

Suleiman et al.: The Mosses of Mount Muruk Mio and Bukit Rimau in Sipitang District of Sabah, Malaysian Borneo

APPENDIX. Checklist of mosses from Mount Muruk Mio and Bukit Rimau, Sabah, Malaysian Borneo.

The families, genera and species of mosses were arranged in alphabetical order. Species reported as new to Borneo is marked with **, and new record for Sabah is marked with *.

BARTRAMIACEAE

***Philonotis bartramioides* (Griff.) D.G. Griffin & W.R. Buck**

On soil, in open trail, 1050 m a.s.l., BORH 105584.

***Philonotis secunda* (Dozy & Molk.) Bosch & Sande Lac.**

On wet soil, in open trails along old logging road, 1450–1600 m a.s.l., BORH 105585, 105586.

BRYACEAE

***Imbriobryum clavatum* (Schimp.) J.R. Spence & H.P. Ramsay**

On boulder, in open area riverbank, 1050 m a.s.l., BORH 105583.

***Rosulabryum capillare* (Hedw.) J.R. Spence**

On fallen branch, in partially shaded trail, 1300 m a.s.l., BORH 105524.

Note: This cosmopolitan species is the second record for Borneo (Suleiman et al., 2017). It is rarely recorded in the Malesian region.

CALYMPERACEAE

***Leucophanes octoblepharioides* Brid.**

On tree trunk, by a stream, partially shaded, 1050 m a.s.l., BORH 105597.

***Syrrhopodon schiffnerianus* (M. Fleisch.) Paris**

On tree trunk, in partially shaded slope, 1700 m a.s.l., BORH 105599.

***Syrrhopodon tristichus* Nees ex Schwägr.**

On treelet trunk, in partially shaded slope, 1700 m a.s.l., BORH 105598.

***Syrrhopodon* sp.1**

On soil, in partially shaded slope, 1650 m a.s.l., BORH 105600.

Note: This large (ca. 6 cm tall) species has the habit of *S. tristichus* but its basal leaf margin is not bordered by elongated cells, and the lamina cells are coarsely pluripapillose. It was also found growing on soil which is not a common substrate for the genus.

DALTONIACEAE

***Benitotania elimbata* H. Akiyama, T. Tamag. & Suleiman (Plate 1B)**

On tree trunk, in partially shaded ridge, 1900 m a.s.l., BORH 105633.

CALYPTROCHAETACEAE

***Calyptrochaeta remotifolia* (Müll. Hal.) Z. Iwats., B.C. Tan & Touw**

On shrub trunk and branch, in partially shaded ridge, 1900–1950 m a.s.l., BORH 105634, 105635.

DICRANACEAE

***Braunfelsia plicata* (Sande Lac.) Broth. (Plate 1C)**

On humus, in open trail, 1600 m a.s.l., BORH 105510.

***Braunfelsia* aff. *edentula* (Mitt.) Wijk & Margad.**

On fallen log, in partially shaded trail, 1300 m a.s.l., BORH 105515.

Note: Plants are rather small for the species, and leaves are plicate and the apices are acute, not finely tapering to a tightly involute acumen (Norris & Koponen, 1990; Eddy, 1988).

***Campylopus comosus* (Schwägr.) Bosch & Sande Lac.**

On humus and charcoal, in open and partially shaded trails, 1300–2080 m a.s.l., BORH 105568, 105569, 105570.

***Campylopus fragilis* subsp. *zollingerianus* (Müll. Hal.) J.-P. Frahm**

On humus, in open area, 1444 m a.s.l., BORH 105781.

***Campylopus umbellatus* (Arn.) Paris**

On soil, in open and partially shaded trails of old logging road, 1050–1550 m a.s.l., BORH 105567, 105571.

***Dicranoloma assimile* (Hampe) Broth. ex Renault**

On tree root, trunk and branch, in partially shaded ridges, 1411–1800 m a.s.l., BORH 105509, 105514, 105777.

***Dicranoloma billardierii* (Brid.) Paris**

On shrub trunks, in partially shaded ridges, 1700–1850 m a.s.l., BORH 105511, 105512.

***Dicranoloma blumei* (Nees) Broth. ex Renault**

On tree trunk, in partially shaded ridge, 1800 m a.s.l., BORH 105501.

