A GUIDE TO THALLOSE LIVERWORTS FREQUENT 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 a DRAFT version subject to correction)

Last revised 17.09.08

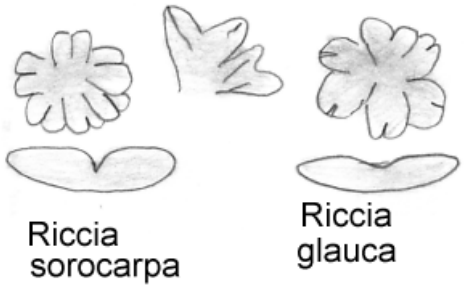
1. Thallus forming roughly circular rosettes

(Sometimes partial rosettes)

Mostly in arable fields or reservoir mud. Occasionally on bare ground elsewhere

●***Riccia sorocarpa*** deeply grooved along most of the limbs of the rosette (groove V-shaped in cross section)

●***Riccia glauca*** groove shallower and less acute, confined to tips of the rosette limbs.



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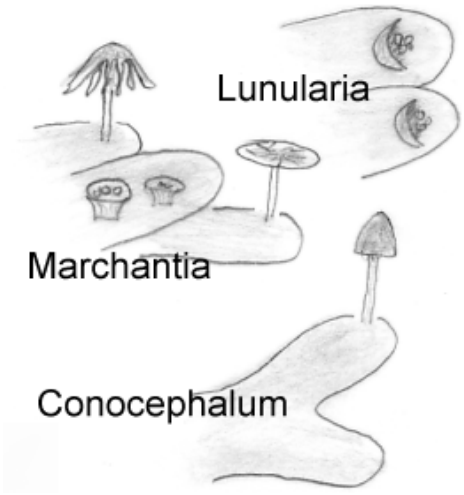
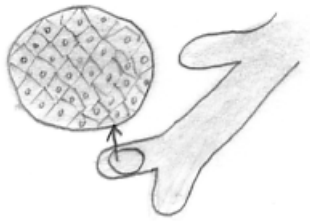
2. Thallus 5 mm or more wide forming forked ribbons, thick and opaque, the surface covered with a diamond-pattern with a pore (pimple) in each diamond.





●***Lunularia cruciata*** has disk-shaped gemmae in crescent-shaped cups

●***Marchantia polymorpha*** has gemmae in "goblets"and/or"palm tree" female structures and/or "sunshade" male strucures.

●***Conocephalum conicum*** is strongly lemon-scented when bruised. Conical female structures sometimes present.

(The lemon scent is very distinctive, otherwise in the absence of gemmae or reproductive structures it is difficult to separate the species though *Marchantia* is greyer-green than the other two. A second species, *C.salebrosum* is hard to distinguish from *C.conicum*).

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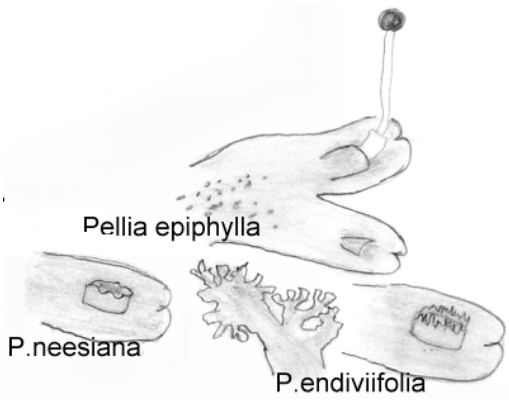
3. Thallus at least 5 mm wide (often much more), forked, thick and opaque with no regular surface pattern, shallowly notched at tip. Midrib present .

(The midrib is usually apparent below, and always obvious in transverse section - cut across the thallus and view end-on)



●***Pellia epiphylla*** Capsules emerging from a flap-like "pseudoperianth". Male structures like dark "pimples" present further back on same thallus

●***Pellia neesiana*** Pseudoperianth a cylinder, its top undulate or coarsely toothed. Male structures absent or present on separate thallus (scarcer than other *Pellia* species)

●***Pellia endiviifolia*** Pseudoperianth a cylinder, its top finely toothed or tattered. Male structures absent or present on separate thallus Thallus sometimes repeatedly divided and "frilly". *Pellia* spp. cannot be named to species unless pseudoperianths (with or without capsules) are present, except for *P.endiviifolia* in its frilly state. *P.epihylla* can be safely named if even very rudimentary pseudoperianths are present, if male structures are present on the same thallus.

