizontalibus, complanatis, vix ultra 1 cm longis, strictis, dense foliosis, obtusis vel longioribus, curvatulis, sensim attenuatis, parce ramulosis; folia disticha, concaviuscula, patula, oblongo-lanceolata, breviter acuminata, marginibus erectis, superne minutissime denticulatis, enervia, cellulis elongatis, angustissimis, seriatim papillosis, alaribus paucis, minutis, quadratis, hyalinis; bractee perichaetii internae e basi oblonga subito longe acuminatae, acumine reflexo, integerrimo; seta 1 cm alta, tenuis, pallide rubra, laevissima; theca horizontalis, ovalis, sicca deoperculata sub ore constricta, pallide fusca; operculum e basi conica acuminatum.

Kamerun: Ekundu N'dene, an Baumästen (DUSÉN n. 797), Lolodorf, Berg Mbanga (STAUDT n. 277).

Species a congeneribus foliorum forma jam dignoscenda.

T. perplanicaule Broth. n. sp.

Syn. *Hypnum (Ligulina) perplanicaule* C.-Müll. in sched.

Depressum, laete viride, nitidissimum; caulis elongatus, flexuosus, per totam longitudinem fasciculatim fusco-radiculosus, vage ramosus, ramis repentibus, radiculis, pinnatim ramulosis, ramulis depressis, patentissimis, brevibus valde complanatis, cum foliis c. 2 mm latis, dense foliosis, obtusis; folia ramulina disticha, lateralia patentia, asymmetrica, oblongo-ligulata, rotundato-obtusa, marginibus erectis, summo apice crenulato, enervia, cellulis elongatis, linearibus, basilaribus infimis multo brevioribus et laxioribus, alaribus nullis, omnibus laevibus, intermedia breviora, latiora, caulina minuta, ovato-ligulata; seta 2,5 cm alta, flexuosula, superne muricata, rubra. Caetera ignota.

Kamerun: an Felsen in Bächen bei N'dian (DUSÉN n. 704).

Species distinctissima, foliorum forma ab omnibus congeneribus facillime dignoscenda.

T. perminutum Broth n. sp.

Syn. *Sigmatella perminuta* C.-Müll. in sched.

Autoicum; tenerrimum, caespitosum, caespitibus depressis, laxis late extensis, viridibus; caulis repens, flexuosus, pinnatim ramulosus. ramulis brevissimis, vix ultra 3 mm longis, patulis, complanatis, strictis, laxiuscule foliosis, obtusis; folia ramulina disticha, patula, concava, ovato-lanceolata, breviter acuminata, marginibus erectis, superne minutissime denticulatis, enervia, cellulis elongatis, angustissimis, grosse seriatis papillosis, alaribus nullis; bractae perichaetii lanceolatae, longe et anguste acuminatae, laxius areolatae, cellulis laevibus; seta 7 mm alta, tenuissima, rubra, laevissima; theca minuta, deoperculata nutans, ovalis, fusca. Caetera ignota.

Kamerun: Mokundange und N'dian, an Steinen (DUSÉN n. 1030).

Species distinctissima, minutissima, a congeneribus notis supra expositis optime diversa.

Ectropothecium Mitt.

E. regulare (Brid.) Besch. Fl. bryol. Réunion. p. 177.

Syn. *Hypnum* (*Cupressina*) *porrectirameum* C.-Müll. n. sp. in sched.

Kamerun: an modernden Stämmen bei Bibundi, Ekundu, Bomana und Bea (DUSÉN), Cap Debundscha (JUNGNER n. 245). Mit Früchten.

Die Exemplare sind ziemlich variierend, doch bin ich nicht im Stande, diese von *E. regulare* zu unterscheiden. Die Exemplare aus Bibundi stimmen mit dem Typus aus Réunion genau überein.

E. (*Cupressina*) **Engleri** Broth. n. sp.; caespitosum, caespitibus densiusculis, depressis, late extensis, viridissimis, nitidis; caulis elongatus, repens, dense et regulariter pinnatim ramosus, ramis valde complanatis, vix ultra 5 mm longis, horizontalibus, dense foliosis, arcuatulis, obtusis; folia caulina et ramea disticha, falcata, lanceolata, breviter sed anguste acuminata, marginibus erectis, superne minutissime serrulatis, nervis binis brevibus, lutescentibus vel obsoletis, cellulis angustissimis, laevissimis; bractae perichaetii internae e basi late lanceolata longe subulatae, superne serrulatae, enerves, laxius areolatae; seta 3 cm alta, tenuis, rubra, laevissima; theca nutans, turgide ovalis; operculum apiculatum.

Usambara: Buluwald, 1030 m (HOLST n. 4285) und ohne nähere Standorte (n. 699, 1071).

Species cum *E. brevifalcato* (C.-Müll.) et *E. protractulo* (C.-Müll.) comparanda, sed foliis densius confertis, anguste acuminatis jam dignoscenda.

E. (*Cupressina*) **aureo-crispum** Broth. n. sp.

Syn. *Hypnum* (*Cupressina*) *aureo-crispum* C.-Müll. in sched.

Dioicum; caespitosum, caespitibus mollissimis, densis, pallide

viridibus, aetate fusco-aureis, nitidis; caulis elongatus, repens, dense foliosus, dense pinnatus, ramis brevissimis, dense foliosis, simplicibus; folia caulina rameaque circinato-falcata, anguste lanceolata, setaceo-acuminata, marginibus erectis, integris vel summo apice minutissime denticulatis, nervis plerumque nullis, cellulis angustissime linearibus, laevissimis, basilaribus infimis laxis, hyalinis, alaribus subnullis. Caetera ignota.

Kamerun: an Mauern bei Bibundi (DUSEN n. 977).

Ex affinitate specierum praecedentium, sed ramis brevissimis foliis circinato-falcatis, anguste lanceolatis, setaceo-acuminatis distinguenda.

E. (Cupressina) revolutum Broth. n. sp.; autoicum; caespitosum, caespitibus mollissimis, densis, pallide lutescentibus, nitidis; caulis elongatus, repens, dense foliosus, dense pinnatus, ramis brevissimis, dense foliosis, simplicibus; folia caulina rameaque falcata, lanceolata, longe setaceo-acuminata, marginibus revolutis, apice serrulatis, nervis binis, brevibus vel obsoletis, cellulis anguste linearibus, basilaribus infimis laxis, alaribus subnullis, omnibus laevissimis; bracteae perichaetii e basi vaginante longissime subulatae, superne argute serrulatae; seta 4 cm alta, rubra, tenuissima, laevissima; theca ovalis, sicca sub ore haud constricta, fusca, laevis; operculum apiculatum.

Kamerun: Johann Albrechtshöhe, auf faulendem Holz (STAUDT n. 702).

Species *E. aureo-crispo* affinis, sed foliis longioribus, haud circinato-falcatis, marginibus revolutis jam dignoscenda.

E. (Cupressina) afro-molluscum Broth. n. sp.

Syn. *Hypnum (Cupressina) afro-molluscum* C.-Müll. in sched.

Dioicum; caespitosum, caespitibus mollibus, densis, fuscescenti-lutescentibus vel fuscescenti-viridibus, nitidis; caulis elongatus, dense foliosus, dense et regulariter pinnatus, ramis usque ad 4 cm longis, patentibus, strictis, apicem versus decrescentibus, dense foliosis, simplicibus; folia caulina rameaque falcata, lanceolata, anguste acuminata, marginibus erectis, integris vel summo apice minutissime denticulatis, nervis plerumque nullis, cellulis pallidis, anguste linearibus, laevissimis, basilaribus infimis laxis, hyalinis, alaribus fugacibus, perpaucis, magnis, hyalinis. Caetera ignota.

Kamerun: an Erde bei Bomana 670 m und bei Jumbo im Rumpi-gebirge 1400 m (DUSEN n. 130).

Species *E. regulari* (Brid.) Besch. valde affinis, sed mollitie, foliis integris vel sub-integris, cellulis laevissimis nec ob apices prominentes subpapillosis dignoscenda.

E. (Cupressina) anisophyllum Broth. n. sp.

Syn. *Hypnum (Cupressina) anisophyllum* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus depressis, densis, late extensis, viridibus, nitidis; caulis longe repens, flexuosus, vage ramosus, ramis elongatis, pinnatim ramulosis, ramulis complanatulis, patulis, vix ultra 4 cm longis, dense foliosis; folia distichacea, falcata, oblongo-acuminata, mar-

ginibus erectis, superne denticulatis, nervis plerumque nullis, cellulis, angustissime linearibus, viridibus, ad apices prominentes subpapillosis, basilaribus infimis brevibus, laxis, hyalinis, alaribus vix ullis; bracteae perichaetii erectae, e basi late ovata subito fere in subulam elongatam, flexuosulam, denticulatam attenuatae, laxius reticulatae; seta 4,5 cm alta, flexuosula, e basi crassiore sensim tenuissima, rubra, laevissima; theca nutans, minuta, brevis, turgide ovalis, sicca deoperculata sub ore vix vel paulo constricta, fusca, laevis; peristomium duplex; exostomii dentes rubri, c. 0,45 mm longi et c. 0,10 mm lati, dense et alte lamellati, apice hyalini, scabridi; endostomium sordide luteum, papillosum, processus profunde carinati, angustissime perforati; cilia bina, in unum coalita, hyalina, papillosa; operculum magnum, brevissime rostratum.

Kamerun: an modernden Stämmen bei Batoki (DUSÉN n. 119) und im Gebirge 1500 m (JUNGNER n. 99).

E. (Cupressina) brevifalcatum (C.-Müll.).

Syn. *Hypnum (Cupressina) brevifalcatum* C.-Müll., Flora 1886 p. 284.

Kamerun: an modernden Stämmen bei Batoki (DUSÉN).