***Dicranoloma braunii* (Müll. Hal.) Paris**

On shrub and tree trunks and branches, and fallen and rotten logs, in full and partially shaded ridges, 1050–1850 m a.s.l., BORH 105502, 105503, 105504, 105505, 105506, 105507, 105508, 105778.

***Dicranoloma brevisetum* (Dozy & Molk.) Paris**

On treelet trunk and rotten log, in partially shaded slopes, 1111–1750 m a.s.l., BORH 105513, 105776.

***Dicranoloma reflexum* (Müll. Hal.) Renault**

On humus, in open trail, 1255 m a.s.l., BORH 105779.

***Holomitrium cylindraceum* (P. Beauv.) Trevis.**

On fallen branch, in open trail, 1255 m a.s.l., BORH 105824.

***Leucoloma molle* (Müll. Hal.) Mitt.**

On treelet trunk, in partially shaded slope, 1600 m a.s.l., BORH 105566.

DICRANELLACEAE

***Dicranella setifera* (Mitt.) A. Jaeger**

On soil, in open trail, 1600 m a.s.l., BORH 105572.

FISSIDENTACEAE

***Fissidens braunii* (Müll. Hal.) Dozy & Molk.**

On fallen tree, in partially shaded slope, 1600 m a.s.l., BORH 105592.

Note: As second record for Sabah; the first record was by Klazenga in 1997 (GBIF, 2026). It was also recorded in Kalimantan by Agustiorini & Ariyanti (2018).

***Fissidens crispulus* Brid.**

On moist boulder, in open riverbank, 1050 m a.s.l., BORH 105593.

***Fissidens nobilis* Griff. (Plate 1D)**

On soil of partially shaded riverbank, 1050 m a.s.l., BORH 105596.

***Fissidens javanicus* Dozy & Molk.**

On tree trunk, in partially shaded slope, 1600 m a.s.l., BORH 105595.

***Fissidens pallidus* Hook. f. & Wilson**

On soil and rock, in partially shaded slopes and trails, 1050–1650 m a.s.l., BORH 105587, 105588, 105589, 105590, 105591.

***Fissidens polypodioides* Hedw.**

On soil, in partially shaded trail, 1050 m a.s.l., BORH 105594.

DALTONIACEAE

***Distichophyllum armatum* (E.B. Bartram) B.C. Ho & L. Pokorny**

On climber leaf, by a stream, partially shaded, 1050 m a.s.l., BORH 105640.

***Distichophyllum cuspidatum* (Dozy & Molk.) Dozy & Molk.**

On rotten log, in partially shaded slope, 1650 m a.s.l., BORH 105639.

***Distichophyllum spathulatum* (Dozy & Molk.) Dozy & Molk.**

On rotten log, in partially shaded streamside, 1600 m a.s.l., BORH 105638.

***Distichophyllum kinabaluense* Nog. & Z. Iwats.**

On rotten log, by a stream, partially shaded, 1600 m a.s.l., BORH 105636, 105637.

***Ephemeropsis tjibodensis* K.I. Goebel**

On leaf of Zingiberaceae and shrub, in partially shaded ridge and stream, 1050–1900 m a.s.l., BORH 105631, 105632.

HYPNACEAE

***Ectropothecium buitenzorgi* (Bél.) Mitt.**

On tree trunk and rotten log, in partially shaded streamside, 1050–1600 m a.s.l., BORH 105543, 105544.

***Ectropothecium tutuilum* (Sull.) Mitt.**

On moist boulder, in open riverbank, 1050 m a.s.l., BORH 105546.

***Ectropothecium striatulum* Dixon**

On rock, on a partially shaded ridge, 1250 m a.s.l., BORH 105545.

***Neoptychophyllum dixonii* (M. Fleisch.) S. He & B.C. Ho**

On shrub trunks and tree bases, in partially shaded slopes and ridges, 1700–2050 m a.s.l., BORH 105539, 105540, 105541, 105542, 105827.

***Vesicularia montagnei* (Bél.) Broth.**

On moist rock, open riverbank, 1050 m a.s.l., BORH 105548.

HYPOPTERYGIACEAE

***Cyathophorum spinosum* (Müll. Hal.) Dixon**

On shrub trunk, in full shaded forest, 1059 m a.s.l., BORH 105812.

