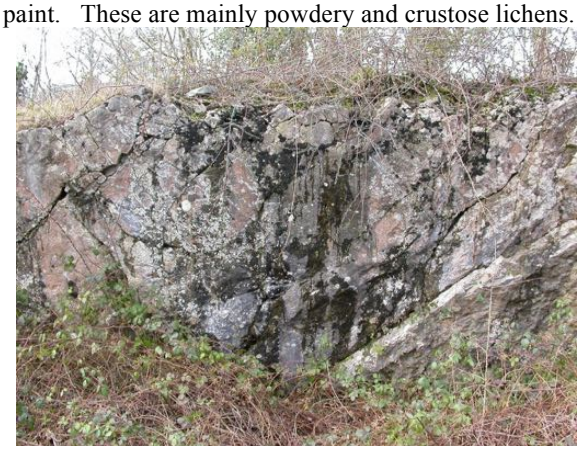
# AN INTRODUCTION TO THE LICHENS OF THE DINAS ROCK/SYCHRYD AREA

The lichens described and illustrated can all be easily seen from the car park and path. Although a hand lens is useful to look at small features, all these lichens should be easily spotted with the naked eye. Some common names are given alongside scientific names, but not all lichens have been given a common name. A general introduction to lichens is also available and it may be useful to use it alongside this leaflet.

## Rock outcrops in the car park

Close inspection of the rock exposure on the north side of the car park will show that almost all the rock surface is covered by a thin layer of lichens, some looking like paint. These are mainly powdery and crustose lichens.



The pinkish lichen is called *Gyalecta nidarosiensis*. It forms a powdery crust on vertical dry limestone.

The black patches are a Jelly Lichen *Leptogium plicatile* – a close look will show that jelly-like lobes are partly covered in small round blobs – these blobs are vegetative structures called isidia and can fall off to form new plants.

Several other lichens in a range of colours are also present on the this rock exposure -

The small outcrop by the path that leads to the Afon Mellte has a many small competing patches of black, white and grey crustose lichens that are common on well-illuminated hard limestone.

Most of these are Speck Lichens *Verrucaria* species. Positioned where they are by the path, these lichens appear to be able to withstand some trampling. Some of them appear to be covered with black dots.

A closer look will reveal that many of the dots are in fact deep pits, left when the black reproductive structures drop out. This particular lichen is called *Verrucaria baldensis*. Speck Lichens actually live protected within the rock.

## Trees and shrubs around the car park

Well illuminated trees and shrubs at the edges of the car park have large shrubby tufts of green-grey lichens. The main species is Oakmoss Lichen *Evernia prunastri*, which has flattened branches with white undersides.

Often growing alongside Oakmoss Lichen is a similar shrubby, but more slender lichen named Dotted Ramalina *Ramalina farinacea*. Although this lichen also has slightly flattened branches, they are not as wide as in Oakmoss Lichen and they are also a similar colour above and below. Another distinguishing feature is the granular discs along the margins of the branches.

There are also tufts of even more slender *Usnea* lichens. These are known as Beard Lichens and are often very abundant on Larch trees in nearby plantations. Some species form tufts 0.5 m long or more.

Several 'leaf-like' lichens can be seen on trunks and branches of many of the trees and shrubs around the car park. The most common is a Ruffle Lichen *Parmotrema perlatum*, which almost always has granular vegetative reproductive structures on the margins.

Some twigs also have a related brown-coloured lichen *Melanelixia subaurifera*.

Another related species, the Hammered Shield Lichen *Parmelia sulcata,* has colonised the National Park information sign in the car park.

Dog Lichen *Peltigera* is present on mossy tree bases alongside paths by the Mellte and Sychryd and on the outcrops at the start of the path that leaves the car park and goes up and over Dinas Rock. These are some of the largest lichens and can be common on shady moss-covered walls and trees. Several species are present.

## Trees by the path along the Sychryd

Many of the smooth-barked trees along the Sychryd have pale patches on their trunks.

A closer look will reveal that within these patches are many dark scribbles - these are the reproductive structures of one of the Graphic Lichens *Graphis scripta.*

## Cliff along the Sychryd

The limestone cliff face by the Sychryd footpath is dotted with yellow and orange lichens. Most of these are Firedot Lichens.

The most common is *Caloplaca flavescens*. Often a whitish circular zone is present behind the leading margin as can be seen on the photograph to the left.

