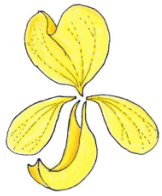
LEGUMES (The Pea Family = Fabaceae) of the Ham Lands

There is a surprising number of different kinds of plants belonging to the Pea family on the Ham Lands. Several species are rare or uncommon, either nationally or in the London area. Most are attractive herbs, but we also have two bushes and two trees. Several members of this family are native, but others have been introduced as fodder plants or ornamentals. They are great sources of nectar and pollen and vital to our butterflies and bees. We are lucky to have such a splendid selection of colourful, diverse, and intriguing Legumes to study and enjoy. Most species have nitrogen-fixing bacteria inside root nodules; these enrich the soil which is not always good for biodiversity.

You should be able to find 24 different kinds of plants belonging to the Pea Family at Ham; a few others have been recorded but are either very rare or no longer present. If you think you have come across one of the rarities, we would love to hear about it.

How to recognise Legumes. They all have:

- *Pea-like flowers* with special kinds of petals: – an upper standard, 2 wings on either side, and a keel (boat-shaped petal) sitting between the wings. The reproductive parts of the flower are mostly tucked inside the keel.



- *Pods* resembling little bean or peapods, which contain the seeds.
- *Compound leaves* (each leaf is made up of *leaflets*) and *stipules* (often small triangular structures) found at the base of the leaf stem. The number of leaflets varies in different groups as does the size and shape of the stipules. Sometimes *tendrils* are present, these are considered modified leaf structures. Look carefully at the leaves because this helps identification (see groups 1–5 listed below). In a few cases things can appear misleading and the explanations are tricky. Don't be put off; it can be intriguing.

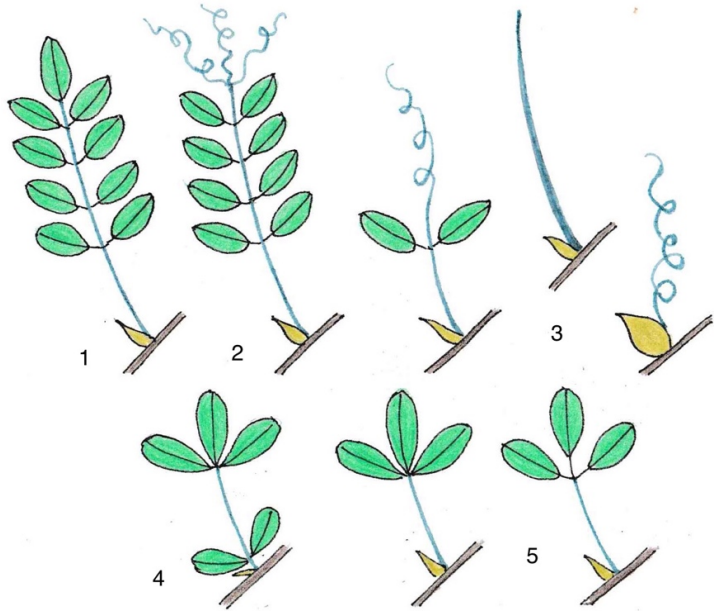
1. many pairs of leaflets but no tendrils. *Galega*

2. more than 2 pairs of leaflets and tendrils. *Vicia*

3. 0 or 1 pair of leaflets and tendrils (but absent in 1 tricky example). *Lathrus*

4. 1 pair of small leaflets at the base of the stem and 3 at the top (5 in all); stipules minute. *Lotus*

5. 3 leaflets (trifoliate):
- **5a** leaflets unstalked *Trifolium* in part.
- **5b** leaflets stalked. *Trifolium* in part, *Medicago* & *Melilotus*



To work out the identity of a plant first choose between herbs, shrubs, or trees. Then, if herbs choose the leaf group (1–5) as in fig. above. Or just match the illustrations. Good luck.

A guide to the Legumes found on the Ham Lands

A HERBS (i.e. non-woody plants) c 20 different kinds; grouped according to leaf type (see above).

