

Muscologia Intineris Assamici ; or a Description of Mosses collected during the Journey of the Assam Deputation, in the years 1835 and 1836. By W. GRIFFITH, Esq. Assist. Surgeon, Madras Estab.

(Continued from page 75, vol. iii.)

Daltonia, Hook et Tayl. Musc. Britt. 138 partim. Bridel Bryol Univ. 2. 255.

1. *Daltonia marginata*, Griff.

Foliis oblongo-anceolatis marginibus fibrosis, seta apicem versus scabrella, capsula cum apophyse obovata inclinata.

Hab : In arboribus in Pinetis Moflong.

Museus pusillus, elegans, Caules subsimplices apice innovantes, ascendentes, vix trilineates.

Folia racione plantæ magna siccatione tortilia, humore patentia vel ascendentia, acuminata, plicato-carinata, integerrima, marginibus fibrosis diaphanis incrassatis, vena crassiuscula infra apicem evanida donata; areolæ parvæ rotundatæ oblongæve.

F. Perichætialea pauca, subquina, minima, evenia, intergra, concava vel convoluto-concava, exteriora lanceolata, ovata, acuminata, marginata, interiora subrotunda, brevissime apiculata, obsolete marginata.

Seta axillaris, crassiuscula, sublinealis, rubro brunnea, apicem versus scabra et in apophysin brevem incrassata, cæterum pertotam longitudinem sublente fortiter augente minutissime scabrella.

Vaginula subcylindræa, arcta, rubro brunnea.

Paraphyses paucissimæ. Pistilla pauca longiuscule stipitata.

Antheræ quas semel solum vidi pluris 5-7 ovatæ, mediocriter stipitatæ, celluloso-areolatæ, brunneæ.

Capsula cum apophyse sicca ovata, madida obovata vel obovato, pyriformis, situ fere horizontalis, æqualis, exannulata, saturate rubro-brunnea, sublente modice augente areolis oblongis quadratisve reticulata.

Membrana interna leviter adnata, subsessilis.

Peristomium exterius lutescenti-albidum, capsulam ipsam sub-æquans, humore demum arcte reflexile, e dentibus 16, subulato setaceis, late trabeculatis, linea longitudinale obsolete notatis, punctulato-opacis scabrellisque.

Interius e ciliis totidem alternantibus paullo brevioribus, sub-erectis, binatim compositis, punctulato-opacis, scabrellis, basin versus sæpe obsolete et minutissime perforatis, et imâ basi unitis in membranam brevissimam dentium peristomii exterioris basibus arcte cohærentem.

Columella inclusa, breviter apiculata. Sporula in acervulo viridia, immersa globosa lævia, diaphana.

Operculum conico-subulatum, rostro acuto recto, capsulam cum apophyse sub-æquans, brunnescenti-aureum.

Calyptra mitræformis campanulato-conica, basi (demum) fissa, pilis simplicibus longis acutis pallide stramineis hyalinis fimbriata, obsolete (madida saltem) reticulata, basi lutescens rostro sanguineo brunneo vel atrato.

Character generis in Muscol. Britt. loc. cit erroneus, præsertim quoad *D. heteromallam*, quæcus species neckeræ cujus peristomii interioris membrana basilaris, quamvis brevis, facile demonstratur. Dubitare igitur licet de genere *Anomodon* ejusdem libelli.

PLEUROPUS, GRIFF.

Seta lateralis. Per: ext: e dentibus 16. Interius e membrana alta divisa in cilia totidem alternantia irregularia, obsolete carinata. Calyptra dimidiata. Musci arbosei repentes. Folia undique imbricata, acuminata, venatione varia. Flores monoici (an in omnibus) Capsula in species unica inæquilateralis.

Genus medium inter *Neckeram* et *Leskiam*, a priori apicem membrana basilari alta, a posteriori ciliis irregularibus obsolete carinatis distinguendum.

1. *Pleuropus densus*, Griff. t. xvii.