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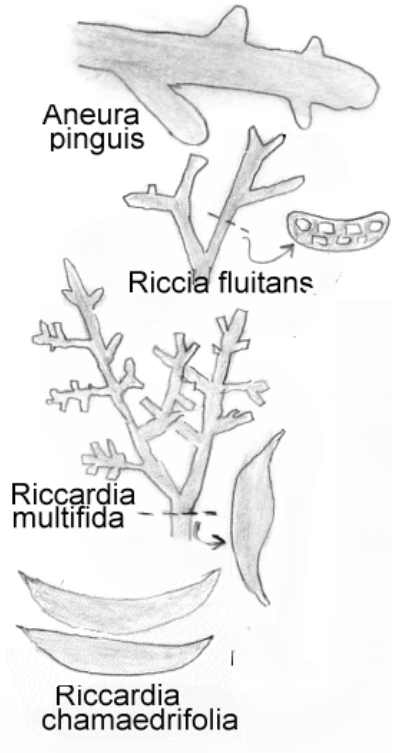
4. Thallus opaque, thick, less than 5mm wide, without midrib and without central darkline

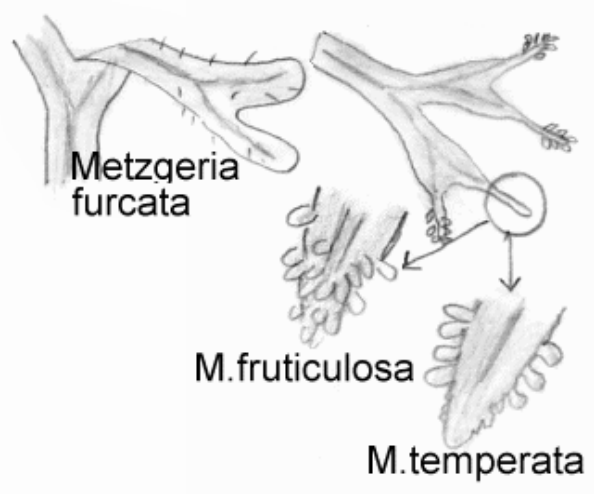
(Mostly on wet rock or soil)

●***Aneura pinguis*** thallus 2mm wide or more, sparingly branched
●***Riccia fluitans*** plants floating on water, less often on mud by water. Thallus (cross section) with large air chambers (scarce).
●***Riccardia multifida*** abundantly branched. Thallus with conspicuous transparent margins, mostly biconvex in cross-section (rather scarce).
●***Riccardia chamaedrifolia*** usually less branched than *R.multifida*. Thallus with inconspicuous or no transparent margin, section mostly concave-convex or plano-convex.

(The last two species cannot always be reliably distinguished without microscopic examination)



5. Thallus translucent and thin, except in the centre. Midrib present, conspicuous dark band on upper surface (Almost always on trees)



●***Metzgeria furcata*** thallus branches of uniform width
●***Metzgeria fruticulosa*** some thallus branches conspicuously narrower than others, bearing gemmae over complete surface of the tips.
●***Metzgeria temperata*** as *M.fruticulosa* but gemmea confined to edges of thallus. (Much less common)

Rare species not included in the key include:

Metzgeria conjugata has its thallus border turned downwards, unlike the *M.furcata* which is flat.

Anthoceros spp. Resemble Riccias and are also found on arable fields. They are frillier than *Riccia* species and unmistakable if the long thin capsule is present.

Preissia quadrata has a thallus like *Marchantia polymorpha* but the fruiting bodies are conical and divided into four contiguous segments, unlike the many spreading segmented "palm trees" of *Marchantia*. Limestone or tips with limy waste.

Several rare *Riccia* species differ from those in the key either in being flatter, ie scarcely tapering toward the margin, or in having conspicuous holes in their upper surface.

Several rare liverworts occurring on dune-slacks have not been mentioned.