

Provisional Key to the Ornamental Woody Plants of the New Mexico State University Campus and Environs

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Range Science Herbarium

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Genera are listed alphabetically following the keys

Key to the Groups

- 1 Gymnosperms: Producing seeds in cones, not in ovaries; leaves needle or scale-like (lanceolate in *Podocarpus*, fan-shaped in *Ginkgo*); true flowers never produced..... Group I
- 1 Angiosperms: Producing seeds within an ovary; leaves generally not needle or scale-like; true flowers, with sepals and/or petals, produced at some time during the life of the plant
 - 2 Palms and yuccas: Leaves in dense rosettes at the tips of the stem or trunk, 45-150 cm long or more, the bases surrounding and covering the stem Group II
 - 2 Plants not as above
 - 3 Leaves opposite or whorled
 - 4 Leaves simple Group III
 - 4 Leaves compound Group IV
 - 3 Leaves alternate
 - 5 Leaves simple Group V
 - 5 Leaves compound Group VI

Group I: Gymnosperms

- 1 Leaves broad, fan-shaped or lance-shaped
 - 2 Leaves fan-shaped..... *Ginkgo*
 - 2 Leaves lance-shaped *Podocarpus*
- 1 Leaves needle-like or scale-like
 - 2 Leaves needle-like, much longer than 5 mm
 - 3 Leaves borne in clusters of 2-5, never more, with persistent or deciduous sheaths at the base *Pinus*
 - 3 Leaves borne in clusters of many more than 5 on short spur shoots *Cedrus*
 - 2 Leaves scale-like, 1-4 mm long (longer in *Calocedrus* but not needle-like)
 - 4 Branchlets deciduous as a unit; pinkish or whitish flowers produced *Tamarix*
(an angiosperm with scale-like leaves covering the twigs)
 - 4 Branchlets not deciduous; flowers absent
 - 5 Branchlets arranged in conspicuously flattened sprays, these vertical to horizontal
 - 6 Leaves decurrent on the stem, the terminal scale-like portion about 2 mm long, the basal decurrent portion about 5 mm long; crushed foliage with a strong turpentine odor; cones elongate, semi-woody, separating into three duckbill-like segments..... *Calocedrus*
 - 6 Leaves not at all decurrent on the stem as above; crushed foliage with a mild turpentine odor; cones rounded or elongate, but not with three duckbill-like segments
 - 7 Cones rounded, somewhat woody, not fleshy *Cupressocyparis*
 - 7 Cones elongate, or if rounded then fleshy *Thuja*
 - 5 Branchlets not arranged in flattened sprays
 - 8 Cones berry-like, somewhat fleshy, indehiscent *Juniperus*
 - 8 Cones woody at maturity, not fleshy or berry-like except when young, dehiscent *Cupressus*

Group II: Palms and yuccas

- 1 Palms: Leaves dissected into fan-shaped segments
 - 2 Petioles with tiny, rounded bumps on the edges about 1 mm high, not spiny *Trachycarpus*
 - 2 Petioles with larger, shark-tooth or spiny teeth on the edges 5-10 mm or more high

- 3 Trunk massive and columnar; mature trees commonly 40-60 ft tall or more; petioles 5 cm or more wide; teeth on the petiole saw-toothed, curved *Washingtonia*
- 3 Trunk slender; mature trees 5-30 ft tall; petioles 1-2 cm wide; teeth on the petiole long and straight, though pointed forward..... *Chamaerops*
- 1 Yuccas: Leaves entire, not at all dissected
- 4 Leaves 2-5 cm wide *Yucca*
- 4 Leaves 0.5-2 cm wide
- 5 Flowers reddish, present during much of the growing season, in raceme-like inflorescences; leaves less than 1 cm wide, deeply furrowed *Hesperaloe*
- 5 Flowers white, less frequently present, in panicles; leaves 1-2 cm wide, flat or only shallowly channeled..... *Yucca*

Group III: Angiosperms; leaves opposite or whorled, simple

- 1 Leaves whorled, 3 per node
- 2 Petioles about 5 mm long; flowers actinomorphic *Nerium*
- 2 Petioles 10-20 mm long; flowers zygomorphic (bilabiate) *Chitalpa*
- 1 Leaves opposite, 2 per node
- 3 Leaf margins toothed, notched, or lobed
- 4 Leaves deeply lobed or incised, silvery hairy *Perovskia*
- 4 Leaves toothed or very shallowly lobed only
- 5 Leaves 2-8 cm long; margins with closely spaced teeth
- 6 Plants nearly always with dense clusters of orange to yellow flowers; leaves membranous, thin..... *Lantana*
- 6 Plants rarely with flowers; leaves leathery, thick *Euonymus*
- 5 Leaves 10-12 cm long; margins with widely spaced teeth
- 7 Petioles 1-1.5 cm long; blade apex obtuse to rounded; toothing rounded and obscure *Viburnum*
- 7 Petioles 2-3 cm long or more; blade apex acute; toothing prominent *Aucuba*
- 3 Leaf margins entire or essentially so
- 8 Plants parasitic on other woody plants; leaves thick and fleshy *Phoradendron*
- 8 Plants not parasitic; leaves thin
- 9 Leaves 1-2 mm wide, less than 1 cm long *Rosmarinus*
- 9 Leaves larger
- 10 Leaf blades with small glandular dots (use a lens)
- 11 Flowers red; small shrub to 0.5 m with glandular-sticky foliage and branches *Salvia*
- 11 Flowers whitish or bluish; plants and foliage otherwise
- 12 Large shrub to small tree; leaves glossy *Ligustrum*
- 12 Small bush; leaves hairy, not at all glossy *Salvia*
- 10 Leaf blades lacking glandular dots
- 13 Plants vine-like, clambering or trailing
- 14 Plants with milky juice and bluish flowers..... *Vinca*
- 14 Plants lacking milky juice, the flowers reddish, yellowish, to whitish *Lonicera*
- 13 Plants upright trees or shrubs lacking milky juice or blue flowers
- 15 Blades more than 2 cm wide
- 16 Young stems and petioles with brownish hairs; white flowers in flat-topped clusters at the stem tips; fruits dark bluish..... *Viburnum*
- 16 Young stems and petioles glabrous; flowers and/or fruits otherwise
- 17 Leaves deciduous, not glossy; petioles 1-4 mm long; flowers reddish *Lagerstroemia*
- 17 Leaves persistent, glossy; petioles 20-40 mm long; flowers whitish *Ligustrum*
- 15 Blades less than 2 cm wide
- 18 Leaf blades ovate to lanceolate, the apex acuminate to acute
- 19 Stems reddish, glabrous; corolla white to pinkish, campanulate, with 5 lobes *Abelia*
- 19 Stems greenish to whitish, pubescent in lines; corolla red, salverform, with 4 lobes *Anisacanthus*
- 18 Leaf blades narrowly oblong to obovate, the apex rounded to broadly acute, but not at all acuminate
- 20 Flowers or fruits nearly always present, both reddish; bark of older twigs exfoliating in whitish threads; venation of leaf blades faintly reticulate; leaves deciduous *Punica*
- 20 Flowers or fruits rarely present; bark of older twigs exfoliating in scaly strips; venation of leaf blades strongly pinnate; leaves persistent..... *Buxus*

