

PLANTS AND THEIR HABITATS AT DUBWATH SILVER MEADOWS

INTRODUCTION:

Dubwath Silver Meadows is a marvellous place to look at and learn about wildlife - and plants are a very important, perhaps the most important, part of wildlife simply because everything else depends on them. Wild plants don't just grow anywhere - particular plants have particular preferences and tend to grow in places, with other plants with similar preferences, that have particular characteristics in terms of soil (whether limey or acid), wetness (dry or waterlogged), light (open or shady), and how the land is managed by people (is it grazed by animals, cut, or allowed to grow up into woodland?). The relationship between all these things is called ecology. A group of plants that has similar preferences in terms of its ecology is called a plant community and the particular place where these ecological preferences are found is called a habitat.

Dubwath Silver Meadows supports an amazing variety of plant communities and habitats that range from open wetland to wet woodland and from open grassland to dry woodland. While this variety does reflect natural ecological characteristics, it also reflects, in very important ways, centuries-old human intervention in the ecology, mainly through grazing animals and cutting of vegetation. Without grazing and cutting, the reserve would be covered almost entirely by woodland plant communities and much of the variety in plant and therefore other wildlife would be lost.

PLANT COMMUNITIES:

Dubwath Silver Meadows is an amazing mosaic of different plant communities and habitats. It is made up of mainly wetland habitats:

Mire (open habitats where water lies not far beneath the land surface);

Swamp (open habitats where water lies at or above the land surface);

Wet woodland (shaded habitats where wet-loving trees like willow and alder are dominant - otherwise called 'carr' woodland) but also of smaller areas of dryland habitat;

Hay Meadow (open habitat dominated by grasses and perennial herbaceous plants);

Dry woodland and hedgerows (shaded habitats dominated by tree and shrub species like ash, hazel, rowan and bird cherry).

Angelica (*Angelica sylvestris*)

This is a tall plant, growing up to 2m (more usually 1.5m), and very common and characteristic in the damper areas of Dubwath Meadows. The white or pale pink flowers are found in compact round heads or umbels at the top of leaf stalks, which swell to an inflated sheath where they meet the round and purplish hollow stem. Angelica flowers from June to September.

The seeds of angelica, which are winged to aid dispersal and are bitter to taste, are used to flavour alcoholic beverages such as Vermouth and Chartreuse.

The plant has long been given its angelic name because of its seeming ability to cure anything - it was considered to be a great defence against evil spirits, witches, spells, scurvy and the plague. The stem can be eaten fresh and the leaves boiled to a stew for storage.

Common Valerian (*Valeriana officinalis*)

This again is a tall plant (up to 1.5m) and very common in the wetter parts of Dubwath Meadows, often growing with Angelica and Meadowsweet. It has very attractive pinkish-white small flowers growing closely together at the end of tall stems - these flowers appear from June to August, and turn into feathery seeds which are dispersed by floating on the air.

Valerian, otherwise known as All-Heal, is well-known as a medicinal herb used for calming the nerves, encouraging sleep and reducing blood pressure. When bruised, the plant is strongly attractive to cats which feel compelled to roll on it. It is also attractive to rats and can be used as rat bait (it is sometimes said that the Pied Piper of Hamelin secreted parts of valerian about his person to gain his rodent following).

The name Valerian is said by some authors to derive from Valerius, who first used the plant in medicine, while others derive the name from the Latin word *valere* (to be in health) due to its medicinal qualities.

Meadowsweet

Another tall and conspicuous plant (1-2m tall) and again very common in the wetter parts of Dubwath Meadows, Meadowsweet has delicate, graceful, creamy-white flowers clustered close together with a very strong, sweet smell (after which the plant gets its name). The plant flowers from June to September.

The green parts of the plant are aromatic and possess an almond-like fragrance. Because of this, the plant was traditionally spread on floors to give rooms a pleasant odour. Gerard, the great herbalist, noted that: *"the leaves and flowers of meadowsweet farre excelle all other strowingherbs for to decke up houses, to strawe in chambers, halls and banqueting houses in summer-time, for the smell thereof makes the heart merrie and joyful and delighteth the senses."*

The plant is also used to flavour wine, beer and vinegars. It is also a source of salicin and the drug aspirin was named after the old botanical name for meadowsweet - *Spiraea*.

Hay Meadow

This area occupies the slightly elevated ground at the eastern and northern ends of the site. It can be characterised by the presence of Crested Dogs Tail, Black Knapweed, Meadow Vetchling, Oxeye Daisy, Meadow Buttercup, Birds Foot Trefoil and Yellow Rattle.

There is slightly damper ground at the western and central area of the eastern end of the meadow characterised by Soft Rush, Meadowsweet, Ragged Robin and Black Sedge.

These are all part of a recognised presence, occurring on superficial sediments of low calcium content, probably attributable to a relatively recent colonisation of spoil, deposited during construction of the adjacent railway line in the 19th century and, more recently, the new A66.

Snipe Bog

The area to the west of the Wet Heath is known as the Snipe Bog and is dominated by Meadowsweet mire. The area seems to form a mosaic of Common Valerian and

Soft Rush, with the re-introduction of grazing by cattle favouring a spread of the latter at the expense of the former. Meadowsweet is sensitive to grazing and may be outcompeted by rushes and grasses under these conditions.

In these sub-communities Meadowsweet is abundant and dominant; in the Snipe Bog it shares this dominance with Soft Rush. Other characteristics of this tall herb vegetation are Common Valerian, Sorrel, Marsh Bedstraw and Greater Birds Foot Trefoil. Grasses include Tufted Hair Grass, Purple Moor Grass and Yorkshire Fog.

Wet Heath

The plant recognised as colonising this mire is the *Molina caerulea* (or Purple Moor Grass). The area is based on acid peat and dominated by Purple Moor Grass tussocks and is further characterised by Cross Leaved Heath, Tormential (or *Potentilla Erecta*), Devil's Bit Scabious, Marsh Violet, Pennywort and occasionally Heather.

Willow Carr

Open areas in the willow carr between the Wet Heath and the Snipe Bog support small areas of an additional plant community, known as the *Carex rostrata* swamp. *Carex Rostrata* is also known as Bottle Sedge. Stands of this type occupy sides of the ditch immediately to the north of the central boardwalk and extend into the carr in the more open and wetter areas. They occupy an intermediate position between the nutrient poor 'wet heath' and the more nutrient rich Meadowsweet (or *Filipendula*) - *Angelica* mire.

This mire community is found typically where moist, reasonably rich neutral to slightly acid soils occur in situations either protected from grazing or subject only to light grazing. It can be found in topogenous mires, as at Dubwath Silver Meadows, and is especially typical of the silted margins of slow moving streams subject to winter flooding, as in this site, amongst other situations. A topogenous mire is a type of peat bog where *Sphagnum* moss growth is restricted due to lower rainfall than the moss can tolerate.