

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

DICHAPETALACEAE

By Pedro Acevedo-Rodríguez (Jun 2020)



D. rugosum (Vahl) Prance, photo by P. Acevedo

A pantropical family with 3 genera and about 220 species of trees, shrubs or less often lianas. In the Neotropics, the family is represented by all 3 genera, of which only *Dichapetalum* and *Tapura* are reported as having a total of 15 species of lianas. These are found throughout lowlands of the Neotropics from Mexico to Peru and the Brazilian Amazon, but not in the West Indies; in humid non-flooded forests.

Diagnosics: Twining lianas with simple, alternate, entire, stipulate leaves with asymmetrical bases; inflorescences

dichotomously branched, axillary or adnate to the petiole, fasciculate, corymbose or paniculate cymes; petals or corolla lobes white, commonly bifurcated.

General Characters

1. **STEMS.** Young stems are slightly angled and often striate, with various indument; mature stems are woody with substantial secondary growth and cylindrical. (fig. 1a-c); commonly reaching 10-20 m in length and few cm in diam.; cross sections with regular anatomy,

with narrow to wide vessels, rays narrow (fig. 1a & b) to very wide, nearly dividing the vascular axial elements into radial segments (fig. 1c).

2. EXUDATES. Inconspicuous or clear exudates.
3. CLIMBING MECHANISMS. *Dichapetalum* climbs through the aid of twining stems, the climbing mechanism in *Tapura panamensis* Prance has not been reported, but is either a twiner or a scrambler.
4. LEAVES. Alternate, simple, chartaceous to coriaceous with entire margins and pinnate venation, the base often asymmetrical; petioles short, canaliculate; stipules small to large, caducous, sometimes fimbriate at margins.
5. INFLORESCENCE. Axillary or terminal paniculate or corymbose cymes or sessile, axillary glomerules or often on distal portion of petioles.
6. PEDICELS. Short or flowers sometimes sessile.
7. FLOWERS. Bisexual or less often unisexual, actinomorphic or partly zygomorphic, 5-merous; calyx 5 distinct sepals; petals free, white, equal in *Dichapetalum*; 3 larger in *Tapura*, often bifurcate at apex; stamens 5, equal, the filaments free; ovary superior, of 2 or 3 connate carpels, 2-3-locular; ovules 2 per locule, pendulous; style 1-3, free or connate with 3 stigmatic branches.
8. FRUIT. A dry indehiscent drupe, 1-3-locular, with pubescent exocarp.

