

Equisetum pratense Ehrh.

Shady Horsetail

Equisetum pratense is perennial, rhizomatous horsetail with many whorls of simple, thin, rough branches triangular in cross-section. The branches tend to be swept to one side, giving a distinctive appearance in the field. Sheath teeth are fine, dark, straight and well separated. It is usually found in damp, mineral-rich sandy-cleyey soils and base-flushed slopes by the edges of rivers and stream margins and under light shade in open woodland. Thinly scattered across Northern Ireland and Scotland, it is absent from Wales and rare in England, with its southern range limit in Teesdale, County Durham. It is assessed as of Least Concern in Great Britain but Near Threatened in England.



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IDENTIFICATION

Equisetum pratense is a small to medium-sized (to 50 cm) horsetail bearing many whorls of thin branches which are usually simple, not branched. A tendency for the apical branches to be swept to one side (downslope), their rather pale colour and slender delicate appearance are all useful characters (e.g. Page, 1997a; Stace, 2010).

Identification can be confirmed by the triangular section of the branches, the rough stem, and by the sheath-teeth which are fine, dark with white scarious margins, straight and well-separated (Poland & Clement, 2009). Emerging shoots have a different outline to the mature ones, but retain the delicate appearance at all stages.



Equisetum pratense at Holwick Bridge. ©Jeremy Roberts.

SIMILAR SPECIES

Equisetum pratense plants occasionally have divided branches (e.g. Durkin, 2011), creating possible confusion with *E. sylvaticum*. This latter species, however, has regular secondary branching whereas the branches of *E. pratense* are only sparsely and very irregularly branched. In addition, the sheath teeth of the main stem of *E. sylvaticum* are different, being broader, paler and often partly fused, creating a 'chaffy' appearance, and the branch section is often cross-shaped, especially in the proximal parts. Small specimens of field horsetail *E. arvense* have thicker branches (>1 mm) which are also cross-shaped, not triangular, in section.

Hybrids between *E. pratense* and *E. sylvaticum* (*E. × mildeanum*) and *E. littorale* (*E. × mchaffieae*) have been recorded in Scotland (Page, 1988; Page et al., 2007). See also Stace et al. (2015), p.12, for tips on the identification of *E. × mildeanum*.

HABITATS

Equisetum pratense is a plant of lightly-managed grassland over damp, sandy-cleyey soils, commonly associated with periodically inundated river and stream margins where it can form quite extensive linear colonies.

In Scotland populations typically occur under light shade in open birch/willow woodland with a rich ground flora of tall herbs (Page, 1997a), as well as on lightly-shaded base-flushed slopes below calcareous cliffs with vegetation attributed to NVC U15 *Saxifraga aizoides-Alchemilla glabra* banks.

Streamsides populations in the north of England are more commonly associated with vegetation with similarities to NVC MG3 *Anthoxanthum odoratum-Geranium sylvaticum*

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grassland.

BIOGEOGRAPHY

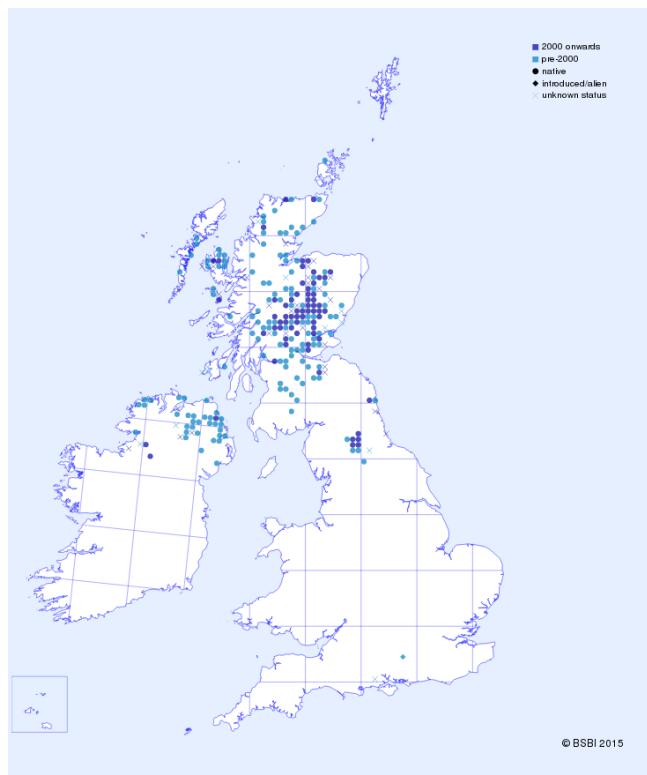
Equisetum pratense is a Boreal-montane plant with a circumpolar distribution, occurring throughout North America, Iceland, northern and central Europe, extending southwards to the Alps and Carpathians, across most of northern Asia to Japan and Kamchatka (Page, 1997a).

It is scattered thinly throughout Northern Ireland and Scotland, especially in the central and eastern Highlands north to Caithness. It is very rare in the south of Ireland, with recent single records from West Donegal, and on limestone cliffs at Cloonptyrughlish, County Leitrim. In England it has a restricted distribution leading to an assessment of Near Threatened (Stroh *et al.*, 2014), being present in north-west Yorkshire, Durham, and South Northumberland, with the population at Upper Teesdale representing the southern limit of its British range (Preston, 2007). The distribution of *E. pratense* quite closely mirrors that of *E. sylvaticum*, but *E. pratense* is usually sparser within its narrow range (Page, 1997a).

In Britain *E. pratense* occurs up to at least 915 m AOD (Page *et al.*, 2007) and is recorded up to 1,400 m in the mountains of mainland Europe (Prelli, 2001).

ECOLOGY

Equisetum pratense is a perennial, rhizomatous fern, the shoots of which die back in autumn. New shoots emerge from



Distribution of *Equisetum pratense* in Great Britain and Ireland.

mid-late April and are fully expanded by May, with spores produced from May to August. However, plants often do not form cones, with fertile cones perhaps only now produced in more northerly locations from central Perthshire onwards (Page *et al.*, 2007). This is in contrast to a century ago, when fertile material was collected from the edge of its southern range in Britain (Page, 1997b). Plants in this area now persist in an entirely vegetative condition.

This behaviour may be a response to climate change (Page, 1997a), which is perhaps more apparent in northern England than on the Atlantic edge of its range in Scotland. However, vegetative spread appears to be very effective. For example, substantial linear stands are found alongside the Tees, and the Harwood and Langdon Becks within deep, alluvial, sandy soils flushed by base-rich water.

THREATS

Although there are probably few threats to *E. pratense* in the short-term, some colonies growing on the eroding alluvial margins of riverside meadows and pastures may suffer losses, although colonization of new sites presumably might also occur through this same mechanism.

Quite large colonies continue to persist along abandoned river courses with moderately advanced scrub succession and tall vegetation, although Page (1997a) reports succession as a long-term threat, and where river systems have been substantially realigned (e.g. River Tees post-dam construction in 1970), the greater stability of the fluvial regime may decrease long-term opportunities for establishment.

MANAGEMENT

In instances where *E. pratense* grows in flushed banks in hay meadows, management should seek to replicate traditional practices. In some places river scour may play a role in keeping competition low, and consequently management under such scenarios should aim to be non-interventionist, maintaining the 'natural' course of the fluvial system.

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