Folis lanceolatis acuminatissimis concavis integerrimis aveniis, capsula ovata, operculo brevirostro curvato.

Hab: In Pinetis Moflong.

Cæspilosus, luteo-nitens. Caules repentes, remossimi, ramis ascendentibus, sæpe fasciculatis, apicem versus pinnatim dispositis.

Folia siccatione adpressa, humore patentia dense imbricata, basi utrinque conspicue areolata cellulis magnis quadratis, areolis reliquis angustis. Flores monoici; masculi laterales sæpius setæ basi approximatae, gemmiformes. Fol. perigonia cordato-acuminata, integra, avena. Paraphyses nullæ Antheræ plures breviter stipitatae oblongo-ovatae apice coarctatae (an semper) areolatae.

F. Perichætialia ovato-oblonga, acuminatissima, recta avenea medum supra minute denticulata, basés versus laxè areolata.

Seta lateralis, rubro-sanguinea, fere uncialis, sicca tortilis flexuosaque.

Vaginula oblongo-conica, paraphysibus subexpers. Pistilla plura.

Capsula erecta, æqualis, rubro-brunnea, exannulata, exapophysata.

Peristomium exterius humore connivens; dentes 16 primo perparia cohærentes, cito discreti, plano subulati, solidi, creberrime trabeculati, lineâ longitudinale inconspicuâ, rigidi, opaciusculi, lutescentes.

Interior e membrana breviuscula areolata, solida, sedecies plicata, dentibus peristomii. Exterioris alternantibus exeuntibus in dentes totidem plicatocarinatos, irregulares, breves, solidos, obtusos, sinibus nudi vel denticulum gerentibus.

Columella cylindraceo-clavata, apiculata, inclusa.

Sporula majuscula, lævia, fusco brunnea, immersa opaciuscula.

Operculum e basi conica, breviter curvatemque rostratum.

Calyptra dimidiata lævis, apice atrata.

2. *Pleuropus fenestratus*, Griff. t. xviii.

Foliis e basi cordato lanceolata acuminissimis planis serrulatis mediatenus 1 veniis, capsula cylindraceo-ovata, peristomii interioris membrana fenestrata pertusa, operculo longirostro.

Hab: In arboribus Mumbree et Myrung.—Cæpitosus. Caules repentis, ramosi, ramis ascendentibus simplicibus sæpissime pluries ramosis, apicibus (saltem siccitate) incurvis. Folia undique imbricata, ascendenti-patentia, marginibus simplicibus basi subrecurvis, acumine semitorto magis serrulato, prædita vena tenui medium paullo supra evanida. Arcolæ oblongæ, angustissimæ conformes.

F. Perichætialia lanceolato-oblonga, concava, longe cuspidato-acuminata, acumine patenti recurvate denticulato, evenia vel interiora interdum obsolete 1 venia.

Seta axillaris, rubro-nitens, vix uncialis, sicca valde tortiesu.

Vaginula, mediocris.

Paraphyses plures filiformes, hyalinæ interdum copiosissimæ.

Pistilla plura.

Capsula erecta, æqualis, basi obsolete apophysata, annulata, rubro-brunnea.

Membrana interna distincta, sessilis.

Peristomium exterius e dentibus 16, plano-subulatis, medio-cribus fragilibus, rigidis linea longitudinali inconspicua notatis, trabeculis, conventibus humore, siccitate patentissimis.

Interius e membrana areolata altiuscula, membrana speciei precedentis duplo longiore, sedicies plicata, punctulata, irregulariter-perforata, plicis exeuntibus in ciliis setacea, fragillima, longitudine fere dentium p. exterioris, subcarinatis opacis, ciliolis brevibus interdum dentiformibus, persistentioribus, solitarius binisve intersectis.

Sporula globosa, lævia, immersa opaciuscula.

Columnella cylindræa, apiculata, inclusa operculum e basi conicâ longe et oblique rostratum, capsulam subæquans.

Calyptra dimidiata, lævis, cum operculo decedens.

