

SMILACACEAE

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A widespread family with tropical to temperate distribution of rhizomatous, herbaceous to sub-woody, tendrilled vines. The family contains three genera and ~300 species, most of which belong to the genus *Smilax*, the only representative with 115 species in the Neotropics. The genus is generally found below 1,500 m elevation with a few species reaching higher elevations and occurs in wet to dry forest and savannas.

Diagnostics: *Smilax* is easily recognized by the presence of two stipular tendrils at the junction of the petiole with the leaf sheath. Stems are wiry, and usually armed with prickles, the leaves are simple, with 3–11 main arcuate, parallel veins. Fruits are berries of various colors.

General Characters

1. **STEMS.** Stems are deep green, cylindrical, wiry (reaching up to 2.5 cm in diam.) and commonly provided with straight prickles (Figure 30B). Cross section with typical monocot configuration of scattered, discrete bicollateral vascular bundles (Figure 30A).
2. **EXUDATES.** Exudates are odorless and colorless.
3. **CLIMBING MECHANISM.** All species of *Smilax* have a pair of long, simple, stipular tendrils (Figure 31A), however, the leaves of fertile branches usually lack tendrils.
4. **LEAVES.** Leaves are simple, alternate, distichous, with entire or spiny margins, with acrodromous venation (3–11 main arcuate veins), and short to long petioled.
5. **INFLORESCENCES.** Axillary or terminal in short branches, short to long-peduncled umbels (Figure 30C); peduncle distally enlarged into a receptacle.