A similar but much scarcer Firedot Lichen, *Caloplaca cirrochroa*, also grows on the vertical limestone. The centre of this lichen often falls away to leave worm-like lobes.

A third Firedot Lichen, *Caloplaca xantholyta*, has a rather powdery appearance and more yellow colour.

Also present on the cliff face are blue-fringed patches of the Ink Lichen *Placynthium nigrum*. This lichen is quite common on lime-rich substrates including concrete.

On damp limestone and where rain channels have formed, particularly on the crag by the waterfall, *Dermatocarpon miniatum*, sometimes called the Common Stippleback Lichen, can be abundant.

Common Stippleback *Dermatocarpon miniatum* forms large patches comprised of lobes about 5cm across. A close look will reveal that the lobes are covered in many dots.

The dots are openings to small flask-shaped structures, embedded in the body of the lichen, which produce spores.

Text and photographs: G S Motley

SWOAPG Sychryd Gorge Area Resources

# COMMON MOSSES AND LIVERWORTS IN THE DINAS ROCK AREA

The species can all be easily seen from the car park and path, so there should be no need to wander off the path and trample the woodland ground flora. appreciate many bryophytes it is useful to look at them through a x10 hand- lens, but all the species illustrated here should be recognisable with the naked eye. Further detail and information can be found in Liverworts of Britain and Ireland - a Field Guide *Atherton I. et al. (2010) British Bryological Society*, which illustrates in full colour almost all moss and liverwort species occurring in Wales and the rest of Britain. The individual species accounts from the Field Guide can also be viewed at www.bbsfieldguide.org.uk .

## Bare soil in and around the car park.

Looking at the short grassy areas in the car park will reveal that bare areas of soil amongst the turf are often covered by tight colonies of tiny mosses of a variety of shades of yellow, green, brown and sometimes red. A closer look will reveal that these are upright plants that often produce abundant fruits from the upper part of the plant. These are mostly **Beard-mosses** (*Didymodon*s, *Barbula*s and related mosses). Although these plants are superficially very similar in appearance, a closer look will often reveal differences in the shape of leaves (e.g. leaf tips might be rounded or pointed), the way leaves grow out from the stem (some may be erect, at right angles or even point backwards), the shape and colour of fruits, and how dense or loose the moss colonies are. There is no intention to go into any detail about these mosses here, but it is worth trying to appreciate the subtle differences in colour and how quickly some of these mosses can colonise bare ground. **The yellow patches seen around the car park are often Lesser Bird's-claw Beard-moss** (*Barbula convoluta*).

## Walls and rock outcrops.

**Silky Wall Feather moss** (*Homalothecium sericeum*) is a common species found on limestone rocks and on walls. It usually grows tightly pressed to the rock and, particularly when damp, leading shoots often have a triangular profile. When plants are dry the branches curl up and their shiny golden yellow appearance can be very distinctive.

**Grey cushioned Grimmia** forms distinctive, tight and rounded, silvery tufts, whose fruits, when young, arch over and become tucked amongst the leaves, with old goblet-like fruits, held upright.

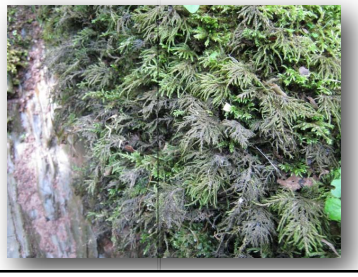
**Wall Screw moss** (*Tortula muralis*) commonly forms hoary patches on wall mortar and concrete, and can also be abundant on roof tiles. It looks dark when dry, but bright yellow-green when wetted and leaves can be seen to have quite rounded leaf tips with a long, smooth silvery hair-point. It produces abundant fruits which are much longer than wide and which are held upright on long stalks. There are several similar species which are most easily recognised by their toothed hair-points and more rounded leaves.

The large boulders by the path along the Sychryd and also around limestone outcrops in the car park often have a very distinctive-looking, golden-coloured moss, whose slender leaves tend to be strongly curved under the plant and in the same direction - this is **Comb moss** (*Ctenidium molluscum*). Individual stems of this moss often have a very triangularshape, a little like Silky Wall Feather-moss above.

