

GELSEMIACEAE

P. Acevedo-Rodríguez

A pantropical to warm temperate family of shrubs, trees or twining lianas. The family contains three genera and 14 species; in the Neotropics the family is represented by two genera and two species, of which *Gelsemium sempervirens* (L.) St. Hil. is the only species of liana; distributed from S.E. United States to Guatemala, predominantly in wet forests, and scrubs.

Diagnostics: *Gelsemium* is easily recognized by the twining habit; mature stems with islands of interxylary phloem; leaves simple, opposite, entire with pinnate venation; and large funnel-shape, yellow corollas.

General Characters

1. STEMS. Cylindrical with moderate secondary growth, slightly enlarged at the nodes; cross section with scattered interxylary phloem islands.
2. EXUDATES. No information has been reported on the color and nature of exudates in *Gelsemium*, as a result it seems fair to conclude that they are odorless and colorless.
3. CLIMBING MECHANISM. Main stems twining.
4. LEAVES. Leaves are simple, opposite, with pinnate venation and entire margins, glandless; axillary or interpetiolar colleters commonly present; petioles ~5 mm long; stipules absent but interpetiolar flange present.
5. INFLORESCENCES. Axillary few-flowered racemes, basally with numerous, imbricate bracts.
6. FLOWERS. Actinomorphic, bisexual; short-pedicelled. Sepals 5, free; corolla light to bright yellow, gamopetalous, funnel-shaped, 5-merous, the tube often longer than the lobes; stamens 5, inserted on the corolla tube, and alternating with the corolla lobes, the filaments

short, the anthers inserted or nearly projected beyond the corolla tube; gynoecium superior, syncarpous, 2-carpellate, with numerous axial ovules per carpel, the style terminal, elongated with 4 stigmatic branches.

7. FRUITS. Oblong-elliptic, flattened, woody, tardily dehiscent capsule, 1.5-2 cm long.
8. SEEDS. Nearly flattened, with an asymmetrical wing.

GELSEMIUM Jussieu, Gen. 150. 1789.

Twining lianas. Stems cylindrical, slightly enlarged at the nodes, 5-7 m in length. Leaves



Gelsemium sempervirens, photo by G.A. Cooper.

simple, opposite, with entire margins and pinnate venation; petioles short; stipules represented by an interpetiolar ochrea-like ridge. Inflorescence axillary, few-flowered racemes, bearing numerous overlapping bracts on basal portion. Flowers fragrant, heterostylous; sepals imbricate,

greenish yellow; corolla yellow, 2.5-3.5 cm, funnel-shaped with imbricate lobes; ovary bilocular with numerous ovules per locule, style 4-branched. Capsule septicidal, 4-valved, with several uni-winged seeds.

Distinctive features: Twining lianas, stems with scattered interxylary islands of phloem; leaves opposite, simple, entire, with pinnate venation; corollas large, bright yellow.

Distribution: A genus of three species, two in southern North America, one of which (*G. sempervirens*) extends to Guatemala, a third species is native to China and western Malesia.

USES

In spite of their toxicity, species of *Gelsemium* are commonly planted as a garden plant due to its beautiful, fragrant flowers. The foliage of *Gelsemium sempervirens* contains several toxic alkaloids responsible for the death and abortion in livestock (Debay 1950; Martínez 1959; Kingsbury 1964). Ingestion of nectar and honey made from *Gelsemium* is reported to cause death in humans and bees in the southeastern United States (Kingsbury 1964).