Cilia p. interioris fugacia, sunt, cave ne cum his ciliola persistentiora confundas. An separandus ob membranam p. interioris perforatam, characterem insolitum, et cilia longa magis evoluta.

3. *Pleuopus pterogonioides*, Griff. t. xx.

Foliis ovatis valde concavis acuminatis integerrimis avenies, capsula cylindræa inclinata. peristomiorum dentibus cohærentibus.

Hab: In arboribus in Pinetis Moflong.

Caspiotus, aureo-nitens. Caulis repens, vage ramosus. Rami sæpius divisi, ascendentes apicibus præsertim siccitate incurvi.

Folia undique dense imbricata, patentia valde concava acuminata in apiculum breviusculum interdum semitortum, avenia, interdum basi obsolete bistreata marginibus subrecurvis integerrimis, Areolæ angustissimæ, basilares imæ utrinque laxæ quadratæ.

F. Perichætalia exteriora lanceolata, acuminata, interiora multo majora, acuminatissima, apicibus imis scabrellis diaphanis.

Seta unciam excedens, gracilis, apice incrassata, fusco-aurea, siccitate leviter tortilis. Vaginula elongata cylindræa.

Paraphyses copiosæ, filiformes, hyalinæ. Pistilla pauca.

Capsulæ cylindræa, sæpius inæqualis, grisea, inconspicue areolata.

Peristomium exterius e dentibus 16, subulatis, siccitate inflexilibus, humore erectiusculis albidis obtusis crebre trabeculatis, marginibus, diaphanis conspicuis, linea longitudinati inconspicua notatis.

Interius e membrana areolata, breviuscula, tenuissima, fragilissima, cellulis componentibus facillime solubilibus albida sedecies plicata, plicis exeuntibus in dentes carinatos solidos cum dentibus peristomii exterioris arcte cohærentibus subæquantibus, marginibus irregularibus, vel repandis vel grosse dentatis.

Collumella inclusa, apice truncata, valde dilatata.

Sporula.

Operculum calyptraque desiderata.

Habitus Pterogonii aurei, an affinis Neckeræ tenui Hooker Pterogonium Schwaegge?.

ANHYMENIUM, GRIFF.

Seta lateralis. Peristomium duplex, exterius e dentibus 16, (brevibus) interius e ciliis totidem alternantibus (maximis) carinato convolutis, basi angustatis; membrana basilari brevissima. Capsula subæqualis. Calyptra dimidiata.

Musculus Leskioides, pusillus, dense cæspitosus. Flores monoici.

Anhymenium polycarpon, Griff. t. xvi.

Hab: In Buddleæ specie arboreâ ad marginem sylvæ. Mumbree copiose legi.

Caules repentes, ramosissimi, ramis ascendentibus, siccis clavato-cylindræis, ramosis, rarius simplicibus.

Folia dense undique imbricata, siccitate adpressa, madida patentia, ovata, breviter acuminata, integerrima, percursa vena ultra medium paullo evanida, marginibus leviter recurvis,

areolis subconspicuis oblongis argulatis; inferiora adpressa brunneo tincta.

Flores masculi laterates, gemmiformes, setæ basi approximati, ovati.

F. Perigonialia rotundata ovatave, aenia concava, interiora majora, Paraphyses copiosæ, longitudine variæ, filiformes vel subclavatæ, hyalinæ. Antheræ oblongæ, obliquæ, apice dehiscentes, areolatae.

Perichætalia interiora subconformia, majora acuminibus subpatulis, vena obsoleta apicem infra evanida.

Seta lateralis e basi ramorum plerumque exserta, horum fere longitudine et subtri-linealis, apicem versus curvata, rubra.

Vaginula oblongo-cylindracea, paraphysibus hyalinis filiformibus pluribus pistillisque paucis obsita.

Capsula inclinata, subobliqua, ovatocylindracea, inconspicue areolata rufobrunnea, ore integerrimo exannulato.

Membrana interna libera.