Group IV: Angiosperms; leaves opposite, compound

- 1 Leaflets 2, asymmetric, resinous, leathery and persistent *Larrea*
- 1 Leaflets 3-7, symmetric, not resinous nor leathery, deciduous
- 2 Leaves palmately compound..... *Vitex*
- 2 Leaves pinnately compound or with only two leaflets
- 3 Leaflets spiny-toothed..... *Mahonia*
- 3 Leaflets entire to toothed, but not spiny

- 4 Plants shrubby, often with several large stems at or near ground level; flowers individually small but in showy clusters and present throughout the growing season, the petals cream colored; leaflets, at least some, coarsely toothed *Sambucus*
- 4 Plants trees or tree-like, with a single main trunk; flowers never showy and present only during the spring, usually before the leaves *Fraxinus*

Group V: Angiosperms; leaves alternate, simple

- 1 Leaves scale-like, 1-3 mm long *Tamarix*
- 1 Leaves not as above
 - 2 Leaves, buds, stems, and flowers with conspicuous, rusty-colored scales *Elaeagnus*
 - 2 Plants not as above
- 3 Stems armed with spines or thorns
 - 4 Plants with 2-3-parted spines *Berberis*
 - 4 Plants with single thorns
 - 5 Leaves with a single main vein; bushes and espaliers *Pyracantha*
 - 5 Leaves with 3 main veins; trees *Ziziphus*
- 3 Stems unarmed
 - 6 Leaves entire, not toothed, notched, or lobed
 - 7 Leaves, at least the larger ones, 6-7 cm wide
 - 8 Leaves pinnately veined *Magnolia*
 - 8 Leaves palmately veined *Cercis*
 - 7 Leaves less than 6 cm wide
 - 9 Leaves 6-15 cm long, 0.5-1 cm wide, willow-like
 - 10 Plants deciduous, producing flowers; leaves thin, not leathery, sessile or the petiole indistinct; seeds borne in a pod-like capsule, with tufts of hair at each end *Chilopsis*
 - 10 Plants evergreen, lacking flowers; leaves leathery, with a definite petiole 3-8 mm long; seed drupe- or berry-like, fleshy, glabrous *Podocarpus*
(a gymnosperm with flat, willow-like leaves and fleshy cones)
 - 9 Leaves shorter and/or wider than above
 - 11 Blades 1-3 cm wide
 - 12 Blades spatulate, broadest above the middle; plants highly branched and shrubby *Pittosporum*
 - 12 Blades oblong, broadest at the middle or below; plants tree-like *Quercus*
 - 11 Blades less than 1 cm wide
 - 13 Stems dark green, appearing leafless; leaves about 1 mm wide, very sparse and easily deciduous *Baccharis*
 - 13 Stems and leaves otherwise
 - 14 Flowers large and conspicuous, purplish, with bilabiate corollas, snap dragon-like; stems and leaves with stellate or dendritic hairs (use a lens) *Leucophyllum*
 - 14 Flowers, stems, and leaves other than above
 - 15 Leaves glabrous or with scurfy pubescence (granular to scaly hairs), not pilose or tomentose; young stems glabrous; desert shrubs sparingly cultivated on campus *Atriplex*
 - 15 Leaves sparsely pilose above, tomentose below, lacking any scurfy pubescence; young stems pilose; cultivated plants only *Cotoneaster*
- 6 Leaves toothed, notched, or lobed
 - 16 Plants climbing vines and ground cover *Hedera*
 - 16 Plants trees and shrubs, not vine-like
 - 17 Leaves lobed
 - 18 Blades 0.5-2 cm long; young stems white
 - 19 Leaf blades with narrow lobes about 1 mm wide and deep enough so the leaf is almost palmately compound *Fallugia*
 - 19 Leaf blades with broader lobes, the leaf not approaching compound *Brickellia*
 - 18 Blades longer; young stems variously colored
 - 20 Petioles flattened perpendicular to the plane of the blade; blades shallowly and sinuately lobed *Populus*
 - 20 Petioles terete, not flattened as above; blades shallowly to deeply lobed
 - 21 Blades cordate, with a lobe on one side, giving the appearance of a mitten with thumb; margins crenate. *Morus*
 - 21 Blades otherwise; margins entire (except for the deep lobing)
 - 22 Leaves pinnately lobed *Quercus*
 - 22 Leaves palmately lobed *Platanus*
 - 17 Leaves toothed, not lobed
 - 23 Leaves prominently stalked, the petiole at least half as long as the blade
 - 24 Petioles flattened perpendicular to the plane of the blade; margins sinuately and broadly toothed, almost lobed *Populus*
 - 24 Petioles terete, not flattened as above; margins finely to coarsely toothed
 - 25 Blade fan-shaped, the base attenuate, the veins palmate *Ginkgo*
(a gymnosperm with broad blades)

