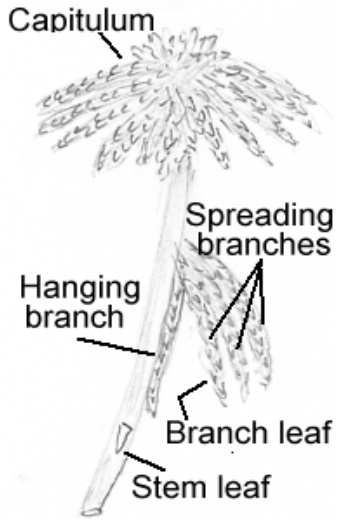
A GUIDE TO SPHAGNUM SPECIES COMMON IN THE NW

(NB *do not use this key* without first reading the INTRODUCTORY GUIDE available from the same source. Note that this guide is DRAFT version subject to correction)

Last revised 17.09.08



Examining Sphagnum

Dry (white, lightweight) specimens should be rehydrated. Characters are much clearer if excess water is blotted away (press the specimen gently against your sock if a tissue is not available).

To see the *stem cross-section* break or cut the stem about half-way down and view end-on with a x10 lens.

To examine *stem leaves* gently break off the capitulum by bending the brittle stem a little way below the capitulum. If the stem leaves are "erect" they will usually stick up above the broken end. It is often useful to examine several stems, because some give a more clear-cut answer than others. If stem leaves are "hanging" (pointing down) they will not project but may be visible near the top of the broken stem (again, it is helpful to examine several stems). If the stem is concealed by branches they can be gently lifted away with a pencil point.

Stem leaf shapes can be rather subtle. A x10 lens is sufficient, at least with a little experience, but a binocular microscope is a huge advantage.

The terms "robust" and "spindly" (below)are admittedly subjective but will become useful with a little experience.

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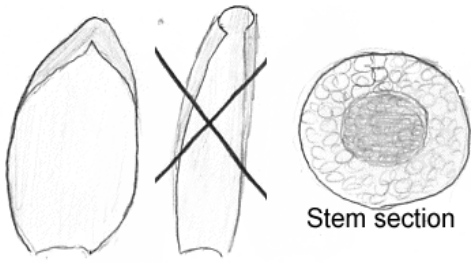
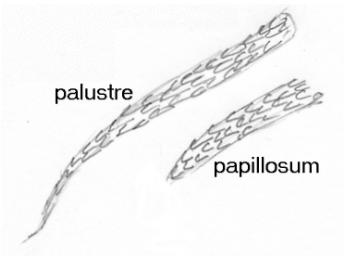
1. Branch leaves hooded. Stem cross-section with *thick* (1/4 to 1/3 or more of stem) translucent or whitish cortex surrounding dark core.

(Hooded means turned over at the top like an anorak hood. Note that many species have inrolled margins but are open at the top- this does not count as hooded).





●***S..papillosum*** branches short and blunt. Plants usually packed together in tight hummocks with smooth outline. Green or pale brownish.

●***S.palustre*** at least some branches tapering to wispy ends. Plants in carpets or in hummocks, which are looser than they are in *S.papillosum* and appear "rougher" because of projecting branches. Usually green, often very pale.

(Note: Branch tips of both species may be brownish or orange/pink.).

2.Branch leaves bent backwards (giving a distinctive "prickly" appearance). Plants robust, green.

●***S.squarrosum***

Note: *S.palustre* sometimes has this appearance. Check that the leaves are not hooded!

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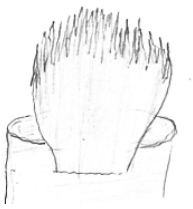
3. Stem leaves erect, strongly tattered at the top. Plants green, often spindly.