**Thickpoint Grimmia** (*Schistidium crassipilum*) and Grey-cushioned Grimmia (*Grimmia pulvinata*) are also common on walls, concrete and limestone and also have leaves with silvery hair points, similar to Wall Screw-moss. However, both these have pointed rather than rounded leaf tip and have very different-looking fruits. **Thickpoint Grimmia** is a sprawling moss, with reddish fruits on a very short stalk, hidden amongst the leaves.

On shaded limestone outcrops at the head of the Sychryd towards the waterfall, can be found sheets of **Rambling Tail moss** (*Anomodon viticulosus*). Although it can sometimes occurs on old walls and even tree bases, it is most abundant on shaded natural limestone rock, where it may form very extensive sheets. It is a rather dull green when dry, often with brownish-looking tips, but when wetted it quickly assumes a bright yellow-green or green colour.

One of our largest, and a relatively common moss of streamside rocks and shaded boulders under woodland, is **Fox-tail Feather moss** (*Thamnobryum alopecurum*). Each individual stem tends to stand apart from it's neighbours, like trees in a miniature woodland.



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## Grassy banks.

Several of the larger pleurocarpous mosses found in Wales grow in grassland heathland. At the junction of the car park and the Sychryd path, the shaded grassy bank on the south side has large patches of **Big Shaggy moss** (*Rhytidiadelphus triquetrus*),which has very red stems and a very chunky appearance.

On the same bank one of its close relatives **Springy Turf moss** (*Rhytidiadelphus squarrosus*) is also present. This is a very distinctive moss, whose individual leaves bend back on themselves (i.e. squarrose). This particular species is very common where soils are not too calcareous. If you have a lot of moss in your garden lawn it may well be this species.

Another obvious moss on this bank is **Pointed Spear moss** (*Calliergonella cuspidata*), one of the few common mosses with very pointed branch tips. Although most abundant in wet grasslands, it is often found in dry calcareous grassland and in garden lawns.

## Woodland ground flora.

Perhaps the most abundant moss on the woodland floor along the lower part of the Sychryd **Common Striated Feather moss** (*Eurhynchium striatum*). The individual leaves have several folds along their length and are quite distinctive. The very tips of branches often look paler than the rest of the plant and help pick out mats of the moss from a distance. Often at this site the moss will grow up the stems of tree saplings and is very obvious in the winter months.

## Shrubs and trees in the car park and along the Sychryd.

The branches of some of the shrubs in the Dinas car park often have rounded tufts of moss,usually with abundant fruits. These are **Crisped Pincushion Moss or Bruch's Pincushion Moss** (*Ulota crispa/ U. bruchii*).These two species are usually easily told apart by the shape of the mature fruits. A distinctive feature of Pincushion mosses is the hairy cap covering the young fruits.

The leafy liverwort **Dilated Scalewort** (*Frullania dilatata*) grows as blackened or dark reddish brown worm-like growths or dense patches, on tree branches and trunks. It is a quite small plant and a lens may be needed to appreciate the individual leaf lobes.

Often the mosses on the lower part of a tree trunk will be different from those higher up. **Mouse-tail Moss** (*Isothecium myosuroides*) is typically abundant on tree bases, especially oak trees. It has a very distinctive fluffy look.

The bark of trees varies in texture and nutrient content and so different trees may have different bryophytes growing on them. **Forked Veilwort** (*Metzgeria furcata*) is a common thallose liverwort of tree trunks in the area, but it is often most obvious on the smooth trunks of ash trees where it forms large round patches. Often when a patch is old, the central part falls away to leave a large green 'O' on the trunk.

Mosses and liverworts are often most obvious in winter after other vegetation has died back. They also tend to do most of their growing at this damper and cooler time of year. Once leaves have fallen, many branches of the large trees overhanging the Sychryd will be revealed to be draped with **Plait mosses** (*Hypnum*), most often **Mamillate Plait moss** (*Hypnum andoi*), which, when growing at its most luxuriant, gives a feeling of being in a rain forest

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## SPRINGTIME PLANTS IN THE DINAS ROCK, SYCHRYD AND MELLTE AREA

The following plants can be seen around the Dinas Rock car park or from paths through woodland by the Afon Sychryd and Afon Mellte. The plants are often at their most obvious in early spring before trees are in full leaf.

