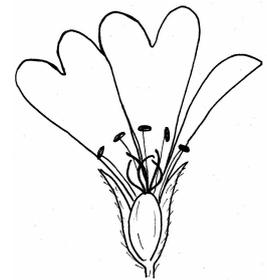


## UNIT 7. THE CAMPION FAMILY – CARYOPHYLLACEAE

This is another large family with more than 2,000 species in about 90 genera distributed throughout the world but concentrated in the Mediterranean region and the adjoining parts of Europe and Asia. We therefore have a large number of them in our own flora. The great majority are herbs, either annual or perennial. Their leaf and flower structure are very uniform so the family is easy to recognise but some of the species are difficult to identify, especially when they are diminutive in size.

The family contains some very popular fragrant and decorative plants such as the carnations which form a major cut-flower industry. Other popular garden plants include the pinks (*Dianthus*), *Gypsophila* and *Arenaria*. There are also some weeds, notably chickweed, *Stellaria media*, which manages to grow practically everywhere and in all months of the year.

The leaves are simple and entire (i.e. not lobed or toothed), in opposite pairs although they may be in whorls in *Spergula* or *Spergularia* (the Spurreys). The stem is often forked and swollen at the nodes and the pair of leaves may be fused at their bases so that they encircle the stem (this is very obvious in carnations). The flowers are usually in a rather loose cyme. There are 4 or 5 sepals which are sometimes free but, in the part of the family that includes the champions, are fused and sometimes swollen into a bell- or bulb-shape. In some genera, including *Dianthus*, there is an extra ring of small sepals called the **epicalyx** outside the main sepals. There are generally 4 or 5 white or pink petals but petals are lacking in the very tiny Pearlworts (*Sagina*) and Knawels (*Scleranthus*). The petals are always free and sometimes have a spreading part (the 'limb') and a long tapering base (the 'claw'), very much like the crucifers. They are often notched and **the presence or absence of a notch, and its depth, are important diagnostic characters**. Sometimes the notch extends right to the base and effectively divides one petal into two.



*Stellaria media*



*Moehringia trinervia*



*Scleranthus annuus*

There are usually 5 or 10 stamens. **The superior ovary is compound but the styles are separate. The number of styles is often diagnostic.** The fruit is usually a capsule containing many small seeds and opening at the top by a ring of teeth.

Most species are hermaphrodite, like the great majority of flowering plants, but the red and whiteampions, *Silene dioica* and *S. latifolia*, are dioecious (di-ee-shus), which means that they have separate male and female plants. This ensures cross-pollination, and the redampions are very variable, sometimes with conspicuous differences in flower shape and colour between plants.



#### *Silene dioica*

Dioecy (di-ee-shee) occurs in only a minority of plants although it has evolved in many different families. The specific name 'dioica' (di-oh-ica) indicates that the species is dioecious.

The Caryophyllaceae should be the first family to look at when a plant is found with very simple, opposite leaves and regular white or pink flowers with 4-5 sepals and petals. The separate styles are diagnostic. The difficulty is in the large number of rather similar species with no striking diagnostic features and the often extremely small size of the flowers.

#### Species roundup:

As with the other families, this is a somewhat random selection of species that can cause problems, or are interesting in some other way.

- 1) *Silene dioica*, *S. latifolia* and *S. vulgaris* – Red, White and Bladder Champion are well known throughout most of the British Isles although uncommon in Ireland. *S. vulgaris* flowers later than the other two and can cause confusion because it has two different leaf types – either hairless and glaucous or hairy. Plants of the two types may grow together and look like different species.
- 2) \* *Lychnis flos-cuculi*, Ragged-Robin – an indicator species for wet grassland, fen and swamp. The bright pink flowers are conspicuous but the slender plants are easily missed when not in flower. The dark red stripes on the calyx, which persists around the capsule, are a good diagnostic feature.

\* Name changed to *Silene flos-cuculi* in Stace, 2010.

### Smaller and smallest

- 3) *Stellaria* spp, the Stitchworts, have **3 styles**. *S.holostea*, Greater Stitchwort, is a very familiar plant of woods and hedgebanks. It has petals cleft not more than halfway. *S.graminea*, Lesser Stitchwort, is common in unimproved neutral to acid grassland. Its petals are cleft almost to the base. The flowers are very variable in size – WFK gives their diameter as 5 – 18mm. Do not mistake very vigorous specimens growing in damp places for *S.palustris*, Marsh Stitchwort, which has waxy grey-green leaves and is a rare and declining species throughout most of Britain and Ireland. *S.alsine* (old name *S.uliginosa*), Bog Stitchwort, grows in wet places usually on acid soils. It is often found in shady places like woodland rides. Its leaves are broader than the others (narrowly ovate rather than lanceolate) and its petals are cleft to the base and shorter than the sepals, resembling little equals signs. *S.media*, Chickweed, is so common that it needs no comment, except that the single line of hairs running down the side of the stem is a nice diagnostic character