***Hypopterygium flavolimbatum* Müll. Hal.**

On tree trunk, by a stream, partially shaded, 963 m a.s.l., BORH 105813.

***Hypopterygium hookerianum* (Griff.) A.J. Shaw, I.H. Holz, C.J. Cox & Goffinet**

On shrub trunk, in partially shaded forest, 1157 m a.s.l., BORH 105811.

***Hypopterygium vriesei* Bosch & Sande Lac.**

On tree fern trunk, by a stream, partially shaded, 1050 m a.s.l., BORH 105641.

***Lopidium struthiopteris* (Brid.) M. Fleisch.**

On treelet and shrub trunks, in partially shaded slopes, 963–1600 m a.s.l., BORH 105642, 105643, 105810.

LEUCOBRYACEAE

***Leucobryum aduncum* Dozy & Molk.**

On humus, in partially shade trail, 1200 m a.s.l., BORH 105480.

***Leucobryum arfakianum* Müll. Hal. ex Geh.**

On tree trunk, in partially shaded slope, 1700 m a.s.l., BORH 105481.

***Leucobryum bowringii* Mitt.**

On soil, humus and tree base, in partially shaded trail, slope and road bank, 1200–1650 m a.s.l., BORH 105487, 105488, 105489, 105490.

Leucobryum javense* (Brid.) Mitt. var. *javense

On humus and rotten log, in open and partially shaded trails and ridge, 1150–1850 m a.s.l., BORH 105482, 105483, 105768, 105769, 105770.

***Leucobryum juniperoideum* (Brid.) Müll. Hal.**

On humus, in open area along trail, 1300 m a.s.l., BORH 105491.

***Leucobryum sanctum* (Nees ex Schwägr.) Hampe**

On rotten log, in fully shaded forest, 1048 m a.s.l., BORH 105771.

***Leucobryum scalare* Müll. Hal. ex M. Fleisch.**

On soil, humus and rotten branch, in open and partially shaded trails and logging road, 1095–1300 m a.s.l., BORH 105479, 105773, 105774.

***Leucobryum sumatranum* Broth. ex M. Fleisch.**

On humus and rotten log, in open and partially shaded slopes and ridges, 1445–1800 m a.s.l., BORH 105484, 105485, 105486, 105772.

***Schistomitrium apiculatum* (Dozy & Molk.) Dozy & Molk.**

On shrub branch, in partially shaded slope, 1700 m a.s.l., BORH 105474.

***Schistomitrium mucronifolium* (A. Braun) M. Fleisch.**

On shrub branch, in partially shaded ridge, 1800 m a.s.l., BORH 105476.

***Schistomitrium robustum* Dozy & Molk. (Plate 1E)**

On shrub trunk, in partially shaded ridge, 1800 m a.s.l., BORH 105477, 105478.

METEORIACEAE

***Aerobryidium crispifolium* (Broth. & Geh.) M. Fleisch.**

On treelet trunk, in the vicinity of a stream, partially shaded, 1050 m a.s.l., BORH 105558.

***Aerobryopsis subleptostigmata* Broth. & Paris**

On Zingiberaceae leaf, shrub trunk and fallen log, by stream and trails, partially shaded, 1050–1300 m a.s.l., BORH 105561, 105562, 105789.

***Cryptopapillaria fuscescens* (Hook.) M. Menzel**

On shrub branches, in partially shaded ridge and slope, 1700–1950 m a.s.l., BORH 105556, 105557.

***Floribundaria floribunda* (Dozy & Molk.) M. Fleisch.**

On shrub leaf and trunk, in the vicinity of streams, partially shaded, 1000–1050 m a.s.l., BORH 105559, 105560.

***Meteorium polytrichum* Dozy & Molk.**

On climber, shrub leaf and trunk, by stream and trails, partially shaded, 1050–1550 m a.s.l., BORH 105563, 105564, 105565.

***Meteorium subpolytrichum* (Besch.) Broth.**

On fallen tree branch and shrub branch, in the vicinity of streams, partially shaded, 1019–1463 m a.s.l., BORH 105794, 105795.

***Neodicladiella flagellifera* (Cardot) Huttunen & D. Quandt**

On shrub leaf and branch, in the vicinity of a river, partially shaded, 980 m a.s.l., BORH 105793.

