

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

## BEGONIACEAE

By Pedro Acevedo-Rodríguez (Apr 2020)



*Begonia fruticosa*, photo by P. Acevedo

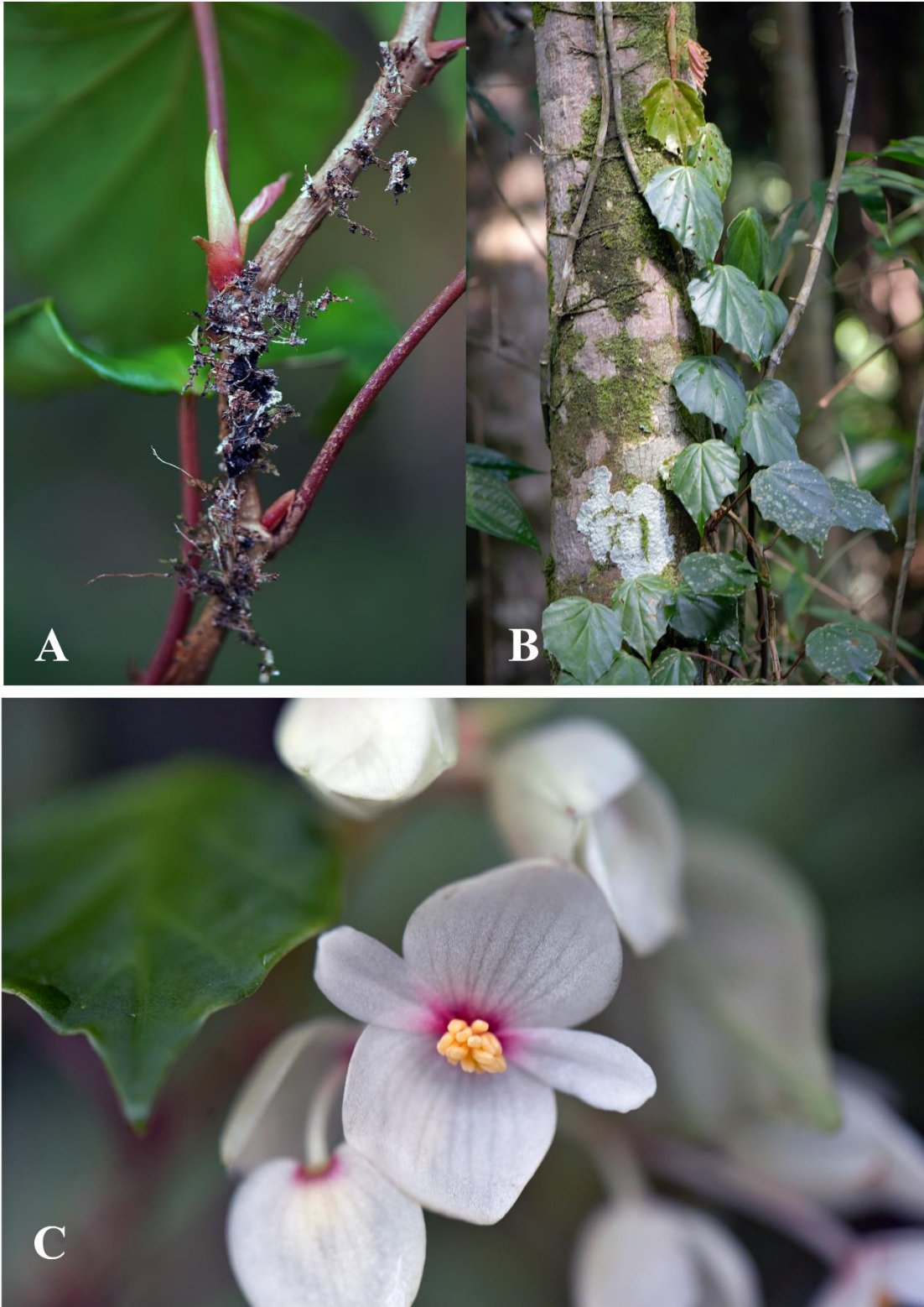
A pantropical family of succulent herbs, erect, prostrate or climbing through the aid of adventitious roots. Worldwide the family contains 2 genera, the Hawaiian monotypic genus *Hillebrandia* and the widely spread *Begonia* with a total of about 1,923 species. *Begonia* is quite diverse in the Neotropics 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.

