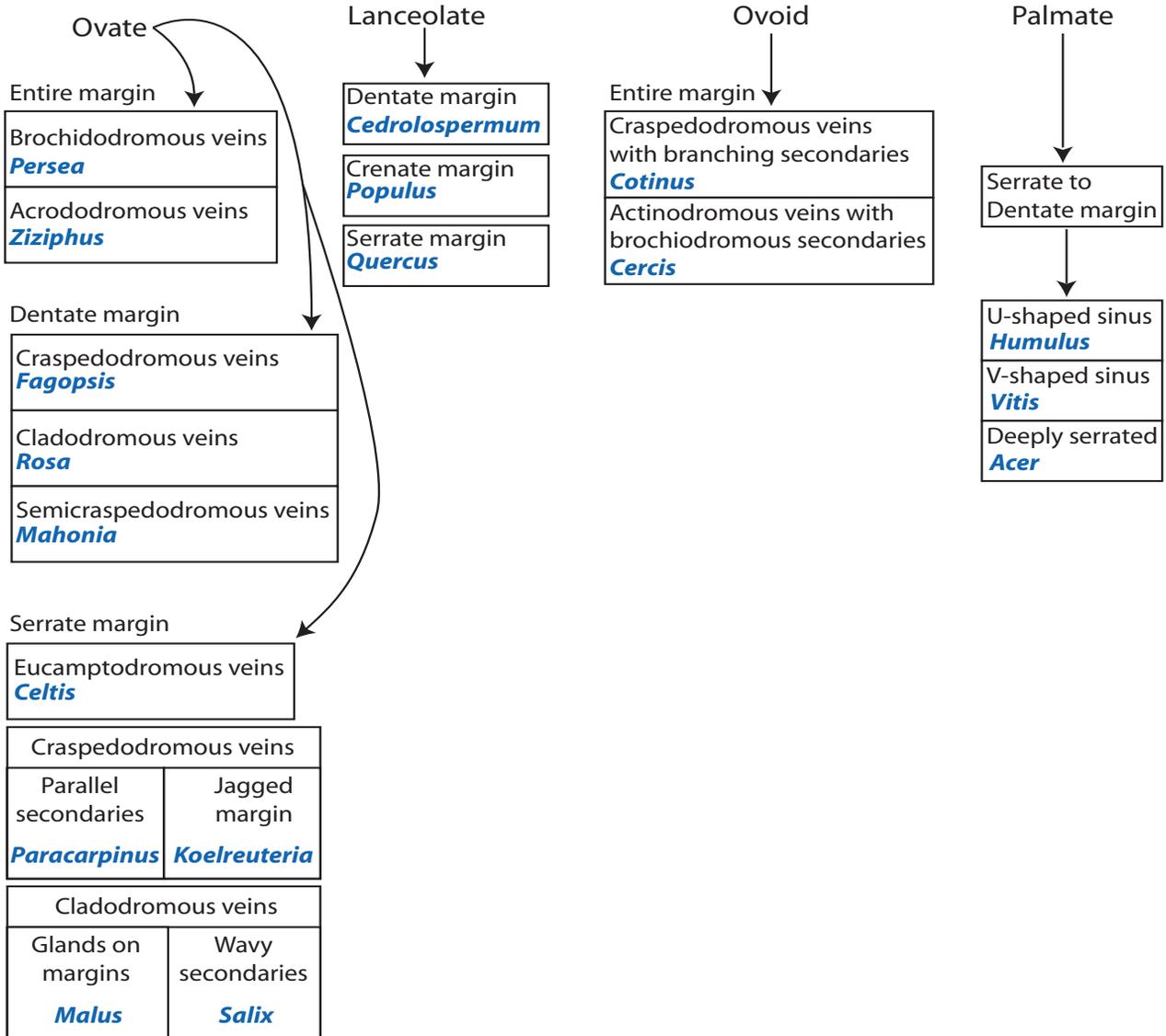
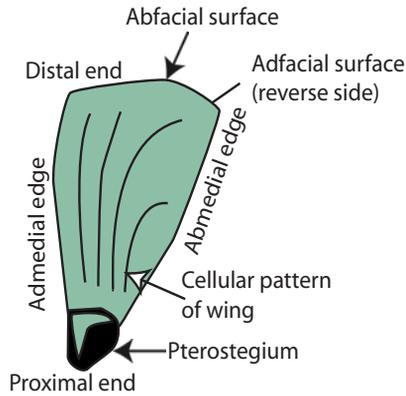


