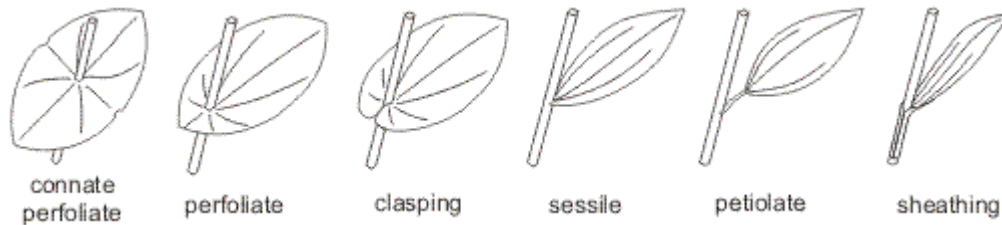


### *leaf attachment*



**node** - the point of leaf attachment to a stem.

**internode** - the region of the stem between leaves.

**petiolate** - a leaf attached to the stem by a petiole.

**sessile** - a leaf whose blade is attached directly to the stem, lacking a petiole.

**clasping** (or amplexicaul) - a sessile leaf with free bases partly or entirely surrounding the stem.

**sheathing** - with a tubular portion of the leaf blade surrounding the stem below the base.

**decurrent** - with leaf blade extended downward along the stem, forming vertical lines along the stem.

**ochreate** - with stipules forming a thin tube around the stem above petiole.

**perfoliate** - with the bases of a single leaf fused around the stem, which appear to go through the leaf blade.

**connate-perfoliate** - with bases of opposite leaves fused around the stem, which appear to go through the leaf.

### *leaf arrangement*

**phyllotaxy** - the arrangement of leaves on an axis.

**2-ranked** - arranged in 2 rows, one on either side of the stem or central axis.

**alternate** - an arrangement with 1 leaf attached at each node.

**distichous** - 2-ranked, with alternate leaves arranged on opposite sides of a stem, not spirally arranged.

**equitant** - 2-ranked basal leaves, folded and flattened in the same plane, and with alternately overlapping bases. New leaves emerge between the bases of the previous leaf, e.g., characteristic of irises (Iridaceae), *Tofieldia* (Tofieldiaceae), and Zingiberales.

**opposite** - an arrangement with 2 leaves attached at each node, on opposite sides of the stem.

**decussate** - with opposite leaves attached at right angles to the adjacent pairs of leaves.

**whorled** - an arrangement with 3 or > leaves attached at each node.

**imbricate** - with overlapping bases, the previous layer of leaves or scales overlapping younger layers.

**fascicle** - 2 or > leaves grouped in a bundle and bound together at the base, derived from a reduced shoot.

**basal leaves** - leaves arranged around the base of a stem.

**rosette** - a group of basal leaves.

**cauline** (or radical) leaves - leaves arranged along an aerial stem.

**vernation** - the arrangement of leaves in a bud.

**circinate** - a coiled vernation, with the frond apex in the centre of the coil; produced the distinctive fiddlehead-shaped young leaves in ferns.

*arrangement of stomates* (pores in leaf epidermis, surrounded by guard cells and subsidiary cells).

**anomocytic** - with no specialized subsidiary cells.

**paracytic** - with 2 specialized subsidiary cells surrounding the guard cells.

**paratetracytic** - with 4 specialized subsidiary cells surrounding the guard cells.

**pericytic** - with 1 specialized subsidiary cell surrounding the guard cells.

**amphiparacytic** - with 2 rows of 2 subsidiary cells surrounding the guard cells.

## Stems

### Cauline leaf arrangement (on stem)

Disposition of organs or parts with respect to one another.

**alternate** One leaf or other structure per node.



**decussate** Opposite leaves at right angle to preceding pair.



**dextrorse** Rising helically from right to left, a characteristic of twining stems.

**distichous** Leaves 2-ranked, in **one** plane.



**equitant** Leaves 2-ranked with overlapping bases, usually sharply folded **along** midrib.



**fascicle** Cluster of needles borne **on** a minute determinate short shoot in the axil of a primary **leaf** (bract); e.g., *Pinus*.



**imbricate** Leaves or other structures overlapping.



**none**

**opposite** Two leaves or other structures per node, **on** opposite sides of **stem** or central axis.



**sinistrorse** Rising helically from left to right, a characteristic of twining **stems**.

**whorled** Three or more leaves or other structures per node.

