***Appendix B – Abbreviated Overview***

*Revised through 30 June 2010*

***Initial Groups ("naked-eye" characters)***

Plants essentially **leafless**;WS\* *Buxbaumia*

Plants scattered on a bed of abundant, **persistent** **protonemata**; plants & leaves small to **minute**. Group A

Plants small to **minute** (mostly <5 mm high) with +**immersed** capsules growing on bare **soil**, Group B

Plants **rosulate** (leaves in a tight rosette at stem apex) and **large** (diameter 1-2 cm); WS *Rhodobryum*

Plants erect with clusters of branches (**fascicles)** along the stem & at the apex (**capitulum**); WS *Sphagnum*†

Plants **dendroid** (erect, tree-like) or **frondose** (fern-like) from an unbranched stipe. Group C

Plants with **pendulous** branches hanging loosely from tree branches. Group D

Plants projecting **horizontally** from vertical surfaces or with **upturned**/**curled** branch tips. Group E

Plants growing on **dung**, decaying animal matter, or other highly nitrogenous materials. Group F

***Freely Branched (mostly pleurocarpous) Mosses***

Plants strongly **flattened** (complanate) or **angular**. Group P1

Plants with **julaceous** shoots – round with crowded overlapping and appressed leaves. Group P2

Leaves spreading at right angles (**squarrose**) or squarrose-recurved; leaf tips often **channeled**. Group P3

Plants with **erect** branches from a **creeping** stem. Group P4

Plants with leaves sickle-shaped and turned to one side (**falcate**-**secund**). Group P5

***Leaf and Stem Characters Section*** *(hand lens)*

Plants with **paraphyllia** or **tomentum** on stems. Group P6

Plants with **red** stems. Group P7

Plants “**braided**” (leaves complanate, secund & falcate). Group P8

Leaves **undulate** or **rugose** (irregular undulations). Group P9

Plants with **dimorphic** leaves. Group P10

Leaves with **awns** or **hair points**. Group P11

Plants **thread**-**like** (leaves <1 mm). Group P12

***Costa Characters Section*** *(dissecting scope)*

Costa **double** & **more than 1/3** leaf length. Group P13

Costa **single** & **narrow**.

Leaves with distinct **decurrencies**. Group P14

Leaves with a distinct marginal **border**. Group P15

Leaves with distinct **alar cells**. Group P16

Costa **short** & **double**, or **none**.

Leaves with distinct **decurrencies**. Group P17

Leaves **bordered**. Group P18

Leaves with distinct **alar cells**. Group P19

Costa of **uncommon** or **variable** form. Group P20

***Leaf Cell Ratio Section*** *(compound microscope)*

Leaf cells **long** (>8:1).

Cells distinctly **papillose** or **prorulose**. Group P21

Cells **smooth** or indistinctly ornamented; costa **single** (long & narrow). Group P22

Cells smooth; costa **double** (long or short) or **none**. Group P23

Leaf cells **intermediate** (3-8:1).

Cells distinctly **papillose** or **prorulose**. Group P24

Cells **smooth** or indistinctly ornamented; costa **single** Group P25

Cells smooth; costa **double** (long or short) or **none**. Group P26

Leaf cells **short** (<3:1).

Cells distinctly **papillose** or **prorulose**. Group P27

Cells **smooth** or indistinctly ornamented. Group P28

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

***"Naked-eye" Characters***

Shoots **flattened** or **angular** (**2-5 ranked**) in cross-section, i.e., not round. Group A1

Shoots **julaceous** when **wet** (catkin-like; leaves crowded & appressed).Group A2

Stems **tomentose** (densely covered by rhizoidaltomentum except at the growing tip). Group A3

Stems **red**. Group A4

Leaves **squarrose**-**recurved** (spreading at right angles with down-turned tips; shoots **brush-like**). Group A5

Leaves **falcate-secund** (sickle-shaped & turned to one side; shoots **broom**-**like**). Group A6

Leaves **subulate**-**setaceous** (awl, bristle or needle-like). Group A7

***"Hand-lens" Characters***

Leaves **finger-like** & irregularly inserted; NW. *Takakia*

Leaves **dimorphic** (two kinds on a single branch). Group A8

Leaves with a distinct hyaline **hair-point** or awn on vegetative leaves. Group A9

Leaves with **lamellae**, **ridges** or **filaments** on their laminae or costae. Group A10

Leaves **undulate** (distinct transverse waves or ridges). Group A11

Leaves **involute** (margins distinctly incurved, inrolled, spirally inrolled, or inflexed). Group A12

***"Dissecting microscope" Characters***

Leaves **+all costa**, lacking laminae; multistratose. Group A13

Leaves with a **broad**, **single** costa (>1/3 the leaf width). Group A14

Leaves with a **narrow**, **single** costa.

Leaves with bases distinctly **incurved** to **expanded** & **sheathing**. Group A15

Leaves with long, pronounced **decurrencies**. Group A16

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

Leaves with distinct marginal **border** of differentiated cells. Group A18

Leaves with a strongly differentiated set of **alar cells**. Group A19

Leaves with costaextremely **reduced** to **lacking**. Group A20

***"Compound microscope" Characters***

Leaf cells **long** (>5:1); cells **smooth**. Group A21

Leaf cells **intermediate** in length (2-5:1).

Cells distinctly **papillose**. Group A22

Cells distinctly **prorulose**. Group A23

Cells **smooth** or indistinctly ornamented. GroupA24

Leaf cells **short** (<2:1).

Cells distinctly **papillose**. Group A25

Cells **smooth** or indistinctly ornamented. Group A26

End.