- 25 Leaves not as above
 - 26 Leaf base cordate; sap somewhat milky; margins coarsely crenate *Morus*
 - 26 Leaf base truncate to rounded; sap not at all milky; margins serrate to finely crenate
 - 27 Blades triangular, the margins coarsely serrate; bark white and papery *Betula*
 - 27 Blades oval to ovate, the margins finely serrate or crenate; bark other than above
 - 28 Leaf blades 2-4 cm long; buds glabrous (*Amelanchier?*)
 - 28 Leaf blades 4-8 cm long
 - 29 Blades, at least many of them, nearly orbicular and about as wide as long; buds thickly hairy *Pyrus*
 - 29 Blades mostly 1½ to twice as long as wide; buds scarcely hairy *Malus*
- 23 Leaves relatively short-stalked, the petiole less than half the length of the blade
 - 30 Blades with 3 main veins; bark of trunk shaggy; fruit a reddish to orangish berry *Ziziphus*
 - 30 Blades with a single main vein; bark and fruit other than above
 - 31 Leaf blades spinose toothed
 - 32 Blades glossy, dark green, the spiny teeth 2-5 mm long; leaves holly-like *Ilex*
 - 32 Blades dull, grayish, the spiny teeth 1-2 mm long *Quercus*
 - 31 Leaf blades variously toothed, but not spinose
 - 33 Blades truncate to cordate at the base, thin, ovate to nearly orbicular
 - 34 Plants multi-branched shrubs (*Amelanchier?*)
 - 34 Plants usually well-developed trees with a single trunk, or at least tree-like *Morus*
 - 33 Blades not as above in all respects
 - 35 Most leaves with one pair of teeth opposite each other at about mid-leaf, some leaves entire or with only a single tooth on one side; plants spreading ground covers *Baccharis*
 - 35 Leaves with teeth other than above; plants various in habit but not spreading ground covers
 - 36 Leaves narrowly lanceolate, 6-9 times longer than broad *Salix*
 - 36 Leaves broader, 2-4 times longer than broad
 - 37 Plants tree-like, with a single trunk
 - 38 Leaves green, lacking a purplish cast; flowers inconspicuous, lacking petals *Ulmus*
 - 38 Leave sometimes with at least a purplish cast, often prominently so; flowers conspicuous, with showy petals *Prunus*
 - 37 Plants shrubby, highly branched
 - 39 Blades 1.5-3 cm wide
 - 40 Blades diamond-shaped, acute at both apex and base; bark of young twigs red and exfoliating into thin paper-like strips *Spiraea*
 - 40 Blades oblong to obovate or broadly lanceolate; bark of young twigs grayish, not exfoliating
 - 41 Leaves leathery, dull, rounded at the apex, obscurely toothed; new growth green *Rhaphiolepis*
 - 41 Leaves thin, glossy, pointed at the apex, finely but prominently toothed; new growth reddish to coppery *Photinia*
 - 30 Blades about 1 cm wide
 - 42 Young twigs obviously pubescent; plants usually somewhat thorny *Pyracantha*
 - 42 Young twigs glabrous; plants not thorny
 - 43 Blades 3-10 cm long, narrowly lanceolate, the apex pointed *Vauquelinia*
 - 43 Blades 1-4 cm long, broadly elliptical to ovate, the apex rounded *Ilex*

Group VI: Angiosperms; leaves alternate, compound

- 1 Leaves twice- or more compound
 - 2 Plants shrubby, never tree-like *Nandina*
 - 2 Plants trees or tree-like
 - 3 Leaf divided into two primary pinnae, which bear the leaflets *Prosopis*
 - 3 Leaf divided into four or more primary pinnae, which bear the leaflets
 - 4 Leaflets toothed, 1-2 cm wide; fruit a hard, round, berry *Melia*
 - 4 Leaflets entire, 0.3-1 cm wide; fruit an elongate, flattened pod
 - 5 Pods woody, 20 cm or more long; leaflets attached at the middle or nearly so, the margins minutely toothed; plants usually thorny (but thornless cultivars frequent) *Gleditsia*
 - 5 Pods thin, papery, 15 cm or less long; leaflets attached off to one side, the margins entire; plants unarmed
 - 6 Leaflets closely spaced and nearly touching, about 5 mm or less separating the the leaflet stalks; pods 12-16 mm wide *Albizia*
 - 6 Leaflets widely spaced, 5-10 mm separating the leaflet stalks; pods less than 10 mm wide *Leucaena*
 - 1 Leaves once-compound
 - 7 Leaves palmately compound; plants climbing vines with tendrils *Parthenocissus*
 - 7 Leaves pinnately compound; plants not vines (except *Wisteria*, which lacks tendrils)
 - 8 Leaflets toothed, at least at the base of the leaflet
 - 9 Plants shrubby, multi-branched; stems armed with sharp prickles; stipules prominent; leaflets toothed all along the margin *Rosa*

- 9 Plants trees; stems unarmed; stipules absent or minute
 - 10 Leaflets toothed only at the base; fruit a winged samara *Ailanthus*
 - 10 Leaflets toothed all along the edge; fruit a nut (pecan) *Carya*
- 8 Leaflets entire
 - 11 Plants vine-like, twining and clambering *Wisteria*
 - 11 Plants not at all vine-like
 - 12 Stems beset with paired spines (stipules); flowers showy, papilionaceous (sweet pea-like)..... *Robinia*
 - 12 Stems unarmed; flowers inconspicuous, not papilionaceous
 - 13 Leaflets about 1 cm or less long; plants multi-branched shrubs *Rhus*
 - 13 Leaflets 2 cm or more long; plants shrubs or trees
 - 14 Leaflets obovate to spatulate, rounded at the apex; plants evergreen *Sophora*
 - 14 Leaflets lanceolate, acute to acuminate at the apex; plants deciduous
 - 15 Leaflets appressed-pubescent beneath, 2.5-5 cm long; fruit a several-seeded legume constricted between the seeds as to appear bead-like..... *Sophora*
 - 15 Leaflets glabrous beneath (except for perhaps along the midvein), 5-10 cm long or more; fruit a nut or berry-like
 - 16 Leaflets 2-3 cm wide; fruit a nut (pecan) within a husk; plants large trees at maturity *Carya*
 - 16 Leaflets 1-2(2.5) cm wide; fruit a berry, not within a husk; plants small trees at maturity
 - 17 Berries red, 6-7 mm in diameter (pea-sized); leaflets 1.5-2(2.5) cm wide..... *Pistacia*
 - 17 Berries yellowish, 10-12 mm in diameter (marble-sized); leaflets 1-1.5 cm wide..... *Sapindus*

Genera

Abelia (Caprifoliaceae)

Evergreen to partially deciduous shrub with white or pinkish flowers; a hybrid of two Chinese species; several cultivars Glossy abelia, *A. grandiflora*

Ailanthus (Simaroubaceae)

Deciduous, weedy tree native to China; very rapid growth from suckers and seeds; fruit winged Tree-of-heaven, *A. altissima*

Albizia (Fabaceae/Mimosaceae)

Deciduous tree native to Asia; often called mimosa; leaves light sensitive and fold up at night; flowers in pink, puffy clusters..... Silk tree, *A. julibrissin*

Amelanchier? (Rosaceae)

Deciduous shrub with drooping white or pinkish flowers in the spring..... (Serviceberry, *A. alnifolia* ?)

