Ecological Flora of the Central Chilterns

Section 3: Oleaceae, Ulmaceae

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Family: **Oleaceae** (Olive Family)

**Ash Fraxinus excelsior**

An ubiquitous native tree which seeds and regenerates readily and abundantly in the open. This (and to a lesser extent) the oak, tend to be the first large trees to colonise unmanaged grassland. Such natural regeneration can be so dense that it can temporarily form mono-specific "woods" of saplings.

**Identification** The combination of pinnate leaves with up to 13 leaflets, unique black buds, and fruits consisting of single-seeded keys (as against the paired ones in the maple family) make this tree readily recognisable. The main boughs tend to ascend at a narrow angle, although side-branches may bow down and turn up at the tips (reminiscent of black poplar). The flowers, which open before the leaves in early April, are purplish to red in bud, male ones opening yellow and compact, while female ones open more diffusely into purple and green filaments. Both sexes may occur on the same tree or on separate trees.

**Notable sites** Massive regeneration of saplings forming dense thickets can be observed on the top of Denner Hill (opposite Acrehill Wood), in Sandwich Wood at Little Kingshill, in Stony Bank field by Hampden Road near Prestwood, in Haypole Field, just west of Pipers School, and indeed any open ground that has been neglected. Old trees may develop a size comparable to our oldest oaks and beeches. The largest measured to date is by the River Misbourne at Doctor's Meadow, Little Missenden, with a girth of 5.34m, but it has suffered major limb loss. Another in the field south of the Black Horse, Great Missenden, was just over 5 metres girth, but eventually split and collapsed because of an attack by goat moth. Meanwhile there is still a splendid specimen of 4.94m in Abbey Park, while the tree by the Library in Great Missenden measures 4.26m. In Orchard Meadow on the west side of Nanfans Grange, marking the line of a former hedgerow, is an ash of 4.1 metres girth, still healthy although the trunk is split high up and it has lost one major bough. Many more over 3 metres grow in the Hampden region, Denner Hill, west of Prestwood (eg Nanfan Hedge), and near Hoppers Farm at Great Kingshill.

**Galls** As befits a true native tree, 14 different gall-causers have been found in this country. Seven have so far been recorded locally, the commonest being *Psylla fraxini* a psyllid bug, and *Dasineura fraxinivora* a galling moth, both causing rolled leaf-edges. The mite *Aceria fraxinivora* converts flowers into lumpy growths.

**Mines** Of the four leaf-miners recorded in Britain on ash, two are recorded locally, the common blotch mines of the micro-moth *Gracillaria syringella*, whose larvae later feed gregariously under a brown leaf-fold, and the small corridors of the Ash Bud Moth *Prays fraxinella*.

**Other ecological associates** Nine moths have been recorded on ash locally, including the Goat Moth whose large larval tunnels eventually destroyed our largest ash-tree (see above); one sawfly *Pachyprotasites rapae*; two bugs *Psalles lepidus* and *Pinalitus cervinus*; and two beetles, the Ash Bark Beetle *Leperisinus fraxini* (Prestwood Common) and the related *L. varius*. The fungus *Ascochyta metulispora* infects the leaves; brackets on the trunks include *Southern Bracket Mycena arcangeliana*, the latter fragile and shedding bright orange juice where damaged. Finally, two mosses have been found on ashes, *Orthotrichum lyelli* and *O. tenellum*. Old ash trees, especially in the west of Britain, support some of our rarer lichens, but the air so close to London is still too polluted for these species. On our oldest ash in Abbey Park I have recorded *Amandinea punctata*, *Diploicia canescens*, *Evernia prunastri*, *Lecanora conizaeoides*, *Parmelia caperata*, *P. sulcata*, *P. ulophylla*, *Physcia adscendens*, and *Xanthoria parietina*. Ash dieback disease is currently spreading throughout the country and is established in the Chilterns. It is caused by a fungus *Hymenoscyphus fraxineus* which causes lesions and purplish colouring in the normally green twigs, the dead leaves of the affected part remaining on the tree.

**Human associations** The ash was an early colonist and has been significant in ancient rituals and landscapes, as common as oak in wood-pastures. The Viking Tree of Life, Yggdrasill, was an ash and it occurs in old place-names more than any tree other than the thorn, even more than oak, e.g. Ashendon, Bucks. Locally it occurs in the village name of Walter's Ash and in the old medieval farm of Ashwell in Little Kingshill. A good timber tree, it was particularly selected for spears, and it is famed as firewood, burning well even when green.

**Derivation** "Ash" derives from the Anglo-Saxon *æsc*, based on the same Indo-European stem as the other basic tree-names like oak, beech and aspen. The strong link between trees and gods in early European cultures (e.g. Druidism, Norse myths) is shown by *æs*, from the same stem, surviving into Anglo-Saxon as the word for "god”.

