

CANNABACEAE

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As currently circumscribed, a nearly cosmopolitan family of trees, shrubs or very rarely scrambling lianas, with 10 genera and ~117 species. Cannabaceae is represented in the Neotropics by 4 genera and 31 species, of which 7 species in the genus *Celtis* are commonly reported as scandent shrubs or lianas, these occurring in diverse habitats including dry to seasonally dry forest and scrubs of low elevations.

Diagnosics: Scrambling lianas with recurved or straight axillary thorns usually in pairs, leaves alternate, simple, 3-plinerved, with entire to serrate margins; stem cross sections regular; wood with aliform confluent bands of axial parenchyma, phloem and cortex with bulky stone cells, especially in the regions of dilated rays. Vegetatively similar to *Sageretia* (Rhamnaceae) but distinguished by the axillary, often paired thorns, leaves with 3 main veins from base, and phloem and cortex with conspicuous stone cells.

General Characters

1. STEMS. Woody, cylindrical (Figure 70A, B), 10–20 m long and up to 10 cm in diam.; although *Celtis* has cross sections with regular vascular anatomy, the following features are distinctive and useful in the recognition of the genus. Medulla angled or trigonous, vascular tissues with moderately conspicuous rays, xylem with conspicuous wide vessels (Figure 70A, B) and often with short, aliform-confluent bands of parenchyma (Figure 70C, D), the phloem is stratified, with alternation of fiber bands, and contains very large stone cells (bulky dark round spots, Figure 70E) formed in the dilated rays of the non-conducting region of the phloem; bark smooth, grayish, lenticellate.
2. EXUDATES. Watery or no visible exudates.

3. **CLIMBING MECHANISMS.** Scramblers aided by recurved or straight thorns that are born axillary to the leaves and commonly produced in pairs.
4. **LEAVES.** Alternate, simple, 3-veined from base and serrate margins, chartaceous to coriaceous; stipulate; petioles short, glandless, adaxially canaliculate.
5. **INFLORESCENCE.** Axillary, branched or simple cymes.
6. **FLOWERS.** Unisexual, actinomorphic; calyx of 5 free sepals; corolla absent; stamens 5, of similar length; ovary superior, unilocular, with a single pendent ovule, the style short, divided into two stigmatic branches that are bifurcate at the apex.
7. **FRUIT.** A fleshy ellipsoid to globose, yellow to orange drupe.

