# *Sub-Guide to Initial Groups – West Coast*

*Revised through 19 November 2008*

## *Group A – Plants on persistent protonemata*

**Group A**

Leaves **2-ranked** and **distichous** (attached in two rows on opposite sides of the stem).
- Leaves **cleft** at anterior edge and clasping posterior edge of next leaf; WS — *Fissidens*†
- Leaves **decurrent** and **confluent**; protonemata **luminous**; "Goblin Gold"; WS* — *Schistostega*

Leaves with longitudinal **lamellae**; setae **long**; capsules **cylindrical**; **epiphragm** present; WS — *Pogonatum*†
Leaves serrate to **spinose-dentate**; capsules **sessile**, ±globose & **cleistocarpous**; WS — *Ephemerum*
Leaves acute, **lacking** the above unique characteristics.
- Plants growing on **soil**; costa **weak** at base; capsules **exserted**; WS* — *Discelium*

## *Group B – Plants minute with immersed capsules*

**Group B**

Leaves with a **hair-point** or awn.
- Leaves with ridge-like **lamellae** on upper surface of costa; WS — *Pterygoneurum*
- Leaves with **revolute**, **entire** margins; cells **pleuripapillose** (C-shaped); WS — *Phascum*
- Leaves with **recurved** (at apex), **serrate** margins; cells ±**smooth**; WS* — *Acaulon*
- Leaves with **plane**, **entire** margins; cells **smooth**.
  - Capsules **operculate**; calyptrae **persistent**, **4-angled** and **split**; spores **small**; E, CA — *Pyramidula*

Leaves **subulate** / **setaceous** at least on perichaetial leaves.
- Setae **straight**; capsules **immersed** and **cleistocarpous**.
  - Capsules **pyriform** with conspicuous, **stomatose** neck; spores **small**; WS — *Bruchia*†
  - Capsules **globose** to **ovoid** with no neck.
    - Calyptrae mitrate or **cucullate**; spores numerous and **small**; WS — *Pleuridium*
    - Calyptrae **rudimentary**; spores few and **large** (>100$\mu$); E, CA — *Archidium*

Leaves **cuspidate** to long-apiculate with **reflexed** tips; **bulbiform**; WS* — *Acaulon*
Leaves **involute** when wet, crisped and contorted when dry; E — *Astomum*
Leaves with ridge-like **lamellae** on upper surface of costa; WS — *Pterygoneurum*
Leaves serrate to **spinose-dentate**; protonemata **persistent**; WS — *Ephemerum*
Leaves acute to acuminate, **lacking** the above unique characteristics.
- Capsules clearly **operculate**.
  - Operculum **long**-beaked; exothecial cells **not** collenchymatous; WS — *Physcomitrium*†
- Capsules **cleistocarpous** or rupturing irregularly.
  - Capsules **pyriform** with conspicuous, **stomatose** neck; spores **small**; WS — *Bruchia*†
  - Capsules **ovoid**; calyptrae **cucullate**; spores **small**; BC, OR — *Pseudephemerum*
  - Capsules **globose**.
    - Calyptrae **mitrate**; spores numerous and **small**; WS — *Physcomitrella*
    - Calyptrae **rudimentary**.
      - Costa **strong**; spores few and **large** (>100$\mu$); E, CA — *Archidium*
      - Costa **lacking**; spores **medium** to large (up to ~80$\mu$); WS — *Micromitrium*

## *Group C – Plants dendroid or frondose from an erect stipe.*

**Group C**

Plants **dendroid**
- Stems with dense **paraphyllia** or paraphyllia-like structures.
  - Paraphyllia **green**, filiform, and branched.
    - On rich **soil**; WS — *Climacium*
    - On **trees**; curled when dry; WC, ID — *Dendroalsia abietina*
  - Paraphyllia **hyaline**, filiform, and branched, **lamellae** on stem; NW — *Pleuroziopsis ruthenica*
- Stems **lacking** paraphyllia.
  - Stem leaves **bordered** with long marginal right-angled teeth; WC, NW — *Leucolepis acanthoneuron*
  - Stem leaves **not** bordered and ovate to lanceolate.
    - Leaf singly or doubly **serrate** above; apical cells **rhombic**; WS — *Thamnobryum*

Plants **frondose**.
- Leaves **falcate-secund**; plant regularly pinnate; WS* — *Ptilium crista-castrensis*
- Leaves **dimorphic** (ventral amphigastria), **complanate** and **bordered**; FL, BC, AK — *Hypopterygium*

## *Group D – Plants with pendulous branches*

**Group D**

Leaves **lanceolate** to oblong-lanceolate.
- Leaf margins **revolute** to near apex; **extra costae**; leaf cells **smooth**; W, NF — *Antitrichia curtipendula*†

## *Group E – Plants growing horizontally*

**Group E**

Plants growing **horizontally**; sticking ±**straight out** from vertical surface.
- Leaves **complanate** and **undulate**.
  - Costa **long** & **single**; **paraphyllia** present; W — *Metaneckera menziesii*
  - Costa **short** & **double**, or lacking; paraphyllia **lacking**; WS* — *Neckera*†

Plants growing as "**fish-hooks**"; secondary branches **curved upwards** when dry.
- Costa **short** and **double** to lacking; leaf cells **smooth**.
  - Leaf cells **>5:1**; **5-20** quadrate alar cells at the **basal angles**; WS* — *Pylaisiella*

## *Group F – Plants growing on dung*

**Group F**

Hypophysis **turbinate**, **globose** or **skirt-like**, and **colored**; leaves obtuse to acuminate; N, CP & SA — *Splachnum*

Hypophysis **pyriform** and ±**urn**-**colored**; leaves elongate-**subulate** to **hair**-pointed; N — *Tetraplodon*

Hypophysis evident, but ±**narrower** than urn and **wrinkled** when dry; leaves obtuse to acuminate.
- Capsules **cylindric**; setae **brownish**; calyptrae **constricted** above base; N* — *Tayloria*†

End.