Peristomium exterius e dentibus 16, profunde intra os thecæ exsertis, inflexilibus, brevibus, latis, plano-subulatis, obtusiusculis, crebre trabeculatis, marginatisque, linea longitudinali tenui exaratis, pallide lutescentibus.

Interius e ciliis totidem maximis dentes p. exterioris triplo excedentibus, plicato-convolutis, ideoque dorso non carinatis, acutis, basi angustatis, (ambitu ideo fusiformibus) dorso (apicibus exceptis) fissis foratisque, luteo-flavescentibus, punctulato opaciusculis, basi unitis in membranam brevissimam, lutescentem, dense areolatam, sinibus nudis.

Sporula rotundato-angulata, in acervulo viridia, immersa globosa opaciuscula.

Columella subcylindracea, apiculata inclusa.

Operculum conicum, obtusum, minute mammellatum.

Calyptra dimidiata, lævis, per totam fere longitudinem fissa.

HOOKERIA, SMITH.

1. *Hookeria Grevilleana*, Griff.

Caule decumbente simplici vel ramoso, foliis lanceolatis acuminatis acutis aeniis, capsula cylindraceo-ovata nutante.

operculo e basi convexa recte subulato, calyptra integra glabra.

Hab : In ripis et rupibus madidis.

Surureem et Mumbree.

Caulis sæpe simplex, $1\frac{1}{2}$ -2 uncialis ramique (si adsunt) complanati.

Folia subquad-rifariam imbricata, antica posticaque cauli subparallela, lateralia disticha paullo obliqua, integerrima, grandia longitudine bilinealia, latitudine extrema unilincalia, marginibus simplicibus, textura quam maxime cellulosa, areolis magnis fusiformi-hexagonis.

Flores monoici : masculi axillares, gemmiformes, cincti foliis perigonalibus paucis, minutis, rotundatis, aveniis, breviter acuminatis. Paraphyses paucae breves filiformes, hyalinæ. Antheræ 2-5.

Folia perichætialia pauca, caulinis plures minora, lanceolata, acuminata, concava avenia.

Seta axillaris, basi subgeniculata, subuncialis, crassa, rubra sicca etortilis.

Vaginula brevis. Paraphyses paucae, hyalinæ, filiformes. Pistilla pauca.

Capsula inclinata, nutans, æqualis, conspicuusculæ areolata, custaneo-rubra. Membrana interna libera, stipitata.

Peristomii exterioris dentes humore inflexiles, basi connati, plano-subulati, acuminatissimi, crebre trabeculati, linea longitudinali inconspicue notati, rubri apicibus capillaceis scabrellis hyalinis.

Interioris cum membrana interna facillime solubile; cilia coniventia, plicato-carinata solida, apicibus capillaceis punctulatis scabrellisque, membrana basilaris, altiuscula pallide straminea, conspicue areolata; ciliola nulla.

Sporula minutissima, in acervulo viridia, globosa, lævia, immersa semi-diaphana.

Columella apice truncata, inclusa operculum e basi convexa longe recteque subulatum, capsula sæpius $\frac{1}{3}$ aliquando demidio brevius.

Calyptra mitræformis, conico-subulata, celluloso-areolata.

Valde affinis *H. lucenti*, equâ præsertim distinguitur foliis majoribus, lanceolatis, acuminatis, semperque acutis et capsula minus ovata.

2. *Hookeria obovata*, Griff.

Caule acendebente ramoso, foliis densissime imbricatis spatulato-obovatis apice rotundalis obtusissimis ultra medium univenuis marginibus fibrosis integerrimis, floribus hermaphroditis, seta scabra, capsula horizontali oblonga-obovata, calyotra scabra, basi fimbriata.

Hab: Inveni specimen unicum fructiferum inter muscos alios e Maamloo allatos.

Caulis vage ramosus, ramique ascendentes, apicibus latiores, leviter decurvati, complanatis. Folia adpresso ascendentia, vena unica infra apicem desinente prædita, cellulis maximis sub-hexagonis areolata, marginibus integerrimis e fibris fusiformibus sub-biseriatis conflatis.

