

ANNONACEAE

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A pantropical family of trees, shrubs and rarely lianas, with ~107 genera and 2,500 species (Chatrou et al. 2012). Climbers are found in 16 genera which for the most part are comprised of species of trees or shrubs. In the Neotropics, the family is represented by 34 genera and ~886 species. Of these, only two genera (i.e., *Annona* and *Guatteria*) contain a total of 10 species of scrambling lianas. For the most part, climbing Annonaceae are found in moist, or wet forests, in flooded or non-flooded habitats at low elevations.

Diagnostics: Scrambling lianas with fibrous bark; leaves simple, alternate, with entire margins; stem cross sections regular, with numerous conspicuous rays; flowers fleshy.

General Characters

1. **STEMS.** Smooth, glabrous or pubescence of simple hairs; woody with moderate secondary growth, developing cylindrical (Figure 12A, B), 10–15 m long and ~3 cm in diam.; cross sections with regular vascular anatomy, with numerous conspicuous rays and wide vessels (Figure 12A, B); axial parenchyma lines visible with the aid of a hand lens; bark smooth, lenticellate, fibrous.
2. **EXUDATES.** Watery or no visible exudates.
3. **CLIMBING MECHANISMS.** Climbing Annonaceae in the Neotropics are scramblers, often with short, lateral branches (Figure 12D).
4. **LEAVES.** Alternate, simple, with pinnate venation and entire margins, chartaceous to coriaceous, exstipulate; petioles short, glandless, adaxially canaliculate, articulate above the base in *Annona* (e.g., *A. hypoglauca* Mart.).

5. INFLORESCENCE. Axillary, intermodal, leaf-opposed or cauliflorous, few-flowered cymes.
6. PEDICELS. Often long.
7. FLOWERS. Bisexual, actinomorphic, fleshy; sepals 3; petals 6 in two series; stamens numerous, the anthers with apical expansion; ovary superior, apocarpous, with several to numerous free carpels with 1 to several ovules.
8. FRUIT. Of several, free, stipitate fruitlets, syncarpous or partly syncarpous fruits.
9. SEEDS. Medium to large, with ruminant endosperm.

Key to the genera of climbing Annonaceae

1. Inflorescence inter-nodal or leaf-opposed; fruits syncarpous, of numerous fused carpels
..... *Annona*
1. Inflorescence axillary or cauliflorous; fruits apocarpous, with several stipitate, free fruitlets
..... *Guatteria*