E. taxiforme (Brid.).

Syn. *Hypnum taxiforme* Brid., Bryol. univ. II p. 392.

Kamerun: an Steinen in Bächen bei Buea und an modernden Stämmen bei Ndian (DUSÉN).

E. (Cupressina) lateriticolum Broth. n. sp.

Syn. *Hypnum (Cupressina) lateriticolum* C.-Müll. in sched.

Dioicum; tenellum, caespitosum, caespitibus laxissimis, valde depressis, laete viridibus, nitidis; caulis elongatus, repens, dense et regulariter pinnatus, ramis brevissimis, patulis, valde complanatis, densiuscule foliosis; folia disticha, vix falcatula, lanceolata, longe acuminata, marginibus erectis, superne denticulatis, nervis nullis, cellulis anguste linearibus, viridibus, basilaribus infimis brevioribus et laxioribus, alaribus paucissimis, fugacissimis, hyalinis, omnibus laevissimis; bracteae perichaetii erecto-patentes, e basi ovata sensim in subulam elongatam, denticulatam attenuatae, laxius reticulatae; seta 7 mm alta, sicca flexuosula, tenuissima, rubra, laevissima; theca minuta, nutans, ovalis, fusca, laevis; operculum magnum, conico-cupulatum, brevissime rostratum.

Kamerun: am Lehm Boden bei Victoria (DUSÉN n. 313).

Species *E. taxiformi* (Brid.) habitu valde similis, sed foliis longe acuminatis optime diversa.

E. (Cupressina) brachycladulum Broth. n. sp.

Syn. *Hypnum (Cupressina) brachycladulum* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus latissimis, densis, mollibus, laete viridibus, aetate lutescentibus, sericeis; caulis longe repens, dense pinnatim ramosus, ramis brevissimis, adscendentibus, subteretibus, dense foliosis, obtusis; folia undique inserta, haud disticha, erecto-patentia,

apicalia indistincte subsecunda, lanceolata, longe acuminata, marginibus erectis, apice denticulatis, nervis binis, brevibus, luteis, rarius obsoletis, cellulis anguste linearibus, basilaribus infimis brevioribus et laxioribus, alaribus subnullis, omnibus laevissimis; bracteae perichaetii erecto-patentes, e basi ovata sensim in subulam elongatam, subintegram attenuatae, laxius areolatae; seta 10—12 mm alta, sicca flexuosula, tenuis, rubra, laevissima; theca horizontalis vel nutans, ovalis, sicca deoperculata sub ore constricta, fusca, laevis; peristomium duplex; exostomii dentes c. 0,37 mm longi et c. 0,07 mm lati, lutei, dense et alte lamellati apice hyalini scabridi; endostomium flavidum, processus profunde carinati, angustissime perforati, minutissime papilloso; cilia bina, hyalina, nodulosa, papillosa; operculum conico-cupulatum, apiculatum.

Kamerun: an modernden Stämmen bei Mokundange (DUSÉN n. 486).

Planta ramis subteretibus nec non foliis minime falcatis, vix subsecundis a caeteris Cupressinis diversissima, habitu speciebus sectionis *Vesiculariae* sat similis.

E. (Vesicularia) ischyropteris Broth. n. sp.

Syn. *Hypnum (Vesicularia) ischyropteris* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus depressis, densis, latissimis, glauco-viridibus, aetate lutescentibus, nitidiusculis; caulis elongatus, repens, flexuosus, elegantissime dense pinnatus, ramis patulis, brevibus, vix ultra 5 mm longis, subaequalibus, arcuatis, turgide complanatis, dense foliosis; folia caulina e basi ovato-lanceolata subito in subulam elongatam, flexuosam, piliformem attenuata, marginibus erectis, superne minute denticulatis, enervia, cellulis elongate, sed laxe rhomboideo-hexagonis, ramea falcata, subula piliformi brevior; bracteae perichaetii e basi vaginante in subulam longissimam, denticulatam attenuatae, cellulis longioribus et angustioribus; seta ad 2,5 cm usque alta, sicca flexuosula, tenuis, pallide rubra, laevissima; theca nutans, ovalis, fusca, laevis; peristomium et operculum ut in *E. glauculo*.

Kamerun: an modernden Stämmen zwischen Bibundi und Bomana, bei Etome und Ekundu N'dene (DUSÉN).

Species *E. glauculo* Broth. ex ins. S. Thomé valde affinis, sed ramis arcuatis, foliis falcatis, piliformi-attenuatis facilliter dignoscenda.

E. (Vesicularia) sarcoblastum Broth. n. sp.

Syn. *Hypnum (Vesicularia) sarcoblastum* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus laxiusculis, glauco-viridibus, aetate sordide lutescenti-viridibus, nitidiusculis; caulis elongatus, repens, vage ramosus, ramis repentibus, elongatis, flexuosis, eleganter dense pinnatim ramulosis, ramulis complanatis, brevibus, vix ultra 5 mm longis, aequilongis, strictis, patulis, dense foliosis, obtusis; folia caulina horride patentia, ovata, anguste acuminata, marginibus erectis, integerrimis, summo apice tantum cellulis paulisper protuberantibus tenuissime serrulatis, enervia, cellulis laxissimis, ovali-hexagonis, ramulina eisdem

caulinis similia, sed multo brevius acuminata; bractae perichaetii e basi vaginante sensim subulato-attenuatae, integerrimae, cellulis longioribus et angustioribus; seta 15—20 mm alta, sicca flexuosa, tenuis, pallide rubra, laevissima; theca subnutans, ovalis, fusca, laevis. Caetera ignota.

Kamerun: an modernden Stämmen bei Ekundu N'dene (Dusén).

Species cum *E. tenaci-inserto* (C.-Müll.) et *E. hapalypetro* (C.-Müll.) comparanda, sed foliis madore horride patentibus nec falcatis jam diversa. Ab *E. glauculo* Broth. statura multo minore nec non foliorum structura jam recedit.

E. (Vesicularia) subsarcoblastum Broth. n. sp.

Syn. *Hypnum (Vesicularia) subsarcoblastum* C.-Müll. in sched.

A specie praecedente quam maxime affini statura robustiore, ramulis longioribus et foliis difficillime emollitis differt.

Kamerun: an Steinen in Bächen bei Barombi-ba-Mbu 320 m (Dusén n. 826) und bei Ekundu an Steinen (Dusén). Mit Früchten.

E. (Vesicularia) perpallidum Broth. n. sp.

Syn. *Hypnum (Vesicularia) perpallidum* C.-Müll. in sched.

Autoicum; robustiusculum, caespitosum, caespitibus rigidiusculis, laxis, laete viridibus, aetate lutescentibus, nitidiusculis; caulis elongatus, dense foliosus, pinnatim ramosus, ramis patulis, usque ad 4 cm longis, valde complanatis, dense foliosis, strictis, obtusis; folia caulina disticha, sicca horride imbricata, humida patula, late ovata, breviter acuminata, marginibus erectis, integerrimis, enervia, cellulis oblongo-hexagonis, ramea ovato-ovalia, breviter acuminata, integerrima. Caetera ignota.

Kamerun: an nassen Felsen des N'dian Flusses bei der Factori N'dian (Dusén n. 707).

Species distinctissima, ab *E. sarcoblasto* affini statura multo robustiore, rigidior, ramis valde complanatis, foliis siccis horride imbricatis, humidis valde patulis, latis, breviter acuminatis facillime dignoscenda.

E. (Vesicularia) longo-fluitans Broth. n. sp.

Syn. *Hypnum (Vesicularia) longo-fluitans* C.-Müll. in sched.

Gracile, amoene viride, haud nitidum; caulis tenuis, longissimus, flexuosus, laxè foliosus, hic illic pinnatim ramosus, ramis remotis, 4 cm longis vel breviores, complanati, curvatuli, densiuscule foliosi; folia caulina flaccida, sicca constricta, humida horride patula, lata ovata, anguste acuminata, marginibus erectis, integerrimis, enervia, cellulis oblongo-hexagonis, ramea eisdem caulinis similia, sed brevius acuminata. Caetera ignota.

Kamerun: an nassen Basaltfelsen bei Batoki (Dusén n. 494).

Species valde peculiaris, ab omnibus congeneribus caule longissimo jam primo intuitu cognoscenda, cum *E. sarcoblasto* comparanda.

E. (Vesicularia) sigmangium Broth. n. sp.; autoicum; caespitosum, caespitibus densiusculis, late extensis, depressis, amoene viridibus, aetate lutescentibus nitidiusculis; caulis elongatus, repens, vage ramosus,

ramis elongatis, repentibus, flexuosis, eleganter dense pinnatim ramulosis, ramulis complanatis, brevibus, vix ultra 5 mm longis, aequilongis, patulis, arcuatulis, dense foliosis; folia caulina flaccida, sicca contracta, falcata, e basi ovata in subulam piliformem, flexuosam sensim attenuata, marginibus erectis, integerrimis, summo apice cellulis marginalibus pellucidis, minoribus, paulisper protuberantibus veluti tenuissime serrulatis, enervia, cellulis oblongo-hexagonis, ramulina eisdem caulinis similia, sed brevius acuminata, distinctius serrulata; bracteae perichaetii e basi ovata sensim in subulam longissimam, subintegerrimam attenuatae, angustius areolatae; seta ad 2,5 cm usque alta, sicca flexuosula, tenuis, rubra, laevissima; theca nutans, ovalis, sicca sub ore valde constricta, fusca, tuberculosa; operculum conico-cupulatum, apiculatum.

Kamerun: an Baumwurzeln bei Bibundi und an modernden Stämmen bei Ndian und Ekundu N'dene (DUSÉN).

Species *E. tenaci-inserto* (C.-Müll.) valde affinis, sed foliis falcatis dignoscenda.

