

## RANUNCULACEAE

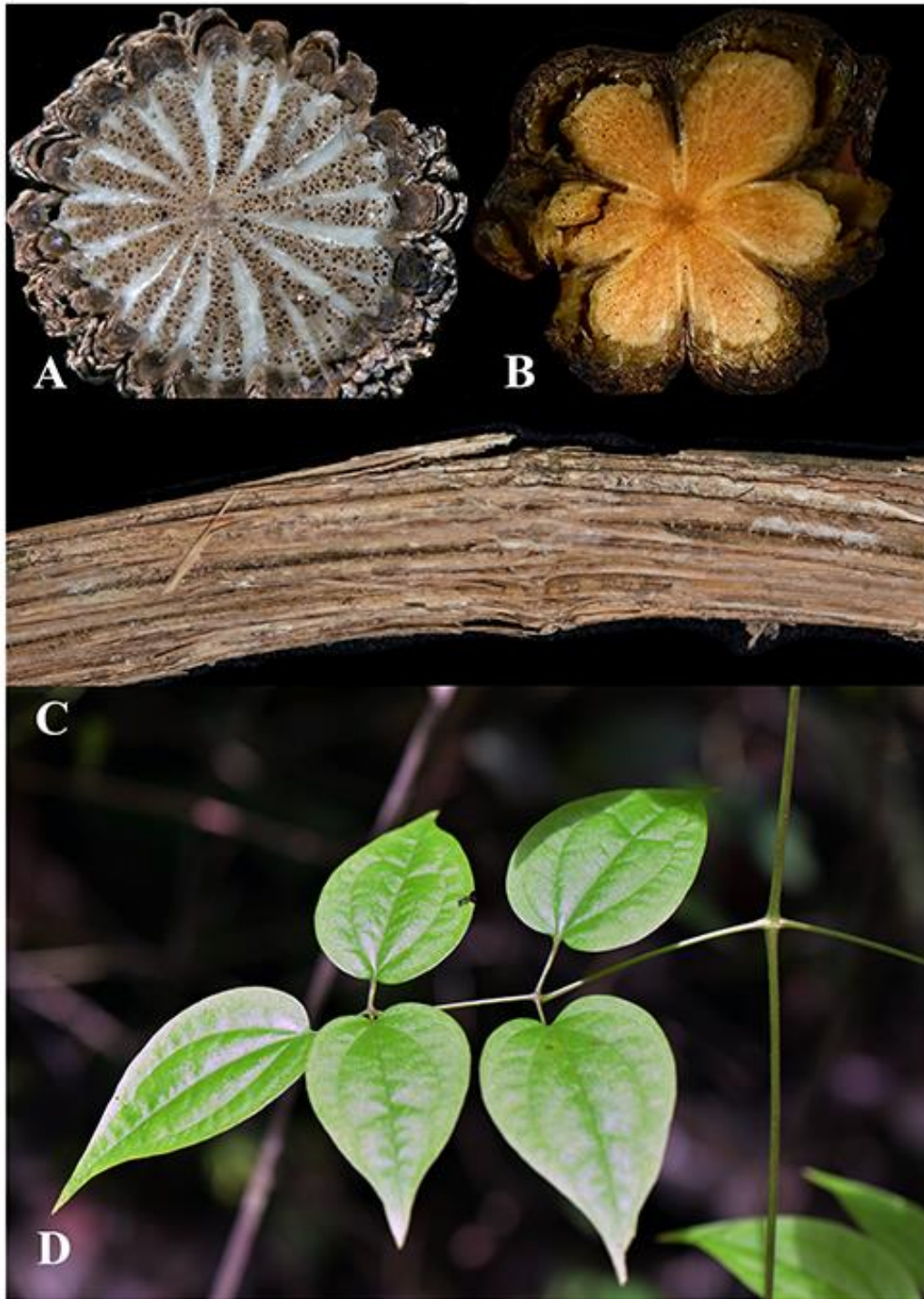
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A cosmopolitan family with larger diversity in the wet temperate regions extending into the mountains of the tropics; 52 genera and ~2,500 species of erect, prostrate or acaulescent herbs and herbaceous to woody vines. The family is represented in the Neotropics by ~11 genera and 100 species, of which only 22 are reported as climbers. With the exception of *Thalictrum podocarpum* DC., all climbing species in the Neotropics belong to the genus *Clematis*; most species occur in moist, middle to high elevation humid forests.

**Diagnosics:** Vines with compound leaves, in *Clematis* opposite with prehensile petioles and/or leaf rachides; flowers with numerous stamens and apocarpous gynoecium.