**Varieties** The form 'Pendula' (Weeping ash) is sold for gardens, grafted high on to normal stock, so that the branches can hang down to the ground to form a dome. Two can be seen planted close to Dennerhill Farm. Manna Ash *Fraxinus ornus* is grown in gardens as an ornamental. Its fragrant flowers emerge in late May, after the leaves, in dense white panicles. A specimen grows near the Memorial Hall at Buryfield, Great Missenden.
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The magnificent Abbey Park ash-tree

Ash keys

Female flowers on ash

Flowers on Manna Ash

Ash dieback: dead leaves, discoloured twigs

Ash dieback: lesions on twig
Wild Privet *Ligustrum vulgare*

This shrub is widespread and common on our chalk soils but also grows frequently on the clays, in hedgerows but more especially as part of the chalk scrub community.

**Identification** Semi-evergreen, its narrow oval leathery dark green leaves often surviving through the winter. The panicles of white flowers have a distinct but rather unpleasant smell and are followed by small black poisonous berries.

**Notable sites** All woodlands and chalk scrub areas, such as Prestwood Picnic Site or Hatches Bank.

**Galls** Three galls are known, the root-knot nematode *Meloidogyne ardenensis*; the gall-midge *Placochela nigripes* that causes swollen flower-buds; and the aphid *Myzus ligustri* that rolls the leaves. None of these has yet been noted locally.

**Mines** Three leaf-miners are also known, all micro-moths. *Gracillaria syringella*, the only one to be recorded so far on privet locally, makes a blotch mine and is common. *Caloptilia cuculipennella* makes a corridor mine before feeding inside a folded-over leaf, while *Prays oleae* makes a tiny corridor ending in a blotch.

**Other ecological associates** Six moths have been recorded in association with privet locally. Three of them also feed on ash - *Pseudargyrotoza conwagana*, Lilac Beauty and Coronet. The other three are *Clepsis consimilana*, Small Blood-vein and Privet Hawk-moth. A mosaic virus often creates attractive yellow patches on the leaves.

**Human associations** It has occasionally been used as a hedging plant, although its occurrence in most of our hedgerows is probably through natural means.

**Derivation** In Old English *pryfet* was used for privet scrub, but this word does not occur in Germanic languages and may have been adopted from Celtic, *pryfet* still being current in Welsh.
Garden Privet *Ligustrum ovalifolium*

Garden escape, originally from Japan, occasionally bird-sown in hedges and woodlands.

**Identification**  Broader leaves than Privet, usually brighter green and often yellow or variegated green and yellow. Young stems and flower-stalks are hairless, whereas Privet has dense pubescence which soon wears off.

**Notable sites**  Common in garden hedges but infrequently naturalised in the wild, as at Meadsgarden Wood and Coombes Orchards. Can most easily be seen along Whitefield Lane, Great Missenden.

**Ecological associates**  The mines of *Gracillaria syringella*, as on native privet, also occur commonly on garden privet. There is also a common fungus that makes purple-brown eye-spots on the leaves, *Thedgonia ligustri*, which does not seem to affect the native plant. It is a favourite host of the Privet Hawk-moth and Waved Umber.

**Human associations**  Decorative garden shrub.

**Varieties**  The variety 'Aureum' is popular. It has bright green leaves with yellow borders.

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**Lilac  *Syringa vulgaris***

Tall shrub or small tree from SE Europe often planted in gardens and parks, found, usually not too far from houses, in a number of places.

**Identification**  Heart-shaped leaves and conspicuous clusters of purple or white flowers in May/June.

**Notable sites**  Naturalised at Prestwood Picnic Site, in the hedge along Hampden Road, and in Longfield Wood.

**Ecological associates**  No galls have been recorded in our area. Leaves are mined by *Gracillaria syringella* (see privet). Both Waved Umber and Privet Hawk-moth larvae use it as a foodplant.

**Human associations**  It has been grown in gardens for many centuries and became iconic when, at the end of the last war, Ivor Novello penned his heartstring-tugging homecoming song:

> "We'll gather lilacs in the spring again
> And walk together down an English lane..."

It is not clear where lilacs would grow in sufficient numbers to collect them, as they tend to occur as isolated individuals, but Mabey (1996) mentions "large stands" in Cheddar Gorge.

**Derivation**  From the French, derived ultimately from the Persian *lišak* and the old Sanskrit word for "blue" *nīla*. The Greeks used *syrīgxis* (originally meaning pipe or tube) for the mock-orange, an unrelated shrub, whose stems were used for flutes. Linnaeus appropriated the name for lilac because this was also known as the "pipe tree".

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Garden privet 'Aureum', Prestwood

*Gracillaria syringella* mine

*Thedgonia ligustri* on Garden privet

Lilac blooms
Forsythia  *Forsythia x intermedia*

Common garden plant seldom found in the wild, and only as a relic or throw-out. It does not appear to spread or regenerate.