E. (Vesicularia) oreadelphum Broth. n. sp.

Syn. *Hypnum (Vesicularia) oreadelphum* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus densis, late extensis, mollibus, pallide viridibus, aetate albescentibus vel lutescentibus, nitidiusculis; caulis elongatus, repens, flexuosus, vage ramosus, ramis repentibus, pinnatim ramulosis, ramulis adscendentibus, parce complanatis, paulum ultra 5 mm longis, densiuscule foliosis; folia caulina flaccida, sicca valde contracta, humida patentia, subsecunda, e basi oblongo-ovata in subulam piliformem, minutissime denticulatam attenuata, nervis binis, brevibus vel nullis, cellulis elongate rhomboideo-hexagonis, ramulina eisdem caulinis similia, sed brevius acuminata, apice argutius denticulata; bracteae perichaetii e basi vaginante sensim longissime attenuatae, apice minute denticulatae, cellulis multo longioribus; seta 4,5 cm alta, sicca flexuosula, tenuis, rubra, laevissima; theca nutans, ovalis, sicca sub ore constricta, fusca; peristomium duplex; exostomii dentes rufuli, apice hyalini et scabridi, dense et altelamellati; endostomium luteum, processus profunde carinati, angustissime perforati, papilloso; cilia bina vel terna, bene evoluta, hyalina, papillosa; operculum cupulato-conicum, brevissime apiculatum.

Kamerun: an Baumwurzeln bei Bibundi (DUSÉN n. 255, JUNGNER n. 236 p. p.) Makundange und an modernden Baumstämmen oberhalb Buea c. 4500 m (DUSÉN).

var. *sulphureo-flavum* Broth. n. var.

Syn. *Hypnum (Vesicularia) sulphureo-flavum* C.-Müll. in sched.

Flavidum, ramulis gracilioribus, remotioribus, laxius foliosis.

Kamerun: an Steinen bei Buea und an modernden Stämmen bei Basse (DUSÉN).

Leucomium Mitt.**L. perglaucum** Broth. n. sp.*Hypnum* (*Leucomium*) *perglaucum* C.-Müll. in sched.

Autoicum; caespitibus densis vel laxioribus, depressis, glauco-viridibus, nitidiusculis; caulis repens, laxè pinnatim ramosus, ramis brevibus, complanatis, densiuscule foliosis, obtusis; folia sicca vix mutata, media ovato-lanceolata, piliformi-acuminata, lateralia oblongo-elliptica, piliformi-acuminata, omnia marginibus integerrimis, enervia, cellulis laxè rhomboideis; seta 8—13 mm alta, flexuosula, tenuissima, rubra, summo apice parce scaberula; theca nutans, ovalis, estrumosa, sicca sub ore haud vel vix constricta, atro-purpurea; peristomium ut in *L. strumoso*; operculum longe rostratum; calyptra glabra.

Kamerun: an Steinen bei S. Isabel (DUSÉN n. 93) und bei Bibundi (JUNGNER), auf faulendem Holz bei N'dian (DUSÉN).

Sematophyllaceae.**Rhaphidostegium** Schimp.**Rh. Dicnemonella** Broth. n. sp.*Hypnum* (*Aptychus*) *Dicnemonella* C.-Müll. in sched.

Autoicum; caespitosum, caespitibus densiusculis, sordide fusciscenti-viridibus, nitidiusculis; caulis repens, vage ramosus, ramis elongatis, assurgentibus, dense foliosis, pinnatim ramulosis, ramulis teretibus, brevibus, suberectis, homomallophyllis; folia erecto-patentia, apice recurvo, concava, ovalia, breviter acuminata, marginibus recurvis, integerrimis, enervia, cellulis anguste ellipticis, apicalibus brevioribus, basilaribus infimis aureis, alaribus 6—8 ventricosis, aureis, omnibus laevissimis; bracteae perichaetii erectae, oblongo-lanceolatae; seta 1 cm vel paulum ultra alta, tenuis, flexuosula, rubra, laevissima; theca erecta, minuta, gibboso-ovalis, sicca deoperculata sub ore paulum constricta, fusca, laevis; peristomium ut in *Rh. circinali*; operculum longe rostratum.

Kamerun: an Steinen bei Batoki (DUSÉN n. 112) und an Baumzweigen bei Bibundi, Cap Delumscha (JUNGNER).

Species *Rh. circinali* (Hamp.) affinissima, sed foliis angustius areolatis dignoscenda.

Rh. Sauloma Broth. n. sp.*Hypnum* (*Aptychus*) *Sauloma* C.-Müll. in sched.

Species *Rh. Dicnemonellae* valde affinis, sed statura graciliore, ramulis complanatis, foliis horride patentibus, minime secundis nec non seta tenuissima, breviorè dignoscenda.

Westafrika: Liberia, an Steinen bei Monrovia (DUSÉN n. 87).

Rh. subcurvulum Broth. n. sp.*Hypnum* (*Aptychus*) *subcurvulum* C.-Müll. in sched.

Species *Rh. Dicnemonellae* affinis, sed rigiditate, caule densissime

pinnatim ramuloso, ramulis strictis, erectis, turgide julaceis, foliis densissime confertis, siccis arcte imbricatis dignoscenda.

Kamerun: Barombi-ba-Mbu an Baumstämmen (DUSÉN n. 762).

Rh. fluminale Broth. n. sp.

Syn. *Hypnum* (*Aptychus*) *fluminale* C.-Müll. in sched.

Autoicum; robustum, caespitosum, caespitibus densis, latissimis, sordide fusco-viridibus, nitidiusculis; caulis repens, ramosus, ramis assurgentibus, pinnatim ramulosis, ramulis 4 cm vel paulum ultra longis, complanatulis, densiuscule foliosis, haud homalophyllis, simplicibus; folia erecto-patentia, cochleariformi-concava, oblongo-ovata, breviter acuminata, marginibus late revolutis, apice erectis, integerrimis, enervia vel brevissime binervia, cellulis anguste ellipticis, apicalibus brevioribus, basilaribus infimis aureis, alaribus 6, aureis, magnis, rectangularibus, vesiculosis, supra-alaribus paucis, multo minoribus, subquadratis, hyalinis, omnibus laevissimis; bractee perichaetii erectae, lanceolatae, acuminatae, integerrimae, marginibus revolutis; seta 4 cm alta, strictiuscula, tenuis, rubra, laevissima; theca cernua, gibboso-oblonga, brevis, arcuatula, sub ore parce constricta, fuscidula; peristomium et operculum ut in *Rh. sphaerotheca*.

Kamerun: an Steinen in Bächen bei Lifenja, an Baumästen bei N'dian und an Steinen in Bächen bei Jumbo im Rumpigebirge (DUSÉN).

A *Rh. sphaerotheca* (C.-Müll.) valde affini statura robustiore, areolatione angustiore, cellulis alaribus majoribus et thecae forma recedit.

Rh. chrysotis Broth. n. sp.

Syn. *Hypnum* (*Aptychus*) *chrysotis* C.-Müll. in sched.

Autoicum; robustum, caespitosum, caespitibus densis, parvis, pallide viridibus, apice lutescentibus, nitidiusculis; caulis repens, dense ramosus, ramis assurgentibus vel erectis, 2 cm altis, teretibus, crassis, homalophyllis, apice curvatulis, acutiusculis, simplicibus; folia dense conferta, erecto-patentia, cochleariformi-concava, calceiformi-ovata, subito breviter acuminata, marginibus erectis, integerrimis, nervis binis, brevibus, aureis, cellulis linearibus, apicalibus paulum brevioribus, basilaribus infimis aureis, alaribus 6, aureis, magnis, rectangularibus, vesiculosis, cum supra-alaribus pluribus, laxis, subquadratis, pulchre aureis auriculam efformantibus, omnibus laevissimis; bractee perichaetii erectae, minutae, ovato-lanceolatae, cellulis basilaribus aureis; seta 2 cm alta, tenuissima, rubra, laevissima; theca minuta, suberecta, ovata, fusca; peristomium et operculum ut in *Rh. sphaerotheca*.

Kamerun: an Steinen in Bächen bei Bomana im Gebirge c. 670 m (DUSÉN n. 49).

Species distinctissima, ramis teretibus, homalophyllis, apice arcuatulis, acutiusculis, foliorum forma et structura nec non seta elongata a praecedente facillime dignoscenda, cum *Rh. Catillo* (C.-Müll.) comparanda.

Rh. glutinosum Broth. n. sp.

Syn. *Hypnum* (*Aptychus*) *glutinosum* C.-Müll. in sched.

Autoicum; gracile, caespitosum, caespitibus densis, laete viridibus, nitidis; caulis longe repens, dense ramosus, ramis erectis, 7—12 mm altis, laxiuscule foliosis, strictis vel curvatulis, obtusis; folia patula, concava, elliptica, acuta, marginibus late revolutis, integerrimis, enervia, cellulis anguste ellipticis, apicalibus brevioribus et latioribus, basilaribus infimis aureis, alaribus quaternis, minutis, vesiculosus, aureis vel hyalinis, supraalaribus paucis, minutis, omnibus laevissimis; bracteae perichaetii minutae, erectae, ovato-lanceolatae, integerrimae, basi laxe areolatae; seta 4 cm alta, lutescenti-rubra, sicca flexuosula, tenuissima, laevissima; theca suberecta, minuta, asymmetrica, ovata, sicca deoperculata sub ore haud constricta, pallida; peristomium duplex; exostomii dentes, c. 0,3 mm longi et c. 0,06 mm lati, lutei, apice hyalini, scabridi, densissime et alte lamellati; endostomium sordide flavidum, papillosum, processus carinati, angustissime perforati; cilia 0; spori 0,020—0,025 mm, laete virides, laeves; operculum e basi conica rostratum, rostro longo, luteo, curvatulo.