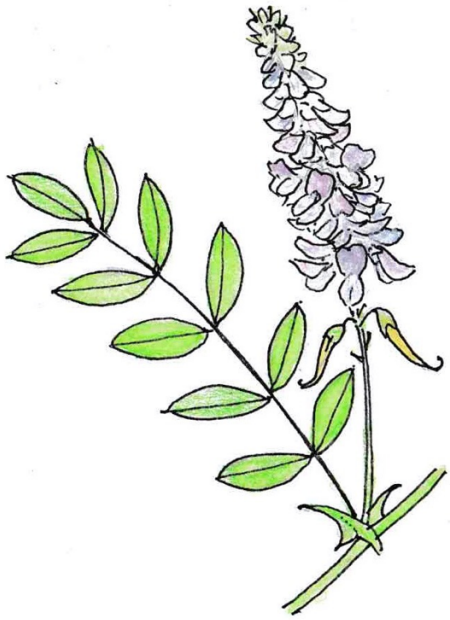
B SHRUBS – 2 kinds

C TREES – 2 kinds

A - Herbs

Group 1. Leaves with many pairs of leaflets and one at the top; tendrils absent (1 in leaf fig.). The genus *Galega*

Goat's Rue – ***Galega officinalis.*** This introduced, invasive plant is extremely common. In the summer its massed flowers give a picturesque wash of colour to the Ham Lands. It is an upright plant (not sprawling like the Vetches and Vetchlings). It has many pairs of leaflets with a single leaflet at the top but no tendrils. There are many white, pinkish, or mauve flowers per head. The pods are round in cross section. Flowering from *June.* The name *Galega* comes from the belief that, if fed to goats it would increase their flow of milk. 'Rue' comes from the resemblance of the leaves to the Rue plant, rather than the belief that goats would rue the day they ate it. Goat's Rue is said to have many medicinal uses, but it can be harmful so do not be tempted to experiment.

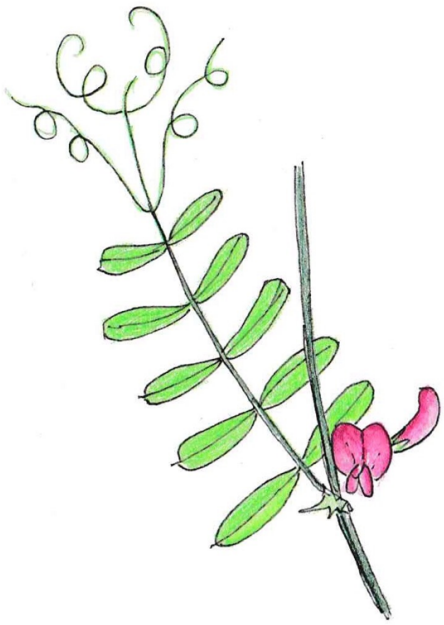


Goat's Rue

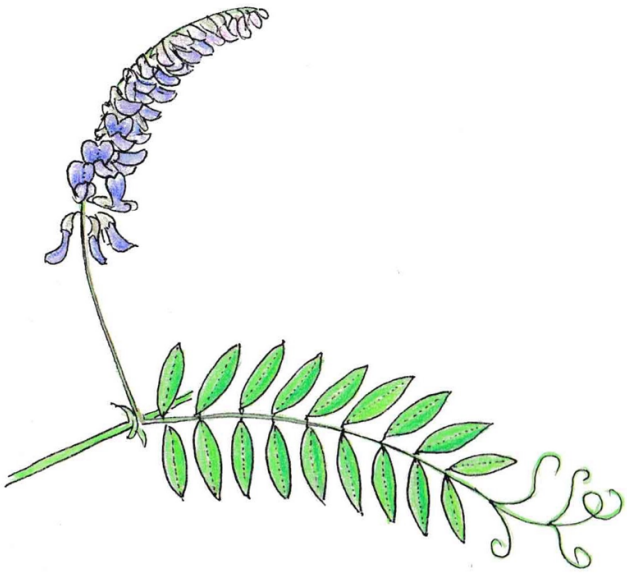
Sainfoin (*Onobrychis viciifolia*), a plant with similar leaves, but with pink flowers with darker veins grouped in conical heads, has been recorded on HL North but has not been seen for many years.