**Identification**  Yellow flowers in early March before the leaves; inconspicuous the rest of the year.

**Notable sites**  Present in many garden hedges, hedge along Mapridge Green Lane, road verge Lodge Lane, and by the car-park of the former Old Plow at Speen. Recently naturalised in Widmere Field and by South Bucks Way south of Misbourne School.

**Ecological associates**  None known from our area, but *Gracillaria syringella* (which mines lilac and privet) is known to mine Forsythia in mainland Europe and so could occur here.

**Human associations**  Appreciated in gardens for its early colour before most other shrubs.

**Derivation**  Named in honour of the Scottish botanist William Forsyth (1737-1804). He was head of the royal gardens at Kensington and St James’s and a founder member of the Royal Horticultural Society. The entertainer Bruce Forsyth is a descendant.
Family: **Ulmaceae** (Elms)

There are numerous varieties of planted elm and they are difficult to tell apart. It is necessary to compare leaves from the middle of short shoots on trees. Most hedgerow elms are dominated by atypical sucker shoots and almost impossible to name. Only two species occur regularly in our area – Wych Elm and English Elm. All the elms flower March-April before the leaves. The tufts of red stamens are fairly conspicuous on bare twigs. The brown seeds are contained individually within broad pale green wings, in large clusters, that ripen and fall in May, after the leaves have emerged. Many hybrids have been planted and considerably complicate identification.

**Wych elm** *Ulmus glabra*

Frequent in hedgerows, one of only two elms normally found in our woods, the other being the Small-leaved (below).

**Identification** This native elm has relatively large leaves over 7cm long (but beware sucker leaves from other species) that are very rough above and have a lobe at the base that obscures the short stalk. The buds are covered in dense rusty hairs. It rarely suckers, unlike other species.

**Notable sites** Longfield, Hatches, Acrehill and Angling Spring Woods are good places to find this species, as are several other ancient woods. It is also found in the hedgerows along unspoiled ancient trackways like Kingstreet and Boss Lanes.

**Galls** Sixteen gall-causing invertebrates are recorded for elms. Seven found locally are woolly aphids causing rolled leaves *Eriosoma patchiae* and *E. ulmi*, the fungus *Taphrina ulmi* (on English elm only); the mites *Aceria ulmicola*, which cause masses of small red pustules on small-leaved elms (but not on wych elm), and *A. campestricola*; the midge *Dasineura ulmicola*; and the striking Fig Gall of the aphid *Tetraneura ulmi*.

**Mines** Fifteen leaf-miners are known on elms in Britain. No distinction seems to have been made between the species of elm involved. Six recorded locally are the micro-moths *Stigmella lemniscella, S. marginicolella, S. viscerella, S. ulmivora*, and most commonly *Phyllonorycter tristrigella*; and the sawfly *Fenusa ulmi*.

**Other ecological associates** Apart from the woolly aphids above, four other aphids are common on elms. Among other invertebrates recorded locally are the European elm scale *Eriococcus spurius*; three micro-moths *Batia unitella* (in rotting bark), *Epinotia abbreviana*, and *Rhodophaea formosa*; four larger moths, Clouded Magpie, Lime Hawk-moth, Lesser-spotted Pinion and (on wych elm only) The Brick; the butterfly White-letter Hairstreak, found on small-leaved elms in a hedgerow near Great Missenden Parish Church and on wych elms in Longfield and Hatches Woods; four beetles – the false ladybird *Endomychus coccineus* (which eats fungi on dead wood), two weevils *Magdalis armigera* and *Rhynchaeus alni*, and the darkling beetle *Corticeus bicolor*. Among fungi Dryad’s Saddle *Polyporus squamosus* is particularly common on elm stumps, but five others occur – Wrinkled Peach *Rhodotus palmatus*, *Ossicaulis lignatilis*, *Pluteus chrysophaeus*, *Volvariella bombycina* and (on leaves) *Microsphaerella ulmi*. Finally, the plant toothwort is often associated with elms, as along Kingstreet Lane.

In the 1970s all our mature elms, as in the rest of the country, were killed by Dutch Elm Disease, caused by the fungus *Ceratocystis novo-ulmi* transported by *Scolytus* bark beetles. The disease recurs when elms reach sufficient size to attract the bark beetles, at around 15 years old, so that no trees of any size remain in our area.

**Human associations** As a long-established native the wych elm features occasionally in early place-names, but seems to have held no special esteem, largely seen by early man as a source of animal fodder. Its timber was used for furniture, cart-shafts and, when oak was too expensive, rafters. It does not rot easily even if kept wet and so it has been the wood of choice for coffins and pipes. Elm bark has astringent properties.