Anisacanthus (Acanthaceae)

Native, medium-sized shrubs flowering spring through summer; corolla 4-lobed from a long tube, slightly zygomorphic

- 1 Flowers borne mostly in axillary clusters on the old stems, the corollas mostly orange-red; sepals both stipitate-glandular and hairy *A. thurberi*
- 1 Flowers borne on current year's terminal growth, the corollas mostly red; sepals not stipitate-glandular, glabrous to sparsely hairy on the margins *A. wrightii*

Atriplex (Chenopodiaceae)

Native evergreen shrub sparingly grown as an ornamental; the female plants with conspicuous, 4-winged fruits 4-wing saltbush, *A. canescens*

Aucuba (Cornaceae)

Evergreen shrub native to the Orient with opposite, glossy, green or variegated leaves; flowers minute in the spring; numerous cultivars Gold-dust plant, *A. japonica*

Baccharis (Asteraceae)

- 1 Large shrubs; leaves nearly absent..... Desert broom, *B. sarothroides*
- 1 Smaller shrubs used as ground covers, forming large mounds; leaves present Dwarf coyote bush, *B. pilularis*

Berberis (Berberidaceae)

Deciduous or semi-evergreen shrub with 1- or 3-parted spines, of hybrid origin Barberry, *B. mentorensis*

Betula (Betulaceae)

Deciduous small tree with white bark and weeping side branches; flowers in drooping catkins Silver birch, *B. pendula*

Brickellia (Asteraceae)

Native shrub common in arroyos in the desert, infrequently encountered in cultivation Yerba de mansa, *B. laciniata*

Buxus (Buxaceae)

Evergreen, hedge-like shrubs.

- 1 Branches minutely pubescent, angled or slightly winged; leaves broadest below the middle; dwarf form is 'Suffruticosa' English boxwood, *B. sempervirens*
1 Branches glabrous, conspicuously winged; leaves broadest above the middle; several cultivars Japanese boxwood, *B. microphylla* var. *japonica*

Calocedrus (Cupressaceae)

Evergreen trees with foliage in flattened sprays and pungent fragrance Incense cedar, *C. decurrens*

Carya (Juglandaceae)

Large, stately trees planted throughout campus for shade and along avenues; leaves pinnately compound with asymmetric leaflets Pecan, *C. illinoensis*

Cedrus (Pinaceae)

Evergreen coniferous trees; needles clustered on short lateral shoots; cones scales fall separately from the tree.

- 1 Leaves about 2.5 cm long or shorter, stiff and prickly; leading shoot upright or spreading, the branchlets usually not pendulous (except one or two cultivars with bluish needles) Atlas cedar, *C. atlantica*
1 Leaves 2.5-5 cm long, not very stiff; leading shoot and branchlets pendulous; cones rounded at the apex Deodar cedar, *C. deodara*

Cercis (Fabaceae/Caesalpiaceae)

Deciduous shrubs or small trees with cordate to oval leaves; flowers appear in the spring before the leaves.

- 1 Leaves abruptly short-acuminate at the apex American redbud, *C. canadensis*
1 Leaves rounded or emarginate at the apex Western redbud, *C. occidentalis*

Chamaerops (Arecaceae)

A multi-stemmed palm 5-15 ft tall; petioles spiny their entire length Mediterranean fan palm, *C. humilis*

Chilopsis (Bignoniaceae)

Deciduous small tree native to washes and arroyos of the desert; flowers bilabiate and various shades of pink, white, rose, and lavender Desert willow, *C. linearis*

Chitalpa (Bignoniaceae)

Deciduous, small trees with whorled, lanceolate leaves; hybrid between *Chilopsis* and *Catalpa* Chitalpa, *C. taschkentensis*

Cotoneaster (Rosaceae)

Evergreen shrub with gray-green foliage Cotoneaster, *C. rotundifolia*

Cupressocyparis (Cupressaceae)

Evergreen, coniferous trees with scale-like leaves; branchlets in flattened, vertical sprays; hybrids between *Cupressus macrocarpa* and *Chamaecyparis nootkatensis* Leyland cypress, *C. leylandii*

Cupressus (Cupressaceae)

Evergreen, coniferous trees and shrubs; the last two native to the southwest; leaves small and scale-like; cones with woody, peltate scales.

- 1 Leaves lacking a conspicuous resinous pit on the back (though the gland may be present); tree narrow, columnar, the branches erect Italian cypress, *C. sempervirens*
1 Leaves with a usually conspicuous, resinous pit on the back; trees open, with spreading branches in all directions
2 Outer bark of mature trunk rough, fissured, gray-brown, not exfoliating Arizona cypress, *C. arizonicus*
2 Outer bark of mature trunk exfoliating annually to reveal the smooth, mahogany-brown, inner bark Smooth Arizona cypress, *C. glabra*
The above two species are closely allied and have been confused both in the nursery trade and botanical literature.

Elaeagnus (Elaeagnaceae)

Evergreen shrub covered with rusty-colored scales Silverberry, *E. pungens*

Euonymus (Celastraceae)

Evergreen shrubs to 10 ft with leathery, glossy, dark or variegated leaves; numerous cultivars Evergreen euonymus, *E. japonicus*

Fallugia (Rosaceae)

Partially evergreen shrub native to the southwest deserts; leaves deeply lobed with coppery undersurface; styles of the numerous pistils plumose, enlarging in maturity to form the 'plume' Apache-plume, *F. paradoxa*

Fraxinus (Oleaceae)

Small to large trees with deciduous, opposite, pinnately compound leaves and winged single samaras.