***Pseudotrachypus wallichii* (Brid.) W.R. Buck**

On shrub leaf and trunk, in fully shaded forest, 1042 m a.s.l., BORH 105788, 105826.

MNIACEAE

***Plagiomnium integrum* (Bosch & Sande Lac.) T.J. Kop.**

On tree root and rotten log, in the vicinity of streams, partially shaded, 1031–1050 m a.s.l., BORH 105581, 105809.

NECKERACEAE

***Circulifolium exiguum* (Bosch & Sande Lac.) S. Olsson, Enroth & D. Quandt**

On trunk trunk, in partially shaded slope, 1600 m a.s.l., BORH 105649.

***Circulifolium microdendron* (Mont.) S. Olsson, Enroth & D. Quandt**

On shrub trunk, in partially shaded slope, 1600 m a.s.l., BORH 105648.

***Himantocladium plumula* (Nees) M. Fleisch.**

On treelet trunk, by a river, partially shaded, 963 m a.s.l., BORH 105797.

***Homaliodendron flabellatum* (Sm.) M. Fleisch.**

On shrub trunk, in partially shaded slope, 1600 m a.s.l., BORH 105646.

***Neckeromnion lepineanum* (Mont.) S. Olsson, Enroth, Huttunen & D. Quandt**

On tree trunk, in partially shaded forest, 1108 m a.s.l., BORH 105796.

***Pinnatella kuehliana* (Bosch & Sande Lac.) M. Fleisch.**

On tree trunks, in the vicinity of streams, partially shaded, 1050 m a.s.l., BORH 105644, 105645.

***Taiwanobryopsis warburgii* (Broth.) Enroth**

On tree trunk and rotten log, in partially shaded slope, 1600 m a.s.l., BORH 105647, 105829.

ORTHOTRICHACEAE

***Macromitrium blumei* Nees ex Schwägr.**

On rotten fallen log, in partially shaded trail, 1308 m a.s.l., BORH 105765.

***Macromitrium cuspidatum* Hampe**

On fallen branch, in partially shaded ridge, 1800 m a.s.l., BORH 105517.

***Macromitrium longicaule* Müll. Hal.**

On fallen branches and shrub trunk, in open and partially shaded trails and ridges, 1200–1458 m a.s.l., BORH 105526, 105527, 105528, 105529, 105530, 105761, 105764.

***Macromitrium minutum* Mitt.**

On fallen log, in partially shaded trail, 1300 m a.s.l., BORH 105531.

Note: *Macromitrium minutum* was only recorded once in Borneo (Dixon, 1935). According to Guo et al. (2024), it is distributed only in Indonesia and Malaysia (Pahang and Sabah). However, this species has also been recorded in Sri Lanka and Thailand (GBIF, 2026).

***Macromitrium ochraceum* (Dozy & Molk.) Müll. Hal.**

On fallen branches and logs, in partially shaded ridges and trails, 1125–2050 m a.s.l., BORH 105516, 105518, 105519, 105520, 105521, 105522, 105525, 105763, 105766, 105767, 106254.

***Macromitrium orthostichum* Nees ex Schwägr.**

On fallen branch, in partially shaded trail, 1300 m a.s.l., BORH 105523.

CALLICOSTACEAE

***Callicostella papillata* var. *prabaktiana* (Müll. Hal.) Streimann**

On old tyre, by a stream, partially shaded, 1050 m a.s.l., BORH 105555.

POLYTRICHACEAE

***Dawsonia superba* Grev. (Plate 1F)**

On soil, in partially shaded slope, 1650 m a.s.l., BORH 105500.

***Pogonatum cirratum* subsp. *fuscatum* (Mitt.) Hyvönen**

On soil and rock, in partially shaded trails and ridge, 1200–1423 m a.s.l., BORH 105495, 105496, 105497, 105784.

***Pogonatum cirratum* (Sw.) Brid.**

On soil, in partially shaded trails, 1300–1550 m a.s.l., BORH 105498, 105499, 105780.

***Pogonatum neesii* (Müll. Hal.) Dozy**

On soil, in open trail, 1200 m a.s.l., BORH 105492.

***Pogonatum piliferum* (Dozy & Molk.) Touw**

On rocks, in partially shaded trails, 1200–1250 m a.s.l., BORH 105493, 105494.