Florissant Fossil Beds Leaf Key

Leaf Shape



Seeds



Abies rigida

Abies (fir): Cellular pattern of wing directed toward admedial edge of wing, intersecting edge at an angle. Proximal end of seed is blunt. Seed is oblong, oval, or triangular.



Picea lahontense



Picea lahontense

Picea (spruce): Cellular pattern of wing parallel to long axis of wing with no wrinkles. Wing is widest at distal half.



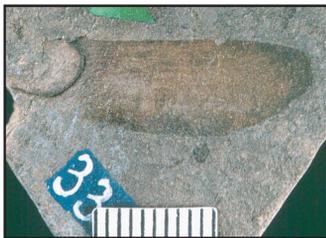
Pinus wheeleri



Pinus wheeleri



Pinus sp.



Pinus macginitiei

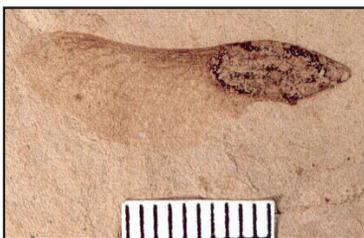


Pinus macginitiei



Pinus sp.

Pinus (pine): Cellular pattern of wing is undulatory and parallel with the long axis of the wing. Wing is wrinkled perpendicular to the long axis.



Acer macginitiei



Acer florissanti



Acer florissanti

Acer (maple): Cellular pattern of wing is perpendicular to the long axis.

Basic Leaf Terminology

Apex - usually the upper ~25% of the lamina.

Base - usually the lower ~25% of the lamina.

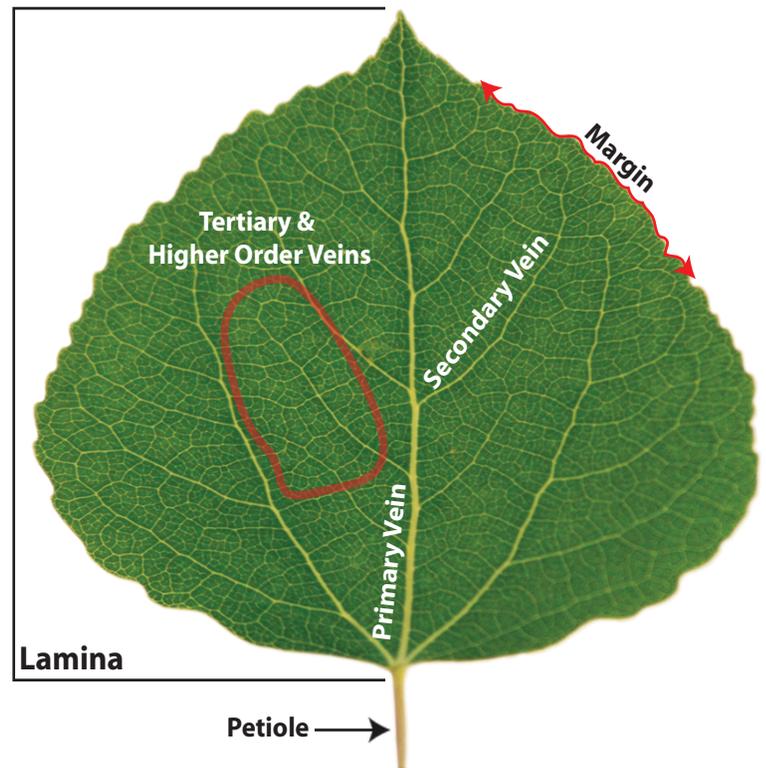
Lamina - the expanded, flat part of a leaf or leaflet.

Margin - the edge of the lamina.