### PLANTS WITH WHITE FLOWERS

Barren Strawberry (*Potentilla sterilis*) grows on banks by paths and also around limestone outcrops near the Dinas car park. It produces small white flowers, sometimes as early as February. The leaves and flowers look very similar to those of Wild Strawberry (*Fragaria vesca*), but no strawberries are produced – hence the name 'barren'.

One way to tell whether a plant is Barren Strawberry or Wild Strawberry is to look at the terminal tooth on a leaf – if it is noticeably shorter than those either side, then it will be Barren Strawberry, if longer then it is Wild Strawberry (see photo below). Leaf colour is also slightly different.

Wood Anemone (*Anemone nemorosa*) produces large white flowers in the early part of spring. It is most abundant on calcareous soils, and is considered a good indicator of ancient woodland sites. The deeply divided leaves quickly die-back in summer.

Wood Sorrel (*Oxalis acetosella*) could be confused with Wood Anemone, but Wood Sorrel is most common on more acidic soils and the leaves, which are divided into three leaflets, are very distinctive and often persist throughout the year. This plant, along with clover, is a candidate for the so-called 'Irish Shamrock'.

Wild Garlic or Ransoms (*Allium ursinum*) produces clusters of star-shaped flowers. The strong garlic smell often alerts one to its presence. The scientific name is a reference to it apparently being a favourite of bears (*Ursa* meaning bear).

The heart-shaped leaves of Enchanter's Nightshade (*Circaea lutetiana*) are usually well grown by the end of April and a tall spike of tiny white flowers appears from the top of the plant from about June. It seed is spread easily due to the production of small burrs which attach to clothing and animal fur. Despite the name it is not a member of the poisonous Deadly Nightshade family.

**PLANTS WITH YELLOW FLOWERS**

When not in flower, Yellow Archangel (*Lamiastrum galeobdolon*), may be overlooked as a stinging nettle. It is a member of the mint family, as distinguished by the square stem. A related variegated form with silvery patches on the leaves is grown widely in gardens – unfortunately this form is very invasive and is increasingly finding its way into natural habitats.

Opposite-leaved Golden-saxifrage (*Chrysosplenium oppositifolium*) is most common on damp soils and is very abundant by paths along the Sychryd and Mellte. It is most conspicuous in early spring when it produces abundant tiny yellow-green flowers. As its name suggests, leaves sit opposite each other along the stem.

Two buttercup species with almost identical yellow flowers are common around the Dinas area. Meadow Buttercup (*Ranunculus acris*) is easily distinguished by the deeply divided, pointed leaves.

Creeping buttercup (*Ranunculus repens*) has leaves, often with pale blotches, separated into three distinct parts – the top part on a longer stalk.

A third buttercup species, Lesser Celandine (*Ranunculus ficaria*), is frequent by woodland paths in the area. It grows low to the ground, with heart-shaped leaves sometimes appearing in late January and shiny yellow flowers in March or even earlier. It is a very variable plant, with leaves having many different patterns. A form with chocolate-coloured leaves is commonly seen in garden centres.

Silverweed (*Potentilla anserina*) tends to grow on disturbed or waste ground – it occurs at the edges of the Dinas car park. When leaves are fresh in springtime they have a silvery colour but tend to become greener as the plant matures. It produces many 5-petalled yellow flowers. In the past, and probably before potatoes were introduced to Britain, the roots were eaten (possibly in desperation as they are rather small).

Primroses (*Primula vulgaris*) grow as two forms, with plants having either pin-eyed flowers, where the style (female part) protrudes out of the centre of the flower, or thrum-eyed flowers where the anthers (male parts) protrude. Fertilisation can only take place between a pin-eyed and a thrum-eyed flower and vice-versa.

Herb Bennet (*Geum urbanum*) is also commonly known as Wood Avens. It is a tall upright plant, with small yellow flowers. The common name appears to be a curruption of an old name *Herba Benedicta* - the Blessed Herb, as in the past it was thought to be able to ward off evil spirits.

**PLANTS WITH BLUE FLOWERS**

Speedwells have small blue or sometimes pale purple to pink flowers with a white centre. Several species are present in the area and are common alongside paths. Probably because they often occur on roadsides, they were named Speedwells as a reference to them helping speed you along your journey.

Two Speedwell species growing under trees in the area can easily be told apart by the arrangement of hairs on their stems. Wood Speedwell (*Veronica montana*) (top photo) has hairs all around the stem, whereas Germander Speedwell (*Veronica chamedrys*) (bottom photo) has all the hairs concentrated in two opposite lines.

