

LAMIACEAE

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A cosmopolitan family, mostly of aromatic herbs or shrubs, less often trees or lianas with 236 genera and ~7,280 species. Lianas are restricted to few tropical genera, while twining lianas are found in the Paleotropics, those native to the Neotropics are scramblers. These include species in *Aegiphila*, *Salvia*, *Scutellaria*, and *Volkameria*. A few species of twining vines in *Clerodendrum* and *Congea* are widely cultivated as ornamentals in the Neotropics. Lamiaceae are represented in the Neotropics by ~65 genera and ~1,690 species, of which only 55 are reported as lianas or vines, most of which belong to the genus *Aegiphila*.

Diagnosics: Leave opposite (sometimes aromatic), simple, exstipulate; stems cylindrical or quadrangular; corolla gamopetalous; sterile *Aegiphila* may be confused with members of Malpighiaceae, but plants are scramblers not twiners, leaves are devoid of glands, and indument not T-shaped.

General Characters

1. STEMS. Young stems in herbaceous species often quadrangular and weak, ~5 mm in diameter, but in *Aegiphila* becoming cylindrical and much wider; cross sections in *Aegiphila* with numerous conspicuous, narrow rays and numerous dispersed, wide vessels (Figure 129A, B), the medulla often quadrangular.
2. EXUDATES. Odorless and colorless, inconspicuous in all genera.
3. CLIMBING MECHANISM. For the most part, all lianas and vines are scramblers and commonly have short lateral plagiotropic or hanging branches (Figure 129C); some species, e.g., *A. sufflava* Moldenke, are known to be twiners.
4. LEAVES. Opposite and simple, petiolate, and exstipulate.

5. INFLORESCENCES. Axillary or terminal, racemose, paniculate or corymbose cymes, or flowers axillary and solitary, never cauliflorous.
6. PEDICELS. Long to short.
7. FLOWERS. Bisexual, commonly heterostylous, zygomorphic; calyx gamosepalous, 4–5-dentate or lobed; corolla gamopetalous, funnel-shaped, tubular, or salverform, 5-lobed or bilabiate; stamens 4 (usually 2 shorter), the filaments adnate to the corolla tube alternating with the lobes, inserted or exerted; ovary superior, syncarpous, 2 or 4–5-carpellate, the style terminal, long, filiform, stigma filiform, simple or branched; ovule solitary per carpel.
8. FRUITS. Drupaceous indehiscent or splitting into 2–4 pyrenes or mericarps.

