***Skeleton to Rarely Branched (mostly acrocarpous) Mosses***

*Revised through 23 July 2012*

***Reminder****: a dagger* (†) *indicates that not all of the species within the given genus have the character(s) defining that Group.*

***Group A1 – Shoots flattened or angular, i.e., not round***

Group A1

*Acaulon*† *Distichium* *Paludella*

*Aulacomnium*† *Erpodium* *Plagiomnium*

*Bryoxiphium Fissidens Schistostega*

*Catoscopium Meesia*† *Triquetrella*

*Conostomum*

***Group A2 – Shoots julaceous both wet and dry***

Group A2

*Anomobryum Bryum*† *Plagiobryum*

*Aongstroemia Conostomum Pleuridium*†

*Aulacomnium*†

***Group A3 – Stems densely tomentose***

Group A3

*Anacolia Dicranum*† *Rhizomnium*†

*Aulacomnium*† *Paludella Scopelophila*†

*Cinclidium Polytrichum*† *Zygodon*†

***Group A4 – Stems red***

Group A4

*Anacolia Cinclidium Pohlia*†

*Anomobryum Epipterygium Rhizomnium*†

*Aongstroemia Mnium*† *Roellia*

*Blindia Philonotis*† *Trachycystis*

*Bryum*† *Plagiobryum*

***Group A5 – Leaves squarrose-recurved***

Group A5

*Barbula*† *Paludella* *Tortula*†

*Dicranella*† *Pleurochaete Trichodon*

*Didymodon*† *Rhexophyllum Triquetrella*

*Leptodontium*

***Group A6 – Leaves falcate-secund***

Group A6

*Andreaeobryum Dicranum*† *Paraleucobryum*†

*Dicranella*† *Kiaeria*†

***Group A7 – Leaves subulate / setaceous***

Group A7

*Anacolia Dicranella*† *Orthodontium*†

*Archidium*† *Dicranodontium Paraleucobryum*

*Arctoa Dicranoweisia Pleuridium*†

*Bartramia*† *Dicranum*† *Pseudoditrichum*

*Blindia Ditrichum*† *Pyrrhobryum*

*Brachydontium Eccremidium Seligeria*†

*Brothera Kiaeria Symblepharis*

*Bruchia*† *Leptobryum Trematodon*†

*Campylopus*† *Oncophorus*† *Trichodon*

***Group A8 – Leaves dimorphic***

Group A8

*Epipterygium Erpodium*

***Group A9 – Leaves with hair-points or awns***

Group A9

*Acaulon*† *Erpodium*† *Pyramidula*

*Aloina*† *Grimmia*† *Schistidium*†

*Brachymenium*† *Jaffueliobryum Splachnum*†

*Bryum*† *Lorentziella Stegonia*†

*Campylopus*† *Orthotrichum*† *Tetraplodon*†

*Coscinodon Phascum Tortula*†

*Crossidium Polytrichum*† *Ulota*†

*Desmatodon*† *Pseudocrossidium*† *Venturiella*

*Encalypta*† *Pterygoneurum Voitia*

***Group A10 – Leaves with lamellae, ridges, or filaments***

Group A10

*Aloina Dicranum*† *Polytrichastrum*

*Atrichum*† *Dryptodon Polytrichum*

*Bartramiopsis Lyellia Psilopilum*

*Campylopus*† *Oligotrichum Pterygoneurum*

*Crossidium Pogonatum Saelania*

***Group A11 – Leaves undulate***

Group A11

*Atrichum*† *Dicranum*† *Tortella*†

*Aulacomnium*†

***Group A12 – Leaves involute***

**Group A12**

*Aloina Indusiella Ptychomitrium*†

*Astomum Plaubella Weissia*

*Hyophila Polytrichum*†

***Group A13 – Leaves all costa***

**Group A13**

*Leucobryum Octoblepharum*

***Group A14 – Leaves with a broad, single costa***

**Group A14**

*Amblyodon**Campylopus Leptobryum*

*Brothera Dicranella*† *Meesia*†

*Campylopodiella Dicranodontium Paraleucobryum*

***Reminder****: The costa in Groups A15 through A19 is long and single.*

***Group A15 – Leaves with expanded, sheathing bases***

Group A15

*Bartramia*† *Oligotrichum*† *Rhexophyllum*

*Bartramiopsis Oncophorus*† *Symblepharis*

*Dicranella*† *Pogonatum Timmia*

*Ditrichum*† *Polytrichastrum Trematodon*

*Indusiella Polytrichum Trichodon*

*Lyellia Pseudoditrichum*

***Group A16 – Leaves with long decurrencies***

**Group A16**

*Bryum*† *Mnium Pohlia*†

*Leucolepis Paludella* *Triquetrella*

*Meesia*† *Plagiomnium*