POTTIACEAE

***Hydrogonium javanicum* (Dozy & Molk.) Hilp.**

On rock, in open riverbank, 1050 m a.s.l., BORH 105582.

PLAGIOTHECIACEAE

***Pseudotaxiphyllum pohliicarpum* (Sull. & Lesq.) Z. Iwats.**

On soil and rock, in partially shaded trail, 1300 m a.s.l., BORH 105549.

PTEROBRYACEAE

***Calypothecium urvilleanum* (Müll. Hal.) Broth.,**

On treelet trunk, in the vicinity of a river, partially shaded, 963 m a.s.l., BORH 105799.

***Calypothecium recurvulum* (Müll. Hal. ex Broth.) Broth.**

On climber and tree base, in the vicinity of a stream, partially shaded, 1050–1200 m a.s.l., BORH 105652, 105830.

***Neolindbergia cladojnioides* H. Akiyama**

On tree trunk, in partially shaded forest, 1108 m a.s.l., BORH 105801.

Note: The type specimen of *Neolindbergia cladojnioides* was collected from Mount Kinabalu (Akiyama, et al. 1991). It is only found in Borneo and the Philippines (Akiyama, 1992; Lubos, 2007).

***Neolindbergia rugosa* (Lindb.) M. Fleisch.**

On base of tree trunk, in partially shaded forest, 1156 m a.s.l., BORH 105800.

***Symphysodontella attenuatula* M. Fleisch.**

On climber, in partially shaded trail, 1205 m a.s.l., BORH 105798.

***Symphysodontella convoluta* (Dozy & Molk.) M. Fleisch.**

On tree trunk, in partially shaded slope, 1850 m a.s.l., BORH 105554.

PTYCHOMNIACEAE

***Garovaglia angustifolia* Mitt.**

On shrubs and tree trunks and rotten logs, in partially shaded trails and ridges, 1000–1452 m a.s.l., BORH, 105657, 105653, 105654, 105655, 105804, 105805).

***Garovaglia angustifolia* f. *bogorensis* (M. Fleisch.) During**

On fallen branch and shrub trunk, in partially shaded forests, 1050–1067 m a.s.l., BORH 105658, 105803.

***Garovaglia baeuerlenii* (Geh.) Paris**

On tree trunks, in partially shaded trails, 1452–1550 m a.s.l., BORH 105659, 105660, 105802.

***Garovaglia elegans* (Dozy & Molk.) Hampe ex Bosch & Sande Lac.**

On tree trunks, in partially shaded trails, 1550–1600 m a.s.l., BORH 105661, 105662.

***Garovaglia plicata* (Brid.) Bosch & Sande Lac.**

On shrub branch, in partially shaded ridge, 1800 m a.s.l., BORH 105656.

****Garovaglia plicata* subsp. *punctidens* (R.S. Williams) During**

On tree buttress, in partially shaded forest, 1260 m a.s.l., BORH 105806.

PYLAISIADELPHACEAE

***Clastobryum scalare* (A. Jaeger) Tixier**

On shrub leaves and climbers, in partially shaded trails, 970–1000 m a.s.l., BORH 105618, 105619, 105820.

***Isocladiella surcularis* (Dixon) B.C. Tan & Mohamed**

On climber and shrub trunk, in partially shaded slopes, 1700 m a.s.l., BORH 105601, 105602.

***Mastopoma armitii* (Broth. & Geh.) Broth.**

On shrub branch and rotten log, in partially shaded slopes, 1700–1800 m a.s.l., BORH 105611, 105613.

***Mastopoma armitii* var. *uncinifolium* (Broth.) B.C. Tan, T.J. Kop. & D.H. Norris**

On shrub trunk, in partially shaded ridge, 1800 m a.s.l., BORH 105614.

***Mastopoma subrobustum* Dixon**

On shrub brunch and trunks, in partially shaded slope and ridges, 1700–1850 m a.s.l., BORH 105608, 105609, 105610.

***Taxithelium kerianum* (Broth.) Broth.**

On fallen branch, in partially shaded trail, 963 m a.s.l., BORH 105825.

***Trismegistia calderensis* (Sull.) Broth.**

On shrub leaf and trunk, in partially shaded slope, 1600 m a.s.l., BORH 105603.