Kamerun: an Luftwurzeln von *Pandanus candelabrum* bei Bibundi, Ondje und Masakke (DUSÉN).

Species *Rh. fluminali* affinis, sed statura multo graciliore, foliorum forma, cellulis alaribus minutis aliisque notis optime diversa.

Rh. rivuletorum Broth. n. sp.

Syn. *Hypnum* (*Aptychus*) *rivuletorum* C.-Müll. n. sp. in sched.

Autoicum; gracile, caespitosum, caespitibus densiusculis, plus minusve extensis, laete viridibus, nitidis; caulis repens, dense ramosus, ramis erectis, brevibus, 5—7 mm altis, laxiuscule foliosis, strictis, obtusis; folia patula, concava, elliptica, subito longiuscule acuminata, marginibus paulum recurvis, integerrimis, enervia, cellulis anguste ellipticis, basilaribus infimis aureis, alaribus quaternis, magnis, vesiculosus, aureis vel hyalinis, supraalaribus paucis, hyalinis, omnibus laevissimis; bracteae perichaetii minutae, erectae, ovato-lanceolatae, longiuscule acuminatae, integerrimae, basi laxe areolatae; seta 4,5 cm alta, flexuosula, tenuissima, rubra, laevissima; theca horizontalis, minuta, asymmetrica, ovata, sicca deoperculata sub ore haud constricta, pallide rubra; operculum e basi conica rostratum, rostro longo, luteo, obliquo.

Kamerun: an Steinen in Bächen bei Buea und an überrieselten Felsen bei Etome im Gebirge c. 400 m (DUSÉN).

Species *Rh. glutinoso* similis, sed statura graciliore, foliis subito longiuscule acuminatis, seta longiore et theca horizontali dignoscenda.

Rh. brachytheciiforme Broth. n. sp.; autoicum; caespitosum, caespitibus densiusculis, lutescentibus, nitidis; caulis repens, ramosus, ramis teretibus, densiuscule foliosis, brevibus, simplicibus vel longioribus,

pauce ramulosis; folia sicca imbricata, humida erecto-patentia, concava, elliptica vel oblongo-elliptica, anguste acuminata, marginibus erectis, integerrimis, enervia, cellulis elongatis, angustissimis, basilaribus infimis aureis, alaribus quaternis, majusculis, vesiculosus, aureis, supraalaribus paucis, minutis, omnibus laevissimis. Caetera ignota.

Kamerun: an Felsen bei N'dian in der Nähe des Flusses (DUSÉN n. 708).

Species *Rh. Duisaboani* (Mont.) simillima, sed foliis anguste acuminatis, cellulis ubique angustissimis dignoscenda.

Rh. pseudo-brachythecium Broth. n. sp.

Syn. *Hypnum* (*Heterophyllum*) *pseudo-brachythecium* C.-Müll. in sched.

Dioicum; gracile, caespitosum, caespitibus densissimis, latissime extensis, pallide viridibus, aetate albescentibus, sericeis; caulis repens, flexuosus, pinnatim ramosus, ramis suberectis, homomallophyllis, brevibus, simplicibus vel longioribus, pinnatim ramulosis; folia dense conferta, erecto-patentia, concaviuscula, ovato-lanceolata, longe et anguste acuminata, marginibus recurvis, summo apice minutissime denticulatis, enervia, cellulis elongatis, angustissimis, basilaribus infimis aureis, alaribus 3—4, magnis, vesiculosus, aureis, supraalaribus paucis, minutis, hyalinis, omnibus laevissimis; bracteae perichaetii erectae, intimae e basi breviter oblonga subito longe attenuatae, integrae, basi laxius areolatae; seta 2 cm alta, sicca flexuosula, tenuissima, pallide rubra, laevissima; theca nutans, minuta, ovata, sicca sub ore constricta, fusca; operculum longe rostratum.

Kamerun: auf faulendem Holz bei Ekundu N'dene (DUSÉN).

Species a congeneribus africanis diversissima, habitu *Brachytheciis* nonnullis, ex. gr. *Br. erythrorrhizoni* similis.

Rh. nivescens Broth. n. sp.

Syn. *Taxicaulis nivescens* C.-Müll. n. sp. in sched. pro parte.

Species *Rh. pseudo-brachythecio* affinis, sed mollitie, ramis multo longioribus nec non foliis cellulis alaribus minutis, interdum vix conspicuis dignoscenda.

Kamerun: an Stämmen von *Elaeis guineensis* (DUSÉN, JUNGNER), bei Ekundu N'dene an Baumstämmen (DUSÉN). Steril.

Rh. brevihorridum Broth. n. sp.

Syn. *Hypnum* (*Heterophyllum*) *brevihorridum* C.-Müll. in sched.

Dioicum; gracile, caespitosum, caespitibus densissimis, latissime extensis, caulibus valde intertextis, albescenti-viridibus, nitidiusculis; caulis longe arcuato-repens, dense pinnatim ramosus, ramis complanatis, brevibus, simplicibus, strictiusculis vel longioribus, arcuatulis, bipinnatim ramulosis; folia dense conferta, distichacea, patula, concaviuscula, ovato-lanceolata, longe et anguste acuminata, marginibus recurvis, summo apice minutissime denticulatis, enervia, cellulis elongatis, angustissimis, basi-

laribus infimis aureis, alaribus 3—4, magnis, vesiculosus, aureis vel fusco-aureis, supraalaribus paucis minutis, hyalinis, omnibus laevissimis; bracteae perichaetii erectae, intimae e basi oblonga subito longe attenuatae, integrae, basi laxius areolatae; seta 2 cm alta, sicca flexuosula, tenuissima, pallide rubra, laevissima; theca pendula, breviter oblonga, sicca sub ore haud constricta; peristomium duplex; exostomii dentes c. 0,37 mm longi et c. 0,38 mm lati, lutei, densissime lamellati, apice hyalini, scabridi; endostomium luteum, papillosum, processus profunde carinati, angustissime perforati; cilia bina, bene evoluta, lutea, papillosa; operculum e basi conica rostratum, rostro longiusculo, curvato.

Kamerun: auf faulendem Holz bei Mofokko (DUSÉN n. 442), und N'dian (n. 4047), bei Love (Batangaland) an Baumwurzeln (n. 694) und bei Ekundu N'dene an Baumwurzeln (n. 922).

Species *Rh. pseudo-brachythecio* affinis, sed statura minore, ramulis multo brevioribus, complanatis, foliis distichaceis, patulis nec homomallis et theca oblonga, pendula optime diversa.

Trichosteleum Mitt.

T. Staudtii Broth. n. sp.; autoicum; caespitosum, caespitibus densiusculis, late expansis, depressis, pallide viridibus, nitidiusculis; caulis elongatus, repens, fusco-radiculosus, vage ramosus, ramis repentibus, dense pinnatim ramulosis, ramulis complanatis, vix ultra 5 mm longis, arcuatulis, dense foliosis, obtusis; folia disticha, humida patula, concava, e basi constricto oblongo-lanceolata, longe acuminata, marginibus erectis, superne denticulatis, enervia, cellulis linearibus, papilla media unica dorso maxime prominente praeditis, basilaribus aureis, alaribus ternis, oblongis, magnis, fusco-aureis; bracteae perichaetii internae erectae, lanceolatae, longe et anguste acuminatae, apice denticulatae, cellulis laevibus; seta 10 mm alta, erecta, tenuissima, rubra, laevis; theca pendula, minutissima, urceolata, basi strangulata, atro-fusca, tuberculosa; operculum conicum, rostratum, rostro theca longiore, obliquo, acuto.

Kamerun: Lolodorf, Berg Mbanga, an faulenden Baumstämmen (STAUDT n. 278).

Species *T. diceranelloidi* Broth. proxima, sed statura robustiore, ramulis obtusis, foliis siccis patentibus nec adpressis, scaberrimis optime diversa.

T. (Thelidium) perhamosum Broth. n. sp.

Syn. *Hypnum* (*Sigmatella*-*Thelidium*) *perhamosum* C.-Müll. in sched.

Species inter *Tr. borbonicum* (Bel.) et *Tr. hamatum* (Doz. Molk.) locum intermedium tenens, ab hoc seta apice tantum scabra, ab illo foliis longius acuminatis, falcatis nec non theca majore, oblongo-cylindrica distinguenda.

Kamerun: an faulenden Stämmen bei Ekundu N'dene, bei Etome und zwischen Bomana und Bibundi c. 300 m (DUSÉN).

Pterogoniella Schimp.

P. chloroclada Broth. n. sp.

Sauloma chloroclada C.-Müll. in sched.

Autoica; robustiuscula, caespitosa, caespitibus densis, viridibus, nitidiusculis; caulis repens, pinnatim ramosus, ramis teretibus, brevibus, simplicibus vel longioribus, parce ramulosis; folia dense conferta, sicca imbricata, parce homomalla, humida erecto-patentia, concava, ovata vel oblongo-ovata, breviter acuminata, marginibus revolutis, integerrimis, enervia, cellulis anguste ellipticis, apicalibus brevioribus, alaribus c. 6, vesiculosus, aureis, omnibus laevissimis; bractae perichaetii erectae, intimae lanceolatae; seta 6 mm alta, purpurea, laevissima; theca erecta, minuta, oblonga, microstoma, recta vel curvatula, fusca; peristomium simplex; exostomii dentes c. 0,3 mm longi et c. 0,05 mm lati, dense lamellati, linea media tenuissima notati, albi, grosse papilloso; spori 0,035—0,030 mm, virides, papilloso; operculum e basi alte conica tenuiter rostratum; calyptra albida, apice fuscidula, scabriuscula.

Kamerun: an Baumstämmen bei Bibundi (DUSEN n. 404).

Acanthocladium Mitt.