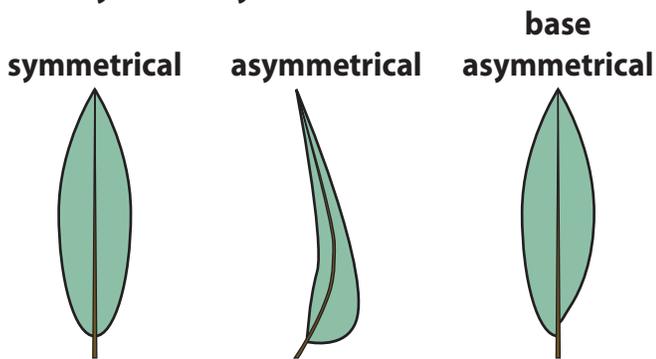
Petiole - the stalk of the leaf.

Primary vein - the widest vein of the leaf and any others of like width and/or course.

Secondary vein - the next narrower class of veins after the primary, originating from the primary or primaries.



Leaf Symmetry



Leaf Shapes

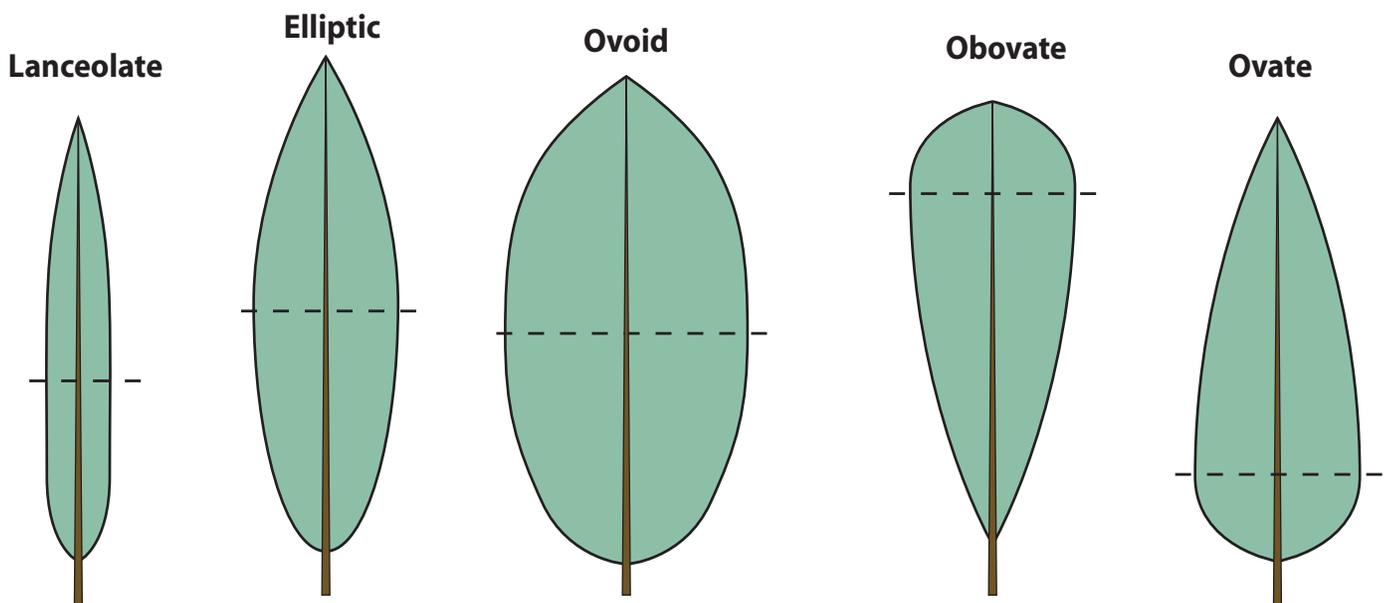
Elliptic - the leaf is widest at one point near the center

