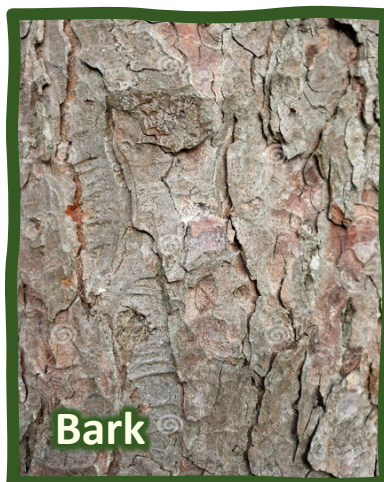


PLANT ID: horse chestnut

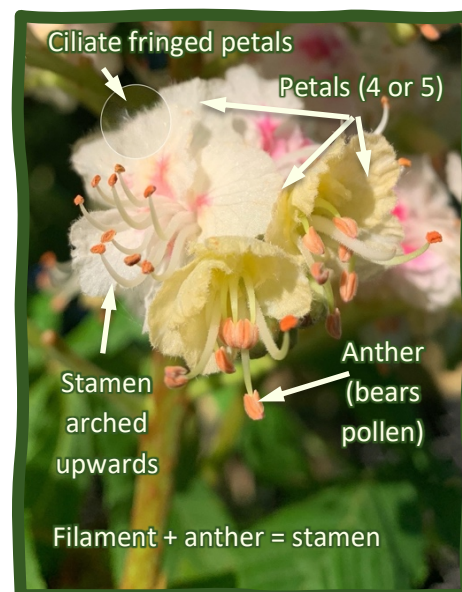
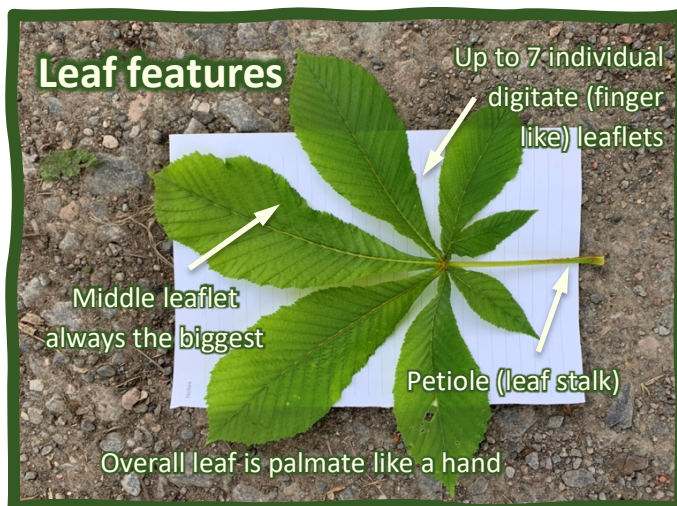
Aesculus hippocastanum L.



Late winter – early spring

Look out for a tree with very stout twigs that curve up at their ends giving it the look of a majestic middle eastern dancer balancing on one leg, arms extended out with up-turned cupped hands.

Feel the large sticky terminal leaf buds on twigs and shoots. Seek out the presence of horse-shoe shaped leaf scars near to the end of twigs.



PLANT ID: horse chestnut *Aesculus hippocastanum* L.

Spring into summer

Large palmate leaves with clusters of individual flowers, arranged together resembling an upright conical candle. Petals with fringed **ciliate edges**.

Autumn

Large glossy brown seeds called 'conkers' drop from the tree to the ground below.

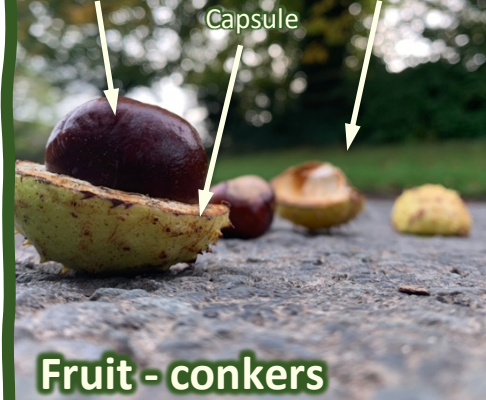
Winter

As in very early spring but with no leaves. Leaf and flower buds are large, dark red-brown and very 'sticky' to touch in late winter - early spring.

Raw, uncooked horse chestnuts – conkers – are poisonous to humans

Clean white lining when freshly opened

Glossy mahogany brown seed known as a 'conker' When ripe the capsule splits into segments



Fruit - conkers



Leaves turn yellow gold, then brown

Autumn



Pedicel (fruit stalk)
Stumpy spines radiate outwards from the capsule

Often more than one seed inside

Fruit



Large, sticky, glossy buds Leaf stalk still intact

Visible leaf scar Very stout twigs

Autumn buds



Dimples (lenticels)

Horse-shoe shaped leaf scar from previous year's leaves

Twig



Bud scales are in opposite pairs

Dark line indicates perimeter of bud scale

Bud scale

Bud

Pests and diseases

Horse Chestnuts suffer from Bleeding Canker (*Pseudomonas syringae pv aesculi*), a specialist leaf miner (*Cameraria ohridella*) and the leaf blotch fungus (*Guignardia aesculin*).