A. Jungneri Broth. n. sp.; autoicum; caespitosum, caespitibus densis, lutescentibus, nitidiusculis; caulis elongatus, repens, flexuosus, fusco-radiculosus, dense foliosus, bipinnatim ramosus, ramis patentissimis, arcuatulis, complanatis, dense foliosis, ramulis brevissimis, in ramis apicem versus dispositis subnullis; folia caulina concaviuscula, erecto-patentia, ovata, anguste acuminata, marginibus suberectis, superne serrulatis, enervia, cellulis angustissimis, marginalibus latioribus, limbum indistinctum, uniseriatum efformantibus, basilaribus brevioribus, alaribus magnis, vesiculosus, hyalinis, omnibus laevibus, ramea minora, angustiora, argutius serrulata; bractae perichaetii suberectae, internae subulato-acuminatae, integrae, laxius areolatae; seta 3—4 cm alta, flexuosa, rubra, tenuis, laevissima; theca horizontalis, ovalis, pallide fusca, laevis. Caetera ignota.

Kamerun: an Bäumen im Gebirge c. 1500 m (JUNGER n. 158).

Species distinctissima, *A. trichocoleoidi* C.-Müll. affinis, sed foliis superne serrulatis facillime jam dignoscenda.

A. rigidicaule Broth. n. sp.

Syn. *Hypnum* (*Heterophyllum*) *rigidicaule* C.-Müll. n. sp. in sched.

Dioicum; caespitosum, caespitibus densis, latissimis, viridissimis, nitidiusculis; caulis rigidus, elongatus, procumbens, ramosus, ramis elongatis, flexuosis, complanatis, cum foliis c. 2 mm latis, dense foliosis, pinnatim ramulosis, ramulis brevibus, vix ultra 4 cm longis, complanatis, patulis, strictis vel arcuatulis, dense foliosis, obtusis; folia erecto-patentia,

concava, e basi late oblonga breviter lanceolato-acuminata, marginibus basi recurvulis, superne serratis, enervia, cellulis elongatis, angustissimis, flexuosis, chlorophyllosis, alaribus magnis, vesiculosis, fusco-aureis, omnibus laevissimis. Caetera ignota.

Kamerun: an Baumstämmen bei Bomana c. 600 m (DUSÉN n. 794).

Habitu *A. extenuato* (Brid.) Mitt. sat simile, sed robustius.

Hypnaceae.

Hypnum Dill., Mitt.

H. (Rhynchostegium) *bello-intricatum* C.-Müll. n. sp. in sched., autoicum; caespitosum, caespitibus laxis, pallide viridibus, nitidis; caulis longe repens, radiculosus, dense pinnatim ramosus, ramis brevibus, patulis, haud complanatis, strictis, densiuscule foliosis, obtusis; folia sicca vix mutata, planiuscula, patentia, stricta, e basi contracta lanceolata, subpiliformi-acuminata, marginibus infima basi revolutis, dein erectis, fere e basi minute denticulatis, nervo simplici, supra medium evanido, cellulis elongatis, angustis, basilaribus brevibus, laxis, granulosis, omnibus laevissimis; bractae perichaetii internae vaginantes, apice reflexae, longe et anguste acuminatae, marginibus denticulatis, subnerves. Caetera ignota.

Kamerun: an Baumstämmen und an den Pallisaden der Dörfer Barrika (n. 688), Lifenja und Massaka im Rumpi-Gebirge (DUSÉN).

Ex affinitate *H. buluensis* Broth., sed ramis haud complanatis, foliis latioribus, subpiliformi-acuminatis, minutius serrulatis nec non laxius areolatis raptim dignoscendum.

H. (Rhynchostegium) *tenuivagum* C.-Müll. n. sp. in sched.; gracile, caespitosum, caespitibus laxiusculis vel densioribus, latissimis, viridibus, aetate fuscidulis, haud nitidis; caulis tenuis, longe repens, flexuosus, vage ramosus, ramis elongatis, subpinnatim ramulosis, ramulis 1—2 cm longis, arcuatulis, laxiuscule foliosis, plus minusve complanatis, obtusis; folia sicca contractula, humida patentia, planiuscula, caulina remota, ovata, acuta, marginibus erectis, superne minute denticulatis, nervo basi crasso, superne sensim angustiore, supra medium evanido, cellulis elongatis, angustis, basilaribus infimis laxis, omnibus laevissimis, ramulina oblongo-ovata, argute denticulata. Caetera ignota.

Kamerun: an Steinen und Felsen in den Erosionsthälern, zuweilen ganze Felsenwände bedeckend, aber nur steril. Etome (DUSÉN n. 480), Bomana c. 670 m (n. 49).

A congeneribus africanis foliorum forma faciliter dignoscendum.

H. (Rhynchostegium) *ruvenzorense* Broth. n. sp.; gracile, rigidum, caespitosum, caespitibus densiusculis, saturate viridibus, haud nitidis; caulis longe repens, flexuosus, vage ramosus, ramis subpinnatim ramulosis, ramulis brevibus, vix ultra 1 cm longis, arcuatulis, laxe foliosis, complanatulis, obtusis; folia scariosa, humida planiuscula, patula, caulina

remota, late ovata, acumine angusto, brevi, acuto, marginibus infima basi tantum paulum revolutis, ubique denticulatis; nervo basi crasso, superne sensim angustiore, longe ultra medium evanido, cellulis elongatis, angustis, basilaribus infimis laxis, omnibus laevissimis, ramulina oblongo-ovata, argute denticulata. Caetera ignota.

Seengebiet: Ru-Nssóro, in feuchten Wäldern c. 2400 m (SCOTT ELLIOTT n. 227 p. p.).

Species *H. tenuivago* affinis, sed rigiditate, foliis scariosis, latioribus, apice angustatis, acutissimis dignoscenda.

H. (Rhynchostegium) afro-rusciforme C.-Müll. n. sp. in sched.; habitu *H. rusciformi* simillimum, sed foliis obtusis, apiculatis, marginibus superne argutius serrulatis nec non nervo multo tenuiore faciliter dignoscendum.

Kamerun: Rumpi-Gebirge, an Steinen im Flusse Manadie bei Jumbo, c. 1100 m, massenhaft, aber nur steril (DUSEN n. 664).

H. (Rigodium) kilimandscharicum Broth. n. sp.; dioicum; pergracile, rigidiusculum, e viridi lutescens; caulis elongatus, arcuato-decumbens, vage ramosus, ramis erectis, brevioribus, superne fasciculatim ramulosis, ramulis gracillimis, arcuatulis, interdum flagelliformi-attenuatis, pinnatim ramulosis vel elongatis, apice radicanibus; folia stipitis squarrosa, latissime cordato-ovata, subito acuminata, acumine latiusculo, stricto, marginibus erectis, ubique crenulatis, nervo complanato, pallido, in acumine inconspicuo, cellulis anguste ellipticis, ad marginem brevioribus, laevissimis, ramulina minuta, erecto-potentia, caviuscula, breviter acuminata, marginibus basi late revolutis, nervo crassiore, cellulis omnibus abbreviatis; bractee perichaetii e basi longe vaginante reflexo-acuminatae, enerves, angustissime areolatae; seta usque ad 2 cm alta, flexuosula, rubra, laevissima; theca horizontalis, oblonga, laevis, pallide fusca; operculum e basi conica brevissime rostratum, acutum. Caetera ignota.

Kilimandscharo: Marangu, unterer Gürtelwald, an Bäumen 2000 m (VOLKENS n. 2349).

Species inter *Rigodia* gracillima.

***Palamocladium* C.-Müll.**

P. involvens Broth. n. sp.; dioicum; robustum, rigidum, caespitosum, caespitibus densis, lutescentibus, sericeis; caulis repens, vage ramosus, ramis elongatis, plus minusve arcuatis, attenuatis, dense foliosis, compressulis, dense pinnatim ramulosis, ramulis arcuatulis, attenuatis; folia scariosa, sicca leviter plicata, humida planiuscula, erecto-potentia, e basi cordata sensim breviter acuminata, marginibus infima basi paulum revolutis, ubique minutissime serrulatis, nervo tenui, ultra medium evanido, cellulis angustissime linearibus, alaribus parvis, numerosis, omnibus

laevissimis; bracteae perichaetii e basi erecta, oblonga breviter lori-formi-attenuatae, acumine recurvo, serrulato, enerves; seta ad 3 cm usque alta, flexuosula, crassiuscula, rubra, laevissima; theca erecta, membrana-cea, oblonga, c. 3 mm longa et c. 1 mm crassa, laevis, pallide fusca; operculum conicum, 4,5 mm altum, subrectum. Caetera ignota.

Kilimandscharo: im Wäldchen am Fuße des Kifinika-Vulkans 2800 m. Überzieht die Bäume in den Waldparcellen oberhalb des Gürtel-waldes, sehr häufig in dieser Lage, nur selten in Frucht gefunden (VOLKENS n. 1318).

Species pulcherrima, distinctissima, a *P. Bonplandii* (Hook.) statura multo robustiore jam recedens.

Lindigia Hampe.

L. africana Broth. n. sp.; autoica; gracilis, pallide viridis, nitidius-cula; caulis vage ramosus, ramis densiuscule foliosis, pinnatim ramulosis, ramulis brevibus, curvatulis, attenuatis; folia sicca contracta, humida planiuscula, horride patula, subcordato-lanceolata, anguste acuminata, acumine saepius semitorto, marginibus erectis, ubique serratis, nervo tenui, ad medium folii evanido, cellulis rhomboideis, superioribus elliptico-linearibus, omnibus laevissimis; bracteae perichaetii erectae, lanceo-latae, enerves; seta 2 mm alta, erecta, rubra, papillosa; theca minuta, obovato-oblonga, erecta vel horizontalis, leptodermis, pallida; peristomium duplex; exostomii dentes lanceolato-subulati, incurvati, dense et alte lamellati, rufescentes; endostomium sordide luteum; corona basilaris brevis; processus carinati, late perforati, dentibus aequilongi; oper-culum e basi umbonato brevissime rostratum, rostro curvato.