Oblong - the central portion of the leaf, between apex and base is the widest

Obovate - the area near the apex of the leaf is widest

Ovate - the area near the base of the leaf is widest

Lanceolate - shaped like a spear point



Margins

Entire - the leaf is smooth all along the margin

Revolute - the leaf curls or is enrolled along the margin

Lobed - the margin is indented at least 1/4 the distance to the midvein

Dentate - the teeth of the margin are perpendicular to the midvein

Serrate - the teeth of the margin are sloping or at an angle to the midvein

Crenate - the teeth of the margin are rounded

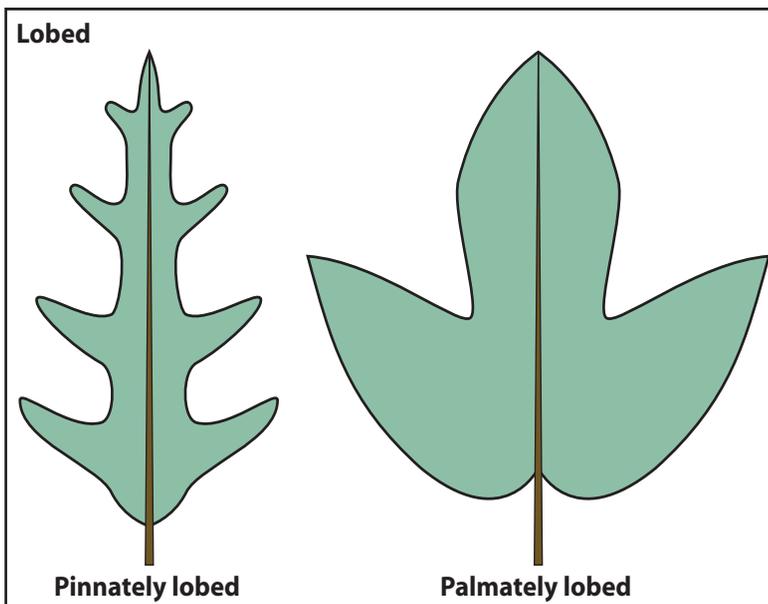
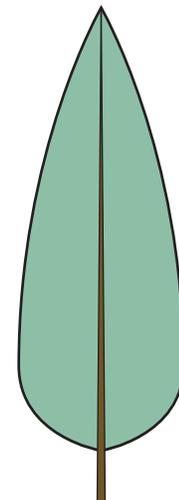
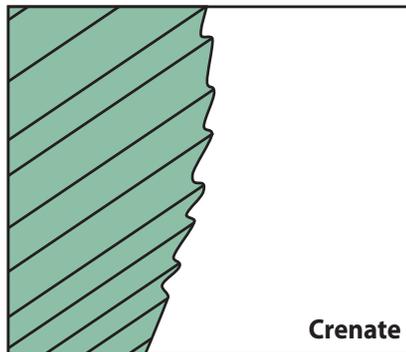
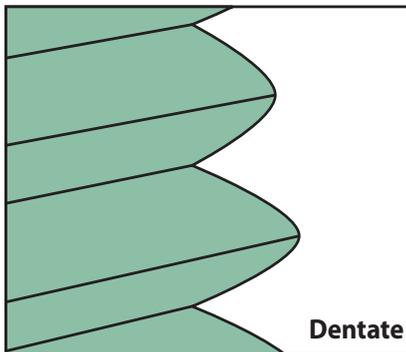
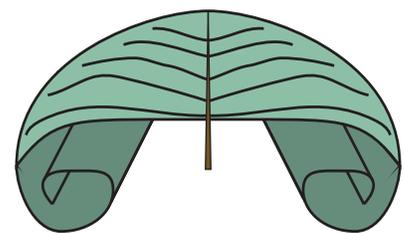
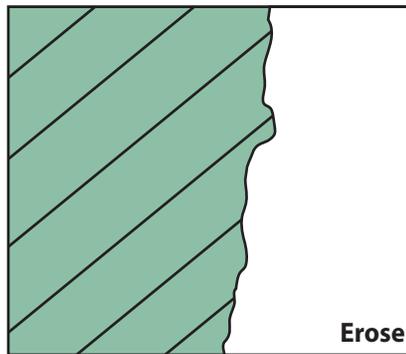
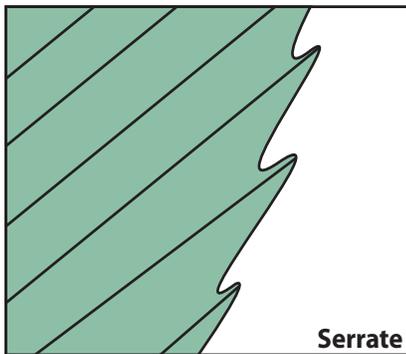
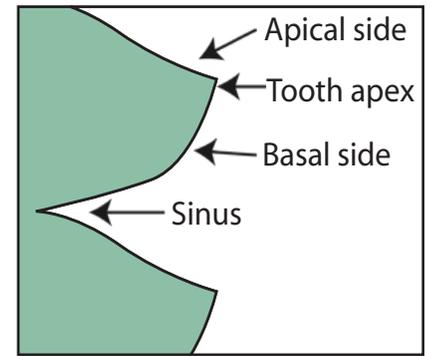
Erose - the margin is irregular