Group 2. Leaves with more than 2 pairs of leaflets and tendrils (2 in leaf fig.) – the genus *Vicia* (including *Ervilia* & *Erevium*)

Vetches and Tares – *Vicia* These plants are normally sprawling to somewhat climbing, with round or ridged, un-winged stems. They have 3–15 pairs of leaflets, tendrils, and relatively small stipules. The pods are like miniature peapods.



Common Vetch



Tufted Vetch

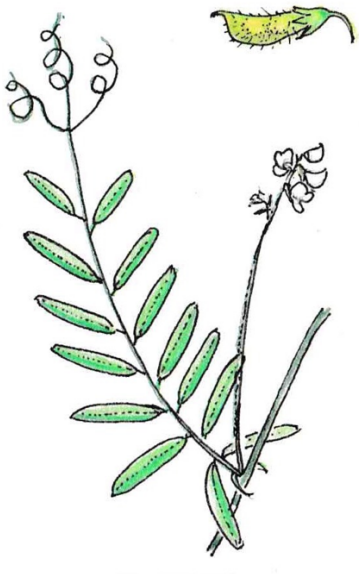
Common Vetch – *Vicia sativa* subsp. ***segetalis.*** This common species is scattered throughout the Ham Lands and is the first to flower. It has 4–8 pairs of opposite leaflets, widest above the middle. There are 1–2 magenta-purple flowers on a short stalk. The pods turn black. Flowering time from *April.*

A similar species **Bush Vetch** (*Vicia sepium*) differs by being a downy plant with leaflets broader below the middle, and 2–6 duller coloured flowers. It is very rare at Ham and has not been seen recently.

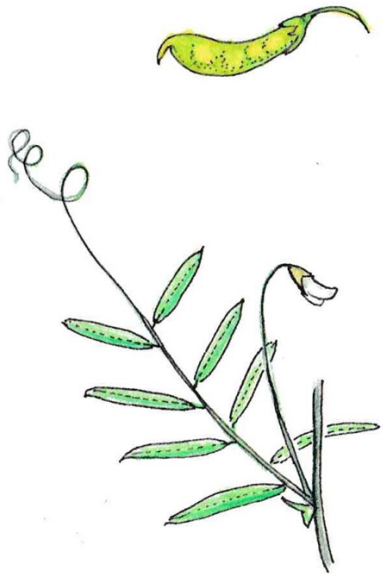
Tufted Vetch – *Vicia cracca.* Clumps of this showy native species are frequently found at Ham. There are 8–15 pairs of opposite leaflets. The blue-purple flowers are in heads of 10–40. Flowering from *June.*

A closely related species, ***Fine-leaved Vetch*** (*Vicia tenuifolia*) (differing by narrower leaflets and larger flowers with pale wings) has been recorded at Ham in the past.

The name **'*tares*'** as in the Biblical – 'separate the wheat from the tares' – is commonly used for the following two dainty species, although it can also be used for other *Vicia* species. Now-a-days these two species are considered to belong to different genera. Because the differences are slight and the reasons very academic, they are included with *Vicia* here.



Hairy Tare



Smooth Tare

Hairy Tare – *Ervilia* (= *Vicia*) *hirsute*. This small-flowered, common native species is abundant on the Ham Lands, and often found tangled with other plants. There are 4–10 pairs of dainty alternate leaflets and the stipules are often 4-lobed. There are 1–9, white, mauve veined, flowers per stalk; the calyx teeth are all equal in length. The hairy pods are 2-seeded. Flowering from *May*.

Smooth Tare – *Erevium* (= *Vicia*) *tetraspermum*. This species is very similar to the Hairy Tare and the two often grow together. It has fewer (3–6) pairs of alternate leaflets; the tendrils are usually not branched (unlike our other 3 *Vicia* species). There are fewer (1–2) flowers per stalk, these are slightly bigger and pale blue to lilac with purple veins; the lower calyx teeth are longer than the rest. The hairless pods are 4-seeded. Flowering from *May*.

