

## MORACEAE

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A tropical to warm temperate family of ~40 genera and 1,140 species of trees or herbs, and very rarely scrambling or root-climbing lianas. In the Neotropics, the family is represented by 28 genera and ~360 species, of which only 2 genera and 5 (2 exotics) species are lianas or facultative lianas. For the most part, they are found in dry to moist lowland forest.

**Diagnosics:** Scrambling or root-climbing lianas, stem cross section with regular anatomy, plant producing abundant white or cream-yellow latex. Members of this family are distinguished by the large, conical caducous stipules that cover the tip of the branches; fruit a syconium or a syncarp.

### General Characters

1. **STEMS.** Woody with substantial secondary growth, developing cylindrical or less often slightly flattened, reaching 5–15 m in length and 10–15 cm in diam. Cross sections with regular anatomy in most genera, however in *Ficus pumila* L. the stems (especially the root-climbing portion) are asymmetrical where the medulla is not in the center of the stem.
2. **EXUDATES.** Commonly white, sometimes cream yellowish.
3. **CLIMBING MECHANISMS.** Most neotropical climbing Moraceae are scramblers, sometimes aided by thorns (e.g., *Maclura brasiliensis* (Mart.) Endl.). The commonly cultivated *Ficus pumila* L. climbs through the aid of adventitious roots that adhere to the supporting structures.

4. LEAVES. Alternate, coriaceous to chartaceous, simple, short- to long-petioled, with glandless blades and commonly entire margins; stipules commonly conical and caducous, large, covering the apical meristem of young branches.
5. INFLORESCENCE. Axillary or terminal, condensed inflorescences, whose axes form a common receptacle or sometimes completely enclose the flowers into a syconium.
6. FLOWERS. Minute, actinomorphic, unisexual; calyx of 4–5 distinct sepals, or these connate at base, petals absent; stamens usually as many as the sepals, the filaments free; ovary superior, bilocular or unilocular, with one apical ovule per carpel and 2 styles.
7. FRUIT. Fruit a syconium or a syncarp.

**Key to the genera of climbing Moraceae**

1. Plants unarmed, monoecious; inflorescence a syconium (flowers enclosed in a receptacle) ..... *Ficus*
1. Plants armed with straight, simple, axillary thorns, dioecious; inflorescence a spike (♂) or a globose head (♀), not enclosed by a receptacle..... *Maclura*

**FICUS** Linnaeus, Sp. Pl. 1059. 1753.

Monoecious trees or shrubs, free-standing, sometimes scrambling or hemi-epiphytic,



*Ficus citrifolia*, photo by P. Acevedo.

producing copious milky sap.

Lianas are scramblers, the commonly cultivated *F.*

*pumila* L. contains two

dimorphic growing phases, a

juvenile phase with flattened

stems, small leaves and

abundant adventitious roots,

and an adult phase with

virgate branches, and fully developed leaves. Leaves alternate, simple to lobed, usually long-

petiolate; stipules deciduous, contorted into a cone-shaped hood that protects the apical

meristem, often brightly colored. Flowers minute, borne in the interior of globose to pear-shaped,

axillary inflorescences formed by an enlarged receptacle (syconium); calyx reduced,

membranous; stamens 2; ovary unilocular with an apical ovule. Fruit a syconium, formed by a

globose receptacle containing numerous minute achenes, the apex containing an aperture or

operculum.

**Distinctive features:** Scrambling lianas with abundant milky white latex; leaves alternate with large conical, often colored stipules covering the apical meristems; fruit a syconium.

**Distribution:** A pantropical genus of 875 species, most of which are trees. In the Neotropics there are ~175 species, of which only *F. citrifolia* Mill., *F. paraensis* (Miq.) Miq. and *F. schippii*

Standl. are known to sometimes grow as lianas. In addition, *F. pumila*, a species native to China,

Viet Nam and Japan, is commonly cultivated throughout the Neotropics; lowland, dry to wet forests; 100–2,600 m.

**MACLURA** Nuttall, Gen. 2: 233. 1818 (nom. cons.).

Dioecious, trees or scrambling lianas, with simple, straight axillary thorns. Stems terete;



*Maclura brasiliensis*, from Nee & Vargas 45025 (US).

bark rough, longitudinally fissured.

Leaves alternate, simple with entire or sinuate margins, long petioled; stipules lateral, paired, caducous. Inflorescences axillary, the staminate elongated spikes, the pistillate peduncled or sessile globose heads. Flowers unisexual; perianth 4-merous; stamens 4, exerted at anthesis; ovary superior, oblique, with lateral, filiform, exerted style. Fruit a globose syncarp of fleshy, compressed achenes.

**Distinctive features:** Scrambling lianas with axillary, simple, straight thorns,

leaves alternate, simple; producing cream-yellow sap.

**Distribution:** A genus of ~10 species with disjunct distribution within the tropics extending to subtropical zones. Two species are native to the Neotropics, one of which (*Maclura*

*brasiliensis* (Mart.) Endl.) is often collected as a liana in Peru and Bolivia; evergreen forests;  
400–1,350 m.