from early post-glacial times.

Sheep's Sorrel (May-August)

A small plant (25cm) often in short, acid grassland. Slender flower stalk with brownish flowers. Leaves arrow-shape with basal lobes pointing outwards. Up to 30cm. The sharp flavoured leaves can be used to 'pep-up' sandwiches.

Hard fern

An easy fern to recognise. Dark green, prostrate basal fronds (leaves), strap-like with deeply cut, narrow lobes on each side. Spore bearing, fertile fronds are erect, with the edges of narrower lobes, wrapped around the spore. (30cm)



Bracken (see also Walk 2)

A very common, tall fern (2m): frond, roughly triangular shape, divided into three main sections. A serious weed. Essentially a woodland plant, "'tis said there is 'gold under bracken'" alluding to the sometime, underlying deeper soil and former forest cover of the area. Bracken is a world-wide plant, including Australian forests.

Marsh Community on the north side of the path

Bog Asphodel (July–September)

In wet acidic marshes/bogs. Flat, sword-like leaves

of uneven length turning dull salmon-red in autumn. Spikes of golden yellow, 6 petalled, lily-like flowers with furry anthers and – later, reddish fruits. Bleached fruit spikes persist into the winter. (30cm) **Bog Stitchwort** (May–June) A slender, hairless plant



with opposite pairs of elliptical, pale green leaves, about 1cm long. Inconspicuous white flowers with 5 petals, deeply cut into 2 widely diverging lobes, shorter than the green sepals. 10-40cm tall, in wet places. Compare with Greater Stitchwort.

Fen Bedstraw (July–August)

A slender straggling plant with whorls of 6-8 sharp pointed leaves. Square stems with backwardly pointing prickles on the angles. Flowers small white stars. Up to 40cm.

Marsh Thistle (July–September)

A handsome, prickly plant of damp, marshy ground. A biennial, with a basal rosette of leaves in the 1st year followed by a tall stem (up to 150cm) crowned with a cluster of red-purple flower heads. Plants are usually shot-through (diffused) with red anthrocyanin (the colour in beetroot); forms without this pigment have white flowers.

Hazel (January–April)
A many stemmed shrub (up to 6m) with hairy shoots and leaves, round/oval leaves with irregular teeth, turn orange/red in the autumn.
Male catkins, formed in the



autumn, expand and open before the females whose red stigmas protrude like a snake's tongue from buds near the ends of the stems. Hazel nuts, surrounded by a leafy husk, develop over the summer.

Aspen (February –April) (see also Walk 2)
A tall tree (to 20m) with round, hairless leaves on long, laterally flattened stalks that enable the leaf to dance in the wind. Many sucker shoots arise from the roots and can develop into an aspen thicket (as near Wynch Bridge). These have large, heart-shaped, pointed leaves on short stalks and may be bronze-green. Light-demanding and one of the oldest, deciduous trees in Northern Europe, evidence from bogs of 12,000 years ago.

NORTH PENNINES

Area of Outstanding Natural Beauty

The North Pennines is one of England's most special places – a remote, unspoilt landscape with a rich history and vibrant natural beauty. It was designated an Area of Outstanding Natural Beauty (AONB) in 1988. The North Pennines AONB is also Britain's first European Geopark and a founding member of the UNESCO Global Geoparks Network.

Produced and part-funded by **Upper Teesdale Botany Group**

Contact: 01833 650 589 All photographs © M E Bradshaw

Further information

Plants of Upper Teesdale (1997) and Wild Flower Walks of Upper Teesdale (2005) by Christopher and Gayle Lowe

The Natural History of Upper Teesdale (2003) Ed. Margaret E Bradshaw

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TEES BANK FLOWERS

FLOWERS AND FERNS
HOLWICK HEAD BRIDGE
TO HIGH FORCE



This 0.45km (1/4 mile) walk beside the River Tees enters the Upper Teesdale National Nature Reserve and has a wealth of wildlife, including numerous plant species. Many are common British species and some belong to the 'Teesdale Assemblage' – a uniquely rich association of plants for which Upper Teesdale is famous. The plants included here are the larger flowering ones, trees and ferns that can be seen, at the appropriate time of the year (when they are flowering), from this well-used path. Not all will be in flower on one visit. The flowering times indicated are for the peak period.

To prevent trampling on inconspicuous and perhaps rare plants it is advisable to keep to the path and already-trampled areas; please do not extend them.

On Holwick Head Bridge

Maidenhair Spleenwort

Attached to the stone parts of the bridge are many tufts of this dark green fern. The fronds (leaves) have opposite pairs of oblong segments on a wiry, dark-brown rachis (midrib). With it is **Wall-rue**, which has a lobed frond.