Group 3. Leaves with 0 or 1 pair of leaflets, tendrils usually present (but absent in 1 tricky example) (3 in leaf fig.) – the genus *Lathrus*.

Vetchlings and Everlasting Peas (***Lathrus***) – These tend to be sprawling plants with square stems either angled or winged. They have 0–1(or rarely 2) pairs of leaflets, most have tendrils. The pods are like small peapods.

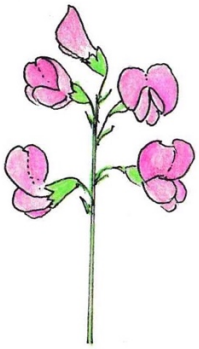
Yellow Vetchling Grass Vetchling Meadow Vetchling

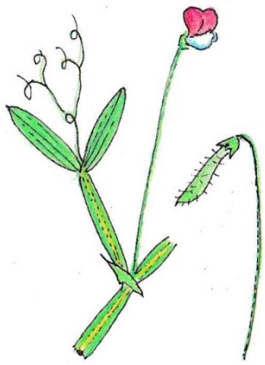
Yellow Vetchling – *Lathrus aphaca.* This relatively rare native species is well represented on the HL South and easily recognised by its greyish foliage. Some explanation is required as it is one of the tricky examples: it has no leaflets, just a single tendril. The stipules are large and triangular-oval and function like leaves. The flower stalks bear only one yellow flower. Flowering from late *May*.

Grass Vetchling – *Lathrus nissolia.* This native species is relatively rare, but can usually be found at Ham, especially HL South. When not in flower it is hard to spot because the grass-like 'blades' merge with the sward. Again, it is a tricky example. The blade is actually a modified leafstalk (phyllode), there are neither leaflets nor tendrils, and the stipules are minute. The dainty flower stalks are relatively long and bear 1–2 bright crimson flowers. Flowering from late *May.*

Meadow Vetchling – *Lathrus pratensis.* This native species is a relatively common, but attractive member of the HL flora. It has one pair of leaflets; tendrils are present and the stipules are arrow-shaped. There are 5–12 yellow flowers. Flowering from late *May.*

Broad-leaved Everlasting Pea





Hairy Vetchling

Broad-leaved Everlasting Pea – *Lathrus latifolius*. This introduced species is very common in the UK, being especially abundant along railway lines. It is by far Ham's most showy Legume. The stems are distinctly winged. It has one pair of leaflets and both stipules and tendrils. There are 3–12 bright magenta pink flowers per stalk but a white flowered form has also been seen at Ham. The pods are hairless. Flowering from *June*.

Hairy Vetchling – *Lathrus hirsute*. There are a few plants on HL both north and south of this rare species. It is very similar to Broad-leaved Everlasting Pea but much smaller. There are 1-2 flowers per stalk, they have a red-purple standard, and the wings are whitish blue. The pods are distinctly hairy, unlike the rest of the plant.

Narrow-leaved Everlasting Pea (*Lathrus sylvestris*) has been recorded. It is similar to the Broad-leaved Everlasting Pea, but the leaflets are narrower and the flowers buff-yellow to pale rose pink. It has not been seen recently.

Group 4. Leaves with 5 leaflets, 1 pair at the base of the stem and 3 at the top (4 in leaf fig.): stipules minute – the genus *Lotus*

Bird's-foot Trefoils – *Lotus* These plants are cushion-like or sprawling. The leaves are another tricky example. The basal pair of leaflets can easily be interpreted as stipules, leading to the mistaken impression of a trefoil (trifoliate) leaf (as the name suggests). There are 5 leaflets, a basal pair and an upper three. The true stipules are minute and hard to see. The flowers are grouped at the top of a slender stem above a small trifoliate leaf (or bract). The long pods contain many seeds; at first, they are straight but twist and turn black once ripe. *Lotus* is the ancient Greek name for this plant, it has nothing to do with water lilies or yoga positions.