***Trismegistia calderensis* var. *subintegrifolia* (Broth.) H. Akiyama**

On tree root, in partially shaded forest, 1452 m a.s.l., BORH 105823.

***Trismegistia calderensis* var. *convoluta* (Bosch & Sande Lac.) K.T. Yong, B.C. Tan & B.C. Ho**

On tree and shrub trunks and rotten logs, in partially shaded slope and ridges, 1600–1800 m a.s.l., BORH 105604, 105605, 105606, 105607.

***Trismegistia lancifolia* (Harv.) Broth.**

On rock, in partially shaded forest, 1048 m a.s.l., BORH 105790.

***Trismegistia panduriformis* var. *prionodontella* (Broth.) H. Akiyama**

On tree root, in partially shaded area, 1600 m a.s.l., BORH 105828.

RACOPILACEAE

***Racopilum laxirete* Broth.**

On rotten log, in partially shaded forest, 1030 m a.s.l., BORH 105807.

***Racopilum spectabile* Reinw. & Hornsch.**

On rotten branch and tree trunk, by a stream, partially shaded, 1050–1061 m a.s.l., BORH 105651, 105808.

***Racopilum spectabile* var. *subisophyllum* Herzog**

On tree trunk, by a stream, partially shaded, 1600 m a.s.l., BORH 105493.

RHIZOGONIACEAE

***Rhizogonium graeffeanum* (Müll. Hal.) A. Jaeger**

On tree trunk, in partially shaded ridge, 1900 m a.s.l., BORH 105577.

***Rhizogonium lamii* Reimers**

On rotten stump, in partially shaded slope, 1650 m a.s.l., BORH 105578.

CALOMNIACEAE

***Pyrrhobryum spiniforme* (Hedw.) Mitt.**

On tree root and trunk and rotten log, in partially shaded ridge and trails, 1050–1600 m a.s.l., BORH 105573, 105574, 105575, 105576, 105775.

SEMATOPHYLLACEAE

***Acroporium convolutum* (Sande Lac.) M. Fleisch.**

On shrub trunks, by a river and partially shaded trail, 963–1050 m a.s.l., BORH 105538, 105821.

***Acroporium diminutum* (Brid.) M. Fleisch.**

On tree trunk, in the vicinity of a stream, partially shaded, 1050 m a.s.l., BORH 105533.

***Acroporium hyalinum* (Reinw. ex Schwägr.) Mitt.**

On humus, in open area, 1600 m a.s.l., BORH 105537.

***Acroporium hyalinum* var. *turgidum* (Mitt.) M.S. Chua & B.C. Ho**

On shrub branch and rotten log, in partially shaded ridges, 1800 m a.s.l., BORH 105532, 105534.

***Acroporium johannis-winkleri* Broth.**

On rotten log, in partially shaded slope, 1700 m a.s.l., BORH 105612.

***Acroporium rigens* (Broth. ex Dixon) Dixon**

On soil, in partially shaded trail, 1550 m a.s.l., BORH 105536.

***Acroporium rufum* (Reinw. & Hornsch.) M. Fleisch.**

On treelet trunk, in partially shaded trail, 1141 m a.s.l., BORH 105822.

***Acroporium secundum* (Reinw. & Hornsch.) M. Fleisch.**

On tree trunk, in partially shaded trail, 1550 m a.s.l., BORH 105535.

****Chionostomum rostratum* (Griff.) Müll. Hal**

On shrub trunk of *Melastoma* sp., in open trail, 1050 m a.s.l., BORH 105663.

Illustrations: Tan & Jia, 1999: 36, Fig. VIII 12.

***Clastobryophilum bogoricum* (Bosch & Sande Lac.) M. Fleisch.**

On shrub trunk and fallen branch, in partially shaded trail and ridge, 1600—1900 m a.s.l., BORH 105616, 105617.

***Meiothecium microcarpum* (Harv.) Mitt.**

On treelet trunk, in partially shaded old logging road, 1300 m a.s.l., BORH 105615.

****Papillidiopsis koponenii* B.C. Tan**

On tree fern, in partially shaded slope, 1700 m a.s.l., BORH 105664, 105665.

Illustrations: Tan, 1990: 436, Fig. 29–36.