- 1 Leaflets 3-5 in number, remaining green in the fall Mexican ash, *F. berlandieriana*
1 Leaflets mostly 5-9 in number, fall color various

- 2 Leaflets 7-9, 10-15 mm wide, turning purple in the fall..... Raywood ash, *F. angustifolia* subsp. *oxycarpa*
- 2 Leaflets mostly 5 (sometimes 3 or 7), 15-30 mm wide, often turning yellow in the fall..... Arizona ash, *F. velutina*
(with at least 3 common cultivars, with varying size, coloration, flowering, and leaf features)

Ginkgo (Gingkoaceae)

Deciduous trees with leathery, light green, fan-shaped leaves..... Maidenhair tree, *G. biloba*

Gleditsia (Fabaceae/Mimosaceae)

Fast-growing deciduous trees usually with stout thorns; leaves bipinnate or some part bi- and part once-pinnate; pods large and flat..... Honey locust, *G. triacanthos*

Hedera (Araliaceae)

Evergreen, semi-woody vines covering the ground and climbing on walls and trellises; leaves are toxic if eaten and may cause dermatitis in some people when handled; numerous leaf forms and coloration..... English ivy, *H. helix*

Hesperaloe (Agavaceae)

Short-stemmed, yucca-like plants with narrow leaves to a meter or more long; flowers reddish..... *H. parviflora*

Ilex (Aquifoliaceae)

Evergreen shrubs producing reddish berries.

- 1 Blades prominently spiny toothed, 4-8 cm long..... Chinese holly, *I. cornuta*
- 1 Blades obscurely toothed, not at all spiny, 1-2 cm long..... Yaupon, *I. vomitoria*

Juniperus (Cupressaceae) [this key is still very tentative; other forms are present on campus]

Evergreen, coniferous native shrubs and small trees; leaves scale-like, covering the twigs; cone fleshy and berry-like.

- 1 Plants trees or tree-like
 - 2 Margins of scale leaves minutely toothed (use a hand lens)..... One-seed juniper, *J. monosperma*
 - 2 Margins of scale leaves entire
 - 3 Scale leaves obtuse; needle-like leaves in whorles of three; cones 6 mm or more in diameter.....
..... Hollywood juniper, *J. chinensis 'torulosa'*
 - 3 Scale leaves acute; needle-like leaves mostly opposite (in 3s on vigorous twigs); cones less than 5 mm in diameter
 - 4 Bark of main trunk and larger branches exfoliating in flattened plates; branchlets usually drooping; berries bitter.....
..... Rocky Mountain juniper, *J. scopulorum*
 - 4 Bark of main trunk and larger branches exfoliating in thread-like and stringy strips; branchlets usually not drooping; berries sweet..... Red cedar, *J. virginiana*
- 1 Plants shrubby, not tree-like (numerous cultivars here, difficult to identify, many of them belong to *J. chinensis*)
 - 5 Crushed leaves with a strong disagreeable odor..... Savin juniper, *J. sabina*
 - 5 Crushed leaves not malodorous
 - 6 Plants usually taller than 25 cm, the stems semi-procumbent to erect and widely branched.....
..... various forms of Chinese juniper, *J. chinensis*
 - 6 Plants very low, rarely more than 20 cm tall, the stems procumbent
 - 7 Foliage bluish..... Creeping juniper, *J. horizontalis*
 - 7 Foliage greenish..... Chinese juniper, *J. chinensis* var. *procumbens*

Lagerstroemia (Lythraceae)

Deciduous shrub or small tree native to China; flowers reddish to whitish, with crinkled petals on long claws.....
..... Crape myrtle, *L. indica*

Lantana (Verbenaceae)

Evergreen, almost viny, medium-sized half-shrubs; flowers throughout the growing season, red, orange, yellow, to whitish.....
..... *L. camara*

Larrea (Zygophyllaceae)

Resinous, much-branched shrubs native to southwestern deserts; leaves compound with two crescent-shaped leaflets; flowers yellow; emits characteristic "desert smell" following rains..... *L. tridentata*

Leucaena (Fabaceae/Mimosaceae)

Small tree with bi-pinnately compound leaves and balls of yellow flowers..... Golden lead ball, *L. retusa*

Leucophyllum (Scrophulariaceae)

Evergreen shrubs native to the Southwest and Mexico; leaves silvery hairy to nearly glabrous; flowers generally purplish or bluish.

- 1 Leaves 1-2 cm long, silvery-hairy, at least beneath..... Texas sage, *L. frutescens*
- 1 Leaves 0.5-1 cm long, nearly glabrous..... Violet silver-leaf, *L. candidum*

Ligustrum (Oleaceae)

Evergreen (ours) shrubs or small trees widely used as hedges; names often confused in the nursery trade.

- 1 Leaves 2-3 cm long, not or only slightly glossy..... (*Ligustrum* species ?)

- 1 Leaves 4-10 cm long, glossy
- 2 Blades rounded to obtuse at the apex, 4-8 cm long Wax-leaf privet, *L. japonicum*
- 2 Blades acuminate at the apex, 8-15 cm long Chinese privet, *L. lucidum*

Lonicera (Caprifoliaceae)

Evergreen vines with opposite leaves; flowers often fragrant.

- 1 Flowers white with purplish tinge, changing to yellow, in pairs in the leaf axils, fragrant Japanese honeysuckle, *L. japonica*
- 1 Flowers orange-yellow to scarlet, in whorles at the stem tips, not fragrant Trumpet honeysuckle, *L. sempervirens*

Malus (Rosaceae)

Deciduous, small trees with broadly lanceolate to ovate, serrate leaves; flowers pink, white, or reddish..... Crabapple, *Malus* sp.

