

GUIDE TO THE GENERA OF LIANAS AND CLIMBING PLANTS IN THE NEOTROPICS

BEGONIACEAE

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Begonia fruticosa, photo by P. Acevedo

A pantropical family of succulent herbs, erect, prostrate or climbing through the aid of adventitious roots. Worldwide the family contains 2 genera, the Hawaiian monotypic genus *Hillebrandia* and the widely spread *Begonia* with a total of about 1,923 species. *Begonia* is quite diverse in the Neotropics but only a few species are reported as root-climbing vines. The genus is most diverse in humid forest at elevations between 1000 and 3000 m elevation with a few species in the lowlands.

Diagnostics: Monoecious, root climbing, slender vines with succulent, alternate leaves and conspicuous, persistent or caducous stipules; flowers unisexual, zygomorphic,

white, pink or red; fruits loculicidal, often asymmetrically winged capsules.

General Characters

1. STEMS. Stems slender (< 1 cm in diam.), cylindrical, rooting at nodes.
2. EXUDATES. Exudates are odorless and *colorless*.
3. CLIMBING MECHANISM. All climbing species of *Begonia* are *root-climbers*.
4. LEAVES. Leaves are simple, alternate, distichous, succulent, with serrate, serrulate, dentate or lobed margins, and often with 3-5 main veins from base; petioles short to long, glandless; stipules often large, persistent or caducous.
5. INFLORESCENCES. Axillary, long-peduncled dichasial cymes.
6. FLOWERS. *Zygomorphic*, unisexual (plant monoecious); pedicelled. Staminate flowers of 2 petaloid sepals alternating with 2 petals, commonly white, cream or greenish, of similar size and shape, free, erect or reflexed at apex. Pistillate 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. Membranaceous to sub-fleshy capsules, 3-winged or less often with a single asymmetrical wing.
8. SEEDS. Seeds prismatic, 1–3 per fruit.

