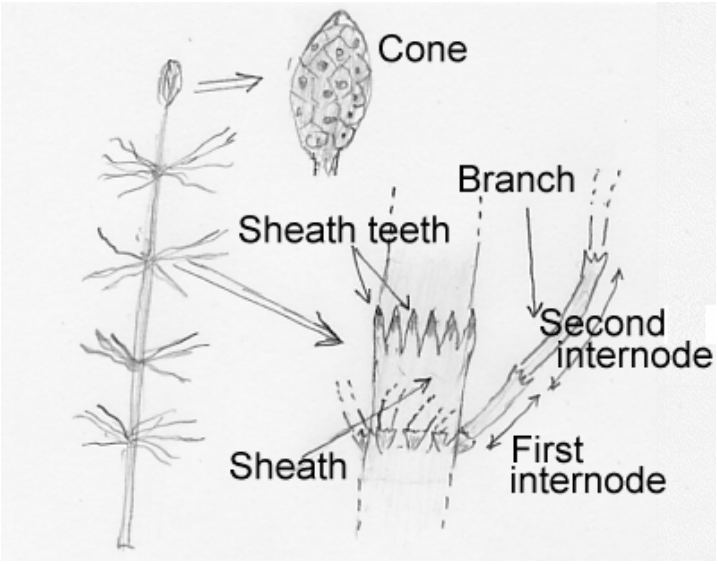
Guide to Horsetails (*Equisetum*) Frequent in NW England

(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)

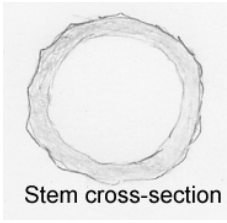
Last revised 3/10/08



Horsetails have jointed stems, each section fitting into a *sheath* of the section below. The *teeth* at the the top of the sheath are important in determining the species. A whorl of *branches* arises at the base of each sheath (in most species). Like the stem these are jointed; each section is called an *internode*, each fitting into the sheath of its predecessor, as on the main stem. The length of the first internode (relative to the adjacent sheath) is an important character. Do not confuse the first internode with the little "cup" at the base of the branch.
The stems may bear spore-bearing *cones* at the tip. In most species they are carried on the ordinary (green) stems but in *E. arvense* and *E. telmateia* they usually occur on specialised unbranched stems without chlorophyll. Cones of *E. telmateia* are larger (usually >4cm long) than those of *E.arvense*. Note however that both these species can bear cones on the normal stems, albeit infrequently in *E.telmateia* and rarely in *E. arvense*.
Horsetails may be confused with the (scarce) Marestail (*Hippuris vulagaris*), a flowering plant, but the leaves of that species are flattened, unlike the branches of *Equisetum* spp.

1.Stem with large central hole, diameter at least 75% of stem diameter

●***E. fluviatile*** (Water Horsetail)


Stem cross-section

(In other species the central hollow is no more than 50% of the stem diameter, often much less)

Usually in water. With experience, immediately identifiable by the soft feel of the stem when squeezed. Frequently occurs as a simple bare stem, lacking branches but sometimes copiously branched, especially in shade.

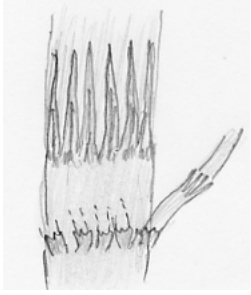
2 Branches branched. Sheath teeth papery, brown with narrow central black region.

●***E. sylvaticum*** (Wood Horsetail)

Often said to be the only species in which the branches are themselves branched, but this is not infrequently true of *E. arvense*, especially after damage by grazing etc. *E. arvense* has very different sheath teeth (see below) and the branches are much stouter than those of *E. sylvaticum.* Moreover, green shoots of *E. arvense* very rarely carry cones, whereas cones are frequent in *E. sylvaticum*.

3.Stems white, usually 8mm or more thick, Sheath teeth numerous, long and thin.

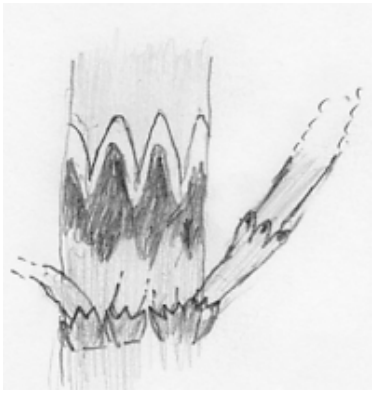
●***E. telamteia*** (Giant Horsetail)



By far the largest species and usually recognisable by its large size and white stems. Whorls of branches occur right to the top of the stem and the upper branches are scarcely shorter than the lower, giving a characteristic "lopped" appearance. The branches are markedly rough to the touch, much more so than in any other species. Note that robust forms of E.arvense with whitish stems are not infrequent. But these plants are never as big as typical *E.telmateia* and the sheath teeth are very different.

E.arvense sometimes has whitish stems but is never so large and the sheath teeth are very different

4. First internode shorter than sheath; sheath teeth with broad white margin.

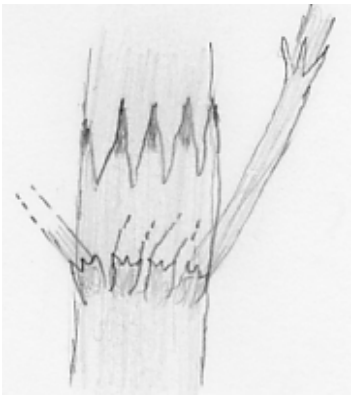


●***E. palustre*** (Marsh Horsetail)

Usually in wet places. It can often be spotted by the tendency of the branches to sweep upwards. Cones are commonly carried on the green shoots (very rare in *E.arvense*).

Another helpful character is the form of the teeth of the sheaths of the *branches*. They adhere closely to the branches and are usually black-tipped (see *E.arvense* below for differences).

5. First internode longer than sheath, sheath teeth green with black tips.



●***E. arvense*** (Field Horsetail)

The teeth of the *branch* sheathes in this species tend to spread rather than clasp the branch, and they are not usually black-tipped (cf. *E.palustre*)

A very variable species which ca be confused with several others unless attention is given to detailed characteristics.

Other species

E.variegatum (Variegated Horsetail) is most likely to be found in dune slacks. It is usually smaller than other species, unbranched, or very sparingly branched and the sheath teeth have broad white margins somewhat like those of *E.palustre*.
E.hyemale (Dutch Rush) is very rare. It is like a robust branchless *E.fluviatile* but the stem is very rough rather than perfectly smooth.
Several **hybrids** occur. Most are rare but *E. fluviatile x E. arvense* is quite frequent. Big colonies of plants with stem cavities ~ 50% of the stem are likely to be this hybrid..

References

Useful photographs can be found in:
H.M. Jahns *Guide to the Ferns, Mosses and Lichens of Britain and Northern and Central Europe* (Collins Photo Guides)
R. Phillips *Grasses, Ferns, Mosses and Lichens Of Great Britain and Ireland* Pan

For a complete reference to British and Irish species see
C. Jermy and J. Camus *The Illustrated Field Guide to Ferns and Allied Plants of the British Isles* Natural History Museum
and for is an advanced treatise with full technical details:
C. N. Page *The Ferns of Britain and Ireland* Cambridge