Sinus - the space between teeth

Apical side - the side of the tooth towards the apex of the leaf

Tooth apex - the apex of the tooth on the margin

Basal side - the side of the tooth towards the base of the leaf

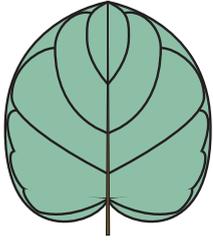


Vein Types

Pinnate

Leaf has several primary veins

Camptodromous



Brochidodromous



Eucamptodromous

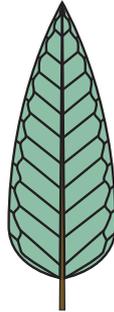


Cladodromous

Craspedodromous



Simple



Semicraspedodromous



Mixed

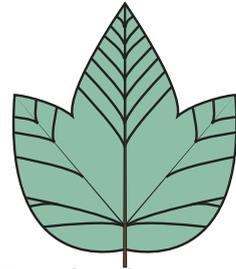
Palmate

Leaf has one midvein or primary vein

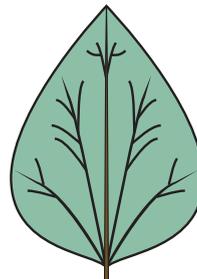
Actinodromous



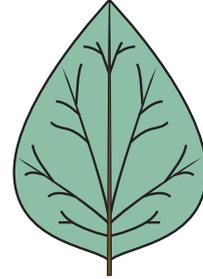
Basal-marginal



Suprabasal-marginal

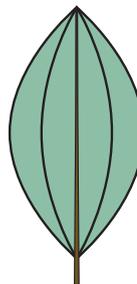


Basal-reticulate

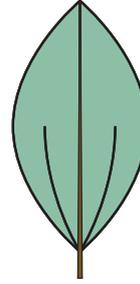


Suprabasal-reticulate

Acrodromous



Basal perfect



Basal imperfect

Pinnate - leaf has one midvein or primary vein

Craspedodromous - secondary veins reach the margin

Simple - secondary veins just simply reach the margin

Semicraspedodromous - secondary veins branching just before the margin, with one vein reaching margin and one vein reaching another secondary.

Mixed - a mix of simple and semicraspedodromous venations.

Camptodromous - secondary veins do not reach the margin

Brochidodromous - secondaries join in a series of arches.

Cladodromous - secondaries branch freely towards margin.

Eucamptodromous - secondaries turned towards apex and gradually diminishing towards apex.

Acrodromous - three or more primaries or sub-primaries running towards the apex.

Basal perfect - primary veins originate from the base and run most (50%) of the way to the apex.

Basal imperfect - primary veins originate from base and diminish halfway (50%) along the leaf.

Palmate - three or more primary midveins diverging from or near the base.

Actinodromous - three or more primary midveins diverging from a single point in a palmate leaf.

Basal marginal - midveins originate from the base and secondaries reach the margin.

Superbasal marginal - midveins originate above the base, within the leaf, and secondaries reach the margin.

Basal reticulate - midveins originate from the base and secondaries become reticulate, branching until a fine mesh.

Superbasal reticulate - midveins originate above the base, within the leaf, and secondaries become reticulate, branching until a fine mesh.