### General Characters

1. **STEMS.** Stems slender to woody, unarmed, in some species of *Clematis* reaching 5 cm in diam. and over 10 m in length; cross section lobed, deeply lobed (Figure 210B) or cylindrical (Figure 210A), with abundant multiseriate rays, in some species the rays dividing the vascular axial elements into radial segments (Figure 210A); phloem wedges with interrupted cambium found in some species (e.g., *C. dioica* L.; Ibarra-Manríquez et al 2015); bark in *Clematis* commonly shaggy, peeling off in fibrous strands (Figure 210C).  
**EXUDATES.** Scanty, watery, inconspicuous.
2. **CLIMBING MECHANISM.** All climbing species of *Clematis* have prehensile petioles, while *Thalictrum* is a leaning or scrambling herb.
3. **LEAVES.** Leaves compound (impari-pinnate, trifoliolate, 3–5-ternate), opposite in *Clematis* or alternate in *Thalictrum*; leaflets with entire, remotely serrate or lobed margins, 3–7-nerved from base; rachis and petiole commonly elongated, smooth; stipules absent.



**Figure 210.** A. Stem cross section of *Clematis* sp., with vascular axial elements divided into radial segments. B. Cross section of asymmetrical, deeply 6-lobed stem of *Clematis grossa*. C. Shaggy bark of *Clematis* sp. D. 5-pinnate leaf of *Clematis* sp. Photos by P. Acevedo.

4. INFLORESCENCES. Terminal or axillary cymes, often in racemes or panicles.
5. FLOWERS. Actinomorphic or zygomorphic, bisexual or unisexual; long-pedicelled. Sepals 4–5, free, white or greenish; petals absent; stamens numerous, the filaments equal; gynoecium superior, with numerous free, uniovulate carpels.
6. FRUITS. Small achene, several per flower, with a long plumose, persistent style in *Clematis*.

## USES

*Clematis* and *Thalictrum* have been brought into cultivation because of their attractive flowers. In *Clematis* alone there are more than 700 cultivars developed for their showy, large flowers.

### Key to the genera of climbing Ranunculaceae

1. Plants woody, climbing by short prehensile leaves; leaves opposite; achenes with persistent plumose style ..... *Clematis*
1. Plants herbaceous, scramblers; leaves alternate; achenes with slender persistent style ..... *Thalictrum*



**Figure 211.** *Clematis dioica*. **A.** Prehensile leaf. **B.** Distal portion of shoot with long-petioled leaves prior to becoming prehensile. Photos by P. Acevedo.





**Figure 212.** **A.** Flowering branch with trifoliolate leaves of *Clematis dioica*. **B.** Fruiting branch with trifoliolate leaves of *Clematis* sp. Photos by P. Acevedo.

**CLEMATIS** Linnaeus, Sp. Pl. 543. 1753.

Woody vines that climb by means of prehensile petioles and/or leaf rachides. Stems angular to cylindrical when young, 3–15 m long and up to 5 cm in diam.; cross section deeply lobed to cylindrical, with conspicuous multiseriate rays, these in some species dividing the vascular axial elements into radial segments. Leaves opposite, trifoliolate, pinnate, 2–5-ternate; petioles elongate; stipules absent. Inflorescences of axillary cymes, simple, racemose, paniculate or umbellate. Flowers commonly < 2.5 cm diam., white or greenish white (in our region), unisexual or bisexual, actinomorphic or zygomorphic, long-pedicelled; calyx of 4–5 free petaloid sepals; petals absent; stamens numerous, the filaments free, the anthers dehiscent longitudinally; ovary superior, of numerous free carpels, with a single ovule and a terminal, slender, plumose style. Achenes several per flower, small, flattened, with a persistent elongate, plumose style, wind-dispersed.

**Distinctive features:** Vines and lianas with prehensile petioles or leaf rachis; leaves opposite, compound, exstipulate; bark peeling off in long fibrous strands.

**Distribution:** A genus with nearly cosmopolitan distribution (except for arctic regions) of ~385 species of lianas or trailing subshrubs, the great majority of which are of the temperate zone. The genus is represented in the Neotropics by 26 species, all of which are lianas; in middle to high elevation, humid to seasonally dry forests.

**THALICTRUM** Linnaeus, Sp. Pl. 545. 1753.

Erect herbs or subshrubs, with one species (*T. podocarpum* Kunth ex DC.) sometimes growing as a scrambling herb reaching 2–2.5 m in length. Stems cylindrical, fragile, ~5 mm diam. Leaves alternate, bipinnate, ~60 cm long; leaflets chartaceous, ovate, trinerved, trilobed,



*Thalictrium podocarpum*, photo by P. Acevedo

cordate at base;  
rachides elongate,  
maculate, cylindrical,  
and slightly swollen at  
the junctions; petioles  
elongate and expanded  
into a sheath at base.  
Inflorescences of  
axillary elongated  
paniculate cymes.

Flowers bisexual,

hanging, actinomorphic, long-pedicelled; calyx of 4 free petaloid light green sepals, with marginal pinkish tinge; petals absent; stamens numerous, the filaments free, the anthers dehiscent longitudinally; ovary superior, of numerous free carpels, with a single ovule and a terminal, elongated style. Achenes several per flower, divaricate, flattened, with a persistent elongate style.

**Distinctive features:** Scrambling or leaning herb a few m long; leaves alternate, bipinnate with trilobed leaflets.

**Distribution:** A genus of the northern temperate zone extending into the mountains of the tropics, with ~207 species, of which 39 are present in the Neotropics, with *T. podocarpum* sometimes reported as a vine; highlands of Colombia to Bolivia.