**Derivation** “Elm” (the Anglo-Saxon word is identical) comes from the same early West European stem as the Latin *ulmus*, and elm names throughout that area share this ancient stem – eg Gaelic *leamhan*. “Wych” comes from the Anglo-Saxon *wican* “to bend” and refers to its plant branches. The Latin specific name *glabra* refers to its smooth bark, which it keeps until fissures develop in mature trees.
English Elm *Ulmus procera*

This elm is the one that contributed so much to the English landscape, especially in the Midlands, with its tall massive trees common along many roadsides, and so it is the one that is most missed as a result of the devastation by Dutch elm disease. The countryside really does look different now. Until very recently it was regarded as probably native, but DNA studies have now shown that all living trees in this country actually derive from a single clone that had its origin in Italy. It is now thought that the Romans introduced it in association with wine-making, because it was traditional to use living elms as supports for the vines. The English elm survives locally in hedgerows but only as saplings and young trees - such a come-down for a tree that once stood so proud.

**Identification** The leaves, although rough above, are smaller than wych elm, more or less round rather than longer than broad, with longer stalks hardly obscured by the lower leaf-lobe. The tree suckers abundantly, even from cut stumps, but they do not get old enough to produce fruit. The bark is deeply cracked from an earlier age than the wych elm. There are no rust-coloured hairs on the buds.

**Notable sites** In hedges along most of our old green lanes. In the hedge beside the old track between the churchyard of Great Missenden Parish Church and the modern cemetery: this hedge is known to support white-letter hairstreak butterflies and Prestwood Nature have carried out additional planting to extend the hedge and establish more elms. Also along the old trackway on the east edge of Boug's Meadow.

**Ecological associates** See under wych elm. The fungus *Taphrina ulmi* causes raised yellow spots on the upper side of the leaves of English elm but not, apparently, wych elm.

**Human associations** Mainly renowned in England as a former landscape tree.

**Derivation** "English" is, it turns out, a misnomer - "Italian" would be more appropriate, especially as it no longer defines the distinctive English midland landscape from which it derived its name. This former fame is recognised too in the Latin specific name *procera* "noble".
Small-leaved Elm *Ulmus minor ssp. minor*
Our second native elm is a more purely woodland species and quite uncommon in our area. Druce (1926), in his Flora of Bucks, says that this species was “abundant” in our area, but he lumped all the small-leaved species together, i.e. including English elm, so we cannot tell whether or not the true Small-leaved Elm was once more common or not.

**Identification** The leaves are small, smooth above, but longer than broad. The buds have no rust-coloured hairs.

**Notable sites** Stockings Wood, Acrehill Wood and hedge bordering the old Great Missenden churchyard.

**Hybrid *Ulmus glabra x minor***
This hybrid between wych elm and small-leaved elm is abundant in an old pit beside Hampden Road opposite East Lane. It has characteristics of each parent, such as the coarse leaf serration and rusty hairs on the buds of *glabra* and the smooth underside of the leaf like *minor*. It is also found in the old Great Missenden churchyard.

**Midland elm *Ulmus glabra x plotii (=?U. x elegantissima)***
This hybrid was frequently planted in the past in the midlands. It grows straight with long pendulous branches and the leaves are intermediate between wych elm and Plot’s elm *U. plotii*, being smaller than wych elm, with blunter serrations, although rough on the surface. What may be this hybrid was found in 2016 along the west edge of Rook Wood, Great Missenden. There were three mature trees with girths over 1.5m that must have been planted before the outbreak of Dutch elm disease and to have survived, while several other similar-sized trees had died, although all were suckering from the base.
Dutch elm *Ulmus x hollandica* & Huntingdon elm *U. x vegeta*

These are other native hybrids (also containing *U. glabra* and probably *U. minor*), although both were planted along our roadsides much like English elm. The former has no particular association with Holland, although some commercial specimens may have been cultivated there, but the Huntingdon elm occurs particularly commonly in East Anglia. Like English elm both were devastated by Dutch elm disease and no records existed for our area until the discovery of two trees by Paul Heath in a hedgerow bordering Hare Lane in Little Kingshill. One of these is 24m high and 4.2m girth (after allowing for the ivy growing round it), possibly 200 years old, and among the largest of all British elms, as veteran trees are now very rare. (One at Queens College, Cambridge, is of similar girth, but taller.) The survival of these two, which are suckering abundantly along the hedgerow and probably seeding as well, may well indicate that they have genes that make them disease resistant. These trees were found to have leaf-mines caused by a case-bearer moth *Coleophora* sp. The leaves, which are hardly rough on top, are quite large, with about 14-18 pairs of veins, quite long stalks (over 5mm), and acute to acuminate at the tip; this with the shape of the tree (more or less orbicular and branching from low down) seems most like Huntingdon elm.