Common Bird's-foot Trefoil – *Lotus corniculatus var. corniculatus*. This native, common, jolly looking species is low growing and often cushion-like. There are 3–8 flowers in each head; each flower is bright yellow with red markings, giving rise to the common name '*Eggs and Bacon*'. The more familiar common name '*Bird's-foot Trefoil* alludes to the resemblance to bird's feet by the grouped pods which turn blackish. Flowering from *June.*

Alien Bird's-foot Trefoil – *L. corniculatus var. sativa.* This introduced fodder plant is very similar to our native variety. It differs by being weakly erect, sometimes with hollow stems and the flowers lack red colouration. Flowering from *June.*

Common Bird's-foot Trefoil

Another rare native species, the **Slender Bird's-foot Trefoil** (*Lotus tenuis*) has been recorded on Ham Lands, North but has not been seen recently, as far as we know. It is a more upright plant with distinctly narrower leaflets. The pale-yellow flowers are fewer (2–4) per head. Flowering from *June*.

Group 5. Leaves with 3 leaflets (trefoils) (5 in leaf fig.)

Group 5a. All leaflets un-stalked or very shortly stalked – the genus *Trifolium* in part (if flowers yellow see 5b)

Clovers (*Trifolium*). Short, often cushion-like plants or spalling. Pods usually hidden, straight sided, mostly shorter than calyx. Clovers are an excellent source of nectar and are often sown as pasture crops. The name *Trifolium* alludes to the trifoliate leaves. Four-leaved clovers are a symbol of good luck; they occur very rarely as a genetic abnormality, mostly in White Clover.

White Clover – ***Trifolium repens***. Common, native plant with creeping stems. Each leaflet is marked with a whitish chevron. Flower heads are rounded. Flowers white; the standard petal folds over pod when ripe. Flowering May – October.

White Clover

Alsike Clover - ***Trifolium hybridum***: this non-native species is similar to White Clover, but the leaflets lack markings, and the marginal teeth are minute, also the stipules are long pointed; flowers white and shell pink at base of the head. Flowering June – September. Can be absent for many years reappears in cleared ground. Alsike is a village in Sweden. Linnaeus thought this clover was a hybrid between Red and White which is why he chose the scientific name 'hybridum'; however, it is a true species.

Hare's-foot Clover – ***Trifolium arvense***. This native plant can often be found in short grassy areas or on almost bare soil. It has hairy upright stems. The unmarked leaflets are narrowly oblong. The flower heads are tightly packed, narrowly oval, and very soft to touch. The tiny white or pink flowers are hidden amongst the pinkish calyx lobes, but well worth looking for. Flowering June – September.

Hare's-foot Clover

Red Clover – ***Trifolium pratense***. This native, common plant has upright or straggling stems. Each leaflet is marked with a whitish inverted V-shaped mark. The flower heads sit directly above a leaf and are tightly rounded. Flowers pink to purple but occasionally a white form can be found at Ham. To avoid confusion with the White Clover, note the leaf below the flower head. Flowering May – October.

Red Clover

Zigzag Clover - ***Trifolium medium***: This native clover is smilar to Red Clover, but stems tend to zigzag (hence the name); the leaflets are narrower with a faint whitish spot; flower heads held on a short stalk above the upper leaf; flowers deep purple red. Flowering June – September. This Clover was absent for decades, but a spectacular clump appeared in 2021.

Rough & **Knotted Clovers** (*Trifolium scabrum* & *T. striatum*) both with small leaves and small pale pink flower heads have also been recorded. These and other small Clovers are easily overlooked because they need a hands-and-knees search. A similar small Clover with few white flowers, Subterranean Clover (*Trifolium subterranium*), occurs at Ham House. Interestingly, the tiny pods bury themselves in the soil (like peanuts).

Group 5b. Each leaflet stalked, the stalk to the central leaflet often longer than the side pair.

Subgroup 1. Small, often creeping, plants with small yellow flowers **(L**ittle **Y**ellow **J**obs**).** This group includes both **Trefoils** (*Trifolium* in part) and **Medics** (*Medicago* in part). The differences are easy to see in the fruiting plants but trickier in the flowering stage.