Flores hermaphroditi axillares, gemmiformes.

Folia perichætiala caulinis aliquoties minora, ovata vel lanceolata acuta vel acuminata, avenia, concava, marginibus simplicia. Paraphyses nullæ. Antheræ 2 6, fuscescentes, areolatæ, cylindraceo-oblongæ. Pistilla plura centralia.

Seta semuncialis, curvata, atro-rubra, pertotam longitudinem (apice vaginula inclusa excepta) papillis simplicibus, denticulatis albis exasperata.

Vaginula mediocris, atro-brunnea.

Capsula æqualis, basi solida, sub lente modice augente areolis quadratis hexagonisve reticulata.

Membrana interna omnino fere libera, stipitata.

Peristomii exterioris dentes subulati, acutissimi, peristomium interius paullo excedentes incurvi, utrinque trabeculati, centro linea longitudinali lutescentiata notati, pallide lutea, apicibus punctulatis.

Interioris cilia solida, acuminatissima; membranam basilarem sedecies plicatam duplo vel paullo ultra superantia.

Sporula viridia globosa.

Columella inclusa, obovata.

Calyptra (perjunior tantum visa) mitræformis conico-subulata, papillis (setæ papillis simplicibus) exasperata, basi pilis longis simplicibus fimbriata.

Operculum desideratum.

Hujus speciei perpulchræ capsulam unam tantum vidi. Flores in exemplaribus duobus examinationi subjectis hermaphroditi, quamvis vaginula exemplaris setigeri, pistilla tantum gessit.

3. *Hookeria pulchella*, Griff.

Caule ascendente ramoso; foliis obovato lanceolatis mucronato-acutis vena ultra media marginibus fibrosis integris repandis, capsula nutanti obovato-pyriformi, calyptra integra, basi fimbriata.

Hab: In rupibus madidis sylvaticis, Surureem Mumbree et Myrung.

Caulis semuncialis, raro uncialis, interdum simplex, ramique complanati.

Folia subquadrifariam imbricata, lateralia disticha, siccitati flexuosa, marginibus recurvis; areolatio densuiscula cellulis sub 6-gonis vel rotundatis.

F. Perichætialia pauca minora, lanceolata, valde acuminata, recta.

Seta axillaris, vix semuncialis, rubra, sicca tortilis.

Vaginula brevis cylindræa, rubro-brunnea, paraphyses subnullæ, pistilla perpauca.

Capsula inclinata, nutans, vel pendula, basi solida et obsolete apophysata, obovata pyriformis vel obovata.

Membrana interna adnata.

Peristomii exterioris dentes breviusculi, acuti, crebre trabeculati, linea longitudinali conspicua, lutescentes, apicibus hyalinis.

Interioris cilia acuta, dentes peristomii exterioris longitudine paullo superantia, solida, hyalina, membrana basilari medioeri, ciliolis interjectis nullis.

Sporula minutissima, globosa, lævia, in acervulo viridia, immersa hyalina.

Columella inclusa.

Operculum conico-subulatum, rostro medioeri rectiusculo, interdum perbrevis.

Calyptra mitræformis, conico-subulata, basi fimbriata.

Variat stratura, caulibus longioribus foliis plus minus oblongis, operculo brevi-rostro, et calyptra basi, villis quasi soluta.

4. *Hookeria secunda*, Griff.

Caule decumbenti, ramis ascendentibus, foliis oblongo-lanceolatis, acutis vel breviter acuminatis argute dentatis mediatenus biveniis (lateralibus falcato-secundis, capsula cylindrico-ovata, pendula, peristomii interioris, ciliolis nullis.

Hab: Mumbree in ripis.

Rami complanati sæpius ut videtur simplices. Folia laxiuscule subquadrifariam imbricata, antica et postica adpressa, lateralia disticha obliqua, marginibus simplicibus basin versus integris, cæterum argute dentatis prædita venis 2 sursum divergentibus medium infra vel paullo supra evanidis; areolis angustis angutatis, parietibus crassis.