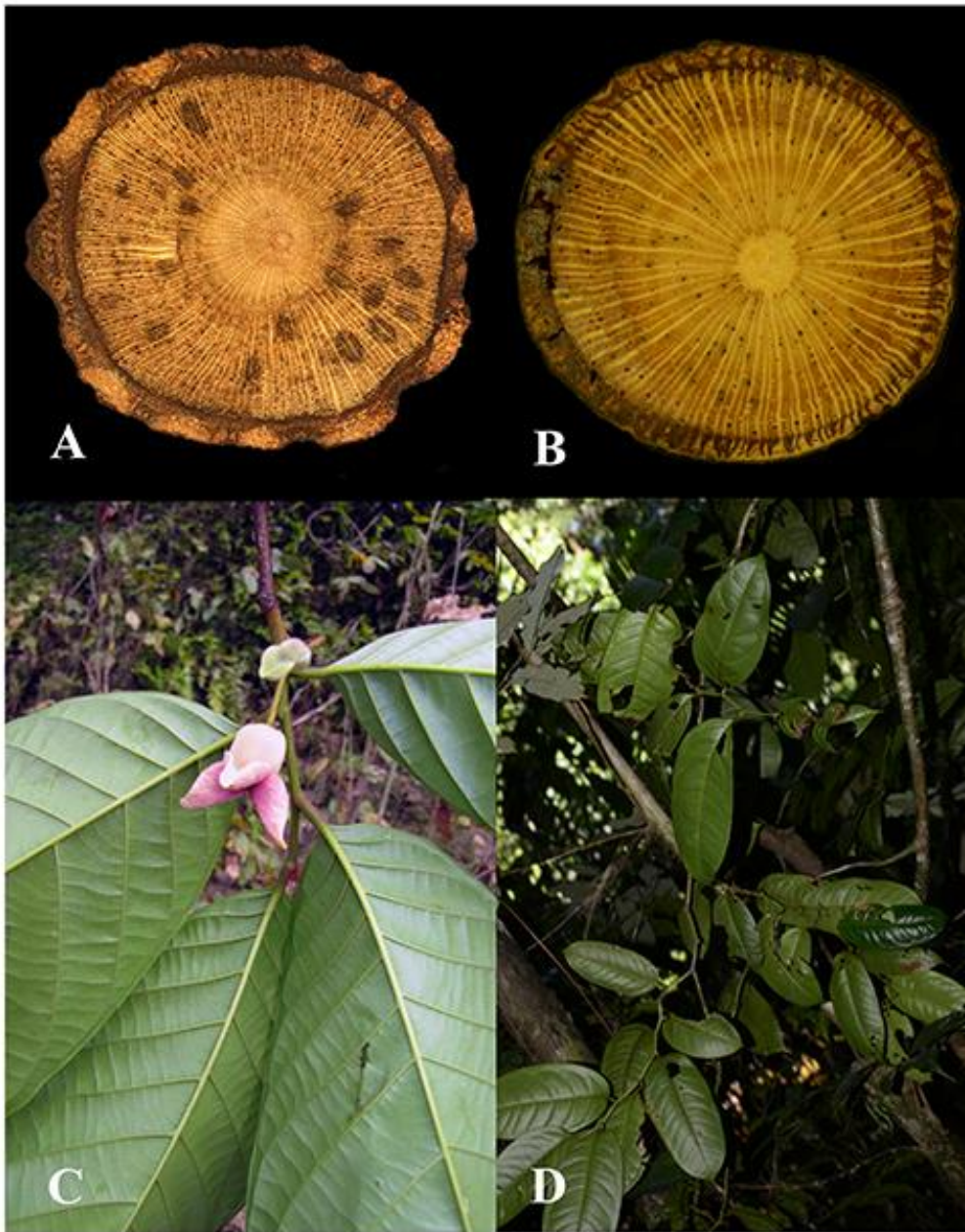


Figure 12. **A** Stem cross section of *Annona hypoglauca*. **B.** Stem cross section of *Guatteria scandens*. **C.** Hanging branch of *Annona ambotay*. **D.** Scrambling habit of *Guatteria scandens*. Photos by: A, B & D by P. Acevedo; C by H. Medeiros.

ANNONA Linnaeus, Sp. Pl. 536. 1753.

Trees, shrubs or exceptionally scrambling lianas; stems cylindrical, reaching 10–15 m long and up to 3 cm in diam., the bark smooth to slightly rough; cross section with regular anatomy, with numerous conspicuous rays (Figure 12A); no visible exudate; lateral branches short, alternate. Leaves simple, alternate, tertiary venation subclathrate; exstipulate; petioles short, stout, articulate above the base in some species (e.g., *A. hypoglauca* Mart.). Inflorescences internodal, or leaf-opposed, few-flowered cymes; bracteoles minute, persistent. Flowers bisexual, fleshy; sepals 3, valvate; petals 6 in two series, outer petals valvate, inner petals imbricate; stamens numerous; ovary syncarpous or partly syncarpous. Fruit fleshy, syncarpous or partly syncarpous, with numerous seeds.

Distinctive features: Scrambling vines with alternate, exstipulate, simple leaves; flowers fleshy, commonly pendulous.

Distribution: A genus of ~180 species predominantly distributed in the Neotropics, with a few species native to Africa. Only eight species reported as lianas; these distributed throughout the Amazon region, and one species (*A. volubilis* Lundell) in Guatemala and Costa Rica; lowland wet forests.

GUATTERIA Ruiz & Pavón, Prodr. 85. 1794.

Small to medium sized trees, rarely scrambling lianas (Figure 12D). Stems woody, cylindrical up to 15 m in length and ~5 cm in diam.; cross section with numerous conspicuous rays and wide vessels (Figure 12B); exudate slightly mucilaginous; inner bark fibrous. Leaves alternate, simple, entire, with impressed venation along adaxial surface; stipules absent; petioles very short, canaliculate. Inflorescence axillary or cauliflorous, few- to many-flowered cymes.

Flowers actinomorphic, bisexual, fleshy, carpels free, several. Fruitlets ellipsoid, stipitate, maturing purplish, in clusters of 25–40 per flower on a reddish receptacle, seed one per fruitlet.

Distinctive features: Scrambling lianas with short, lateral, flexuous branches; leaf blades with impressed venation and broadly revolute margins.

Distribution: A neotropical genus of 177 species, with only three species reported as lianas, occurring in wet forest of the Amazon region.