HINT	If stems round; leaflets hairless, or at most sparsely hairy; flowers lemon to mid-yellow, in heads; pods straight, hidden – try *Trefoils*	If stems angled; leaflets downy; flowers bright to golden-yellow, few or in heads; pods curved or spiral, not hidden – try *Medics*

Hop Trefoil Lesser Yellow Trefoil

Hop Trefoil – ***Trifolium campestre***. This native plant is very common in grassy places. Flower heads are small, tight, and round; flowers light-lemon yellow, turning light brown; standard broad, not folded. Fruiting heads look like tiny hops (hence the common name) because the standard petals lie flat over the pods. Flowering June – September.

Lesser Yellow Trefoil – ***Trifolium dubium***. This native plant is often claimed to be the **Shamrock**. It is very common in grassy places. Flower heads are small with fewer flowers than Hop Trefoil; flowers lemon yellow, turning dark brown, standard narrow, folded. Fruiting heads not resembling hops. Flowering May – October.

Least Yellow Trefoil (*Trifolium micranthum*) has been recorded but is rare. It is very similar to Lesser Yellow Trefoil, but it has fewer flowers, and the smaller leaflets are not stalked (unlike Group 5b).

Medics (*Medicago*). Plants not smelling of hay. Leaflet margins only toothed in the upper part. Flowers in rounded or oval heads, not tightly packed. Pods curved or spiralled; these are worth a closer look. The name indicates coming from Media, rather than having medical uses.

Black Medic Spotted Medic

Black Medic – ***Medicago lupulina***. Common, native, small, low growing plant, usually downy. The bright yellow flowers are grouped in tight roundish heads. Fruit curved to circular, black when ripe, longer than the calyx. Flowering May – September.
Spotted Medic – ***Medicago arabica***. Common, native, small, low growing plant. Usually (but not always) each leaflet has a distinctive black spot. Flowers bright golden yellow, few per head. Fruit a spiral with 3–5 turns and a double row of hooked spines, resembling a crown of thorns.

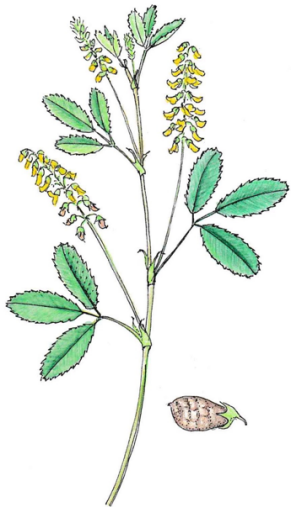
Subgroup 2. Taller bushy or upright plants up to 1.5m tall; flowers of various colours – Medics (*Medicago*) in part and Melilots (*Melilotus*).

Melilots (or *Honey Clovers*) (*Melilotus*). Upright plants to 1.5m tall, smelling of hay, especially when dry. Leaflet margins toothed all the way around. Flower-heads slender, loose. Pods straight sided to oval, 1–2 seeded. Introduced, growing mostly in disturbed or bare ground, can be absent for many years but will reappear where the land has been cleared. Melilots are an excellent nectar source.

Ribbed Melilot – ***Melilotus officinalis***. Flowers yellow. Pods brownish with transverse ridges. Flowering April – August.

White Melilot – ***Meliotus alba***. Flowers white. Pods with a net-like pattern, brownish. Flowering April – August.

Tall Melilot (*Melilotus altisiimus*) has been recorded, but if present, rare. The leaves are more oblong than the above two species, the yellow flowers have all petals equal in length and the pods are black, netted with the style remaining.



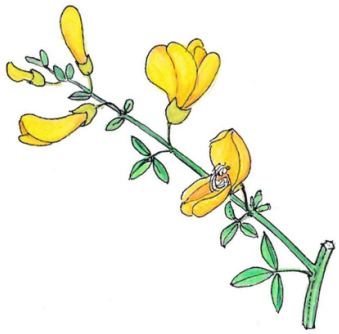
Ribbed Melilot

One other plant, **Restharrow** (*Ononis repens*), with trifoliate leaves (although occasionally some have only one) has been recorded, but nor seen for very many years. It is a creeping hairy plant with single pink flowers, quite unlike any of the above trefoil plants.

