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KEY TO BRYUM.

BRYUM is one of the most difficult and unsatisfactory genera for beginners, as well as for any one, unless he be a specialist in that particular genus. The key which is here printed will not enable a beginner or any one else to accurately determine Bryums without a careful comparison with a good description. Often authentic specimens will be necessary to make sure of the plant. The key is intended to help the student to locate the species certainly within two or three closely allied species and to give hints as to the exact species.

The length of costa and distinctness of border vary on the same plant. The border often varies on the same leaf. Lower leaves of Bryum are usually shorter and broader than the upper leaves and always have a shorter costa. The inner comal leaves are usually larger and narrower than the general run of leaves on the plant. The border of a Bryum leaf is usually most distinct near the base and least distinct near the apex. In using the key select leaves in the lower part of the upper third of the leafy portion of the stem and look for border in the upper third of the leaf. The margin of the leaves is frequently strongly recurved and gives the appearance of a margin whether a margin be really present or not. To make sure, the margin must be flattened out by manipulation with needles and pressure on cover-glass. It may even be necessary to use scissors.

Some of the species vary in the characters used in the key, hence these species have to be included under each of the headings. For instance B. pallens, B. turbinatum and B. pseudotriguerum may have the apex of leaf either serrate or entire, and are included under each division of section 5. In section 17 these three species are referred back to section 14, where they have already been treated.

Height as used in the key refers to the gametophyte alone; it does not include the capsule and seta.

The leaves in Bryum are smaller than in Mnium and the leaf cells are markedly longer than broad except in B. capillare, which
beginners almost invariably refer to Mnium. The capsules are usually more slender, longer necked, and more pendent.

Webera (Poklia of the L. & J. Manual) is so much like Bryum that a word of warning may not be out of place here. The leaf cells in Webera are much longer than in Bryum. Our most common species (W. nutans) is offered this quarter by the Sullivan Moss Chapter, in order to help distinguish these two genera.

**KEY TO BRYUM.**

1. Leaves bordered, ... 2.
   Leaves not bordered, at least in the upper half, ... 19.
2. Costa plainly vanishing below apex, ... 3.
   Costa percurrent or excurrent, ... 4.
3. Upper leaves orbicular, obtuse. Upper leaves acute, with long decurrent wings, Duvalii.
4. Leaf cells above base with length less than twice their diameter, ... capillare.
   Leaf cells more than 2.5:1, ... 5.
5. Apex of leaf serrate, or excurrent costa toothed. Apex of leaf entire, or excurrent costa smooth, ... 6.
6. Plants large, 3 cm. or more in height, ... 13.
   Plants smaller, 2 cm. or less in height, ... 7.
7. Endostome adherent to peristome, cilia lacking. Endostome free, with 2-4 appendiculate cilia, ... 8.
   Plants large, 3 cm. or more in height, ... 13.
8. Capsule prominent on the back, mouth oblique, costa shortly excurrent, border 2-3 stratose, autoicous, uliginosum (cernuum).
   Capsule regular, costa long excurrent, border of one layer of cells, usually synoicous, ... 9.
9. Capsule narrowly pyriform, long necked, teeth of peristome simply articulate, inclinatum.
   Capsule ventricose in the middle, short necked; teeth of peristome with the transverse bars connected together by numerous oblique or nearly vertical lines on the inner surface of the teeth, pendulum.
10. Costa long excurrent; dioicous, caspiticum.
   Costa long excurrent; synoicous, ... 11.
   Costa long excurrent; autoicous, pallescens.
   Costa percurrent or shortly excurrent, ... 12.
11. Capsule usually incurved; operculum small, persistent, intermedium.
   Capsule regular; lid larger; spores maturing earlier; leaf border more distinct, cuspidatum.
12. Leaves decurrent; synoicous, bimum.
   Leaves not decurrent, dioicous, turbinatum.
13. Synoicous; leaves decurrent, bimum.
   Dioicous, ... 14.
   Autoicous; leaves scarcely decurrent, pallescens.
14. Leaves decurrent, border bistratose, \ldots \textit{pallens}.
Leaves not decurrent, border of one layer only, \ldots \textit{15}.

15. Leaves narrowly bordered; capsule short pyriform,
constricted below the lid, \ldots \textit{turbinatum}.
Leaves broadly bordered; capsule long obconic, not
constricted, \ldots \textit{pseudotriquetrum}.

16. Leaves with shortish points; costa scarcely or shortly
excurrent, \ldots \textit{17}.
Leaves with costa excurrent into a long point, \ldots \textit{18}.

17. Endostome adhering to peristome, cilia lacking, \textit{purpurascens}.
Endostome free, with 2–4 appendiculate cilia, \ldots \textit{14}.

18. Subalpine; autoicous; peristome teeth simply articulate;
cilia 3, appendiculate, \ldots \textit{pallescens}.
Plants of lower elevations; synoicous, rarely subautoi-
cous; teeth as described under 9; cilia lacking, \textit{pendulum}.

19. Costa plainly vanishing below apex, \ldots \textit{20}.
Costa excurrent or percurrent, \ldots \textit{22}.

20. Branches julaceous, plants silvery and shining when dry,
common in paths and waste soil, \ldots \textit{argenteum}.
Branches not julaceous, leaves green, larger at summit
of stem, forming tufts or rosettes, \ldots \textit{21}.

21. Plants from underground stolons, lower leaves minute
and scale-like, upper leaves large, 10–12 x 3–4 mm.,
forming a strongly marked rosette; habit and ap-
pearance of a Mnium; not rare, \textit{proliferum}.
Plants not from stolons; difference between upper and
lower leaves less marked, upper 3 x 1.5 mm. A rare
alpine moss, \ldots \textit{calophyllum}.

22. Stems, slender, filiform, julaceous; wet rocks in moun-
tain streams; rare, \ldots \textit{concinnatum}.
Stems not julaceous, \ldots \textit{23}.

23. Costa excurrent into a long point, \ldots \textit{24}.
Costa shortly or not at all excurrent, \ldots \textit{25}.

24. Synoicous, fruiting in late summer and autumn. \textit{intermedium}.
Dioicous, fruiting in summer; leaves sometimes faintly
bordered, \ldots \textit{cespiticium}.

25. Costa scarcely or not at all excurrent, tufts dense and
wide, glossy red and green; capsule red brown.
Wet rocks in mountains; rare and beautifully col-
ored, \ldots \textit{alpinum}.
Costa distinctly excurrent, tufts thin, ripe capsule pur-
ple-red, \ldots \textit{atropurpureum (bicolor.)} \\
\textit{A. J. G.}

We hope that every person interested in the study of mosses
will make a special effort to attend the gathering of the clans
next June. For full particulars, see third page of cover.