Reproduction Strategies

Pollination - Clever flowers! Pollinated by both wind and insects. The individual flowers act as a 'traffic light' system to visiting insects in two ways: **1.** A colour change from its yellow markings to a pink-red, indicates that there is no nectar reward available as it has already been pollinated. **2.** Individual flowers open and close their petals at specific times and emit a specific scent in order to exactly control when insects can enter or leave.

Seed dispersal: Water and animals help spread the seed.

PLANT ID: horse chestnut

Aesculus hippocastanum L.

Fact File:

CURRENT STATUS: Vulnerable to extinction
LOCATION: Found almost everywhere across Europe

Plant Description (aka Taxonomy)

Member of the Soap tree family (*Sapindaceae*) and of the Genus – *Aesculus*. A tall - up to 35m - deciduous tree of stocky appearance.



Flowers from late April – early June

Flower Structure

Flowers comprise 4-5 individual white petals with a yellow or pink red spot at their base. **Stamen** arch strongly upwards.



Fruits from September - October.

Green - ripening to chestnut brown, globular in shape with few short flexible stumpy spines that radiate outwards. Splitting when ripe to reveal a white lining that holds conkers - large mahogany-brown seeds.



Leaf

Palmate leaves comprising 5-7 individual **digitate leaflets** all of different size with the middle one always being the largest.



Habitat

Native in the Balkans and Greece. Elsewhere it is widely planted for its attractiveness in urban streets, parks and the countryside across Europe. They grow best in moist well-drained soils.



Bud

Large dark red-brown coloured buds, with a sharply pointed tip. 'Sticky' to the touch in late winter and early spring.



Edible: The uncooked raw horse chestnut fruit is poisonous to humans. If tempted to eat one, you'll soon spit it out before any harm is done. Various parts of the tree contain high levels of aesculin which has a medical use.

FOOD WEB

Nectar gathered by bees

Leaves eaten by leaf miner

IMPERSONATORS:

This tree is only confused with other horse-chestnuts - such as red horse-chestnut (*Aesculus x carnea*) - which has **red flowers, smaller conkers** and **scarcely any spines**, if any. The buds are **virtually non-sticky**. The sweet chestnut (*Castanea sativa*), although different looking tree, does have very similar 'conker-like' fruits. Their outer case is yellow-green and is covered in very sharp spines. Inside, the red-brown chestnut tapers to a point.



ALIASES

Also known by its distinctive and playful fruits as Conker Tree, Cheggies and Obblyonkers.

What to look for



Best time to see it and use it

This depends on what you want to do with it!

- In the UK May 11th is known as Chestnut Sunday. The trees become illuminated by hundreds of candle-like white flowers. The flowers, which are 20 – 30 cm high, resemble an elaborate 'wedding dress' flecked with pink/red or yellow spots.
- From September its conkers are ready to be harvested, collected – and played with!
- In Autumn the leaves turn yellow-gold to orange and fall earlier than surrounding trees to reveal horse-shoe shaped leaf-scars, complete with – if you look closely enough – what appear to be 'nail-holes'.

Stem and trunk

Bark is smooth when young but then reddish-brown or dark grey-brown breaking up into long rectangular flakes with their edges beginning to curl away from the trunk.

Young shoots are very stout being pale pink-brown or reddish-purple in colour with pale **lenticels**.

PLANT ID: horse chestnut *Aesculus hippocastanum* L.

What's in a name? Its Latin name, *hippocastanum* means horse chestnut. There are two camps of thought about the origin of the name; one being the healer of horse respiratory problems and the other - the small horseshoe-like markings that are present on its twigs, when leaf petioles fall in the autumn.

Botany glossary (part 1)

Anther pollen-bearing part of the Stamen (male) found at its tip.

Digitate lobes that radiate out from a single point, like spreading fingers.

Filament stem supporting the Anthers

Inflorescence how a group of flowers are arranged on the plant.

Leaflet smaller sub-component of a compound leaf; a smaller leaf.

Ciliate an edge fringed with hair like projections, linked (usually) to leaf and flower margins.

Lenticel a raised marking on a shoot that is a breathable pore.

Botany glossary (part 2)

Leaf scars the mark left on a twig after a leaf as fallen away from it in autumn.

Palmate three or more distinct leaflets that arise from a central point rather like the fingers of a hand.

Petals the inner most colourful two whorls (the other being the green sepals) that surround the reproductive parts of a flower.

Petiole a stalk of a leaf.

Stamen male part of the flower, each comprising a filament and anther.

Pedice the stalk of a single plant flower.

Get up close to the horse chestnut by taking a virtual tour using the Pappus film library.



Tree in early autumn

Biggest and oldest

The oldest tree is thought to be over 400 yrs old and is growing in a churchyard in Zetting, France.

A tree at Hughenden Manor, High Wycombe (UK) has the largest trunk girth of 7.33m.

Note: the largest tree doesn't always mean it's the oldest.

Global species risk of extinction (IUCN - Red Data List)