***Rhaphidorrhynchium* cf. *auneae* B.C. Tan, T.J. Kop. & D.H. Norris**

On humus, in open area of Mt. Muruk Mio summit, 2085 m a.s.l., BORH 105620.

Note: The specimen has all the gametophytic characteristics of the species except that some leaves have unipapillose lamina cells. *Rhaphidorrhynchium auneae* is only recorded in Papua New Guinea (Tan et al., 2017). The presence of this species in Borneo is pending since sporophytes characters are not seen.

SPHAGNACEAE

*****Sphagnum palustre* L. (Plate 1A)**

On humus, in partially shaded ridge, 1800 m a.s.l., BORH 105579, 105580.

Illustration: Lüth, 2019:18.

SPIRIDENTACEAE

***Dendro-hypnum beccarii* Hampe**

On shrub and tree roots and trunks in partially shaded trail and ridges, 1103–1900 m a.s.l., BORH 105625, 105626, 105627, 105784.

***Dendro-hypnum milnei* subsp. *korthalsii* (Bosch & Sande Lac. ex Paris) N.E. Bell, A.E. Newton & D. Quandt**

On rock, by a stream, partially shaded, 977 m a.s.l., BORH 105787.

***Dendro-hypnum reinwardtii* subsp. *caducifolium* (Herzog) N.E. Bell, A.E. Newton & D. Quandt**

On tree trunks, in partially shaded trail and stream, 1050–1200 m a.s.l., BORH 105628, 105629.

***Hypnodendron vitiense* Mitt.**

On tree trunks and buttress, rock and old tyre, in partially shaded trails or by a stream, 1050–1103 m a.s.l., BORH 105621, 105623, 105630, 105786.

***Mniodendron dendroides* (Brid.) Wijk & Margad.**

On rocks and tree trunk, in partially shaded trails, 1002–1550 m a.s.l., BORH 105622, 105782, 105791, 105792.

***Touwiodendron diversifolium* (Broth. & Geh.) N.E. Bell, A.E. Newton & D. Quandt**

On humus, in partially shaded slope, 1750 m a.s.l., BORH 105624.

SYMPHYDONTACEAE

****Chaetomitrium darnaedii* H. Akiyama & Suleiman**

On shrub branch, in partially shaded forest, 1095 m a.s.l., BORH 105814.

Illustrations: Akiyama & Suleiman, 2001: 496, Fig. 4 & 11.

***Chaetomitrium horridulum* Bosch & Sande Lac.**

On shrub branch, in partially shaded forest, 1168 m a.s.l., BORH 105816.

***Chaetomitrium leptopoma* (Schwägr.) Bosch & Sande Lac.**

On shrub trunk and branch, in the vicinity of streams, partially shaded, 1050–1111 m a.s.l., BORH 105553, 105817.

***Chaetomitrium orthorrhynchum* (Dozy & Molk.) Bosch & Sande Lac.**

On shrub trunks, branches and leaves, in partially shaded slopes, 1095–1700 m a.s.l., BORH 105552, 105815, 105818.

***Chaetomitrium papillifolium* Bosch & Sande Lac.**

On shrub branch, by a river, partially shaded, 973 m a.s.l., BORH 105819.

***Symphyodon* aff. *pygmaeus* (Broth.) S. He & Snider**

On shrub trunk, in partially shaded area, 1600 m a.s.l., BORH 105831.

Note: This specimen has similar branch leaf characters with *P. pygmaeus* but the secondary stem leaves are larger than the branch leaves. The primary stem leaves are also much larger, ovate-lanceolate with acute apices, and strongly decurrent base. This species has never been reported for Borneo (Akiyama et al., 2021; He & Snider, 2000) but sporophytes were not present to confirm its identity.

TAXIPHYLLACEAE

***Taxiphyllum taxirameum* (Mitt.) M. Fleisch.**

On moist boulder, in open riverbank, 1050 m a.s.l., BORH 105547.

THUIDIACEAE

***Thuidium cymbifolium* (Dozy & Molk.) Dozy & Molk.**

On soil and tree trunk, in the vicinity of streams, partially shaded, 1050 m a.s.l., BORH 105550, 105551.

