***Skeleton to Rarely Branched Mosses -- MidWest***

*Revised through 27 January 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 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***

*Geheebia**Rhexophyllum**Triquetrella*

 ***Leptodontium***

***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 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***† ***Paludella Pohlia***†

 ***Meesia***† ***Plagiomnium*** *Triquetrella*

 ***Mnium***

***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 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*** *Geheebia**Rhexophyllum*

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

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

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

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

 ***Dichodontium*** *Molendoa*

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

 **Group A26**

 ***Andreaea***† ***Gyroweisia***†*Rhacithecium*

*Andreaeobryum* ***Hyophila Schistidium***

 ***Barbula***† ***Meesia* *Scopelophila***

 ***Campylostelium*** *Neohyophila**Scouleria*

 ***Ceratodon Oncophorus Seligeria***†

*Crumia**Oreas**Stegonia*

 ***Cynodontium***† ***Orthotrichum***† ***Tetraphis***

 ***Desmatodon***† ***Plagiopus Timmia***†

 ***Didymodon***† ***Pottia***†*Timmiella*

 ***Diphyscium Ptychomitrium Tortula***†

*Globulinella**Pyrrhobryum**Trichostomopsis*†

 ***Grimmia Rhabdoweisia Ulota***†

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

 Bulging: *Diphyscium, Hyophila, Neohyophila, 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.