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

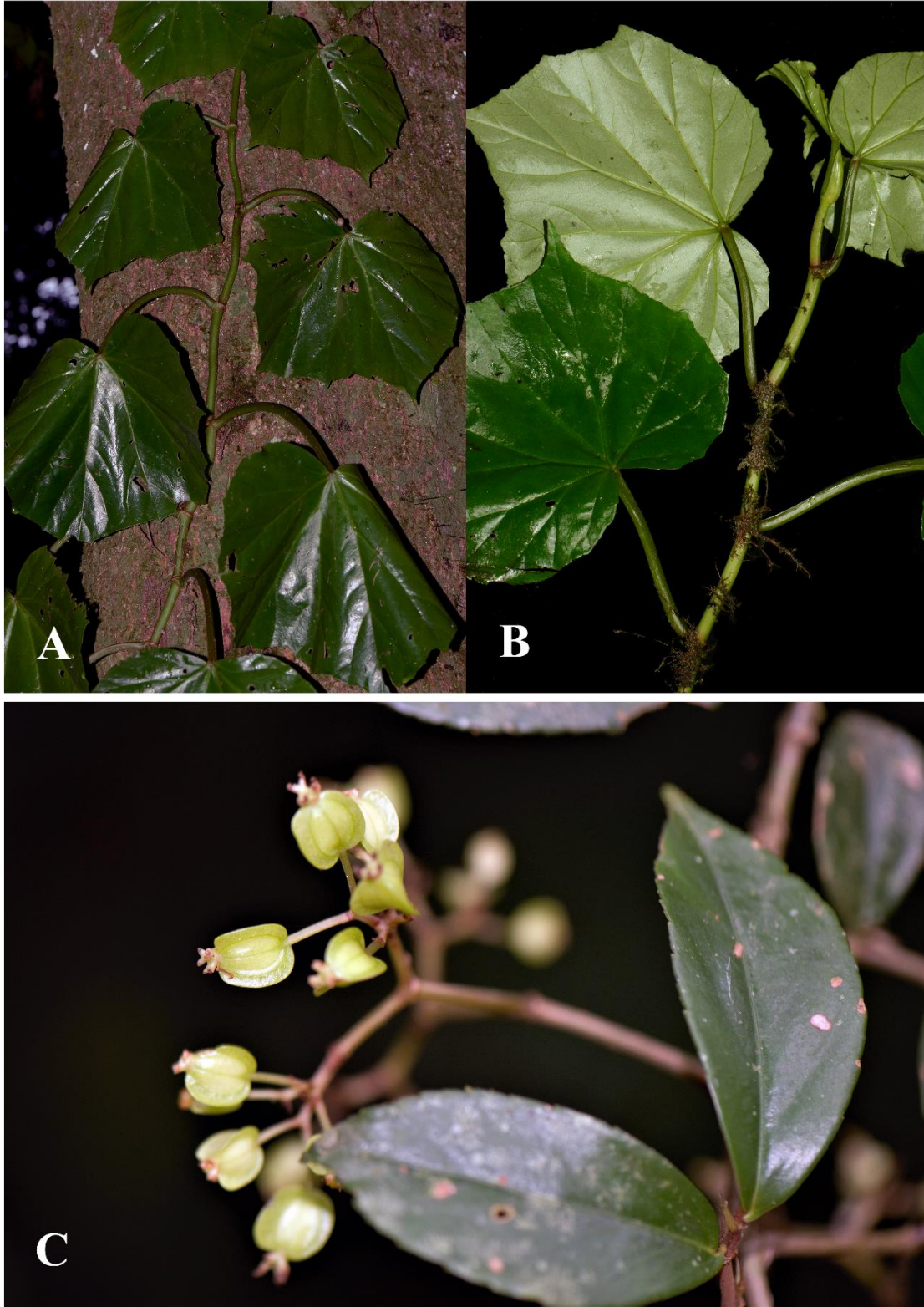
white, pink or red; fruits loculicidal, often asymmetrically winged capsules.

## 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.