Woodland biodiversity blog – June

From the drier W16 woodlands with light, poor soils supporting little ground flora or understorey vegetation to wetter stories of woodlands that are often rich in diversity and niche species. After the almost incessant rain of April and May, they can be flooded and difficult to negotiate, but worth exploring!

Wet woodlands are one of our most biodiverse habitats principally because they support a wealth of plant and animal communities, particularly those adapted to suit watery areas. The characteristic of wet woodlands are streams, flushes, springs, mires and floodplains which can often be ephemeral and are increasingly so due to the effects of climate change and abstraction on underground water sources and aquifers.

In NVC (National Vegetation Classification) terms, wet woodland on marsh (including salt marsh tidal plains), riparian transitional woodland, wet flush or springs or upland downy birch moor-grass woodland including peat ranges from W1 to W7. Tree species are typically represented by willow, alder and birch and are often interlaced with 'dryer' woodland mosaics. Carr woodlands are often dominated by willow and alder which are particularly adapted to suit waterlogged, anaerobic conditions where root hairs trap water bubbles. Soils types can range from acid to base rich to nutrient poor, ash, sycamore and hazel are frequently found on the peripheral areas of wet woodland (depending on pH levels) where pendulous sedges dominate the field layer and where dryer transitions occur.

Alder, a colonising species and frequently coppiced, has a preference for moving water, often found lining streams and other watercourses, they can also survive in poorer quality soil due to their nitrogen fixing ability which derives from a root bacteria often forming quite large nodules.

Wet woodland with ephemeral stream

These woodlands are important for many reasons, but primarily due to their support of other ecosystems. They host non-vascular bryophytes, including mosses and liverworts that prefer moist, humid conditions together with dominant pendulous and less dominant remote sedges plus other ancient woodland plants including opposite leaved golden saxifrage, yellow pimpernel, sweet woodruff and wood horsetail.

Wood horsetail (left) and opposite leaved Golden Saxifrage with bugle, yellow pimpernel and sweet woodruff, all flora species associated with wetter woodland habitats

Wet woodlands are home to a significant number of amphibians, particularly common frogs, toads and newts together with cold-blooded reptiles such as grass snakes. Rare willow tits frequent such woodlands plus lesser redpoll and marsh tits and water bodies are important habitats for bats which forage for insects and moths (willow being one of the best host species) in these areas. Decaying wood frequently supports many saproxylic invertebrates.

Often, wet woodlands have been drained for agriculture and nitrification run off from fertilisers create eutrophic conditions in standing water. Such pollution can have a detrimental effect on the quality and mineral richness of the water and the consequential ability to support a diversity of species.

A recent discovery of Large Bittercress (*Cardamine amara. L.)* in a Gloucestershire woodland (rare in Western UK) was of interest. Often considered a common plant, this member of the Brassica family is widespread, but this is a plant of conservation concern and a registered IUCN Red List of Threatened Plants. It prefers trickling water/springs in peat lenses and is distinctive from its recognisable violet anthers and pinnate oval divided leaves (bittercress often has rounded lobes – see photo). It is worthwhile examining these to see what you have. Coralroot bittercress is another example from this family, but in contrast is found in some calcareous woodland of the South.

Large Bittercress (note: violet anther, four petals and toothed, oval lobes) – a distinctive and uncommon plant of wet woodlands