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

*Revised through 17 May 2010*

***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 & 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***†

 *Geheebia Pleurochaete Trichodon*

 *Leptodontium Rhexophyllum Triquetrella*

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

 Group A6

 *Andreaeobryum* ***Dicranum*† *Paraleucobryum***†

***Dicranella***† *Kiaeria*†

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

 Group A7

 *Anacolia* ***Dicranodontium*** *Orthodontium*†

 ***Archidium***†***Dicranoweisia Paraleucobryum***

 *Arctoa* ***Dicranum***† ***Pleuridium***†

 ***Bartramia***† ***Ditrichum***† *Pseudoditrichum*

 ***Blindia*** *Eccremidium* ***Seligeria***†

 ***Brachydontium*** *Kiaeria Symblepharis*

 ***Bruchia***†***Leptobryum Trematodon***†

*Campylopus*† ***Oncophorus***† *Trichodon*

***Dicranella***†

***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*† *Aulacomnium*† *Dicranum*†**

***Group A12 – Leaves involute***

 **Group A12**

 *Aloina Indusiella* ***Polytrichum***†

***Astomum*** *Neohyophila* ***Weissia***

 ***Hyophila***

***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 & 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*† *Paludella*** *Triquetrella*

***Meesia***†***Pohlia***†

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

 **Group A17**

***Bryoerythrophyllum******Hedwigia Pottia***†

***Bryum***† *Luisierella Syrrhopodon*

 *Calymperes* ***Oxystegus Tortella***

 ***Desmatodon*†***Paraleptodontium Tortula*†

***Encalypta***†***Plagiobryum***† *Trichostomopsis*†

 *Eucladium Pleurochaete Trichostomum*

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

 **Group A18**

***Atrichum Desmatodon***† *Psilopilum*

 *Bartramiopsis Entosthodon*†***Rhizomnium***

 *Brachymenium*† *Epipterygium* ***Rhodobryum***

***Bryum*†** *Leptodontium*† *Roellia*

***Buxbaumia Mnium*†** *Scouleria*

 *Calymperes*† *Oedipodium Splachnobryum*

***Cinclidium Plagiomnium*** *Syrrhopodon*†

 *Crumia* ***Pseudobryum Tortula*†**

 ***Cyrtomnium*** *Pseudocrossidium*† *Trachycystis*

***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 & at the end of this section.*

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

 **Group A21**

 *Orthodontium*†***Pohlia***†

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

 **Group A22**

 ***Bartramia***† *Gymnostomiella* ***Philonotis***†

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

 **Group A23**

***Bartramia*† *Bruchia*† *Ephemerum***†

 *Bartramidula* ***Conostomum*** ***Philonotis***†

***Group A24 – Cells intermediate & smooth (or indistinctly ornamented\*)***

 **Group A24**

***Bruchia*†*****Ditrichum*** ***Physcomitrium***

 *Bryobrittonia Entosthodon* ***Pohlia***†

 ***Bryum Funaria******Seligeria***

***Catoscopium Meesia*** *Splachnobryum*

 ***Dicranella* *Mielichhoferia******Tayloria***

 ***Discelium*** *Orthodontium*† ***Tetrodontium***

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

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

 **Group A25**

 ***Amphidium Didymodon***†***Orthotrichum***†

***Andreaea***† ***Encalypta*** *Pseudocrossidium*

 *Anoectangium Geheebia Rhexophyllum*

***Aulacomnium***†***Gymnostomum******Timmia***†

***Barbula***†*Gyroweisia*†*Tuerckheimia*

***Cynodontium***†***Hymenostylium******Ulota***†

***Desmatodon***† *Leptodontium* ***Zygodon***

 ***Dichodontium*** *Molendoa*

***Group A26 – Cells short & smooth (or indistinctly ornamented\*)***

 **Group A26**

 ***Andreaea*† *Grimmia*** *Rhacithecium*

 *Andreaeobryum Gyroweisia*†***Schistidium***

 ***Barbula*† *Hyophila*** *Scopelophila*

 *Campylostelium Neohyophila Scouleria*

 ***Catoscopium Oncophorus*** *Stegonia*

 *Ceratodon Oreas* ***Tetraphis***

 *Crumia* ***Orthotrichum*† *Timmia***†

***Cynodontium*† *Plagiopus*** *Timmiella*

***Desmatodon*† *Pottia*† *Tortula*†**

 ***Didymodon*† *Ptychomitrium*** *Trichostomopsis*†

***Diphyscium*** *Pyrrhobryum* ***Ulota***†

 *Globulinella* ***Rhabdoweisia***

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

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

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

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.

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

End