Bridge to the stile into the National Nature Reserve

Lady's Mantle (May-July and September)
A common plant of meadows, roadsides and pastures. Basal leaves round to kidney-shaped, with toothed lobes, hairy or hairless. Small, greenish-yellow flowers in clusters on much branched flower-stems have a scent of apricots. The several species are separated by hair cover and shape of the leaf and leaf-lobes. The most common is virtually hairless. Alchemists are said to have collected the dew from the funnel-shaped leaves for their experiments. Height of basal leaves 4-40cms.

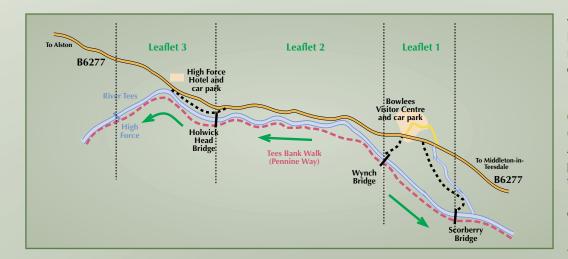
Tall rushes (June–July)

Tufts or dense stands of tall (60cms) green stems. Two kinds: both have small fawn/brown flowers. Jointed rush has flattened, tubular leaves with crossbars which can be felt if the leaf is gently squeezed. Soft rush is unbranched, with clusters of flowers a short distance below the sharp-pointed tip (be careful) of the stem. The spongy pith was soaked in tallow and used as a candle. Rushes were traditionally used for thatch and are still occasionally used as bedding for cattle.

Meadow Sweet (July–September)

A familiar tall plant of damp places. Stiff, redtinged stems, up to 150cm are crowned with numerous, small, cream flowers, looking like a mass of candyfloss. The basal rosette of large leaves with 2-5 pairs of toothed, oval leaflets have a smell of oil of wintergreen when crushed and were strewn on floors in Elizabethan times.

Mountain Pansy (May–August)



Large, flat-faced violets, usually deep, purple-blue,



but with various amounts yellow/white, are found in grassy areas. Pure yellow flowers, common in the Yorkshire Dales, are scarce in Teesdale. An eyecatching flower which often brightens otherwise uninspiring grassland.

Bird Cherry (April–June) A common, upland shrub.

There is an ancient specimen near the path. Leaves are a long oval and toothed. Spike-like inflorescences of strongly scented, cream flowers are pollinated by bees and flies. These develop into small round, black fruits, also known as hag cherries, and are eaten by birds but not palatable to humans because of the high tannin content.

Speedwells

There are three along this walk. In all, the flowers have 4 joined petals, the upper broad, the others narrow. Stem round and leaves in alternating opposite pairs.

Germander Speedwell (May–July) The tallest: stems with 2 opposite lines of long white hairs between the pairs of hairy, toothed leaves. Flowers rich bright blue with a white eye. In some areas it is called Bird's-eye Speedwell (25cm).

Common or Heath Speedwell (May–August)
A creeping, mat-forming hairy plant: elliptical, coarsely toothed, nearly stalk-less leaves. Flowers are lilac, on long, erect, densely flowered stems. 10-15cm.

Thyme-leafed Speedwell

(April–October)
The smallest: creeping, rooting stems, leaves

oblong, hairless, and often shiny. Many flowers, pale blue with violet veins, on erect stems, about 10cm tall.



In the National Nature Reserve

Downy birch, northern form (April–May)
A small tree with diamond-shaped, simply toothed leaves. Young shoots are downy: the slightly sticky buds and leaves emit a resinous scent when damp. Male catkins are pendulous and 4-5 times the length of the erect green females which will



produce copious small winged seeds in the autumn — winter food for small birds.

Tomentil (June–September) Low growing or erect spreading plant with small regular, four petalled yellow flowers resembling a Maltese Cross. Sessile leaves have 3 toothed leaflets, though the two similar sized stipules, make the leaf appear to have 5 sessile leaflets. Very common with the following plant in acid grassland.

Heath Bedstraw (June–August)

A mat-forming, low growing plant with leaves in whorls of 6-8, each broadest

near the tip and with forwardly directed marginal hairs. Flowers small with 4 petals, star-like, in clusters on branched stems up to 20cm long.

Heath Bedstraw

Heath Milkwort (April–August) A small, slender, almost prostrate plant with narrow, dark green elliptical leaves. Flowers usually blue: two of the

five sepals are large and coloured and enclose the rest of the flower. Fruits are a flat, winged capsule with 2 seeds, each with a white oil body, attractive to ants.

Juniper (May–June)

An evergreen shrub, spreading or columnar, with



short sharp pointed leaves in whorls of 3, shiny green below, grey above. Separate male and female plants, the small yellow/brown males produce clouds of pollen. The spherical females ripen in their 2nd

or 3rd autumn into blue-grey 'berries'. Oil of Juniper has medicinal and antiseptic properties and the 'berries' are used to flavour gin and in many culinary dishes.

Vow

A dark evergreen tree with short, flat, dark green leaves (poisonous). Male trees produce abundant yellow pollen. Separate female trees have small spherical green 'flowers', and later, fruits with pink, sticky flesh around a hard, green seed. A relict