The most common violet in the area is the Common Dog-violet (*Viola riviniana*). There are several similar species, but Common Dog-violet always has a pale spur at the rear of the flower.

Although Bluebell *(Hyacinthoides non-scripta*) is a common sight in Britain, in the rest of Europe it is quite an uncommon plant. It is estimated that Britain holds over half the world population of the species.

**PINK OR PURPLE FLOWERS**

Herb-Robert (*Geranium robertianum*) is a common woodland plant which produces small pink flowers from April. It is a member of the cranesbill family, so-called because the elongated fruits resemble the head and bill of a crane. This must be an old name as cranes became extinct as a breeding bird in Britain about 400 years ago, although they recently started breeding again in eastern England.

Shining Cranesbill (*Geranium lucidum*) is common on hedgebanks and rocky areas usually where soils are rich in lime. In this area it is mainly found by the path towards the waterfall on the Sychryd. It is named after its shiny leaves. It produces small pink flowers, very like those of Herb-Robert. As summer progresses, the leaves develop a red colour.

Bush Vetch (*Vicia sepium*) is a member of the pea family and is frequent in the Dinas Rock area. Leaves consist of up to eight pairs of leaflets arranged in pairs, with a tendril at the tip. It uses the tendrils to climb amongst other plants and shrubs. Flowers are pinkish-purple and grow in clusters. A similar-looking species with dark purple-blue flowers is Tufted Vetch (Vicia cracca).

Ivy-leaved Toadflax (*Cymballaria muralis*) was introduced to Britain from the Mediterranean about 300 years ago. As its common name suggests, the leaves look like those of ivy. It mainly grows on walls, but it can spread onto natural rock outcrops. Flowers may be present throughout the year. It is most easily seen on the bridge by the entrance to the Dinas car park.

**Unusual Flowers**

Lords-and-ladies (*Arum maculatum*) often puts up arrow-head shaped leaves in February. It has two common forms, with leaves completely green or with black splodges.

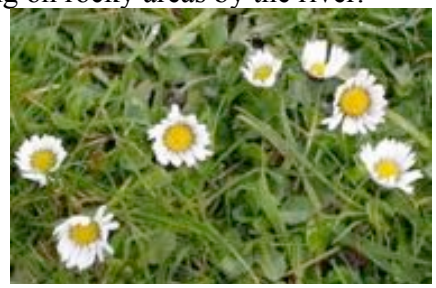
The common alternative name of Lords-and-Ladies is Cuckoo-pint (the 'i' pronounced as in 'tin'). This name refers to part of the flower – 'pint' being an old name for penis.

Grasses and sedges are also flowering plants, but their flowers are often inconspicuous as they tend to be wind-pollinated and so do not need to be colourful to attract insects. Large Wood-sedge (*Luzula sylvatica*) grows on acid soils and is locally common by the Mellte. It often forms dense patches, with new shoots and flowers showing as early as March. Leaves are up to 2cm wide and leaf edges have distinctive long-hairs.

Toothwort (*Lathraea squamaria*) is an uncommon parasitic plant of shrubs and trees, particularly Hazel. White or purplish, teeth-like flowers, push up through the soil in early April, appearing in the same place year after year. Around Dinas it has mainly been seen along the Mellte valley.

Most people recognise a Dandelion (*Taraxacum*), but it is not always appreciated that the 'flower' actually consists of a hundred or so individual flowers clustered together – each yellow 'petal' being an individual flower. About 230 microspecies are recognised in Britain and some are very rare.

Daisy (*Bellis perennis*), like Dandelion, also has a flower head made up of many individual flowers - the central ones are yellow, the outer ones white. It can often be found flowering throughout winter. It is most common in man-made habitats such as lawns, but along the Mellte it can be seen in a more natural situation growing on rocky areas by the river.



The toothed leaves of Dog's-mercury (*Mercurialis perennis*) are often well-grown by the end of February with flowers mainly appearing in March and April. It has separate male and female plants. Flowers are produced on spikes and are mostly green in colour. It is quite common along the Sychryd and Mellte valleys. The term 'dog' is usually a reference to a plant having no fragrance or no useful properties.

Photographs and text: G S Motley

NOTE: this is draft version, which should hopefully be completed in 2014.

