Ecological Flora of the Central Chilterns

Section 5: Salicaceae

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August 2014
Family: *Salicaceae* (Willows)

The willows and poplars are a difficult group to study because they hybridise regularly and the situation is complicated by the planting of cultivars that are double or even triple hybrids. Many of these are undoubtedly under-recorded. Lack of extensive wetland, however, limits the variety we have to contend with locally.

**Goat willow (or Pussy willow) *Salix caprea ssp. caprea***

This is by far our commonest willow, adapted to dry as well as wet places and occurring throughout our area. It seeds prolifically and regenerates itself readily. Cut twigs placed in the ground also root. It never seems to achieve any substantial size or age, however. Its soft white "furry" catkins in fruit are the reason for the common name of "pussy willow".

**Identification**  The catkins appear before the leaves, which are short oval (less than twice as long as wide) and downy beneath but virtually hairless above. The short-leaved willows (the present species, grey willow and eared willow) are often referred to as "sallows". The male catkins start as soft white furry buds that become bright yellow with pollen when they mature. The female catkins are green and longer until they fruit, when they become covered with a white down carried like a blizzard by the breeze in a very efficient dispersal mechanism.

**Notable sites**  Goat willow occurs in woodlands, by ponds and in disturbed places, but largely as individual trees rather than a community, so that no site stands out. Not common in hedgerows.

**Galls**  This tree is exceeded in its variety of galls only by the oak. About 24 different ones are known in this country and eleven are recorded locally: the mite *Aculus laevis*, five midges *Dasineura auritae*, *I. major*, *Rabdophaga rosaria* (branch-tip rosette galls), *Pegomya leucaspis*, and five sawflies - *Pontania bridgmani*, *P. gallarum*, *P. proxima* (the red bean gall), *Eupontania pedunculi* and *Phyllocolpa* sp. In addition, although not formally a gall, the larvae of another *Pontania* species (either *leucaspis* or *leucosticta*) frequently causes rolled leaf edges.

**Mines**  Of the 15 or so lepidopteran miners that might be expected on goat willow in this area, six have been recorded, the generalist *Lyonetia clerkella* (although not noted specifically on willow) and four specialists all seen on goat willow: *Caloptilia stigmatella*, *Phyllonorycter dubitella/hilarella*, *P. salicolella*, *Lasiosphaeria hirsuta*, the generalist *Melampsora caprearum* and *M. epitea* (leaf rusts), *Cytospora salicis* and *Phylloscolpa stibospora* (dead twigs), the not-so-common *Lasiosephaeria hirsuta* (dry log, small hairy dark brown cushions) and the willow mildew *Uncinula salicis*. Although Willow Bracket and Willow Shield are common, neither is specifically attached to willow trees. Finally, the lichens *Lecanora dispersa* and *Parmelia saxatilis*, and the moss *Ulota bruchii*, have all been recorded on goat willow. Despite the tree’s scattered distribution it is common enough to maintain a large assemblage of other species capable of dispersal to locate new hosts.

**Human associations**  Early settlers in Britain, before extensive land drainage, would have encountered willows very commonly and the Salicaceae soon became implanted in folklore, but it is the wetland species, which grow as larger trees, that dominated and were more associated, for instance, with early place-names and boundary markers. The smaller willows like *Salix caprea* have a more limited place, although the spring appearance of the distinctive catkins endeared it to many for its use as "palm" at Easter. All willows contain salicylic acid, a powerful painkiller that is the basis of aspirin, and so willow bark preparations have always been an important part of folk medicine.

**Derivation**  For "willow" see under crack-willow below. "Sallow" is from the Old English *sahil*, from the same Indo-European root that gave rise to the Latin *salix*. The affix "goat" probably means simply "common", in a way analogous to "dog rose" and "horse radish", although goats would no doubt be fond of the foliage.
Goat willow in flower: this is about as big as it gets

Pontania bridgmani galls

Goat willow catkins, short male with yellow pollen, long female with white styles

Goat willow in leaf and fruit

Iteomyia capreae galls

Galls of Eupontania pedunculi (top) & Dasineura auritae (below)
**Grey willow Salix cinerea ssp oleifolia**

As widely distributed as goat willow but much less common and usually by ponds or other wet places. Hardly ever forms a proper tree, remaining as a large shrub.

**Identification** Leaf longer, rolled under slightly at the edge and tending to be wider towards the tip (ovovate). The grey hairs beneath are mixed with rusty ones. Peeling the bark from a two or more year old twig reveals longitudinal ridges not present in goat willow.

**Notable sites** Like goat willow, this species is nowhere particularly notable, but is best looked for in damp areas of woodland, such as Hampden Common, Lodge Wood, Monkton Wood, Peterley Wood or Angling Spring Wood.

