

# Who's in your family tree?

## Part I. the Rose family

Flowers in the Rose family vary widely from trees and shrubs to low-lying herbs many of which produce edible fruits such as apples, peaches, cherries, plums, apricots, rose hips and strawberries. Roses have been around for a very long time, the first species appeared some 35 million years ago, preserved in fossil records. Today over 2,500 species are found growing around the world from Asia to Europe and from New Zealand to the Andes in South America. Yet what defines these plants as members of the same family?

### Leaves and branches

Typically members of the Rose family have leaves arranged alternately along the stem. In general their shape is more or less oval and have saw-toothed or serrated edges. Species forming tree and shrubs generally have sharp spines or prickles on their branches whereas smaller herbaceous plants are thorn-less.

### Flowers

The flowers are flat discs radiating outwards with generally 5 petals. There are mainly 5 male reproductive stamens within the flower and these surround the central female part which has a fuzzy-looking appearance. Most species are insect pollinated and have a pleasant fragrance which is produced from scent glands on their petals. Bees are an important pollinator for this family and range from tiny, metallic green flower bees to honey bees and bumble bees. Alternative non-sexual methods of reproduction are also encountered with some species producing suckers and runners from their rootstock whilst others produce runners from their stems which root to produce a plantlet that will eventually live an independent life.

### Fruits

There are many different types of fruits in the Rose family. These range from single-seeded, fleshy fruits known as drupes such as plums, cherries and apricots to smaller drupelets such as blackberries. Other species develop into a harder, fleshy fruits such as apples and rosehips. Strawberries, blackberries and raspberries are known as aggregate fruits incidentally none of which are berries but develop from a single flower which has many ovaries which swell after pollination into the aggregate fruit.

### History

Our association with roses date back millennia where they have been used as symbols of love, beauty and also to scent soap and to colour wine. They are also used in politics and in war as symbols of strength such as demonstrated in British heraldry during the War of the Roses. The appearance of bright and colourful cultivated roses with their delicate fragrance are the result of mutations developed by horticulturalist which began about 5,000 years ago in Asia. These varieties follow the general characteristics of the natural species but differ significantly in other aspects like the multi-petalled flower heads.

Below are a few of the many plants in this group that are common in the UK and across the European continent.

### Mountain Ash / Rowan (*Sorbus aucuparia*)

A generally solitary tree growing to 15m and living for up to 200 years. It's leaves are divided into 5-8 pairs of leaflets all with jagged edges. Each creamy white flower contains both male and female reproductive parts. Flowers are borne in dense clusters and develop into distinctive red fruits, the seeds of which are dispersed by wintering birds.





### **Blackthorn (*Prunus Spinosa*)**

A densely thorny shrub with white blossoms seen in early spring. This colourful plant is common in hedgerows and the flowers form before the toothed, oval leaves appear. In the autumn the fruit develops into a bitter, blue-black berry known as a sloe which is commonly steeped in gin and sweetened into an alcoholic drink!



### **Dog Rose (*Rosa canina*)**

A fragrant and common shrub. It has a climbing habit using surrounding vegetation for support. It produces pink or white flowers which develop into edible, red hips in the autumn. The plant is covered in sharp, backward curving thorns which have a dagger-like appearance. This may also allude to its former name 'Dag Rose'!



### **Meadowsweet (*Filipendula ulmaria*)**

A heavily scented plant of damp meadows and waysides. It's flowers are produced in dense clusters on upright, red stems. This aromatic plant fools insect pollinators into thinking there is lots of nectar but it doesn't produce any! The insects however pick up plenty of pollen along the way. Meadowsweet produces salicylic acid which was used as a disinfectant and as an anti-inflammatory and painkiller.



### **Lady's-mantle (*Alchemilla spp.*)**

The name Lady's-mantle refers to the cloak-like leaves of the plant. The leaves are pleated and velvety. Water droplets form on the leaf edges as water escapes through tiny pores. Lady's-mantle covers a number of remarkably similar, closely related, micro-species, the seeds of which are not fertilised but produced without sex through a process called apomixis. This development has led to many small but distinctly separate species.



### **Wild Strawberry (*Fragaria vesca*)**

A low-lying woodland plant with distinctive 5-petalled white flowers. They produce an edible red fruit in mid summer unlike its close relative the Barren Strawberry whose fruit remains a dry, green and inedible. Another difference between the two species is the Wild Strawberry produces runners which root forming new plantlets.



### **Alpine Avens (*Geum montanum*)**

There are about 50 plants belonging to the group called Avens. They all have underground shoots called rhizomes and live for many years. Alpine Avens is a plant of the high Alps. It is a low-lying plant with divided, toothed leaves with unequal leaflets. The large yellow flowers are solitary and have 6 petals. It has a purported use as a medicinal plant in Austria taken as a tea to treat rheumatism and gout.



### **Salad Burnet (*Sanguisorba minor*)**

A small plant of grassland and dry banks. It's small leaves are divided into 3-12 pairs of leaflets and arranged in ground-hugging rosettes. The leaves are eaten as a salad plant or added to summer drinks and have a taste of cucumber! The tiny green flowers have long and feathery red stigmas and are clustered in dense, terminal flower heads.



### **Tormentil (*Potentilla erecta*)**

A colourful and widely distributed plant of moor, heath and grasslands. It is a low-lying and creeping plant with considerably large roots. It has 4 bright yellow petals which is an unusual number for this family. Its leaves are divided into 3, toothed lobes and have a silvery underside. Tannic acid was extracted from its roots and used to tan leather and to dye cloth. It has also a long history as a medicinal plant. Its species name *erecta* refers to its upright growth form and is no reference to any effect on the male human anatomy!