

Who's in your family tree?

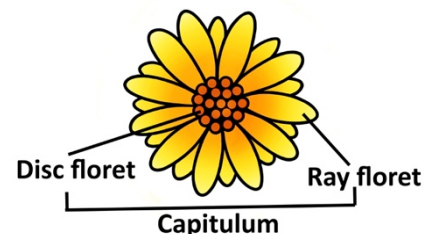
Part 3. the Daisy family

All of you will be familiar with the common daisy but did you know it belongs to the largest plant family? Not only that, it is also one of the most advanced flower families in evolutionary terms as well. The Daisy family (also called Asteraceae or Compositae) is composed of an estimated 23,000 species mostly herbs but some shrubs and trees exist too. Several of the species have become important food crops such as lettuce, artichoke and chicory with others being significant ornamental plants such as marigold and chrysanthemum. Sunflowers are commercially significant for their oil and seeds whilst chamomile is made into a soothing herbal tea and echinacea is grown for its medicinal properties.

The earliest records are pollen grains found in sediments in Antarctica that date from the Late Cretaceous era about 70 million years ago. The family is regarded as one of the most influential in that many animals, such as bees, wasps and hummingbirds, heavily depend on their flowers to survive. The name of the family - Asteraceae - comes from Greek meaning star and refers to the star-like shape of the flower. A common phenomenon amongst the many species is that their flowers are 'heliotropic' meaning they move to track the sun's path, maximising absorption of the sun's energy.

Flowers

From what first seems at first to be a single large flower with enlarged outer petals is actually a dense head of tiny flowers forming a central disc with outer sunray flowers of many smaller flowers. The tiny flowers are termed florets and are either central 'disc florets' or outer 'ray florets'. Plants of the Daisy family will either have disc florets or ray florets or both types. The diagram below illustrates the structure of the flowerhead.



Leaves and branches

The leaves are mostly simple but can also be deeply lobed and spiny (as with the thistles). The leaves can be arranged alternately, opposite or in whorls (ring of leaves). The stems often contain secretory canals with resin or the milky fluid latex.

Fruits

The fruits and seeds of these plants are quite well known as they are often winged or spiny. You may have blown the seeds from a dandelion head as a child in a game of 'she loves me, she loves me not' or had the hooked seeds of burdock entangle in your jumper whilst walking too close to the plant. Sunflower seeds are well packed into the flowerhead but have you noticed the way they are packed? The spiral patterns they form fit into a mathematical sequence coined by Fibonacci.

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



Yarrow (*Achillea millefolium*)

A common grassland plant which grows to about 50cm. It is a strong-smelling plant with clusters of white (or pink), flat-topped flowerheads. The flowers can be seen from June until November. Its leaves are finely divided and look like green feathers. The plant is named after the Greek hero Achilles who is supposed to have used the plant to treat wounds of his soldiers. Yarrow is also used in a host of remedies, from treating colds and fever, stomach ulcers and rheumatism.



Dandelion (*Taraxacum officinale*)

A very common yellow flower and considered a weed by many gardeners. The flowers turn into a fluffy, white, seed globe and can be seen carpeting meadows. Each seed is like a miniature parachute and uses the wind to aid dispersal. The leaves have jagged lobes giving the appearance of lion's teeth. In French this translates as 'dent de lion' and provides our common name dandelion). It is also known as 'Wet-the-bed' indicating its diuretic qualities when eaten.



Alpine Aster (*Aster alpinus*)

This flower can be seen in rocky grasslands, usually on limestone. It has a wide distribution being found across North America to Europe and Siberia, yet not in the British Isles. It has a solitary flowerhead of violet-blue, mauve or sometimes white with a yellow central disc. Although not a common alpine plant it can be seen growing at an altitude of over 3000m.



Daisy (*Bellis perennis*)

The name daisy comes from old English meaning 'day's eye'. Its flowers open at dawn and track the sun's path across the sky until dusk when they slowly close. It has white outer rays, often tipped red, with a yellow central disc. It is found throughout the British Isles, mainland Europe and also over in North America. They flower from early spring right through into autumn. Its young leaves can be eaten as a salad green. It's also a little known fact that daisies are anti-inflammatory so are good for bruises, aches and sprains.



Silver Thistle (*Carlina acaulis*)

This is another plant restricted to the alpine regions of central and southern Europe. Its large, silvery flowerhead is sat directly on a rosette of spiny leaves. It is a common sight being found up to an altitude of 2,800m. Its flowers close in wet weather to protect the pollen, a phenomenon folklore holds to foretell bad weather.



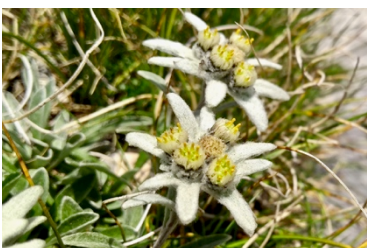
Alpine Sow-thistle (*Cicerbita alpina*)

A large, bushy plant easily spotted in open woodlands and tall alpine meadows. Its British distribution is restricted to a few sites in Scotland but is found across northern Europe and the Alps. Its blue-violet flowers form loose clusters at the top of solitary stems. The lower leaves are large and triangular resembling lettuce leaves and are sometimes eaten raw or cooked. The shoots can also be eaten and are a favourite food of the Eurasian brown bear.



Giant Groundsel (*Dendrosenecio kilimanjari*)

As its name suggests this is a giant plant native to East Africa. Its distribution is restricted to a high altitude zone above the treeline, around 4,300-5000m, on mount Kilimanjaro. Its seeds do not spread far hence its incredibly localised distribution. It is one of 11 members of the sub group all of which are located in the same geographic region but on separate, isolated mountains. It has massive leaf rosettes on each woody branch and is able to store water in the thick stem. Each branch takes about 25 years to form so counting them will give an estimate of the plants age.



Edelweiss (*Leontopodium alpinum*)

The iconic plant of the Alps which symbolises pure love and worthiness. It also conjures up images of alpine meadows and the stories of the Swiss mountain girl Heidi. Edelweiss can be seen on mainly limestone rocky grasslands up to an altitude of 3400m. Its species name originates from the Greek meaning 'lion's foot'. The compact flowerhead comprises several yellowish-white flowers which are surrounded by conspicuous large, woolly, grey-white modified leaves

(bracts).

**Arnica (*Arnica montana*)**

A well-known medicinal plant used in the treatment of sprains and bruises. Arnica is indigenous to central Europe and found in alpine meadows. It has large, bright yellow flowerheads with long spreading ray florets can be seen flowering between May and August. It can be distinguished from similar species as it has a pair of stem leaves which are opposite each other.

**Mountain Everlasting (*Antennaria dioica*)**

This little plant thrives in dry conditions so is well adapted to rocky heath and dry meadows on acid soils. It produces rooting runners and forms mats of grey-green leaf rosettes. Its leaves are superbly adapted to conserve moisture. They roll inwards in dry conditions exposing the woolly hairs of the leaf underside which also aids water retention. Its flowerheads are either white or pink depending on their sex (white – male, pink – female), and appear on separate plants.

Bio:

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