Perichætialia acuminato-cuspidata, (cuspide patula denticulata) per totam vaginulam inserta, avenia, interdum obsolete bi-striata.

Vaginula foliis perichætialibus nuncupata cæterum nuda.

Seta lateralis, rubra, flexuosa, unciam paullo excedens.

Capsula æqualis vel subobliqua brunnea, inconspicue areolata.

Peristomium exterius humore connivens, e dentibus 16, plano-subulatis, creberrime trabeculatis, linea longitudinali semipellucida notatis, opacis, rubris apicibus albidis.

Interioris membrana breviuscula; cilia acuta, solida, punctulata, ciliola interjecta nulla.

Sporula non visa.

Operculum calyptraque desiderata.

Proxima *K. falcata*, Hook. Musc. Exot. t. 54. p. 17. a qua præsertim distinguitur foliis brevite racuminatis, capsula pendula, peristomioque interiori, quod *Leskioideum*.

1. *Hypnum rotulatum* Hedio. Hooker.—

—Vix. Hy.

Hab: In rupibus calcareis prope speluncam Mooosmai et in rupibus areonosis Mumbree.

Folia marginata lateralia obliqua sursum irregulariter et sæpe

argute denticulata, vena ultra medium evanida accessoria lateralibus alternis tantum adjecta, æquilateralia subintegra vena excurrente prædita.

Perichætalia minora avenia concava integerrima.

Seta apice incrassata.

Capsula cylindraceo-ovata nutans aspectu cellulosa. Per. Hypni.

Cilia peristomii interioris minute perforata; ciliola interjecta irregularia.

Operculum e basi conica longe recteque subulatum capsulam excedens.

Calyptra dimidiata lævis.

Huc. referri ob verba cel. Hookeri in *Musc. Exot.* sub *Hypno laricino*, t. 35. Vix *Hypopterygium rotulatum*. *Brid. Bryol. Univ.* 2. 713.

2. *Hypnum mnioides*, Hook. *Musc. Exot.* p. 20. t. 77.?

Hab: In rupibus umbrosis, Churra Punjee in regione Assameia alta versus. Negrogam. Fructiferam reperi in sylva Theiferam Gubroo Purbut.

—Verosimiliter species distincta ambigens inter *H mnioides* et *spininervium*, huic caule simplicii foliis angustis setaque basilaribus, illi foliis marginatis et carina denticulata accedens.

Habitus quo dammodo *Polytrichoideus*.

Color sæpius Fuscescens folia siccatione incurva, interdum obsolete tortilia.

Description of the Plates referred to in Muscologia Itineris Assamici.

Plate XVI.—*Anhymenium polycarpon*.

1. Plant, portion of.
2. Leaf.
3. Male flower.
4. The same leaves removed.
5. Anther.
6. Capsule.
7. Operculum.
8. Calyptra.

9. Inner membrane and peristome.
10. Tooth of the outer peristome.
11. Portion of the inner peristome and inner membrane.
12. Sporula.

Plate XVII.—*Pleuropus densus.*

1. Portion of the plant.
2. Cauline leaf.
3. Male flower.
4. Same leaves removed.
5. Anther.
6. Capsule with its operculum.
7. Operculum removed.
8. Calyptra.
9. Capsule.
10. Portion of capsule, outer and inner peristomes and of inner membrane.
11. Tooth of outer peristome.
12. Portion of inner peristome and membrane.
13. Sporula.

Plate XVIII.—*Pleuropus fenestratus.*

1. Portion of a plant.
2. Cauline leaf.
- 2a. Perichæcial ditto.
3. Capsule.
4. Operculum.
5. Calyptra and operculum.
6. Inner membrane and peristome.
7. Tooth of the outer peristome.
8. Portion of inner peristome and membrane.

Plate XX.—*Pleuropus pterogonioides.*

1. Portion of the plant.
2. Cauline leaf.
3. Perichæcial ditto.
4. Capsule.
5. Portion of capsule and outer and inner peristomes.

All more or less magnified.