Melia (Meliaceae)

Deciduous trees with bi-pinnately compound leaves; lilac-colored flowers in loose clusters in the spring, producing yellow, marble-sized fruits Chinaberry, *M. azedarach*

Mahonia (Berberidaceae)

Evergreen shrubs related to *Berberis*, but the leaves are pinnately compound and spiny-toothed..... Oregon grape, *M. aquifolium*

Magnolia (Magnoliaceae)

Small to large trees; leaves persistent, leathery, glossy green on one side, coppery hairy on the other; flowers white..... Southern magnolia, *M. grandiflora*

Morus (Moraceae)

Deciduous, dioecious trees native to China; leaves cordate, sometimes lobed; staminate plants produce copious, hayfever-causing pollen; female plants (except for fruitless forms) drop blackberry-like fruits that stain patios and sidewalks; some weeping forms. White mulberry, *M. alba*

Nandina (Berberidaceae)

Evergreen (mostly), medium-sized shrubs or half-shrubs; leaves multi-compound, with entire leaflets; flowers white, producing bright red berries; numerous cultivars..... Heavenly bamboo, *N. domestica*

Nerium (Apocynaceae)

Evergreen shrubs with lanceolate, whorled leaves and profuse flowers throughout the season; all parts toxic if ingested or inhaled, but not causing contact dermatitis..... Oleander, *N. oleander*

Parthenocissus (Vitaceae)

Robust, deciduous vine clinging to walls by disc-shaped suckers at the end of tendrils; one of only two woody plants on campus with palmately compound leaves Virginia creeper, *P. quinquefolia*

Perovskia (Lamiaceae)

Multi-stemmed half-shrub; leaves opposite, the lower dissected, upper merely toothed; flowers lavender-blue; hybrid between *Perovski atriplicifolia* and *P. abrotanoides* (often sold under the former name) Russian sage, *P. 'Blue Spire'*

Phoradendron (Viscaceae)

Evergreen, parasitic plant with thick, opposite leaves; growing on poplar and cottonwood Mistletoe, *P. macrophyllum*

Photinia (Rosaceae)

Evergreen (ours) shrubs or small trees with glossy, alternate leaves, often hedged; new growth reddish to copper-colored.

- 1 Leaves 10-20 cm long..... Chinese photinia, *P. serratifolia*
- 1 Leaves 7-10 cm long..... Fraser photinia, *P. fraseri*

Pinus (Pinaceae)

Evergreen, coniferous trees; needles clustered into fascicles, wrapped by a sheath at the base; cones woody, often staying on the tree for several seasons.

- 1 Leaves in fascicles of 3
 - 2 Needles 6-10 cm long Aleppo pine, *P. halepensis*
 - 2 Needles 20-30 cm long Chir pine, *P. roxburghii*
- 1 Leaves in fascicles of 2
 - 3 Sheath at base of needles deciduous; needles 1.5-4 cm long Piñon pine, *P. edulis*
 - 3 Sheath at base of needles persistent; needles 4-18 cm long
 - 4 Needles 1 mm or less thick, green or dark green
 - 5 Needles 6-10 cm long Aleppo pine, *P. halepensis*
 - 5 Needles 10-15 cm long Afghan pine, *P. brutia* subsp. *eldarica*
 - 4 Needles about 1-1.5 mm thick, yellowish green
 - 6 Bark orange-brown to reddish gray; crown rounded, dome- or umbrella-shaped on older trees; needles 7.5-18 cm long...
..... Italian stone pine, umbrella pine, *P. pinea*
 - 6 Bark gray to blackish; crown irregular, pointed; needles 6-10 (12) cm long Japanese black pine, *P. thunbergii*

Pistacia (Anacardiaceae)

Deciduous trees with pinnately compound leaves that resemble pecan leaves; berries bright red, turning bluish Chinese pistache, *P. chinensis*

Pittosporum (Pittosporaceae)

Evergreen shrubs with leathery, shiny leaves Tobira, *P. tobira*

Platanus (Platanaceae)

Stately, magnificent trees with peeling bark and deciduous, maple-like leaves; flowers inconspicuous; fruits in dense heads on hanging stalks.

1 Fruiting heads 3-6 per stalk; leaves usually deeply lobed *P. racemosa*, with 2 varieties:

2 Blades usually 3-5 lobed, the terminal lobe about half the length of the leaf.....California sycamore, var. *racemosa*

2 Blades usually 5-7 lobed, the terminal lobe greater than half the length of the leaf..... Arizona sycamore, var. *wrightii*

1 Fruiting heads 1-2 (rarely 3) per stalk; leaves usually more shallowly lobed

3 Fruiting heads solitary (rarely 2); lobes of the leaf wider than long..... American sycamore, *P. occidentalis*

3 Fruiting heads usually in pairs (rarely 3); lobes of the leaf about as wide as long London plane tree, *P. acerifolia*

Podocarpus (Podocarpaceae)

Evergreen trees (sometime shrubs) with erect stems and leathery leaves Yew pine, *P. macrophylla*

Populus (Salicaceae)

Large trees with triangular-shaped leaf blades and flattened petioles.

1 Leaf blades white-wooly on the lower surface..... White poplar, *P. alba*

1 Leaf blades glabrous on the lower surface

2 Leaves with a few tiny, crater-like glands at the junction of blade and petiole..... (European cottonwood, *P. tremula* ?)

2 Leaves lacking tiny glands as above

3 Trees with erect branches and narrow form; bark of lower trunk dark, often with large boles

..... Lombardy poplar, *P. nigra* var. *italica*

3 Trees with spreading branches and broad form; bark of lower trunk light-colored.....

..... Rio Grande cottonwood, *P. fremontii* var. *wislizeni*

Prosopis (Fabaceae/Mimosaceae)

Stout shrubs to small trees, with paired spines (stipules); leaves with two pinnae, upon which the leaflets are borne Honey mesquite, *P. glandulosa*

Prunus (Rosaceae)

Small trees with purplish leaves (sometimes green, but then usually with a purplish cast); pinkish to whitish flowers; numerous forms

1 Leaves finely serrate, deciduous, thin, purplish (sometimes green, but then usually with a purplish cast); numerous forms

..... Flowering plum, *P. cerasifera*

1 Leaves entire, persistent, somewhat leathery, glossy green Cherry laurel, *P. caroliniana*

Punica (Punicaceae)

Deciduous, much-branched shrubs usually with both reddish flowers and reddish, apple-like fruitsPomegranate, *P. granata*

Pyracantha (Rosaceae)

1 Leaves acute at the tips; flower clusters pubescent Firethorn, *P. coccinea*

1 Leaves rounded at the tips; flower clusters glabrous..... Firethorn, *P. koidzumii*

Pyrus (Rosaceae)

Deciduous tree with glossy leaves; flower white; fruits small, round, inedible Bradford pear, *P. calleryana*

Quercus (Fagaceae)

Deciduous or evergreen trees producing nuts (acorns).