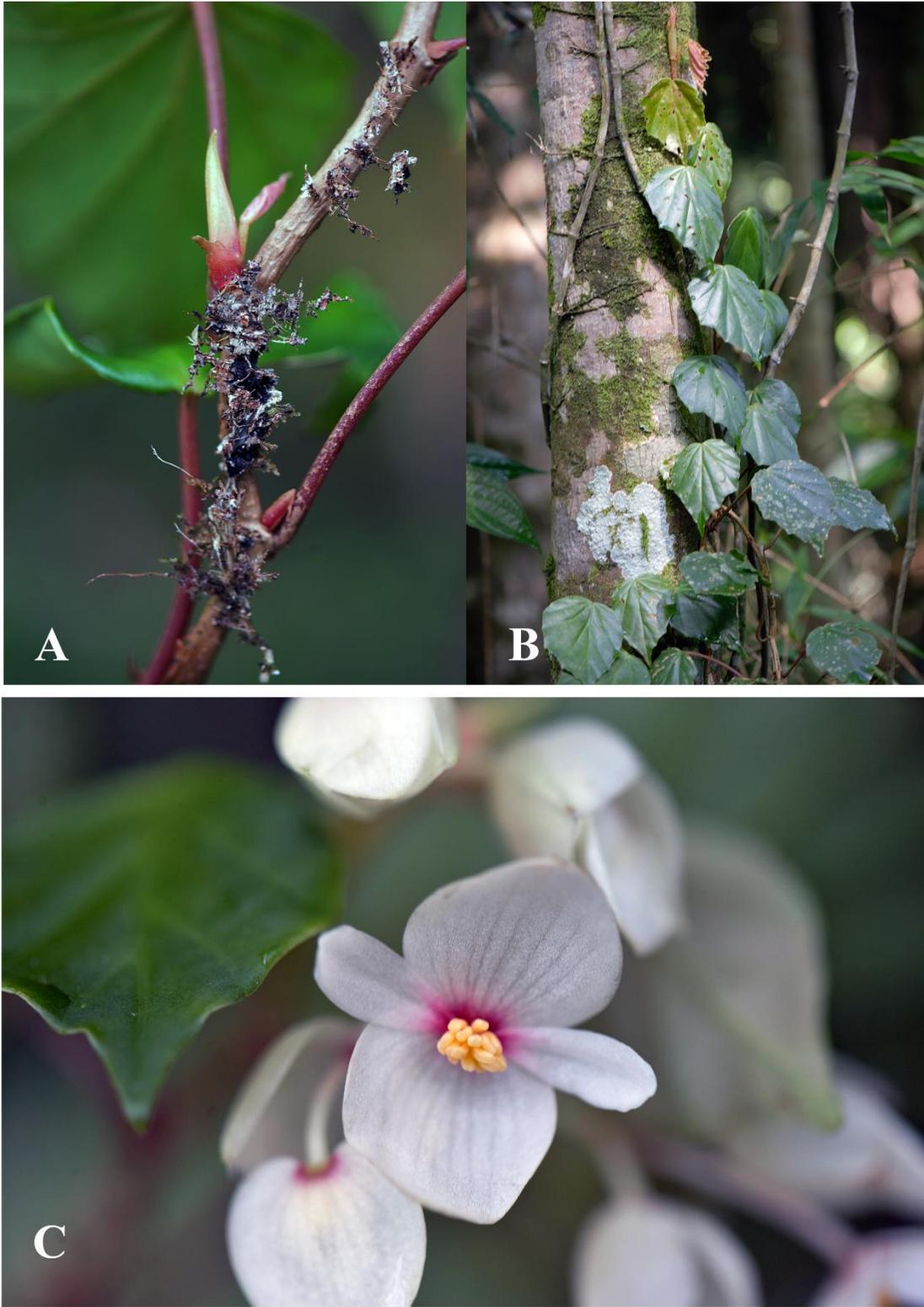


Figure 1. *Begonia solananthera*. **A.** Stem with adventitious roots. **B.** Plant showing root-climbing habit. **C.** Staminate flowers. Photos by P. Acevedo.