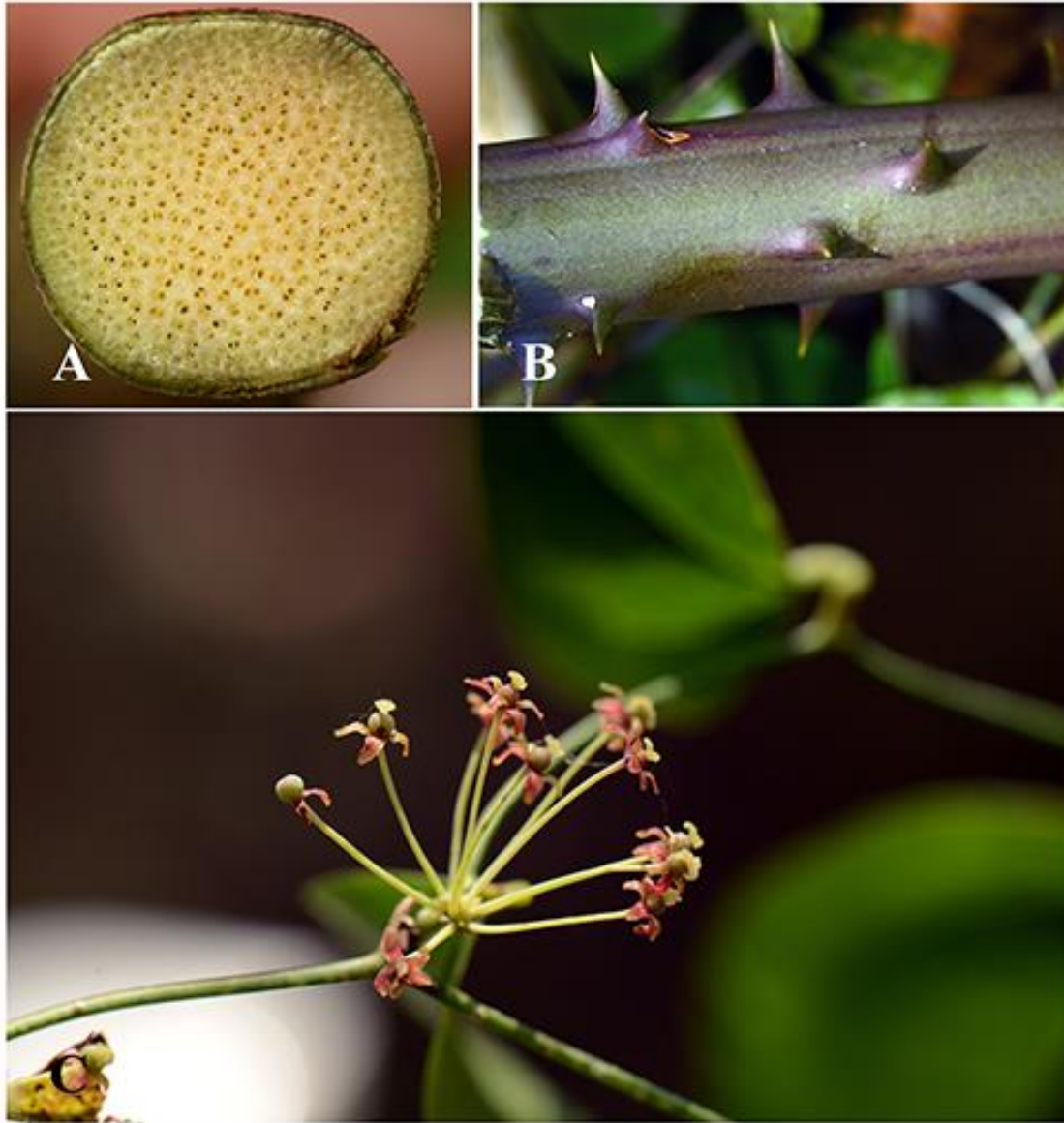


Figure 30. A. Stem cross sections of *Smilax* sp. showing wide, evenly scattered vessels. B. Armed stem of *Smilax* sp. C. Pistillate inflorescence of *Smilax* sp. Photos by P. Acevedo.

6. FLOWERS. Actinomorphic, unisexual (plant dioecious); pedicellate. Tepals 6, in two whorls, commonly white, cream or greenish, of similar size and shape, free, erect or reflexed at apex. Staminate flowers: stamens 6 in two whorls, the filaments free or less often connate into a tube; anthers opening by longitudinal slits; pistillode absent. Pistillate

flowers: staminodes sometimes present; gynoecium superior, syncarpous, 3-carpellate, with 1 or 2 axial ovules per carpel, the style usually absent, the stigmas 3, reflexed.

7. FRUITS. Globose, fleshy berries, green, red, orange, or black, < 1 cm wide (Figure 31C).
8. SEEDS. Seeds prismatic, 1–3 per fruit.



Figure 31. **A.** Young shoot of *Smilax* sp. showing precociously developed tendrils. **B.** *Smilax coriacea*, branch with pistillate inflorescences. **C.** Inflorescence with nearly mature berries of *Smilax* sp. Photos by P. Acevedo.

SMILAX Linnaeus, Sp. Pl. 1028. 1753.

Dioecious, rhizomatous, tendrilled vines. Stems wiry, cylindrical, green, often with straight prickles; 5–10(25) mm in diam. and 3–10(15) m long; cross section with discrete, evenly scattered vascular bundles. Leaves simple, alternate, distichous, with entire or spiny margins, and acrodromous venation (3–11 main arcuate veins); petioles short to long with a pair of filamentous tendrils at their junction with the leaf sheath. Inflorescence of axillary, short to long-peduncled umbels. Flowers unisexual; long-pedicellate; tepals 6, in two whorls, free, of similar shape and size, yellowish, greenish white, sometimes reddish tinged; stamens six, opposite to the tepals, filaments free, anthers oblong to linear, basifixed; ovary superior, tricarpellate, trigonous-globose or trigonous-oblong, with 1 or 2 ovules per carpel; styles 3, free or connate at the base. Fruit a globose, fleshy berry; with 1–6, prismatic seeds.

Distinctive features: Stems wiry, green, often prickled, leaves alternate, with a pair of tendrils at the junction of petiole and sheath.

Distribution: A pantropical genus of ~260 species, some of which extends into temperate regions in North America, Europe and Eastern Asia. Represented in the Neotropics by 110 species distributed from Mexico to Northern Argentina and Uruguay; found in diverse habitats in scrubs, and dry to humid forests; 0–3,600 m.

USES

In some species, the young shoots and tendrils are used as salads or cooked vegetables, the leaves as a source of tea, and starchy rhizomes are eaten as potatoes. Local medicines such as stomach tonic are derived from the rhizomes of some species (Mitchell 2004; Dahlgren et al.

1985). Since some species contain poisonous saponins it is advisable not to consume any of these unless they are confirmed to be safe.