

# Identifying Common Landscape Tree Species Along Colorado's Front Range



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EXTENSION

## Bud\Leaf Arrangement

### A. Alternate- Go to Page 2



Alternate leaf arrangement

Genera: hackberries (*Celtis*), hawthorns (*Crataegus*), walnuts (*Juglans*), apple (*Malus*), poplars (*Populus*), cherries (*Prunus*), pears (*Pyrus*), oaks (*Quercus*), mt. ashes (*Sorbus*), lindens (*Tilia*), elms (*Ulmus*), legumes (Various genera) and etc.

### B. Opposite- Go to Page 3



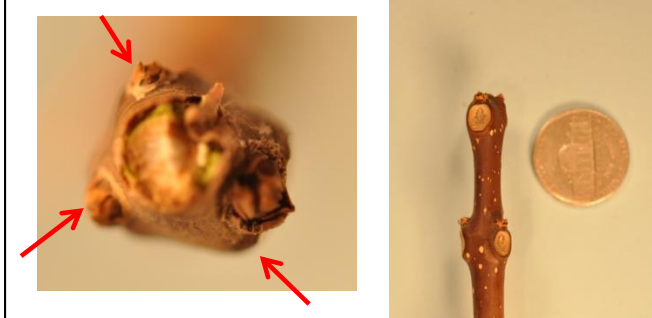
Opposite leaf arrangement

Genera: maples (*Acer*), buckeyes (*Aesculus*) and ash (*Fraxinus*)

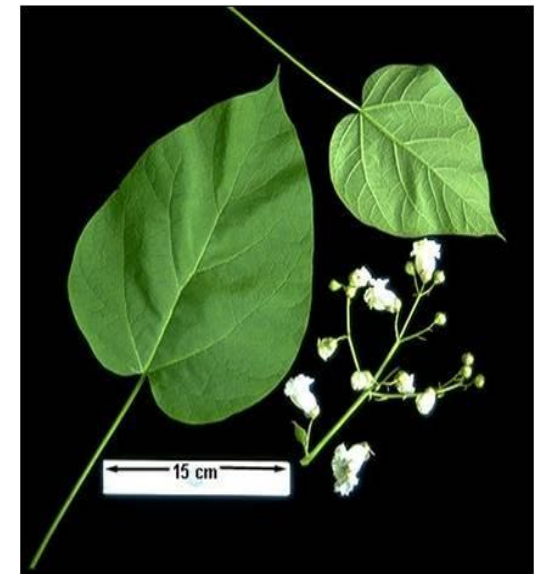
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### C. Whorled- Northern catalpa



Whorled leaf arrangement:  
three buds per node



Northern catalpa - Leaves and flowers

# 2- Alternate Leaf Arrangement



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## Common Species With Alternate Leaf Arrangement by Leaf Type

### A. Simple Leaves- Go to Column 1



Simple leaf-  
one single  
undivided  
leaf

#### 1. Alternate with simple leaves

1a. Simple leaf which is fan -shaped, short spurs on twigs, pale bark- **ginkgo**

1b. Simple leaf with pinnate lobes, cluster terminal buds and acorns- **oaks**

Common Species: English Oak, Bur Oak, gamble oak and red oak



#### 1c. Simple leaf with unequal base

i. Unequal base, doubly serrate and circular samara fruit-**elms**

ii. Unequal base, signally serrate, nipple gall common, purple drupe fruit and “warty” gray bark- **hackberry**

#### 1d. Simple leaf with heart -shape (cordate)

i. Heart-shaped leaves, zigzag twigs and pod fruit- **redbud**

ii. Heart-shaped leaves, nutlet fruits, banana-shaped bract and smooth tear drop shaped buds: **lindens**

#### 1d. Simple leaf, drupe fruit and glands at the base of the leaf- **cherries and plums**

#### 1e. Simple leaf, pome fruit

i. Pome fruit more oblong, buds mostly hairless- **pears**

ii. Pome fruit more globose buds smooth and glossy often armed with thorns- **hawthorns**

iii. Pome fruit more globose, buds and midrib of leaf often pubescent- **apples**

#### 1f. Simple leaf, catkin flowers, often longer petiole-

i. Buds resinous - **cottonwoods**

ii. Buds non-resinous, bark white even on mature trees- **aspen**

### 2. Alternate with compound leaves

#### 2a. Pinnately Compound Leaf



Pinnately  
Compound Leaf-  
Leaflets arranged  
like a feather

i. Terminal bud present, chambered pith, leaflets larger and leaves longer- **black walnut**

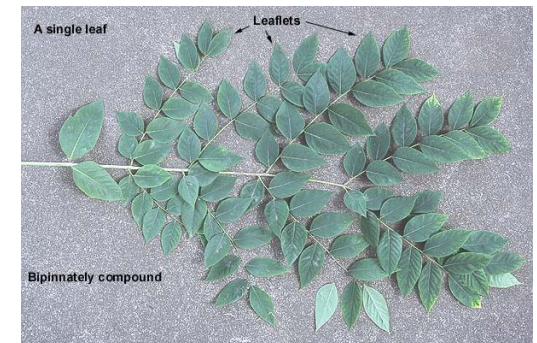
ii. Large pubescent terminal bud, solid pith, small serrated leaflets orange to red pome fruits in clusters: **mountain ash**

ii. No terminal bud, small glossy leaflets, twigs zigzag and are swollen at nodes- **thornless honeylocust**

