**Cladrastis kentuckea** (G.L.M. Dumont de Courset) V.E. Rudd

*(Cladrastis lutea, Sophora kentukea, Virgilia lutea)*

**Other Common Names:** American Yellowwood, Kentucky Yellowwood.

**Family:** Fabaceae (Leguminosae), sometimes further segregated into the Papilionaceae.

**Cold Hardiness:** Hardy in USDA zones 4(3b) to 8, suffers in warmer parts of 8 where its size is more limited and it does best in summer shade.

**Foliage:** Alternate, odd pinnately compound, 8” to 12” long deciduous leaves with (5) 7 to 9 (11) leaflets arranged alternately to nearly suboppositely along the thin green rachis; leaflets increase in size from the base of the rachis to the terminal leaflet, changing from broadly ovate to nearly elliptic, to obovate up the rachis; the terminal leaflet resembles and inverted teardrop with a small acute to large mucronate tip; venation is pinnate, lightly impressed above and raised and lighter in color beneath with light hairs; the degree of pubescence on the leaves and twigs varies from nearly glabrous to moderately pubescent and new foliage is more pubescent than mature leaves; margins are entire; leaflets are a bright green to green with a hint of blue; fall colors can be good yellows; petiolules are short, usually about a ¼” long; the rachis is attached to the stem with a 1” to 2” petiole ending in a swollen pulvinus that essentially encases the bud.

**Flower:** Small white fragrant flowers are borne in 8” to 12” (14”) long branched panicles in late spring to early summer; flowers are typically white, but a pink flowering cultivar exists.

**Fruit:** Branched open pendant panicles of elongated flattened thin 2” to 4” long pods typically containing one to three small seeds; fruit which mature to a tan-brown are not ornamental, but do not detract extensively from the tree's appearance.

**Stem / Bark:** Stems — slender green maturing to gray with smooth bark; Buds — buds are encased within the leaf bases, resulting in circular leaf scars around the buds and essentially no bud scales; Bark — the bark of limbs and trunks remains a smooth silvery gray for an extended time, ala Fagus spp.; older trunks eventually become a darker gray color; fungi often give the trunks a white and gray mottled appearance over time.

**Habit:** In our region, trees are usually 20’ to 30’ in height, but are capable of growing 40’ to 50’ tall on favorable sites; the short trunked trees branch at rather sharp angles to form a vase to fountain-shaped crown that spreads to form a rounded crown as broad or broader than tall at maturity; the overall texture is medium and the form pleasing; growth rates are slow to moderate.

**Cultural Requirements:** Rather rare for trees is the more vigorous growth in alkaline than in acidic soils, but on the whole it is quite soil pH adaptable; trees require regular irrigation during drought and the further south you go the more they benefit from afternoon shade; American Yellowwood is not salt tolerant and needs preventative pruning to avoid overlapping limbs and excessively narrow crotch angles; avoid pruning in late winter until summer to minimize sap flow (bleeding) from wounds.

**Pathological Problems:** Problems with branching structure and drought are probably more limiting than any pathological issues; powdery mildew (*Phyllosticta cinerea*), Botryosphaeria canker (*B. dothidea*), anf trunk or root decay from *Polyporus spraguei*, and *Verticillium* wilt (*V. albo-atrum*) are reported as occasional problems, but not often limiting.

**Ornamental Assets:** American Yellowwood offers truly multi-season interest in the landscape; the habit is pleasing, the bark handsome when deciduous, spring and summer foliage is a fresh pea-green to bluish green, the delicate drooping white flowers are intriguing, and the fall foliage colors well.

**Limitations & Liabilities:** Trees tend to suffer in the heat of the Deep South and are not overly drought tolerant; the biggest limitation is probably their poor crotch angles which result in mechanical instabilities in the canopy; splitting can be a common problem on older trees.

**Landscape Utilization:** Where environmental conditions permit, mostly in the northeastern part of our region, this tree makes a handsome specimen for parks, tree lawns, and gardens; it is not a good street tree for our region, nor should it be located where pavement, patios, etc. will direct reflected heat its way; American Yellowwood blend well along woodland pathways and edges.

**Other Comments:** The genus name refers to the brittle twigs and derives from the Greek words klados meaning branch and thraustos meaning fragile; the specific epithet refers to the plant's natural occurrence in Kentucky; the fresh wood has a yellowish cast and this was the source of the old specific epithet *lutea* meaning yellow; older cut wood matures to a light brown color.
**Native Habitat:** This species is found sporadically in a swath from eastern Oklahoma through the lower Midwest and Upper South to Virginia and Georgia in the east; seldom is it common anywhere in its native range.

**Related Taxa:** *Cladrastis* C.S. Rafinesue-Shmaltz is a small genus of mostly Asian species of trees of which *C. kentuckea* is the only American species; the related *Maackia amurensis* F.J. Ruprecht & C. Maximowicz (formerly *Cladrastis amurensis*), Amur Maackia, is rarely encountered outside of botanic gardens and arborea in our region, but is an Asian species sometimes used in Midwestern and Northeastern U.S. landscapes; Amur Maackia is a small to medium size deciduous round headed tree with panicles of white flowers in summer, followed by pods with winged margins in summer to fall; green leaves are pinnately compound and do not develop good fall color as with *C. kentuckea*; this tree has not been extensively trialed in our region, but is hardy as far north as USDA zone 4; the summer flower is the only real asset on *M. amurensis*, although the uniquely pealing bark, sort of reminding me of splitting sunburned skin is unusual; Dirr (2011) reports it suffers in the warmer parts of zone 7, but has potential in cooler climates.

**References:** Dirr, 2011; Elias, 1980; Pirone, 1978; Rushforth, 2004; Wyman, 1965.

Copyright 2013 by Michael A. Arnold with all rights reserved; intended for future inclusion in Landscape Plants For Texas And Environs, Fourth Edition.