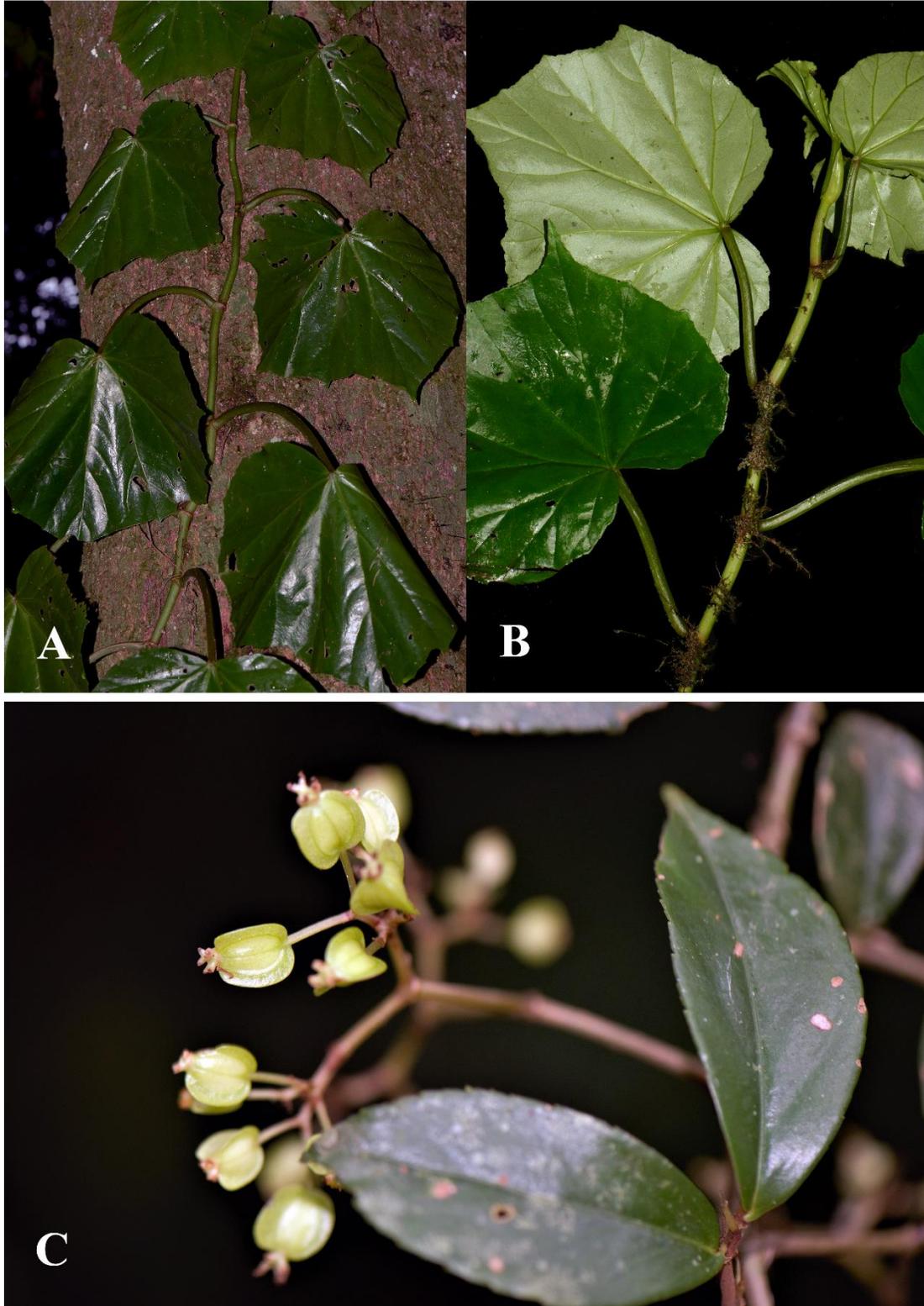


Figure 2. **A.** *Begonia convolvulacea* with root-climbing habit. **B.** *Begonia convolvulacea*, branch with adventitious roots. **C.** *Begonia fruticosa*, infructescence with 3-winged capsules. Photos by P. Acevedo.

GENERIC DESCRIPTION

BEGONIA Linnaeus, Sp. Pl. 1056. 1753.

Monoecious, rhizomatous or tuberous, erect or prostrate herbs, or seldom root-climbing vines. Stems slender, cylindrical, unarmed, < 1 cm in diam. and up to 5-6 m long. Leaves alternate, distichous, often with 3-5 main veins from base, often asymmetrical or deeply cordate at base; margins serrate, serrulate, dentate or lobed; petioles short to long, slender. Inflorescence of axillary, long-peduncled dichasial cymes; bracts and bracteoles minute, persistent. Flowers white, cream or pink. Staminate flowers: tepals 2 or 4, petaloid, inner tepals often smaller than the outer and alternating with them; stamens 4 to many, the filaments unequal, some connate at the base forming a dendroid structure, the anthers oblong, longitudinal dehiscent. Pistillate flowers: tepals 4-5, ovary inferior, commonly trilocular, with 3 unequal wings, placentation axile with numerous ovules, the styles 3, bifurcate. Fruit a trigonous loculicidal capsule, sometimes winged; seeds lenticular, numerous, small.

Distinctive features: Root-climbing vines with succulent stems and leaves and conspicuous stipules. Sometimes confused with climbing species of Piperaceae (*Piper* or *Manekia*), however, in Piperaceae, the stipules are adnate to the petiole forming a sheath at base (stipules free in *Begonia*) and the leaves with entire margins (commonly serrate, dentate, or lobed in *Begonia*).

Distribution: *Begonia* is a pantropical genus with about 1,923 species. In the Neotropics, the genus is represented by 606 species of which only 30 are reported as root-climbing vines; these are found from Mexico south to Ecuador, Peru and Brazil, commonly in wet and moist forest, at elevations between 300 and 2000 m.

RELEVANT LITERATURE

Smith, L.B., D.C. Wasshausen, J. Golding and C.E. Karegeannes. 1986. Begoniaceae. Part I: Illustrated key, Part II: Annotated species list. Smithsonian Contrib. to Botany 60: 1-584.