

Key to selected conifer species on campus

This key is a heavily modified version of the key in *Conifers: morphology and variation* by Mirko Vidaković.

Plant identification and maps were produced by John Rawlings as part of a new edition of *Trees of Stanford* by Ron Bracewell. Many thanks to John Rawlings for generously making the unpublished maps available to the class.

Species list

Abies cilicia, Cilician Fir
Calocedrus decurrens, Incense cedar
Cedrus atlantica “*glauca*,” Atlas Cedar
Cedrus deodara, Deodar Cedar
Cedrus libani, Cedar of Lebanon
Chamaecyparis lawsoniana “*pendula*,” Port Orford Cedar
Cupressus macrocarpa, Monterey Cypress
Metasequoia glyptostroboides, Dawn Redwood
Pinus canariensis, Canary Island Pine
Pinus mugo, Mugho Pine
Pinus pinea, Italian Stone Pine
Pinus thunbergii, Japanese Black Pine
Picea pungens “*glauca*,” Colorado Blue Spruce
Sequoiadendron gigantea, Big Tree
Sequoia sempervirens, Coast Redwood
Thuja plicata, Western Red Cedar

Key to genera

- Leaves on short shoots in clusters or whorls, *and* needle-like or linear
 - Leaves 2, 3, or 5 in a cluster, 2.5 cm or more long with characteristic resin ducts
Pinus (Pines) *See key to Pinus species*
 - Leaves evergreen and clustered in whorls of 15-40; leaves 1.5 to 5 cm long
Cedrus (Cedars) *See key to Cedar species*
- Leaves not clustered on short shoots, but spirally arranged or opposite (or if whorled, then

scale-like)

- Leaves linear, linear-lanceolate (long and narrow, but slightly wider in the middle), or long and needle-like
 - * Leaves not in two distinct ranks; very conspicuous scars left by leaves that have fallen off; leaf bases not strongly decurrent (running down length of stem); buds covered with dark brown or grey scales
 - Leaf scars peg-like; cones pendulous (hanging down), with persistent scales
Picea (Spruces)
 - Leaf scars disc-like; cones erect with deciduous scales (bases of scales remain)
Abies (Firs)
 - * Leaves in two distinct ranks; leaf bases obviously decurrent; buds with green or light brown scales
 - Leaves in two ranks (rows) and linear, evergreen and dark green above; leaves smaller at base of each shoot
Sequoia sempervirens (Coast Redwood)
 - Leaves in two ranks (rows) and linear, deciduous and light green
Metasequoia glyptostroboides (Dawn Redwood)
- Leaves not linear, but short and wide at base, sometimes scale-like
 - * Leaves opposite or in whorls (3 or more leaves at a single node); individual branchlets more or less flat (young trees may not show this)
 - Branchlets flat and arranged into larger flattened sprays; leaves in opposite pairs, scale-like
 - ◇ Cones oblong or subglobose (not quite spherical), woody with overlapping scales; tips of lateral and facial leaves equal, due to alternation of long and short internodes
 - Male cones with 3-6 pairs of scales. Female cone scales 3-6, with 2-5 seeds to each fertile scale; foliage not usually aromatic when rubbed.
Thuja (Arbor vitae)
 - Male cones with 6-8 pairs of scales. Female cone scales less than 8 (usually 4-6), with 1-2 seeds per scale; foliage aromatic when rubbed
Calocedrus decurrens (Incense Cedar)
 - ◇ Cones subglobose, woody, cone scales peltate and with valves, not overlapping; tips of lateral and facial leaves off-set, internodes more or less equally spaced
Chamaecyparis lawsoniana (Port Orford Cedar)
 - Branchlets flat, but together in more or less disorganized elongated clusters; leaves scale-like; woody cones with peltate (umbrella-like) scales
Cupressus macrocarpa (Monterey Cypress)

- * Leaves spirally arranged; branchlets not flat; leaves pointed and bluish green
Sequoiadendron gigantea (Big Tree)

Key to the Pines

- Leaves in bundles (fascicles) of three; leaves long (20-30 cm); branches light tan with “shingled” look
Pinus canariensis (Canary Island Pine)
- Leaves in bundles of two
 - Leaves dark green and stiff, only up to 15 cm long; bark with fissures dividing it into scales
 - * Leaves very short (3-4 cm); tree shrublike *Pinus mugo* (Mugho Pine)
 - * Leaves 6-15 cm; tree tall (up to 40 m high) with irregular crown; bark black-grey
Pinus thunbergii (Japanese Black Pine)
 - Leaves light green or blue green, 10-20 cm long; bark furrowed, forming long ridges; crown flat-topped or umbrella shaped
Pinus pinea (Italian Stone Pine)

Key to the Cedars

- Leading shoot stiff, upright or spreading, usually not pendulous (hanging); cones flat or slightly concave on top; needles 0.5-3 cm long
 - Shoots very finely scaly; cones 7-10 cm long; needles usually shorter than 2.5 cm; some individuals on campus are of the “glauca” variety and have bluish leaves
Cedrus atlantica (Atlas Cedar)
 - Shoots glabrous (smooth, lacking very fine scales); branches ascending in young trees; cones 8-10 cm long; needles usually 1.5-3 cm long, dark green
Cedrus libani (Lebanon Cedar)
- Leading shoot and ends of branches pendulous (hanging); cones rounded on top; needles 3.5-5 cm long
Cedrus deodara (Deodar Cedar)