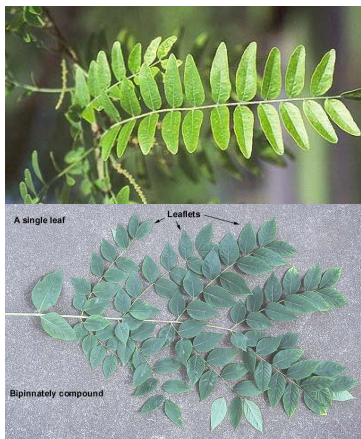
iii. No terminal bud, small dull leaflets, short thorns in pairs, pod fruit- **black locust**

iv. No terminal bud, leaflets serrated, ‘paper lantern’ fruits, smaller tree- **panicked golden rain tree**

#### 2b. Bipinnately Compound Leaf- **Kentucky coffee tree**



### B. Compound leaf- Go to Column 2



Compound  
leaf- multiple  
leaflets per  
bud

# 3- Opposite Leaf Arrangement



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## Common Species With Opposite Leaf Arrangement by Leaf Type

### A. Simple Leaves- Go to Column 1



Simple leaf-  
one leaf per  
bud

#### 1. Opposite with simple leaves- maples (excluding boxelder- *Acer negundo*)

##### 1a. Common maples with clustered buds

- i. Large clusters of brown buds, deeply lobed leaves silver exfoliating bark – silver maple
- ii. Clusters more red (not always true) leaves less deeply lobed- autumn blaze (Freeman) maple



Autumn blaze maple,  
leaf and buds

Silver maple leaf and  
buds

##### 1b. Common maples without clustered buds

- i. Smaller tree (~20ft or less), leaves nearly unlobed- tatarian maple
- ii. Stout branches, larger terminal bud, bleeds milky sap when leaves are removed- Norway maple
- iii. Buds scaly and pointed- sugar maple



Plump terminal bud of  
Norway maple



Pointy buds of sugar  
maple

#### 2. Opposite with compound leaves

##### 2a. Palmately Compound Leaf- Ohio buckeye or horse-chestnut



Palmately Compound Leaf- Leaflets arranged  
like fingers on a hand (horse-chestnut pictured)

##### 2b. Pinnately Compound Leaf



Pinnately  
Compound Leaf-  
Leaflets arranged  
like a feather

- i. Leaves have 3-5 leaflets, twigs waxy, double samara fruit born in pendulous chains - boxelder
- ii. Leaves have 5 or more leaflets, bud covered with short hairs, single samara fruit- ash



Waxy twig of boxelder  
(more green in summer)



White ash twig

### 2. Compound leaf- Go to Column 2



Compound  
leaf- multiple  
leaflets per  
bud





# Identifying Common Landscape Conifer Species Along Colorado's Front Range



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## Conifers by Leaf Type

### A. Leaves scale or awl-like-

1. All leaves scale like, branchlets flat and small woody cone- arborvitae (*Thuja sp.*)



Flat branchlets of scale like leaves with both mature (left) and immature cones (right) of arborvitae

2. Leaf may be a mixture of scale and awl type and berry-like cone- juniper (*Juniperus sp.*)



Scale (left) and awl (right) type juniper needles



Berry-like Juniper Cones

### B. Leaves needle-like

- go to column 1

1. Needle-like leaves bundled in groups, woody cones- pines (*Pinus sp.*)



- 1a. Needles in groups of 2
  - i. Needles curve, cone resinous with large nut-like seeds- pinyon pine
  - ii. Needles straight or nearly straight cone small and dark brown- mugo pine
  - iii. Needles twisted, bark orange and exfoliating- Scots pine
  - iv. . Needles longer and stiff, buds silvery Austrian pine
- 1b. Needles in groups of 2 and 3- ponderosa pine

- 1c. Needles in groups of 5
  - i. Needles dotted with resin- bristlecone pine
  - ii. Needles soft and flexible, cone much longer than wide- eastern white pine
  - ii. Needles stiffer, twigs very flexible- limber pine

2. Needle-like leave and singular

- 2a. Needles singular, square in cross section, born on woody pegs, cones papery and pendulous- spruces (*Picea sp.*)



Spruce needle



Woody pegs at base of spruce needles

- 2a. Needles singular, flat, flexible, and sessile (no petiole). Leaf scar circular, buds often more rounded, cones erect and deciduous (fall apart in the fall)- true firs (*Abies sp.*)



Circular leaf scar of true firs

- 3a. Needles singular, flat, and attached by petiole to twig. Leaf scar oval, buds pointed, cones pendulous with 'rat tail'. like bracts. Douglas-fir (*Pseudotsuga menziesii*)