1 Blades deeply pinnately lobed

2 Lobes conspicuously bristle-tipped..... Texas red oak, *Q. buckleyi*

2 Lobes lacking bristles at the tips (White oak, *Q. alba* ?)

1 Blades not lobed, entire to toothed

3 Bark thick and corky; leaves with 5-7 pairs of veins Cork oak, *Q. suber*

3 Bark thin, not corky; leaves with 7-10 pairs of veins..... Live oak, *Q. virginiana*

Rhaphiolepis (Rosaceae)

Evergreen shrubs widely planted; leaves leathery; flowers whitish tinged with pink; fruits dark blue, berry-like; several cultivars

1 Leaves sharply toothed, acute to acuminate; flowers tinged pink India hawthorn, *R. indica*

1 Leaves remotely toothed to entire; flowers white Yeddo hawthorn, *R. umbellata*

Rhus (Anacardiaceae)

Native desert shrub only occasionally found in cultivation Little-leaf sumac, *R. microphylla*

Robinia (Fabaceae)

Deciduous trees with paired spines and pinnately compound leaves; flowers whitish; pods hang on tree all winter..... Black locust, *R. pseudoacacia*

Rosa (Rosaceae)

Deciduous or evergreen shrubs; numerous species and cultivars; some of the most common are the hybrid tea roses and floribunda roses Rose, *Rosa* species

Rosmarinus (Lamiaceae)

Evergreen shrub with small, aromatic, opposite leaves; flowers light lavender blue Rosemary, *R. officinalis*

Salix (Salicaceae)

Deciduous trees or shrubs with alternate, lanceolate leaves.

1 Branches conspicuously drooping and “weeping” Weeping willow, *S. babylonica*

1 Branches spreading in all directions, not drooping Globe willow, *S. matsudana*

Salvia (Lamiaceae)

Half-shrubs with opposite leaves; flowers bilabiate.

1 Leaves glabrous; flowers reddish Autumn sage, *S. greggii*

1 Leaves hairy; flowers bluish or whitish

2 Leaves 5-15 cm long Mexican blue sage, *S. leucantha*

2 Leaves 1-1.5 cm long Chihuahuan sage, *S. chamaedryoides*

Sambucus (Caprifoliaceae)

Fast-growing large shrubs or small trees; foliage malodorous, with opposite, pinnately compound leaves Mexican elder, *S. mexicana*

Sapindus (Sapindaceae)

Deciduous small trees with pinnately compound leaves and yellowish hard berries Soapberry, *S. saponaria*

Sophora (Fabaceae)

1 Leaves deciduous, 16-23 cm long; leaflets acute at the tips, distinctly stalked; flowers yellowish white, in panicles Japanese pagoda-tree, *S. japonica*

1 Leaves evergreen, 10-15 cm long; leaflets rounded at the tips, nearly sessile; flowers violet-blue, in racemes Mescal bean, *S. secundiflora*

Spiraea (Rosaceae)

Deciduous shrubs with beautiful clusters of white flowers (Bridal wreath, *S. vanhoutii* ?)

Tamarix (Tamaricaceae)

Trees and shrubs with minute leaves and clusters of tiny, reddish, pinkish, to white flowers

1 Leaves conspicuously sheathing the stems, not scale-like; branchlets drooping, the foliage generally persistent athel tamarisk, *T. aphylla*

1 Leaves not at all sheathing, scale-like; branchlets usually spreading in all directions, the foliage generally deciduous

2 Flowers with 4 sepals and 4 petals; panicle branches short and not rebranched, the longer ones 1-2 cm long; flowering mostly in the spring Small-flowered tamarisk, *T. parviflora*

2 Flowers with 5 sepals and 5 petals; panicle branches long, usually rebranched, the longer ones 3-8 cm long (sometimes shorter and not rebranched); flowering spring to fall

3 Lobes of the star-shaped nectary disk attenuate, gradually passing into the filaments; not common in the wild or in cultivation French tamarisk, *T. gallica*

3 Lobes of the nectary disk truncate-emarginate, the filaments abruptly extending from between the lobes; very common in the wild and in cultivation Salt-cedar, *T. chinensis*

Thuja (Cupressaceae)

Evergreen, coniferous shrubs or trees; leaves scale-like, arranged in flat sprays

1 Branchlets typically in vertical sprays; cones fleshy, the scales strongly curved, greenish or yellowish at maturity Oriental arborvitae, *T. orientalis*

1 Branchlets typically in horizontal, or at least not vertical, sprays; cones not fleshy, more woody, brown at maturity American arborvitae, *T. occidentalis*

Trachycarpus (Arecaceae)

A single-stemmed palm to 30 ft tall, the upper portion of the stem usually expanded; petiole with tiny bumps on the margins, not spiny Windmill palm, *T. fortunei*

Ulmus (Ulmaceae)

- Deciduous or partially evergreen trees; leaves broadly lanceolate to ovate, the margins coarsely to simply serrate; fruit a saucer-shaped samara.
- 1 Leaves 10-15 cm long and 3-6 cm wide American elm, *U. americana*
- 1 Leaves shorter and narrower
- 2 Leaves semi-evergreen, somewhat thickish and glossy above; flowers appearing in late summer after the leaves; twigs pubescent Chinese elm, *U. parvifolia*
- 2 Leaves deciduous, thin, not at all glossy; flowers appearing in the spring before the leaves Siberian elm, *U. pumila*
- Vaccinium** (Ericaceae)
- Evergreen (ours) shrub with opposite, somewhat leathery, fragrant leaves Evergreen huckleberry, *V. ovatum*
- Vauquelinia** (Rosaceae)
- Evergreen shrub or small tree producing a terminal cluster of small white flowers on the branches..... Arizona rosewood, *V. californica*
- Viburnum** (Caprifoliaceae)
- Evergreen (ours) shrubs with opposite leaves..... Viburnum, *Viburnum* sp.
- Vinca** (Apocynaceae)
- Evergreen perennials, not truly woody; a viney ground cover with milky juice, opposite leaves, and blue flowers Periwinkle, *V. major*
- Vitex** (Verbenaceae)
- Deciduous shrub or small tree; one of only two woody plants with palmately compound leaves Chaste-tree, *V. agnus-castus*
- Washingtonia** (Arecaceae)
- Tall palm trees (at maturity), reaching up to 100 ft (though much shorter here); leaves fan-shaped, with palmate divisions that are folded acordion-like
- 1 Trunk thick, heavy, and columnar, usually without an expanded base; leaves very filiferous, lacking a brownish patch on the undersurface about the hastula; gray-green..... California fan palm, *W. filifera*
- 1 Trunk slender, not thick and columnar, with an expanded or swollen base; leaves not filiferous except when very young, with a conspicuous tomentose tawny patch on the undersurface about the hastula, bright green Mexican fan palm, *W. robusta*
- Wisteria** (Fabaceae)
- Deciduous vines with exceptionally beautiful flower clusters in the spring; flowers various shades of blue to purple Japanese wisteria, *W. floribunda*
- Yucca** (Agavaceae)
- Evergreen shrubby plants with long, sword-shaped leaves; flowers white
- 1 Leaves pliable, the terminal half drooping from a bend about mid-leaf..... Pendulous yucca, *Y. recurvifolia*
- 1 Leaves stiff, rigid, not drooping as above
- 2 Leaves 2-5 cm wide, channeled; inflorescence nearly sessile and sitting among the leaves Torrey's yucca, *Y. torreyi*
- 2 Leaves 1-2 cm wide, flat; inflorescence on stalks and raised above the leaves..... Soaptree yucca, *Y. elata*
- Ziziphus** (Rhamnaceae)
- Deciduous trees beset with stipular spines; leaves glossy green, serrate but not sharply so, 3-veined; date-like fruit sweet Chinese jujube, *Z. jujuba*