Seengebiet: Ru-Nssóro, Wimi, an Bäumen 2100—2400 m (SCOTT ELLIOTT n. 241).

Species *L. capillaceae* (Hornsch.) e *Brasilia* valde affinis.

Rhegmatodon Brid.

Rh. Newtoni Broth. n. sp.; autoicus; tenellus, caespitosus, cae-spitibus densis, fusco-viridibus, haud nitidis; caulis repens, dense ramosus, ramis erectis, usque ad 1 cm altis, flexuosis, apice saepe curvatulis, tere-tibus, dense foliosis, obtusis; folia ramea sicca imbricata, superiora parce homomalla, humida patula, inferiora minora, superiora sensim ma-jora, late oblongo-ovata, oblique acuta, 0,76—0,85 mm longa et 0,38—0,44 mm lata, marginibus inferne parce revolutis, integerrimis, nervo crassiusculo, ad vel paullum ultra medium producto, cellulis oblongis, ob-lique seriatis, utriculo s. d. primordiali valde constricto, alaribus bre-vioribus, marginalibus quadratis, omnibus laevissimis; bracteae peri-chaetii erectae, interne late lanceolato-acuminatae, integerrimae, nervo obsoleto, laxius reticulatae; seta 1 cm alta, crassiuscula, purpurea, lae-vissima; theca erecta vel subcernua, oblongo-cylindrica, c. 2 mm alta,

fusca, laevis; peristomium ut in *Rh. orthostegio*; spori 0,025—0,027 mm, olivacei, granulati. Caetera ignota.

Westafrika: Fernando Po, Pic Clarence 2000 m (FR. NEWTON).

A *Rh. orthostegio* Mont., habitu simili, foliis late oblongo-ovatis, acutis jam differt.

Pseudoleskea Br. eur.

P. dispersa C.-Müll. n. sp. in sched.; dioica; caespitosa, caespitibus densiusculis, latis, intricatis, fuscescentibus; caulis repens, vage ramosus, ramis inaequalibus, saepius plus minusve arcuatis, paraphyllis numerosis, minutis, densiuscule foliosis, subpinnatim ramulosis; folia ramea sicca laxe imbricata, humida patentia, superiora subsecunda, concava, breviter decurrentia, late cordato-ovata, breviter acuminata, inferne profunde plicata, marginibus basi subrevolutis, integerrimis, nervo lutescente, crassiusculo, superne angustiore, infra summum apicem evanido, cellulis pellucidis, ovali-hexagonis, basilaribus subquadratis, omnibus laevibus; ramulina minora, ovata, acuta. Caetera ignota.

Kamerun: oberhalb Buea, an Felsen und Baumstämmen, 2500 m (DUSÉN), »die Höhlen« c. 2300 m (JUNGNER n. 409).

Species *P. subfilamentosae* Kiaer affinis, sed statura robustiore, foliis margine indistincte revolutis, pellucidis, cellulis superioribus ovali-hexagonis, laevibus optime diversa.

P. abbreviata Broth. n. sp.; autoica; gracilis, caespitosa, caespitibus densis, fuscescenti-viridibus; caulis elongatus, repens, vage ramosus, ramis dense pinnatim ramulosis, ramulis teretibus, brevibus, vix ultra 5 mm longis, strictiusculis, dense foliosis, obtusis; folia sicca imbricata, humida patentia, caviuscula, caulina e basi cordato-ovata subito breviter acuminata, acutissima, marginibus e basi ultra medium revolutis, integerrimis, nervo crasso, lutescente, in acumine evanido, cellulis omnibus rotundatis, chlorophyllosis, minute papillosis, ramulina ovata, breviter acuminata; bractae perichaetii albae, erectae, e basi vaginante, oblonga breviter acuminatae, integrae. Caetera ignota.

Englisch Ostafrika: Shire Highlands, Sotchi (SCOTT ELLIOTT).

Species *P. subfilamentosae* affinis, sed ramis regulariter pinnatim ramulosis, ramulis perbrevibus jam dignoscenda.

Thuidium Br. eur.

Th. involvens (Hedw.) Mitt. var. *thomeanum* Broth., Bot. Soc. Brot. VIII p. 44.

Syn. *Th. petradelphum* C.-Müll. n. sp. in sched.

Kamerun: an Steinen und Baumwurzeln, gemein im südlichen Teile des Gebietes, Victoria, Mokundange, Basse, Batoki (DUSÉN). Mit Früchten.

Togo: Bismarckburg (BÜTTNER).

Th. gratum (P. B.) Jaeg. Sauerb.

Kamerun: an Steinen, Baumwurzeln und Stämmen im Küstengebiet gemein, Victoria, Ido, Bibundi, Mokundange (DUSÉN). Mit Früchten.

Diese Art ist von DUSÉN als *Th. micropteris* C.-Müll. verteilt, stimmt aber meiner Ansicht nach mit Exemplaren von *Th. gratum* aus Niger und Guinea genau überein.

Th. perbyssaceum C.-Müll. n. sp. in sched.; minutissimum, caespitosum, caespitibus densissimis, late extensis, viridissimis; caulis tenuis, elongatus, repens, hic illic radiculosus, divisionibus eleganter bipinnatis, pinnis vix ultra 5 mm longis, pinnulis perbrevibus, subaequalibus; folia caulina remota, patentia, e basi triangulari sensim acuminata, marginibus erectis, integris, nervo infra apicem evanido, cellulis pellucidis, angulato-ovalibus, minutissime papillois, ramulina minutissima, ovato-ovalia, obtusiuscula, cellulis subrotundis, grosse papillois; bracteae perichaetii minutae, e basi semivaginantae sensim anguste acuminatae, subintegrae, cellulis elongatis, angustis, laevibus; seta tenuis, 9—13 mm alta, rubra, ubique scaberrima; theca pendula, minuta, sicca deoperculata sub ore constricta; peristomium ciliis ternis, nodulosis, bene evolutis. Caetera ignota.

Kamerun: im Küstengebiet an mehreren Stellen an Steinen massenhaft, bei Bomana (670 m) und Buea (950 m) sehr selten (DUSÉN), Ekundu N'dene (n. 267) und Balombi-ba-Mbu (DUSÉN), Johann Albrechtshöhe (STAUDT n. 687).

Species a congeneribus africanis minutie jam recedit.

Th. pycnangiellum C.-Müll. n. sp. in sched.; dioicum; subrobustum, caespitosum, caespitibus laxis, latiusculis, viridibus, aetate lutescenti-viridibus, caulibus valde intertextis; caulis elongatus, reptans, pluries divisus, interrupte radiculis terrae adfixus et alternatim arcuatim assurgens, divisionibus dense et regulariter bipinnatis, pinnis c. 5 mm longis, arcuatulis, apicem versus decrescentibus, pinnulis brevibus, subaequalibus, simplicibus; folia caulina distantia, patentia, plicata, e basi late cordato-triangulari subito acuminata, marginibus basi recurvis, superne erectis, subintegris, nervo crasso, infra apicem evanido, cellulis pellucidis, angulato-ovalibus, minutissime papillois, ramulina minuta, distichacea, sicca laxo incurvo-imbricata, humida erecto-patentia, ovato-lanceolata, acuta, marginibus serrulatis, cellulis angulato-rotundatis, papillois; bracteae perichaetii erectae, externae minutae, ovato-lanceolatae, integrae, internae sensim longiores, plicatae, longissime loriiformi-acuminatae, ante acumen margine in fila longissima, articulata fissae, cellulis elongatis, angustis, laevibus; seta 1,5 cm alta, tenuis, rubra, laevissima; theca horizontalis, brevicollis, oblonga, sicca et evacuata infra orificium contracta, purpureo-fusca; peristomium duplex; exostomii dentes aurantiaci, apice hyalini, dense et alte lamellati; endostomium luteum, ciliis ternis, longis, nodulosis, hyalinis. Caetera ignota.