B Shrubs

We have native 2 Leguminous shrubs at Ham. In the Sixties both were common but have dwindled in recent years. With careful management, they are beginning to flourish again on HL South. Both have green stems. Although they lack nectar, pollination is interesting. Just watch bees landing on the keel and see what happens (the stamens will remain exposed). In both plants the pods split suddenly to forcibly scatter the seeds. These have an orange, oil rich appendage which attracts ants and help dispersal.

Broom – **Cytisus (*Sarothamnus*) *scoparius***. Spineless shrub up to 2m tall. Stems 5-angled; leaves deciduous, the ones on the lower part of the stems are trifoliate and stalked, but the ones at the tip are 1-foliate and un-stalked. Flowers entirely yellow or with the wing petals red; we are lucky to have both forms at Ham. Flowering May – June. Traditionally the twigs were used for making brooms. Some of our broom bushes have become infected by the Broom Gall Mite. which causes deformed clusters to grow on the stems.



Broom

Gorse

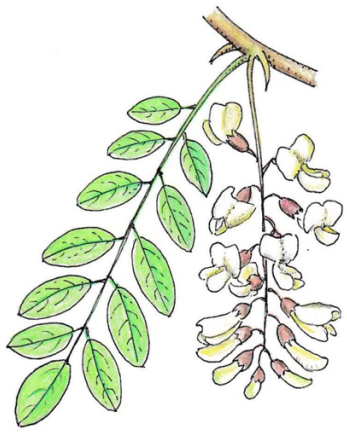
Gorse (or **Furze)** – ***Ulex europaeus***. Shrub, usually to 2m tall with rigid furrowed spines to 2.5 cm long. Although mature bushes appear leafless, trifoliate leaves can be found on seedlings. The flowers smell of coconut; calyx buff coloured; petals yellow. On a warm day listen for the crack of splitting pods. Flowering peaks from March to June but will continue throughout the year. Hence the expression, "When Gorse is out of bloom kissing is out of fashion". At Ham we enjoy a good display over Christmas and the New Year.

At one time a few bushes of **Bladder Senna** (*Colutea arborescens*) with characteristic balloon-like pods were a feature of HL South. These are no longer present. **Dyer's Greenweed** (*Genista tinctoria*) has been recorded from HL North but is doubtfully present.

C Trees

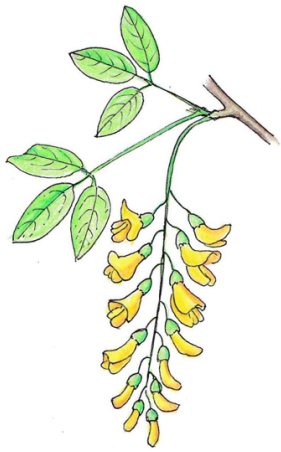
We have two decorative, introduced Leguminous trees at Ham**.**

False Acacia (or **Robinia**) – ***Robinia pseudoacacia***. Tree to 27m tall, with deeply fissured bark. The stiff, curved, sharp spines (most easily seen on the sucker growth) are specialised stipules. The leaves have 3–10 pairs of leaflets. The scented, white flowers hang in pendulous clusters. Elegant as it is, this tree is not entirely welcome as it is invasive. Clumps or groves of *Robinia* develop from suckers and invade our grasslands. Flowering June.



False Acacia

Laburnum (or **Golden Chain** or **Golden Rain**) – ***Laburnum anagyroides.*** Tree to 7m tall with smooth bark; spines absent. Leaves trifoliate. The yellow flowers dangle in 10–20 cm long chains. The pods remain on the tree throughout winter. This plant, and especially the seeds, is poisonous. Flowering May–June. This tree is less frequent than *False acacia*, but there are a few examples scattered in HL South.



Laburnum

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