Alphabetical list of families, genera, and species

- ACANTHACEAE
Anisacanthus thurberi
Anisacanthus wrightii
- AGAVACEAE
Hesperaloe parviflora
Yucca recurvifolia
Yucca torreyi
Yucca elata
- ANACARDIACEAE
Pistacia chinensis
Rhus microphylla
- APOCYNACEAE
Nerium oleander

- Vinca major*
- AQUIFOLIACEAE
Ilex cornuta
Ilex vomitoria
- ARALIACEAE
Hedera helix
- ARECACEAE
Chamaerops humilis
Trachycarpus fortunei
Washingtonia filifera
Washingtonia robusta
- ASTERACEAE

Baccharis sarothroides
Baccharis pilularis
Baccharis sarothroides
Brickellia laciniata

BERBERIDACEAE
Berberis mentorensis
Mahonia aquifolium
Nandina domestica

BETULACEAE
Betula pendula

BIGNONIACEAE
Chilopsis linearis
Chitalpa taschkentensis

BUXACEAE
Buxus sempervirens
Buxus microphylla var. *japonica*

CAPRIFOLIACEAE
Abelia grandiflora
Lonicera japonica
Lonicera sempervirens
Sambucus mexicana
Viburnum species

CELASTRACEAE
Euonymus japonicus

CHENOPODIACEAE
Atriplex canescens

CORNACEAE
Aucuba japonica

CUPRESSACEAE
Calocedrus decurrens
Cupressocyparis leylandii
Cupressus sempervirens
Cupressus arizonicus
Cupressus glabra
Juniperus monosperma
Juniperus chinensis 'torulosa'
Juniperus scopulorum
Juniperus virginiana
Juniperus sabina
Juniperus chinensis
Juniperus horizontalis
Juniperus chinensis var. *procumbens*
Thuja orientalis
Thuja occidentalis

ELAEAGNACEAE
Elagnus pungens

ERICACEAE
Vaccinium ovatum

FABACEAE
Albizia julibrissin
Cercis canadensis
Cercis occidentalis
Gleditsia triacanthos
Leucaena retusa
Prosopis glandulosa
Robinia pseudoacacia

Sophora japonica
Sophora secundiflora
Wisteria floribunda

FAGACEAE
Quercus buckleyi
Quercus alba (?)
Quercus suber
Quercus virginiana

GINGKOACEAE
Ginkgo biloba

JUGLANDACEAE
Carya illinoensis

LAMIACEAE
Perovskia 'Blue Spire'
Rosmarinus officinalis
Salvia greggii
Salvia leucantha
Salvia chamaedryoides

LYTHRACEAE
Lagerstroemia indica

MAGNOLIACEAE
Magnolia grandiflora

MELIACEAE
Melia azedarach

MORACEAE
Morus alba

OLEACEAE
Fraxinus berlandieriana
Fraxinus angustifolia subsp. *oxycarpa*
Fraxinus velutina
Ligustrum
Ligustrum japonicum
Ligustrum lucidum
Ligustrum species (?)

PINACEAE
Cedrus atlantica
Cedrus deodara
Pinus halepensis
Pinus roxburghii
Pinus edulis
Pinus halepensis
Pinus bruita subsp. *eldarica*
Pinus pinea
Pinus thunbergii

PITTOSPORACEAE
Pittosporum tobira

PLATANACEAE
Platanus racemosa var. *racemosa*
Platanus racemosa var. *wrightii*
Platanus occidentalis
Platanus acerifolia

PODOCARPACEAE
Podocarpus macrophylla

PUNICACEAE

Punica granata

RHAMNACEAE

Ziziphus jujuba

ROSACEAE

Amelanchier alnifolia (?)

Cotoneaster rotundifolia

Fallugia paradoxa

Malus species

Photinia serratifolia

Photinia fraseri

Prunus cerasifera

Prunus caroliniana

Pyracantha coccinea

Pyracantha koidzumii

Pyrus calleryana

Raphiolepis indica

Raphiolepis umbellata

Rosa species

Spiraea vanhoutii (?)

Vauquelinia californica

SALICACEAE

Populus alba

Populus tremula (?)

Populus nigra var. *italica*

Populus fremontii var. *wislizeni*

Salix babylonica

Salix matsudana

SAPINDACEAE

Sapindus saponaria

SCROPHULARIACEAE

Leucophyllum frutescens

Leucophyllum candidum

SIMAROUBACEAE

Ailanthus altissima

TAMARICACEAE

Tamarix aphylla

Tamarix gallica

Tamarix chinensis

Tamarix parviflora

ULMACEAE

Ulmus americana

Ulmus parvifolia

Ulmus pumila

VERBENACEAE

Lantana camara

Vitex agnus-castus

VISCACEAE

Phoradendron macrophyllum

VITACEAE

Parthenocissus quinquefolia

ZYGOPHYLLACEAE

Larrea tridentata