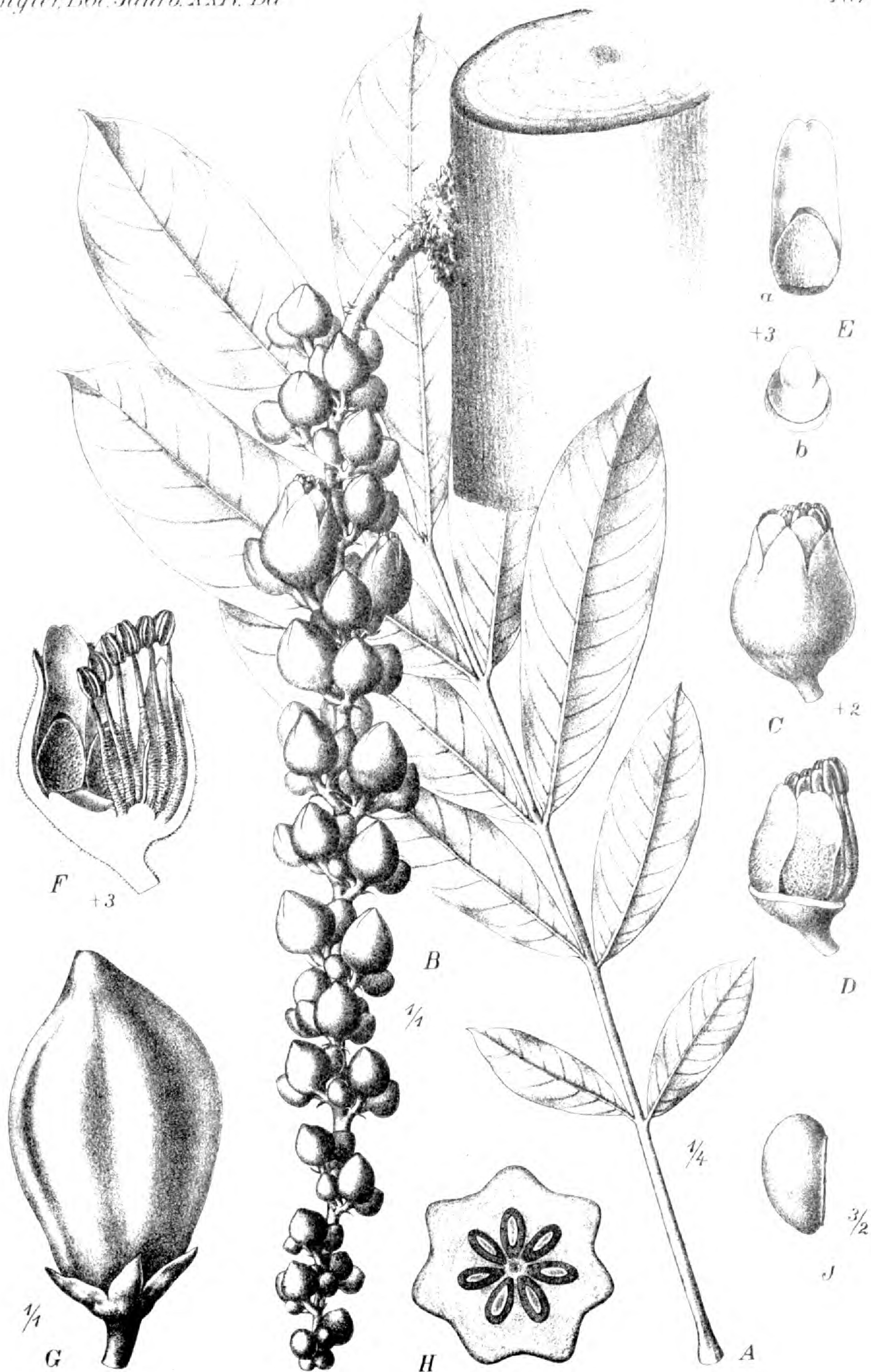
Kamerun: an Baumwurzeln, faulendem Holz und an Steinen bei Buea, c. 950 m, oberhalb Bomana c. 1000 m und im Rumpigebirge bei Jumbo c. 1100 m (DUSÉN n. 225).

Species distinctissima, habitu *Th. glaucino* (Mitt.) similis, sed seta gracili et theca minuta Thuidiis minutulis magis accedens.

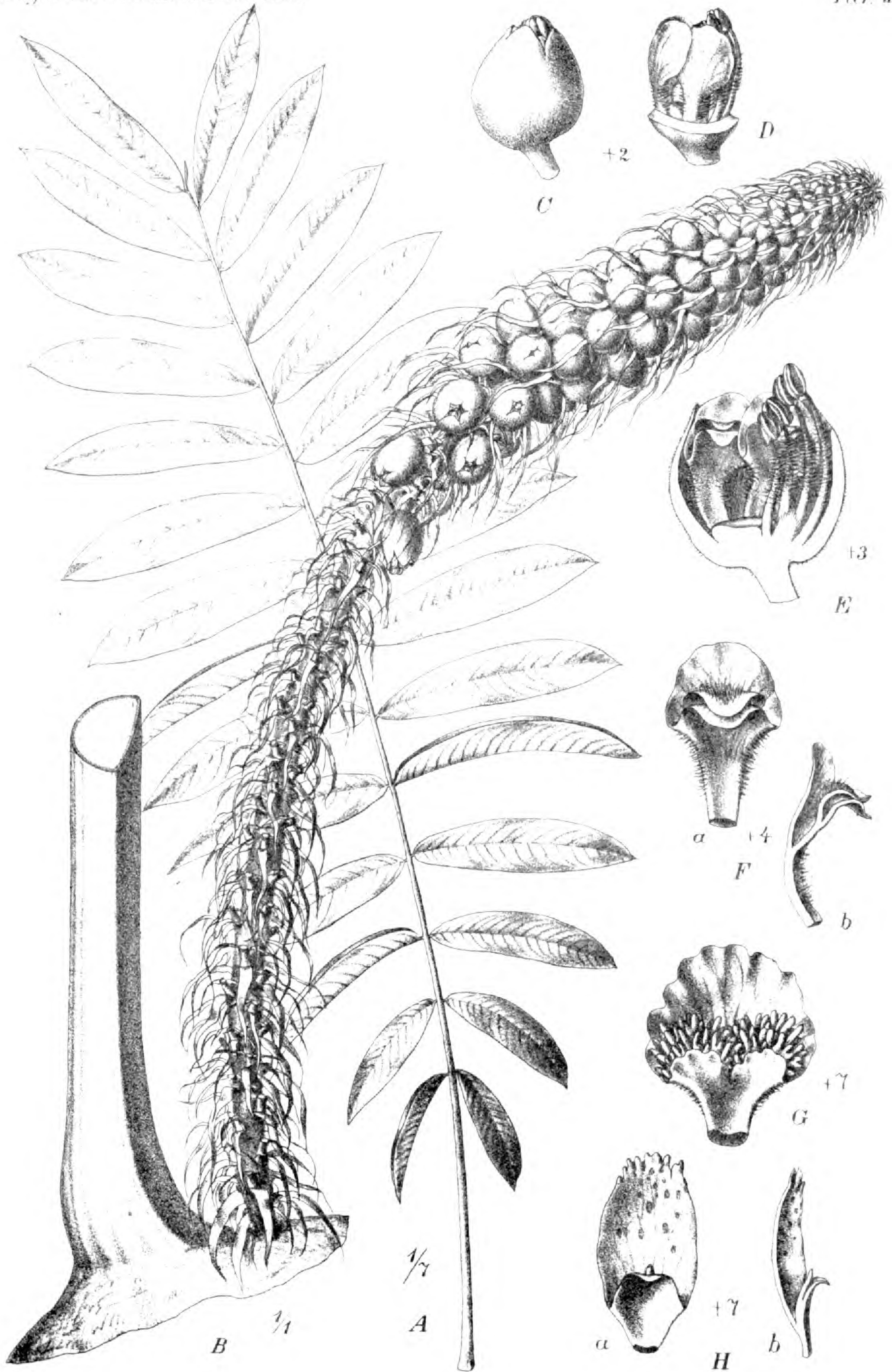
Th. afro-capillatum Broth. n. sp.; autoicum; gracile, caespitosum, caespitibus mollibus, densis, fuscescenti-viridibus; caulis elongatus, repens, vage ramosus, ramis pinnatim ramulosis, ramulis brevibus, dense foliosis, obtusis; folia caulina patula, e basi cordata lanceolato-acuminata, longissime aristata, biplicata, marginibus infima basi parce revolutis, superne argute serrulatis, nervo crassiusculo, lutescente, in aristam longissimam, curvatam producto, cellulis basilaribus subquadratis, internis breviter rectangularibus, superioribus elongatis, angustis, omnibus pellucidis, grosse papillois, ramulina anguste acuminata, nervo infra summum apicem evanido; bracteae perichaetii erectae, hyalinae, lanceolatae, subito in acumen elongatum, angustum attenuatae, integrae, cellulis angustis, laevissimis. Caetera ignota.

Seengebiet: Ru-Nssóro, Butagu valley (SCOTT ELLIOTT n. 253).

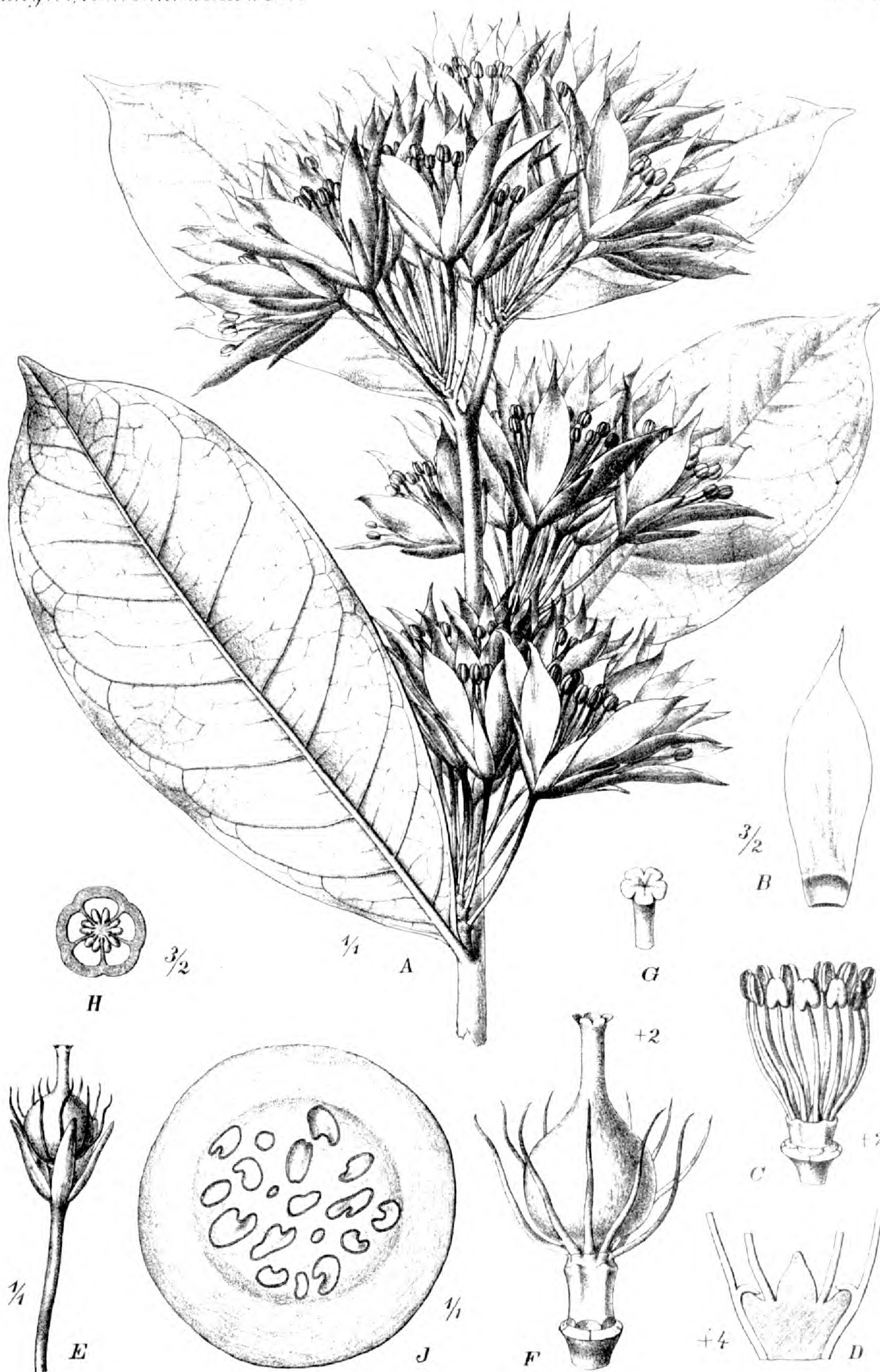
Species *Th. capillatae* (Mitt.) valde affinis, sed foliis argute serrulatis jam dignoscenda.