**Ecological associates** Same as for goat willow, but the fungi *Diatrype bullata* and *Drepanopeziza salicis* usually occur on *cinerea* and not so much on *caprea*. I have seen the generalist plant-bug *Phytocoris tiliae* on grey willow in Peterley Wood, and the rolled leaf-edge caused by the sawfly *Phyllocolpa*.

**Varieties** The hybrid with *Salix caprea*, *S. x reichardtii* was recorded as a planted shrub at Binders Industrial Estate by Alan Showler in 2010 and confirmed by Desmond Meikle.

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**Crack willow Salix x fragilis**

This is a "proper" tree willow with slender leaves. It grows only in damp places by ponds or rivers, not in woods. Fewer than ten local sites have been noted.

**Identification** The main field character from which this tree gets its name is that the shorter shoots snap off readily at the base. (The separated twigs root readily and if they fall in water can be carried rapidly to further sites down-river, an efficient method of dispersal.) The leaves are bright glossy green above and greyish underneath, narrow lanceolate with a tapered twisted point, finely serrate at the edge, and tend to be pendulous. The long narrow catkins appear with the leaves April-May.

**Notable sites** The best sites in our area are along the River Misbourne, from Missenden Abbey Park down to Little Missenden. It was planted at many of its sites and none of the existing trees may be true natives.

**Ecological associates** In the most part these are the same as for the sallows above.

**Human associations** This and white willow below are the two tall riverside willows that were traditionally pollarded, giving them their distinctive appearance so characteristic of our rivers. This made them natural boundary-markers and they feature often in Anglo-
Saxon place-names. The re-growth at the top of the bole was cut every few years to harvest the poles and twigs, used for fencing, wattlework, basketry, firewood and charcoal. This was a self-perpetuating source of fuel and resources, a natural sustainable economy.

**Derivation** The Old English *weilig* "willow" is from the same Indo-European root related to "bendy", as in "helix" and "wily" (and indeed "sallow"), so that the use of willow twigs in basketry appears to be the ultimate origin of the name. The rustic term "withy", is linked to the same stem, exhibited in Latin by *viere* "to plait" and *vitis* "vine". (NB Latin "v" pronounced like our "w".)

**White willow Salix alba**

This is the other main pollard willow beside rivers, recorded at slightly fewer sites than crack willow in our area.

**Identification** The leaves are covered with fine white hairs, particularly beneath, which give it its name. They are also more finely serrate. The catkins appear slightly later in May.

**Notable sites** River Misbourne at Doctor’s Meadow. Probably planted.

**Varieties** Golden willow *Salix alba var. vitellina*, which has golden twigs, has been recorded once, recently planted along Peterley Avenue. The familiar Weeping Willow, with its pendent branches, is a hybrid of *Salix alba*, *Salix x sepulchralis*, and two specimens can be seen at Buryfield in Great Missenden, the largest 2.51m in girth. Other varieties and hybrids almost certainly occur among planted specimens elsewhere but have not been critically examined.

Bean galls *Pontania proxima* on crack willow

Mature leaves of crack willow

**White willow**

Golden willow catkins and new leaves

Weeping willow, Buryfield
Osier *Salix viminalis*
This is a shrubby willow with long narrow leaves, often found as thickets in swamps ("willow carr") and was the favourite grown for basket-making. It has only been recorded at five sites in our area.

**Identification** The leaves are very long and narrow, green above but shiny white-hairy beneath, hardly serrate with the margins inrolled. Many hybrids with other species occur.

**Notable sites** The only native site may be in the marshy area of Angling Spring Wood, although it has also been planted on higher ground in the SE corner of the wood: by the former pond in Haypole Field: elsewhere planted as an amenity tree.

Olive willow *Salix elaeagnos*
This introduced willow with very narrow tapering leaves was recorded as planted in the riverside garden at Kingstreet End, Little Missenden, by Roy Maycock.

Green-leaved willow *Salix x rubra*
This hybrid of uncertain origin was often planted from before the CI9th for the basket-weaving industry. A few specimens were planted along the track just east of Andlows Farm in the early 2000s but did not survive. The leaves are narrow, very glossy dark green above and slightly wavy-edged rather than toothed.
[Eared willow *Salix aurita*]

This native of acid heathland has never been known in our area, but does occur on some Chiltern commons, such as Nettlebed. It is one of the "sallows" with short oval leaves, but they are noticeably crinkly, wavy at the edge, have no rusty hairs underneath like Grey willow, and have large persistent stipules at the base of their stalks (leaf-like bracts where the stalk meets the stem), after which this species is named. (Some other sallows may have similar stipules on very young shoots but soon lose them.)
Aspen *Populus tremula*

Our only native poplar is very localised in this area. Its leaf-stalks are flattened at right angles to the leaf blades so that they catch the slightest breeze and the tree’s presence is often first revealed by the rustling or shimmering of the leaves (hence *tremula* "shaking"). It generally occurs in damp woods.