**SWOAPG Mellte Gorge Species Lists and ID Chart:**

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| **Hellers Notchwort**<br>*Anastrophyllum hellerianum*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>A tiny plant (shoots less than 1 mm wide and leaves less than 0.5 mm long), so small that it is unlikely to be encountered without deliberate searching. It creeps among Nowellia curvifolia on rotting logs in humid woodlands and is only really made at all detectable by its bright red or purple gemmae, which stick up from the liverwort mat on attenuated shoots like little match sticks. Its leaves are sharply bilobed, although those on the attenuated shoots are small and often tattered. | |
| **Haller Apple Moss**<br>*Bartramia Halleriana*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>A large (shoots up to 15 cm tall), pale, dull green moss, often forming very large tufts and cushions. The strongly toothed leaves are 8 mm or more long and narrowly spearhead-shaped, almost straight when moist, and crisped when dry. The capsule is 2 mm long, and borne on a short (2–3 mm long) seta, hidden amongst the leaves, or held just above them | <br>Moist / Wet Dry |
| **Forcipated Pincerwort**<br>*Cephalozia connivens*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>The shoots of C. connivens are typically 0.5–1 mm wide, with leaves 0.8 mm wide and 0.6 mm long. The leaves are inserted obliquely to longitudinally, and the insertions do not reach the midline of the upper surface of the stem. It has notably large leaf cells, making it look remarkably translucent through a hand lens, deeply 2- to 4-lobed female bracts and a perianth mouth with lobes that have teeth consisting of several cells in a row. | |

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| **Chrysothrix Chlorina**<br><br>**Info taken from:**<br>**www.wikipedia.com**<br><br>Thallus forming a thick (to 1mm.), granular-sorediate crust, greenish- to bright yellow, tending to be more coarsely granular than in the much more common C. candelaris but this difference, formerly used as a key character, is not reliable. Generally on sheltered faces and overhangs of siliceous rocks, rare but locally spectacular, Scottish Highlands, uplands of Wales. | |
| **Fingered cowlwort**<br>*Colura calyptrifolia*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>This tiny liverwort forms pale yellow-green patches, just a few millimetres across. The long, drawn-out beak of the leaves sticking up from the inflated lower part is unique to C. calyptrifolia. Individual shoots are not usually easy to discern, and the complicated leaf structure is not easily comprehensible in the field. Leaves are up to 0.5 mm wide and 1.5 mm long. Perianths, with 5 angled mouths, are frequent. | |
| **Whip fork Moss**<br>*Dicranum flagellare*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>Mid- to yellow-green cushions or patches to 5 cm tall. The leaves are about 3.5– 4 mm long, erect above, but rather more spreading below when moist, occasionally tending to point in one direction, crisped when dry. They are narrowly spearhead-shaped and taper gradually to a long, fine, tubular tip. Small, erect, small-leaved branchlets are usually present at the tip of the shoots. | |

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| **Wilsons Filmy Fern**<br>*Hymenophyllum wilsonii*<br><br>**Info taken from:**<br>**www.ukwildflowers.com**<br><br>This is quite a difficult fern to find simply because it so often grows, as this one was, tangled with mosses which disguise its presence. The thin translucent leaves with veins growing right to the tip are characteristic. It prefers damp rather dark conditions and having taken a piece home to experiment with, is capable of enduring drought. It shrivels and looks dead when deprived of water but like many mosses comes back to life when water is plentiful again. | |
| **Autumn Flapwort**<br>*Jamesoniella autumnalis*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>This medium-sized (shoots 0.5–2.5 mm wide), round-leaved (about 1 mm wide and long) liverwort is often orange-tinged, but sometimes just pale green or even almost red. Its habitat is often the first pointer to its identification because similar Jungermannia species do not grow on logs or trees. Fertile material is easier to identify because male bracts are lobed (entire in similar species). Female bracts are more finely divided, and the perianth has long, thin teeth at its mouth. Y-shaped branching is another diagnostic feature. | |
| **Hutchins Hollywort**<br>*Jubula hutchinsiae*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>This very beautiful, distinctive, pale to dark greyish-green leafy liverwort forms patches or horizontal fans. The leaves are divided into a broad, pointed, coarsely toothed lobe and a small, helmet-shaped lobule. Underleaves are present, bilobed and often toothed. Shoots are 1–3 mm wide, and leaves are up to 1 mm wide and 1.3 mm long. | |