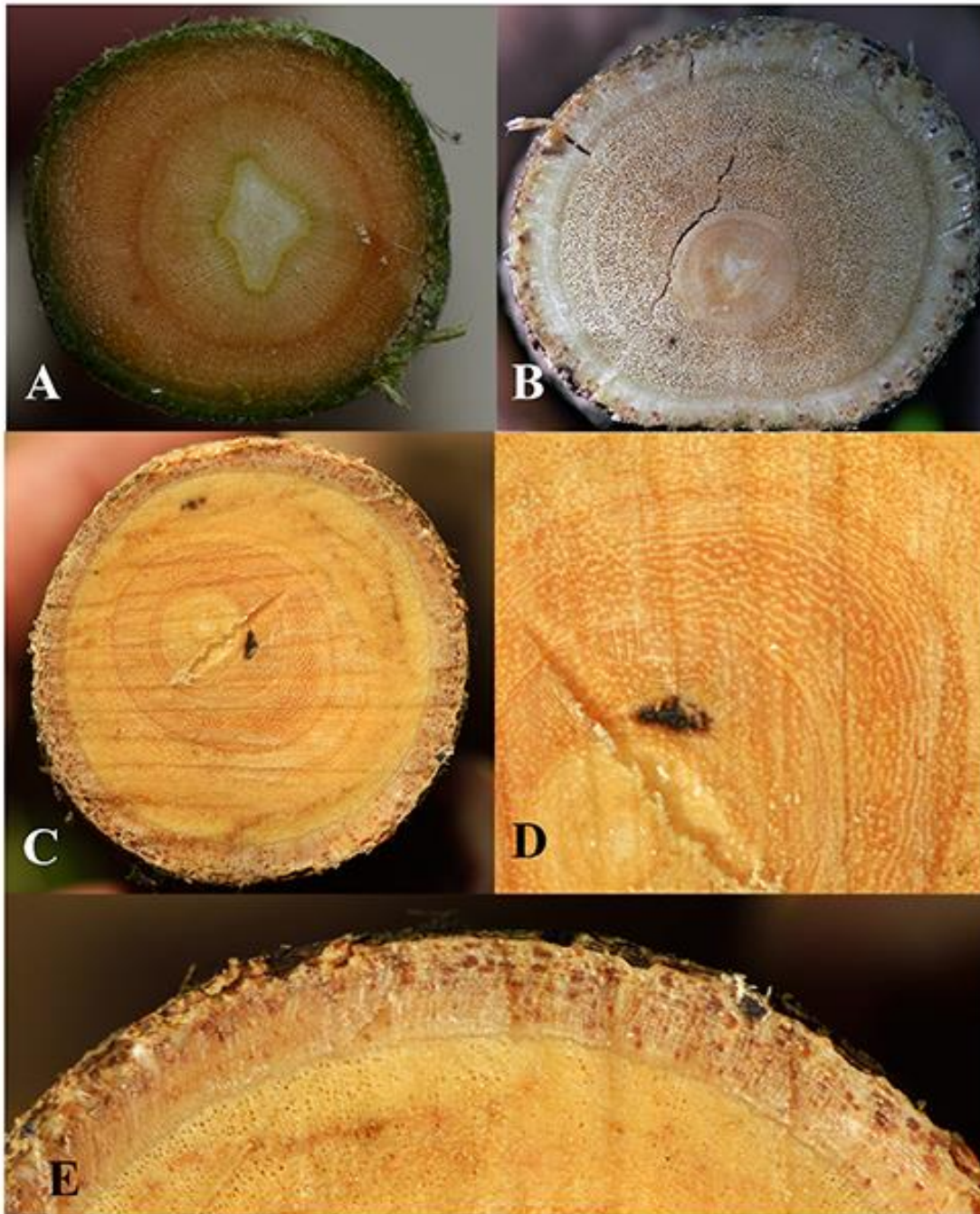


Figure 70. Stem cross sections. **A.** *Celtis iguanaea*, young stem showing angled medulla, wide vessels and rays. **B.** *Celtis spinosissima*, mature stem with distinct growth rings, marked by thicker-walled fibers; medulla trigonous, secondary phloem (especially the dilating rays) and cortex with dark stone cells. **C-E.** *Celtis boliviensis*: **C.** Mature stem, xylem with bands of aliform confluent axial parenchyma. **D.** Detail on bands of aliform confluent axial parenchyma. **E.** Detail of a stratified phloem (slender fibers forming alternating bands) intermingled by bulky stone cells. Photos by P. Acevedo.

CELTIS Linnaeus, Sp. Pl. 1043. 1753.

Trees, scrambling shrubs or lianas with short plagiotropic branches (Figure 71B) with paired, recurved or straight axillary thorns (Figure 71A), reaching 5–10(20) m in length. Stems glabrous or puberulent, cylindrical, reaching 8–10 cm in diam.; bark grayish or light brown, with numerous lenticels. Leaves alternate 4–15 × 2.5–8.7 cm, chartaceous to coriaceous, ovate, oblong, or sometimes obovate, the apex short-acuminate or sometimes obtuse, the base rounded, cordiform, or truncate, the margins serrate to entire, crenate, the upper surface yellowish green, dull, glabrous or puberulent, punctate, with three main veins from base, venation abaxially prominent, commonly with domatia at the junction of main veins and axils of secondary veins; petioles 2–15 mm long, adaxially canaliculate. Flowers light green, unisexual or less often bisexual, the staminate flowers in branched axillary cymes, the pistillate or bisexual flowers in simple axillary cymes. Calyx of free sepals, oblong, concave, ciliate, 1–2 mm long; stamens 5, ascendent; ovary ovoid, styles 2, each bifurcated into 2, stigmatic pubescent branches. Drupe fleshy, ovoid or almost globose, 6–10(14) mm long, yellow or orange, with persistent stigmas; pyrenes reticulate-crateriform, one-seeded.

Distinctive features: Scrambling shrubs or lianas with axillary thorns often in pairs; leaves alternate, stipulate, simple, 3-plinerved, with serrate margins.

Distribution: A genus of ~73 species with nearly cosmopolitan distribution, most of which are trees with the exception of seven species that are commonly reported as climbing shrubs or lianas (or even scandent trees); Mexico to northern Argentina, and the West Indies; dry to seasonally dry forests (Chamorro et al. 2021).



Figure 71. *Celtis iguanaea*. **A** Branch with straight thorn and fruits. **B.** Flowering branch. Photos: A by J. Amith; B by S. Carrington.