**Identification** The leaves are almost circular with broad blunt uneven teeth. There are no hairs on the underside of the leaf, distinguishing it from the otherwise similar Grey Poplar. There are separate male and female trees, the males having brown catkins that colour yellow with pollen in March and the female catkins being green, turning white with woolly seeds in May when they are dispersed by the wind. It readily suckers and the leaves on these vigorous shoots are very different.

**Notable sites** Scattered across a few sites. There are two old specimens in the grounds of Great Missenden Combined School. Individual trees can also be found at the corner of Hampden Road and Perks Lane (probably planted), the west edge of Lodge Wood, at the Old Orchard, Little Kingshill and along the private road from Prestwood to Stonygreen Hall. Three were planted a few years ago along the track past Andlows Farm. There are unconfirmed older records in 1986-87 from three other woods.

**Ecological associates** 21 different galls and 25 mines are known from aspen in this country, many shared with other poplar species, but its rarity locally has led to few records of associated fauna. A mite-gall *Phyllocopites populi*, an aphid gall *Pachyappella lactea*, and a midge gall *Harmandiola tremulae* have been found on aspen so far. The only other record from aspen in our area is of the uncommon plant-bug *Brachyarthrum limitatum*, thought to be restricted to aspen.

**Human associations** Although the timber was once used for building, the fact that aspens never seem to occur in great number means they have made only a minor contribution to Anglo-Saxon place-names and boundary-markers.

**Derivation** From the Anglo-Saxon *aespe*, which has a common root with many old Germanic and Slavic names, probably from the Sanskrit *spand* "to quiver" (*spandaná* was used for a tree in Sanskrit, quite possibly the aspen).
Hybrid Black Poplar *Populus x canadensis*

Native black poplar *Populus nigra* is not present in our area, although it occurs frequently just north of the Chiltern escarpment by the streams of the Vale of Aylesbury. This hybrid between black poplar and the American cottonwood *Populus deltoides* is planted occasionally as an amenity tree because of its vigorous growth.

**Identification** The bark is deeply fissured but does not bear the bosses of our native tree. The branches do not swoop down and then bend up at the end like *nigra*. The leaves are distinct from aspen in their “ace of spades” shape, but with a shorter point than black poplar, opening reddish brown in May before turning pale green. Their stalks are flattened but not quite as thin as aspen. All our plants are male clones with red catkins in April. The female plant is unpopular because of the mess caused by shedding of its white fluffy seeds.

**Notable sites** There are two vague records from near Hughenden Valley and Speen, but there are two large specimens easily accessible at Link Road car-park in Great Missenden, the larger one 3.6m in girth. The variety ‘Robusta’ (see below) is reported from a field-edge immediately south of Ashwell Farm, Little Kingshill.

**Derivation** Our word comes through French from the Latin *pōpulus* 'poplar tree' (a long ‘ō’ indicating no association with *populus* 'of the people'). ‘Black’ refers to the grey-brown bark of the native *nigra* (Latin 'black'); ‘dark’ might be more appropriate. The hybrid has somewhat paler grey bark.

**Varieties** ‘Robusta’ is a variety originating in France in 1895 with a narrower conical crown and leafing earlier.

Grey Poplar *Populus x canescens*

Another planted hybrid, this one between aspen and white poplar *Populus alba* (below). Like the above it is usually male plants only that are used. Our trees all seem to be young ones.

**Identification** The bark is smooth grey with distinctive diamond-shaped pits when young. The leaves are like aspen but with fewer broader rounded teeth and less flattened stalks. The leaves emerge silvery but soon become green above, with grey-white pubescence below (not the prominent white of its parent *alba*). Short grey-hairy male catkins elongate and become purplish in March, producing yellow pollen in early April.

**Notable sites** A large young plantation can be found on the west side of Widmere Field, Prestwood. It was recorded in 1987 from Barnes’s Grove, but was not refound there in a more recent survey.
Berlin Poplar *Populus x berolinensis*
One example of this hybrid can be found on the eastern boundary of the Missenden Abbey grounds. The leaves are distinct in their cuneate base; they are also hairless, glossy, evenly toothed, and faintly whitish beneath.

Poplar 'Balsam Spire' (Hybrid balsam-poplar) *Populus trichocarpa x P. balsamifera*
Commonly planted as a windbreak; Stace (2010) states it to be "one of the most planted poplars in Britain". A narrow tree like the familiar 'Lombardy poplar', although its branches are not quite so erect. There is a line of young specimens planted as a field boundary on Peterley Manor Farm.
**White poplar *Populus alba***

European species that has long been planted in this country, especially around the coasts.

**Identification**  The young leaves are conspicuously white all over, and the undersides usually keep their white powdery appearance, unlike those of their progeny Grey Poplar (above). The leaves are also more deeply and sharply cut than grey poplar.

**Notable sites**  Only one record in our area, a substantial tree at the side of Bryants Bottom Road south of the village.