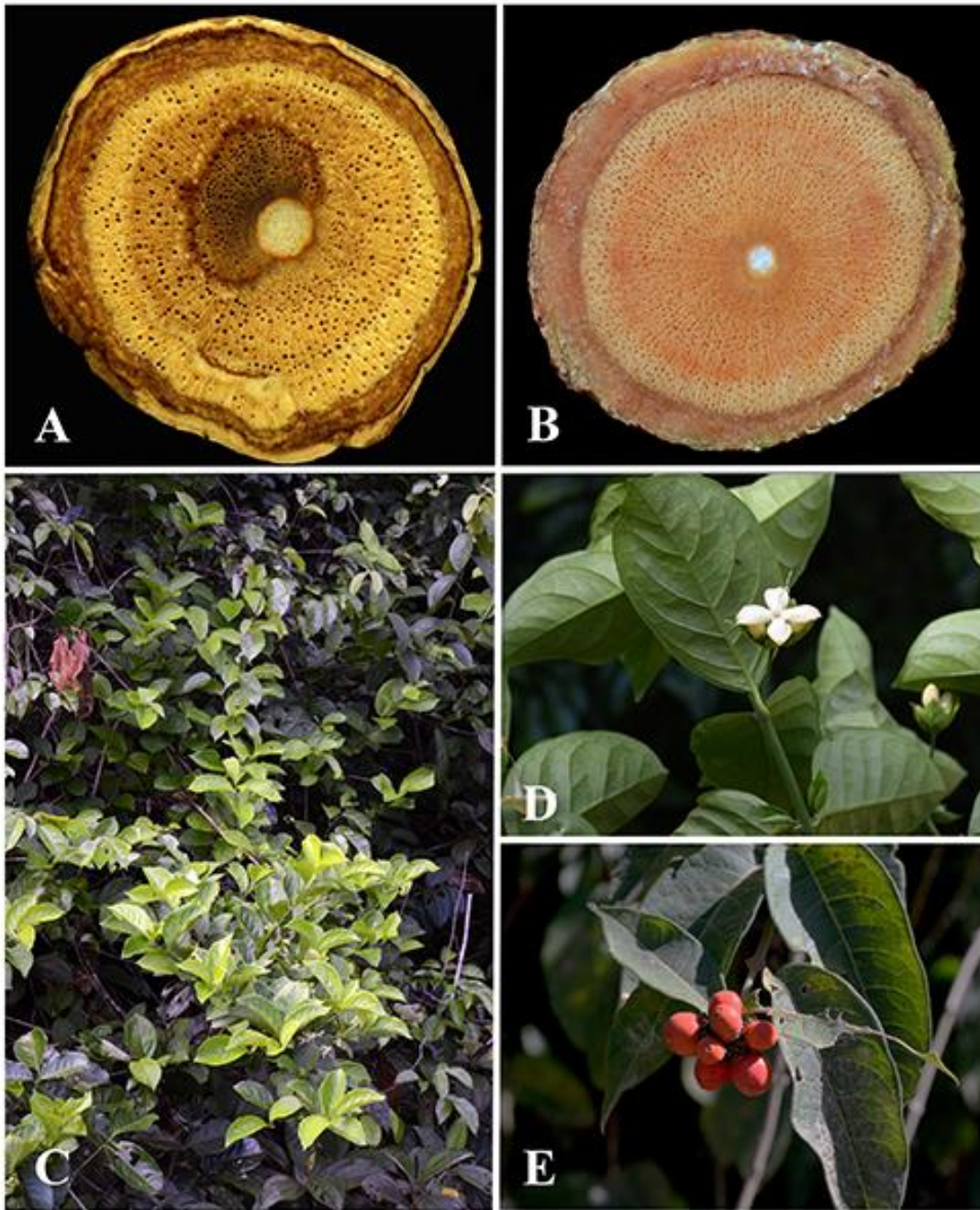


Figure 129. *Aegiphila*. **A.** Stem cross section of *A. sufflava*. **B.** Stem cross section of *A. vitelliflora*. **C.** Scrambling habit with short lateral plagiotropic branches of *A. macrantha*. **D.** Flowering branch of *A. macrantha*. **E.** Fruiting branch of *A. vitelliflora*. Photos: A–D by P. Acevedo; E by M.R. Pace.

Key to the genera of climbing Lamiaceae

1. Lianas often reaching 3–10 m in length, stems woody > 1 cm diam.; leaves entire 2
1. Vines reaching ~2 m in length, stems herbaceous ~5 mm diam.; leaves serrate3
2. Calyx slightly accrescent and persistent as a cupule at the base of fruit; style branches elongate; fruit fleshy, indehiscent*Aegiphila*
2. Calyx not accrescent in fruit, not forming a cupule at base of fruit; style branches short; fruit dry, splitting into 4 pyrenes upon maturity *Volkameria*
2. Upper calyx lobe straight, not folded; stamens 2, with long connective *Salvia*
2. Upper calyx lobed transversely folded forming a protuberance (scutellate); stamens 4, with no connective tissue*Scutellaria*

AEGIPHILA Jacquin, *Observ. Bot.* 2: 3. 1767.

