CAPRIFOLIACEAE

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As currently recognized by APG-IV the family consists of 29 genera and ~890 species distributed throughout the northern hemisphere with few elements extending through the tropics to the southern hemisphere. In the Neotropics, the family is represented by 9 genera and ~214 species, of these only two genera (i.e., *Lonicera* and *Valeriana*) contain a total of 14 species of vines, 10 native species of *Valeriana* and four exotics species of *Lonicera*, some of which have become naturalized in the Neotropics. For the most part, they are found in moist to wet montane forests; > 1,000 m.

Diagnostics: Twining herbaceous or moderately woody vines, without any visible exudate; with opposite, simple or compound (trifoliolate or 5-pinnate), exstipulate leaves; flowers with gamopetalous corolla and inferior ovary.

General Characters

1. STEMS. Smooth, glabrous or pubescence of simple hairs; woody and hard in *Lonicera* although stems not very thick, developing cylindrical (Figure 74D), some species reaching 15 + m in length and ~3 cm in diam., e.g., *Lonicera japonica* Murray; cross sections with regular vascular anatomy, sometimes with ring-porosity (Figure 74D); bark papery flaky (Figure 74B). In *Valeriana*, herbaceous with scanty secondary growth.
2. EXUDATES. No visible exudate, however, many species of *Valeriana* have a strong fetid smell upon drying.
3. CLIMBING MECHANISMS. Climbing Caprifoliaceae are twiners (Figure 74B, C), in addition, some species of *Valeriana* (e.g., *V. scandens* L.) have prehensile petioles (Figure 74A).

4. LEAVES. Opposite, exstipulate, chartaceous to subfleshy, simple, sometimes trifoliolate to pinnate in *Valeriana;* blades entire, crenate, denticulate, serrate, or lobed; petioles short to long, glandless.
5. INFLORESCENCE. Axillary, racemes with bifurcate branching in *Valeriana* or axillary or terminal cymes in *Lonicera*; bracteoles often persistent.
6. PEDICELS. Short or absent (flower sessile).
7. FLOWERS. Bisexual or rarely unisexual, actinomorphic or subzygomorphic; calyx tubular, of 5–20 equal, short sepals; corolla tubular, longer than the calyx, with 5 equal or unequal lobes; stamens 3–5, the filaments adnate to the corolla throat, included or exserted, the anthers opening along longitudinal slits; ovary inferior, 2–3(5)-carpellate, with axile placentation, ovules pendulous, 1 or 3–8 per locule, the style elongate with capitate stigma in *Lonicera* and 2–3 lobate in *Valeriana*.
8. FRUIT. A few-seeded berry in *Lonicera* or a single-seeded, indehiscent achene with a crown of accrescent plumose sepals.

Figure 74. Vegetative features in Caprifoliaceae. **A**. Prehensile petiole of *Valeriana scandens.* **B.** Papery flaky bark of *Lonicera japonica.* **C.** Twining stems of *L. japonica.* **D**. Stem cross section in *L. japonica* with ring-porosity. Photos by P. Acevedo.

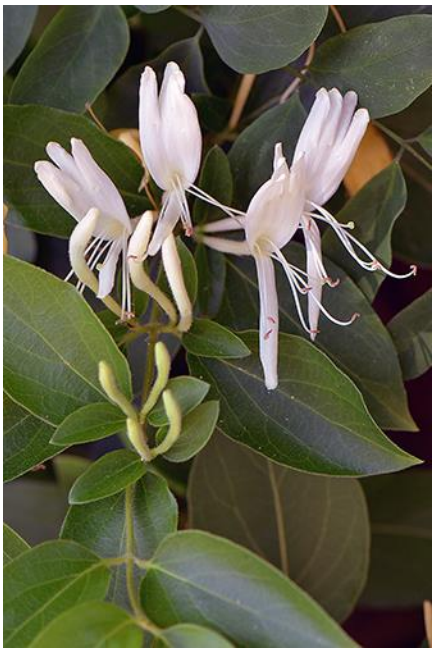
Key to the genera of climbing Caprifoliaceae

1. Plant woody or subwoody; bark papery flaky; leaves simple; corolla strongly (bilabiate) or slightly zygomorphic; fruit a fleshy berry with several seeds .....***Lonicera***

1. Plant herbaceous; bark smooth; leaves simple, trifoliolate or 5-pinnate; corolla actinomorphic; fruit a dry, indehiscent achene with a crown of plumose sepals. ..... ***Valeriana***

LONICERA Linnaeus, Sp. Pl. 173. 1753.

Twining vines, shrubs or small trees; stems hard, cylindrical reaching up to 3 cm in diam., the bark papery flaky (Figure 74B); cross section with regular anatomy (Figure 74D), producing no exudate; branches opposite, decussate and short. Leaves simple, opposite; exstipulate; petioles short. Inflorescences of axillary or terminal few-flowered cymes; bracteoles minute, persistent. Flowers 5-merous, bisexual; calyx tubular, 5-dentate or rarely truncate at the apex; corolla zygomorphic, tubular, infundibuliform, or campanulate, with the limb bilabiate, with 2 long lobes and 3 short lobes or the lobes nearly equal; stamens 5, subequal, exserted, the filaments adnate to the corolla throat; ovary inferior, with 2–3(–5) locules, with axile or rarely parietal placentation, the ovules pendulous, 3–8 per locule. Fruit a fleshy berry, with few ovate seeds.



Lonicera japonica, photo by P. Acevedo.

Distinctive features: Twining vines with papery flaky bark and opposite, simple, exstipulate leaves, with long tubular-bilabiate, fragrant corolla.

Distribution: A genus of ~200 species, the majority in the Northern Hemisphere. A single species native to Mexico and Guatemala; in addition, four exotic species have been introduced as ornamentals in the Neotropics, with *Lonicera japonica* Thunb. ex Murray becoming adventive in Hispaniola and Puerto Rico.

VALERIANA Linnaeus, Sp. Pl. 31. 1753.

Herbs or less frequently herbaceous twining vines (*V. scandens* known to have prehensile petioles), glabrous, pubescent to tomentose, usually with a fetid odor upon drying; often with woody or tuberous roots. Leaves opposite, simple, trifoliolate, 5-pinnate (in vine species), entire, dentate, crenate or lobed; stipules absent; petioles short to long. Flowers actinomorphic or slightly zygomorphic, bisexual or rarely unisexual, produced in terminal or axillary dichasial cymes; bracts and bracteoles persistent. Calyx tubular, with 5–20 lobes, dentate, persistent in fruit and developing into setose or plumose awns; corolla infundibuliform, campanulate, or hypocrateriform, the tube short, the lobes 5, expanded; stamens 3(4), adnate to the throat, included or exserted; ovary inferior, 3-carpellate, the carpels with a single ovule, stigma 2–3-lobate. Fruit a dry indehiscent achene with a single fertile carpel, with 3 dorsal, 1 ventral, and 2 marginal ribs, crowned by the plumose sepals.

Valeriana scandens, photo by P. Acevedo.

Distinctive features: Twining herbaceous vines few m long, usually with fetid smell; leaves opposite simple or compound; flowers minute; fruits minute, wind dispersed (with plumose crown of awl-like sepals).

Distribution: A predominantly northern hemisphere genus of ~419 species; with 175 species in the Neotropics of which nine are reported as vines; these distributed from Mexico south to Peru and Brazil and in the Greater Antilles except for Jamaica; found in moist to wet forests.