●***S.fimbriatum***

(The tattered leaves frequently form a characteristic "ruff" around the broken stem-end, though sometimes only one or two leaves may project)



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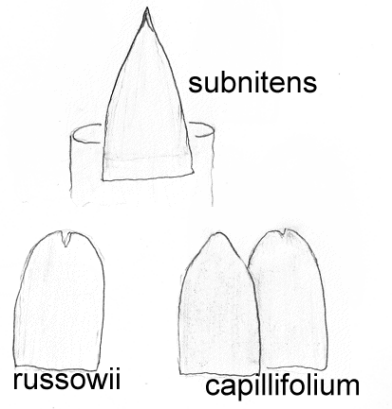
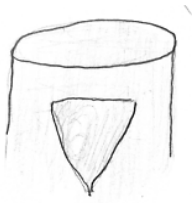
4. **Stem leaves erect, Plants with some wine-red colouration, at least on the stem**
(Coppery red-brown or brownish/orange colouration does not count)

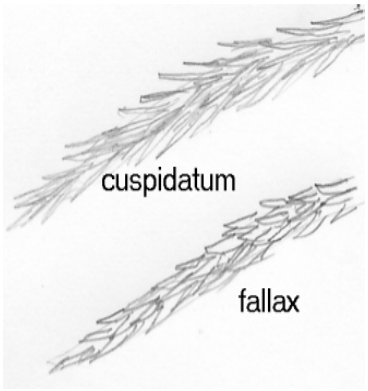


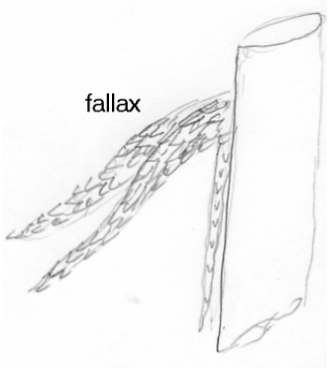
●***S.subnitens***. Stem leaves tapering from base to tip. Tip acute, often slightly "pinched". Capitulum frequently with completely green centre surrounded by red flecks.
●***S.russowii*** Stem leaves parallel sided below, rounded at top, frequently with a notch. Branches often with alternating red/green regions. Often found among wet heather/bilberry..
●***S.capillifolium*** Stem leaves sometimes like *S.russowii*, sometimes parallel-sided below then tapering to a point above (never pinched as in *S.subnitens*). Plants often more or less completely red, otherwise green flecked with red (red flecks spread randomly over capitulum).

(It is often difficult to decide, without microscopic examination, whether plants with round-tipped stem leaves are *S.russowii* or *S.capillifolium*)

5. Stem leaves hanging, triangular, closely pressed to stem. Plants green, often spindly but sometimes quite robust.







●***S.cuspidatum***
branch leaves long (5 times as long as wide or more), often giving plant a feathery look. No clear distinction between hanging and spreading branches. Often in moorland pools; aquatic plants are said to resemble "drowned kittens" but this may also be said of the following species, which sometimes occurs in pools.
●***S.fallax*** Branch leaves shorter (around 3 times as long as wide). Spreading branches clearly distinct from hanging branches which which are paler and thinner, and hug the stem.

6. Stem leaves large, margins turned up and /or leaf slightly hollowed (like a spoon), frequently spreading away from stem rather than pressed against it as in most other species.: often more or less hanging, as shown, but not always. Branch leaves short (cf *S.palustre*- but not hooded). Often tinted copper-brown, orange or yellow but frequently green (but then stem usually pale to dark brown). Branches sometimes curved in two directions ("cows horns").

●***S.denticulatum***
A very variable species, with the above characters present to various extents. Unmistakable when robust with marked coppery tints, as it frequently is in the hills, but spindly green lowland specimens can be problematical.

Scarce species excluded from the key include:
S.magellanicum: like *S.papillosum* but partly or wholly crimson (brownish or orange brown does not count as crimson!)
S.flexuosum Like *S.fallax* but the stem leaves are round at the tip instead of sharply pointed. May be fairly frequent.
S.angustifolium Like *S.flexuosum* but with the branches tinted pink toward the stem.
S.girgensohnii Like *S.fimbriatum* but tattered only near the centre tip of the stem leaves, not at the edges.
S.compactum With very crowded branches nearly concealing stem, stem leaves triangular like *S.fallax* but *tiny*.
S.quinquefarium Like *S.subnitens* but some spreading branches in groups of 3 instead of 2.
S.teres Allied to *S.squarrosum* but much smaller and less squarrose. Difficult to identify unless growing with *S.squarrosum*.
S.tenellum Small (plants typically 5 cm high, with branches <1cm), pale or yellowish green with short concave"bead-like" branch leaves. (But most small speciments are depauperate versions of other species!)