Glossolepis macrobotrys Gilg.



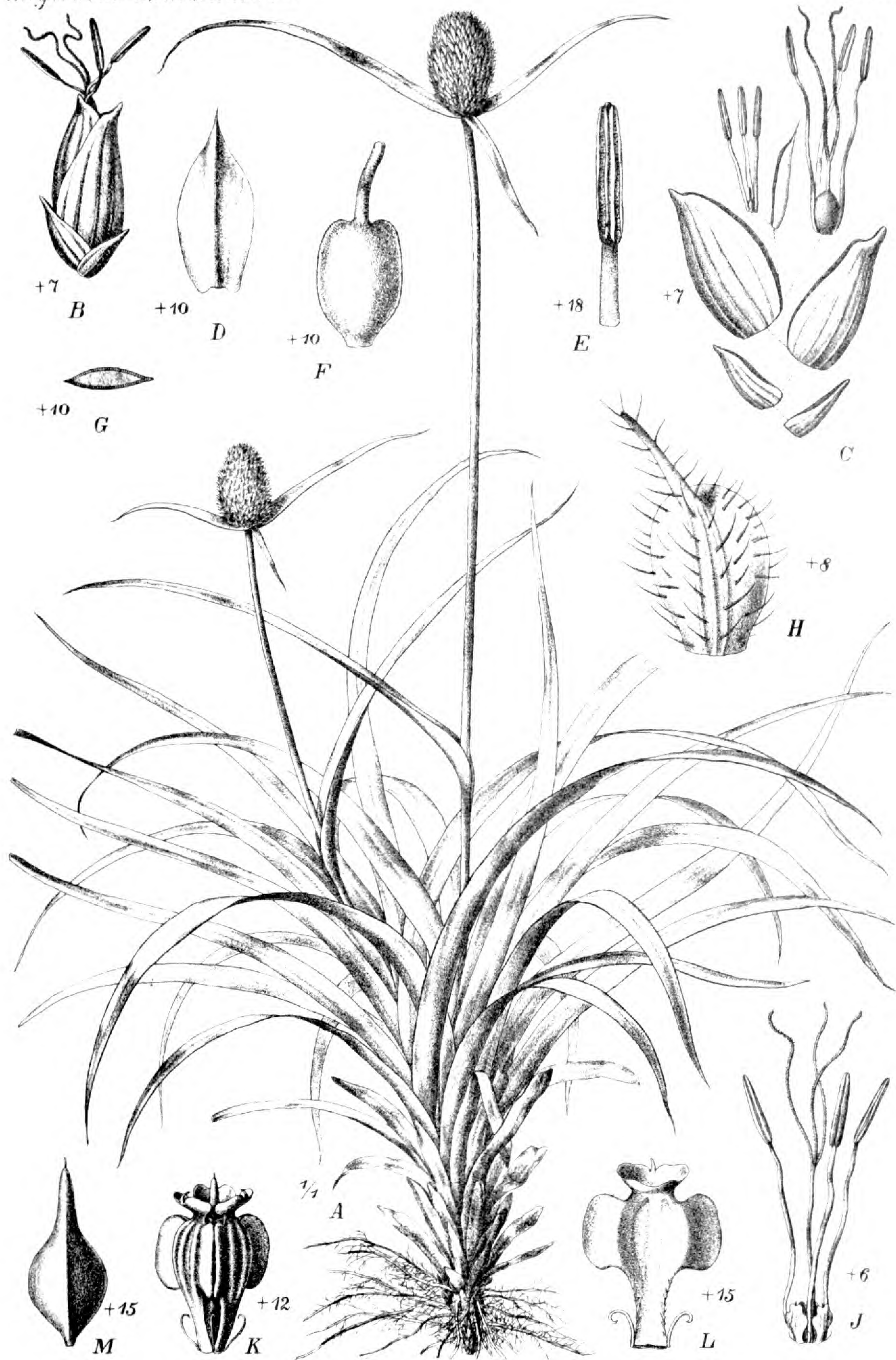
A-F *Radlkofera Calodendron* Gtg. G *Pancovia*
Harmisiana Gtg. H *P. macrophylla* Gtg.



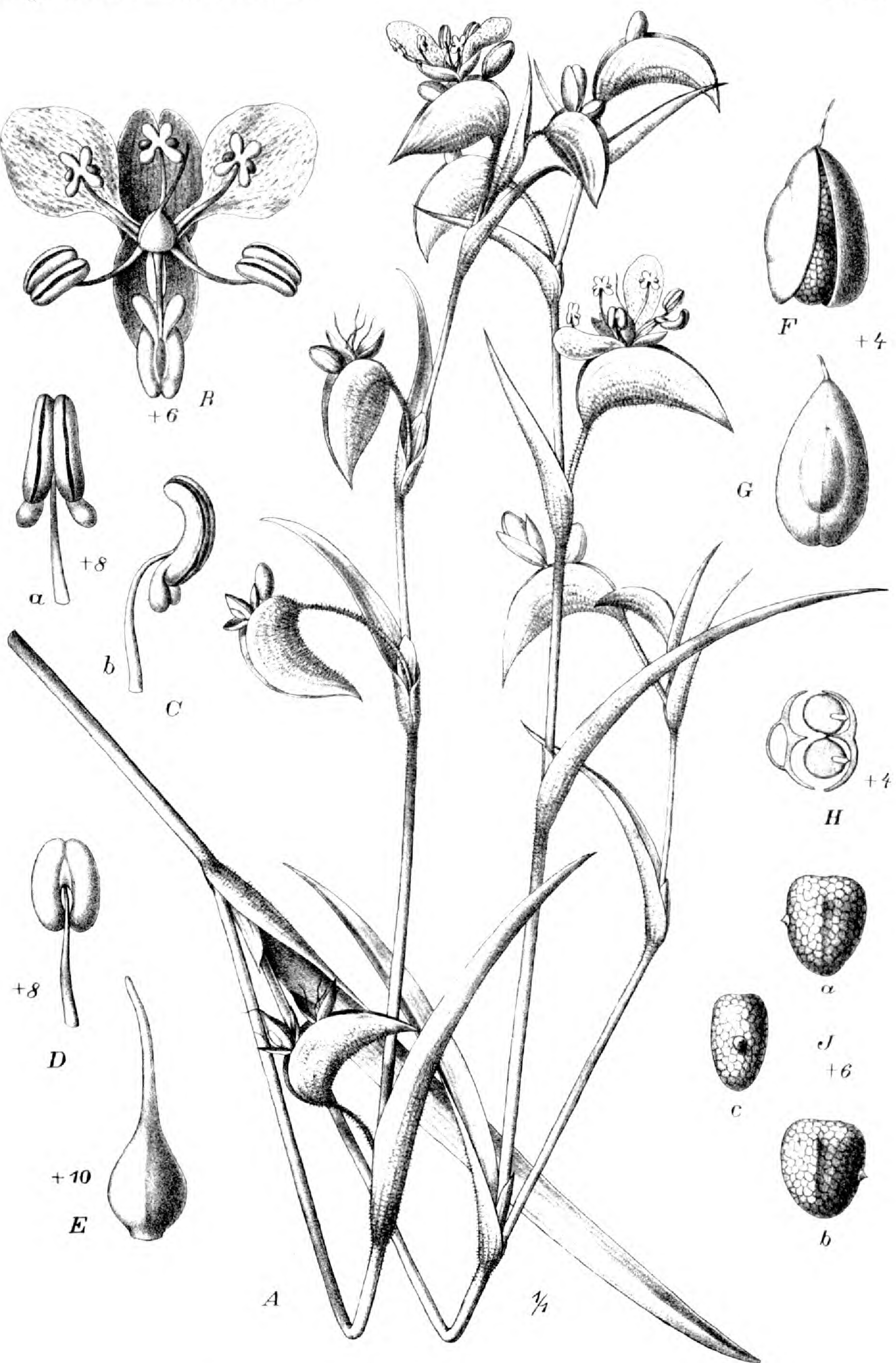
Cercopetalum dasyanthum Gilg.



Microbambus macrostachys K. Sch.



A.-G. *Kyllingia appendiculata* K. Sch. H.-M. *Fuirena calolepis* K. Sch.



Commelina Dammeriana K. Sch.

J. Pohl ad nat.lith

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