Shrubs, small trees, scrambling lianas, or erect shrubs with climbing branches, *A. sufflava* Moldenke reported as a twiner; stems commonly quadrangular when young, cylindrical when mature, reaching 3–10 m in length and 1–2 cm in diam.; cross sections with numerous conspicuous narrow rays, the medulla often quadrangular (Figure 129A, B). Leaves opposite; simple, entire or slightly undulate, with pinnate venation. Inflorescences of distal or axillary cymes, commonly umbellate, capitate or paniculate; bracts inconspicuous. Calyx campanulate to cupular, truncate or 4–5-dentate or -lobed; corolla nearly actinomorphic 4–5-lobed, white, greenish or yellowish; stamens 4 or 5, included or exerted; ovary superior, 4-locular, style included or exerted, with 2 stigmatic, long, branches. Drupes fleshy, orange, red, purple, commonly ca 1 cm long; seeds 4.

Distinctive features: Scrambling lianas, leaves simple, opposite, exstipulate, fruits with accrescent cupular calyx at the base.

Distribution: A genus of ~140 species native to the Neotropics, with 45 species reported as lianas or climbing shrubs; distributed from Mexico to southern Brazil, including Jamaica and Hispaniola, in humid lowland forests.

SALVIA Linnaeus, Sp. Pl. 23. 1753.

Erect, decumbent or rarely scrambling herbs or subshrubs. Stems commonly



Salvia gesneriiflora, photo by Scott Zona.

quadrangular, with scanty secondary growth. Leaves opposite, commonly serrate, with pinnate venation; petioles long to short, glandless. Inflorescence of terminal or axillary racemes, with flowers in verticils; bracts showy to minute. Calyx bilabiate, tubular to campanulate, conspicuously nerved; corolla bilabiate, straight or curved, variously colored; stamens 2, included or exerted; staminodes 2 or absent; stigmatic branches long, the posterior usually longer. Fruit of 4 nutlets.

Distinctive features: Scrambling herbs with opposite, serrate leaves; confused with species of *Russelia* (Plantaginaceae) but distinguished by the flowers and fruits (vs. 5-lobed calyx, 4 stamens, and capsular fruit in *Russelia*).

Distribution: A cosmopolitan genus with ~1,000 species, with only three species reported as climbers in the Neotropics, two in Mexico and one in Colombia.

SCUTELLARIA Linnaeus, Sp. Pl. 598. 1753.

Erect, decumbent or rarely scrambling, non-aromatic herbs or subshrubs. Stems



Scutellaria sarmentosa, photo from Earth.com.

commonly quadrangular, with scanty secondary growth. Leaves opposite, commonly serrate, with pinnate venation; petioles long to short, glandless. Inflorescence of terminal or axillary frondo-bracteate racemes, with flowers opposite or in a spiral, or flowers axillary and solitary; bracts showy to minute. Calyx

bilabiate, upper lip with a shield-like projection

or folding; corolla bilabiate, tubular or funnel-shaped, variously colored, but often bluish, or lavender; stamens 4, included; stigmatic branches short, unequal. Fruit of 4 nutlets.

Distinctive features: Scrambling herbs with opposite, serrate leaves, distinguished by the scutellate, upper calyx lobe.

Distribution: A cosmopolitan genus with ~470 species, with only two species reported as climbers from Colombia, Ecuador and Peru.

VOLKAMERIA Linnaeus, Sp. Pl. 637. 1753.

Shrubs, small trees or scrambling lianas reaching 2–3 m in length. Stems cylindrical,



sometimes with short spines (persistent, indurate petiole base). Leaves opposite or three per node, simple, with entire margins and pinnate venation. Inflorescences of axillary cymes; bracts and bracteoles inconspicuous. Calyx with 5 sepals, deeply cleft to the base; corolla white, salverform, 5-lobed; stamens 4, didynamous, twice as long as the corolla; stigmas very short.

Drupes fleshy, globose ovoid or depressed ovoid, separating into 2 or 4 pyrenes when ripe; seeds 4–8 per fruit.

Distinctive features: Scrambling shrubs; leaves opposite or 3 per node; corolla

white salverform with long exerted stamens. Superficially similar to species of *Jasminum* (Oleaceae), but *Jasminum* has twining stems and flowers with included stamens.

Distribution: A pantropical genus with 10 species, four of which occur in the Neotropics (Mexico to northern South America) and only two reported as climbing (scrambling) shrubs; in dry to moist forest or scrubs at low elevations.