***Group A17 – Leaves with a defined group of hyaline cells***

**Group A17**

*Bryoerythrophyllum Eucladium Ptychomitrium*†

*Bryum*† *Hedwigia Rhabdoweisia*

*Calymperes Luisierella Syrrhopodon*

*Desmatodon*† *Plagiobryum*† *Tortella*

*Didymodon*† *Pleurochaete Tortula*†

*Encalypta*† *Pottia*† *Trichostomum*

***Group A18 – Leaves with a distinct border***

**Group A18**

*Atrichum Entosthodon*† *Psilopilum*

*Bartramiopsis Epipterygium Rhizomnium*

*Brachymenium*† *Leptodontium*† *Rhodobryum*

*Bryum*† *Leucolepis Roellia*

*Buxbaumia Mnium*† *Scouleria*

*Calymperes*† *Oedipodium Splachnobryum*

*Cinclidium Plagiomnium Syrrhopodon*†

*Crumia Pseudobryum Tortula*†

*Cyrtomnium Pseudocrossidium*† *Trachycystis*

*Desmatodon*†

***Group A19 – Leaves with distinct alar cells***

**Group A19**

*Arctoa Dicranodontium Grimmia*†

*Blindia Dicranoweisia*† *Kiaeria*

*Campylopus Dicranum Paraleucobryum*

***Group A20 – Leaves with costa extremely reduced to lacking***

**Group A20**

*Andreaea*† *Micromitrium Tetrodontium*†

*Ephemerum*† *Schistostega Venturiella*

*Erpodium Sphagnum*

***Reminder****: Definitions for cell length to breadth ratios are found in the Introduction, the Overview and at the end of this section.*

***Group A21 – Cells long (>5:1) and smooth***

**Group A21**

*Orthodontium*† *Pohlia*†

***Group A22 – Cells intermediate (2-5:1) and distinctly papillose***

**Group A22**

*Bartramia*† *Gymnostomiella Philonotis*†

***Group A23 – Cells intermediate and distinctly prorulose***

**Group A23**

*Bartramia*† *Bruchia*† *Ephemerum*†

*Bartramidula Conostomum* *Philonotis*†

***Group A24 – Cells intermediate and smooth (or indistinctly ornamented#)***

**Group A24**

*Bruchia*† *Ditrichum* *Pohlia*†

*Bryobrittonia Entosthodon* *Seligeria*†

*Bryum Funaria Splachnobryum*

*Catoscopium Mielichhoferia Tayloria*

*Dicranella* *Orthodontium*† *Tetrodontium*

*Discelium Physcomitrium*

# Cells bulging, mammillose (both bulging & papillose) or indistinctly papillose, i.e. low papillae.

***Group A25 – Cells short (<2:1) and distinctly papillose***

**Group A25**

*Amphidium Didymodon*† *Orthotrichum*†

*Andreaea*† *Encalypta Pseudocrossidium*

*Anoectangium Gymnostomum Rhexophyllum*

*Aulacomnium*† *Gyroweisia*† *Timmia*†

*Barbula*† *Hymenostylium Tuerckheimia*

*Cynodontium*† *Leptodontium Ulota*†

*Desmatodon*† *Molendoa Zygodon*

*Dichodontium*

***Group A26 – Cells short and smooth (or indistinctly ornamented#)***

**Group A26**

*Andreaea*† *Gyroweisia*† *Rhacithecium*

*Andreaeobryum Hyophila Schistidium*

*Barbula*† *Meesia* *Scopelophila*

*Campylostelium Oncophorus Scouleria*

*Ceratodon Oreas Seligeria*†

*Crumia Orthotrichum*† *Stegonia*

*Cynodontium*† *Plagiopus Tetraphis*

*Desmatodon*† *Plaubella Timmia*†

*Didymodon*† *Pottia*† *Timmiella*

*Diphyscium Ptychomitrium Tortula*†

*Globulinella Pyrrhobryum Ulota*†

*Grimmia Rhabdoweisia*

# Cells bulging, mammillose (both bulging and papillose) or indistinctly papillose, i.e. low papillae.

Bulging: *Diphyscium, Hyophila, Plaubella, Ptychomitrium*†*, Timmia & Timmiella*

Cuticular ridges: *Amphidium*, *Grimmia & Plagiopus*

**Cells** = medial, laminal cells; cells ~2/3 of the way from insertion to apex, midway between the costa and the margin.

Length to breadth **ratios** of medial, laminal cells:

**Long** cells: >5:1; commonly termed linear.

**Intermediate** cells: 2-5:1; commonly termed elongated, rectangular, hexagonal, or rhomboidal.

**Short** cells: <2:1; commonly termed isodiametric, quadrate, rounded-quadrate, or   
sub-quadrate.

End.