**Large/Smaller White-moss**
*Leucobryum glaucum/juniperoideum*

**Info taken from:**
**www.bbsfieldguide.org.uk**

L. glaucum grows in very dense, glaucous green, swollen cushions or hummocks, turning dirty white when dry, and sometimes over 50 cm tall. The leaves are typically 6–9 mm long, erect and straight, occasionally slightly turned in one direction in larger plants, appressed and overlapping when dry, and largely composed of nerve. The lower, broader part of the leaf is as long as or longer than the narrow, tubular upper part. The hummocks of L. juniperoideum tend to be lower and less swollen, the leaves a little shorter and the lower, broader part of the leaf is shorter than the narrow, tubular upper part. Capsules in L. glaucum are very rare, curved and swollen at the base, while those in L. juniperoideum are slightly more frequent, straight and without swellings at the base. The dense, whitish-green cushions and hummocks are instantly recognizable as Leucobryum; those in more open areas like heaths or mire

Large - Glaucum

Small – Juniperoideum

**Welsh Poppy**
*Meconopsis cambrica*

**Info taken from:**
**www.wikipedia.com**

The flower is distinctively yellow or orange with four petals, and hairy green sepals that fall off quickly after the flower opens. It spreads easily from the numerous small black seeds produced in the summer.

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| **Overleaf Pellia**<br>*Pellia epiphylla*<br><br>**Info taken from:**<br>**www.wikipedia.com**<br><br>The thalli are irregularly branched and are fairly large, growing to over 1 cm wide and several centimetres long. They are green, sometimes with a red or purple tinge. They are fairly featureless with an ill-defined midrib and no visible network of cells on the surface. There are many long rhizoids on the underside of the thallus but no ventral scales | |
| **Dwarf Rock Bristle**<br>*Seligeria pusilla*<br><br>**Info taken from:**<br>**www.bbsfieldguide.org.uk**<br><br>A minute (shoots 2–3 mm tall) species growing in thin, bristly mats. Leaves are spearhead-shaped, sharply pointed, with leaves around the base of the seta significantly longer (about 2 mm long) and thinner than the leaves below (up to about 1 mm long). Capsules are common, egg-shaped and held clear of the leaves on a short, straight seta about 2–3 mm long. The capsule has a peristome. | |
| **Smooth Ladys mantle**<br>*Alchemilla glabra*<br><br>**Info taken from:**<br>**www.ukwildflowers.com**<br><br>This plant has an interesting distribution being quite common in Wales, very common in Northern England and Scotland but almost totally absent from England south of Derbyshire. It is most easily found in hilly areas where it likes to grow alongside streams and in damp places. The bright green, almost totally hairless leaves on a fairly large plant for an Alchemilla are very striking in the sunshine. This is one of the Alchemilla aggregate which is fairly easily identified. | |

**Tunbridge Filmy Fern**
*Hymenophyllum tunbrigense*

**Info taken from:**
**www.plant-identification.co.uk**

Indusium c 1 mm long, fronds c 2-8 cm long. ID: If indusia present, easily told by their toothed margins, as in picture on left (indusia are the cups surrounding the dark sori). If not, best told by dark veins not reaching the end of the frond segments.

This list is not extensive or exhaustive; there are a huge range of things to fing in the gorge from tiny green things to huge expanses of trees and other species. Additional species listed in the gorge include:
Brookside Feather Moss, Pimerella Iutea. Truck Pawwort, River Pocket Moss, Greater Whipwort, Bed Pocket Moss, Giant Spear Moss, Herb Roberts, Common Yellow Sedge, Horsehail Threadwort, Great Scented Liverwort, British Featherwort plus many more….

This resource has been produced in our commitment to the SWOAPG Environmental Charter to aid instructors and outdoor leaders working with groups be better informed and aid their learning and sharing of information, especially in such sensitive sites as found in the Mellte gorge. For more information aobut the SWOAPG and the Environmental Charter please visit: www.swoapg.org.uk

Information has been collated by Tom Partridge and formatted for easy use, additional resources and guides can be found on the SWOAPG website. Information and photos in this resource have been located from the internet and their validity cannot be guaranteed. Sources of information include:
www.bbsfielgguide.org.uk, www.wikipedia.com, www.plant-identification.co.uk, www.ukwildflowers.com

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