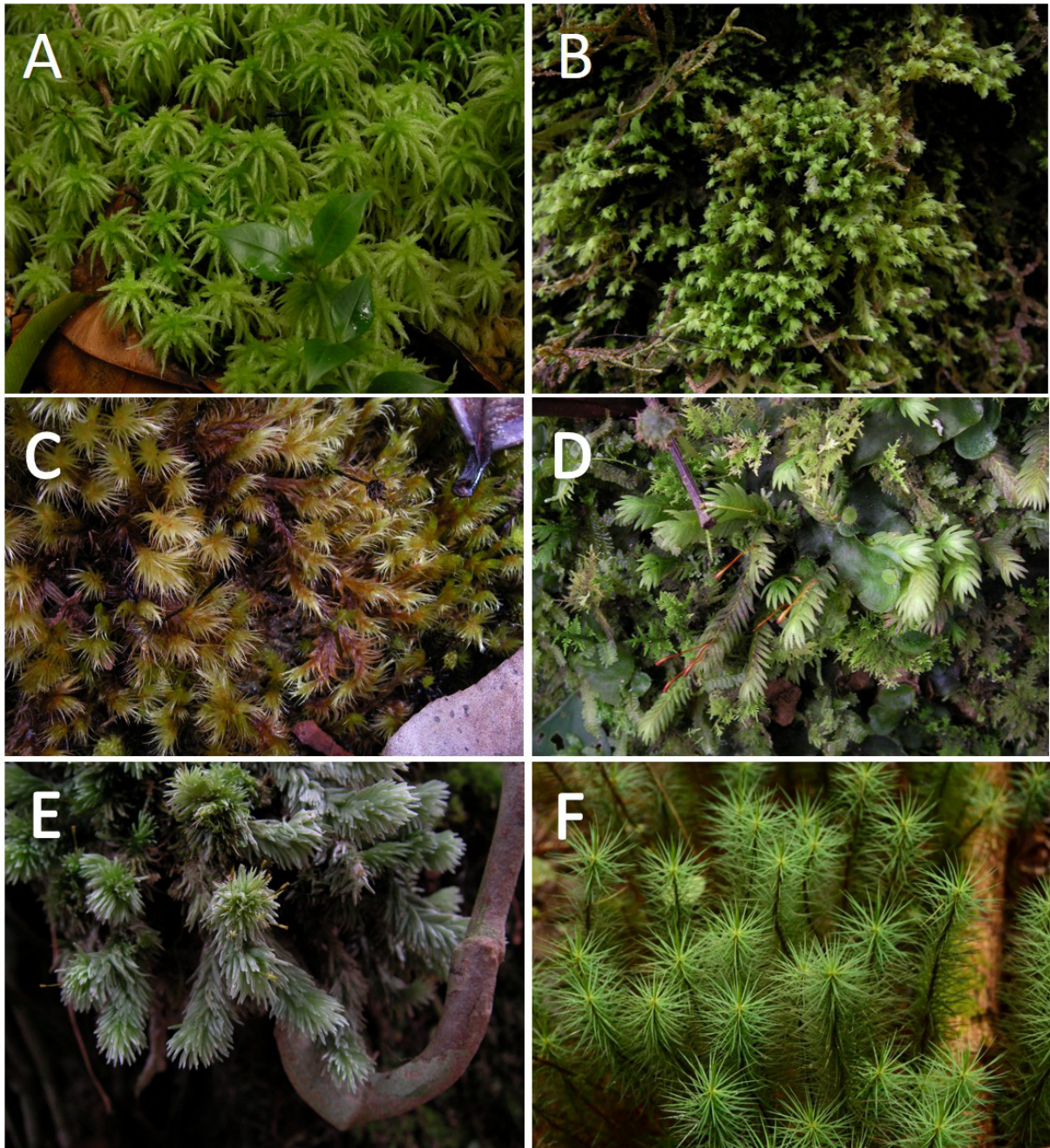


Plate 1: Some of the mosses collected from Mount Muruk Mio and Bukit Rimau. **A.** *Sphagnum palustre* L. **B.** *Benitotania elimbata* H. Akiyama, T. Tamag. & Suleiman. **C.** *Braunfelsia plicata* (Sande Lac.) Broth. **D.** *Fissidens nobilis* Griff. **E.** *Schistomitrium robustum* Dozy & Molk. **F.** *Dawsonia superba* Grev. Photos by M. Suleiman (A–E) and G. Gunsalam (F).

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