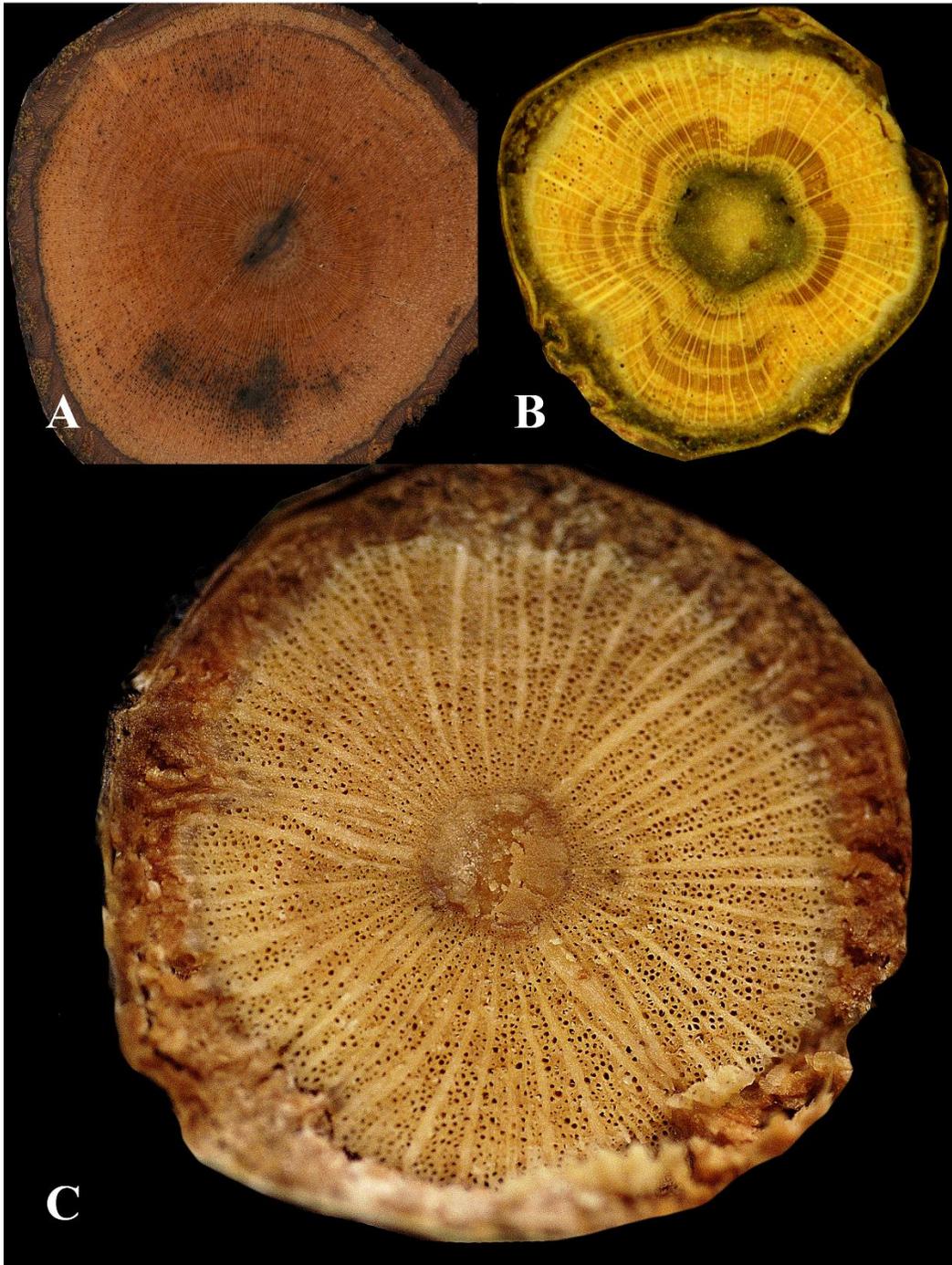


Figure 1. Stem cross sections in *Dichapetalum*. **A.** *D. pedunculatum* with regular anatomy, rays moderately conspicuous. **B.** *D. spruceanum*, cross section of dry stem, xylem with bands of apotracheal alliform parenchyma. **C.** *D. rugosum* with wide vessels and very wide rays nearly dividing the vascular axial elements into radial segments. Photos by P. Acevedo.



Figure 2. *Dichapetalum donnell-smithii*. **A.** Scrambling shrub with short plagiotropic branches. **B.** Large fimbriate stipules. Photos by P. Acevedo.

KEY TO THE GENERA

1. Inflorescences long-pedunculate axillary paniculate or corymbose cymes; corolla actinomorphic; petals of similar size.....*Dichapetalum*
1. Inflorescence a sessile glomerule developed at the apex of petiole; corolla zygomorphic, 3 petals larger..... *Tapura*

GENERIC DESCRIPTIONS

DICHAPETALUM Thouars, Gen. Nov. Madag. 23. 1806.



D. rugosum, photo by P. Acevedo

Trees, shrubs or less often twining lianas. Stems variable, often angled, or striate, with various induments; mature stems cylindrical, some species reaching up to 20 m in length and about 2.5 cm in diam.; bark pale, smooth and lenticellate; cross sections with regular anatomy, often with conspicuous rays, and sometimes with confluent bands of paratracheal and apotracheal parenchyma.

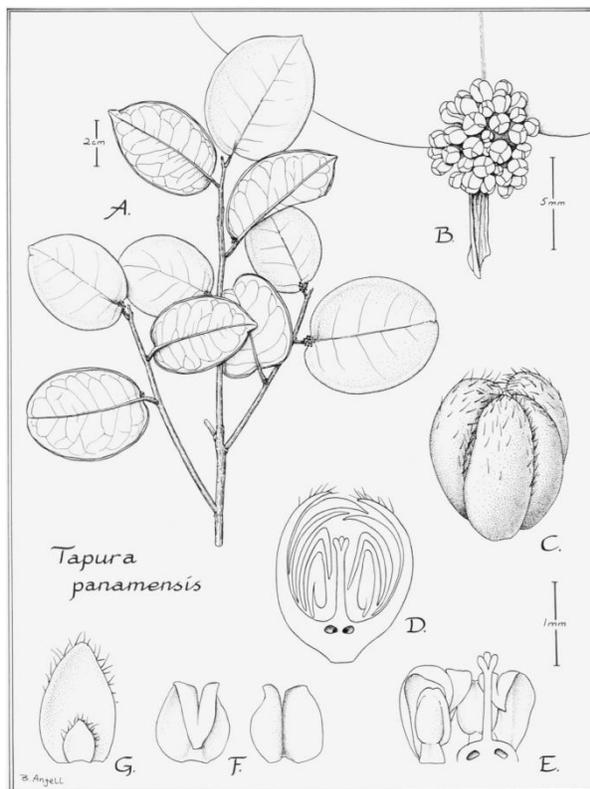
Leaves alternate, chartaceous to coriaceous, simple, with entire margins and pinnate venation; petioles short or absent, without glands; stipules minute to small caducous. Inflorescences axillary or terminal, “dichotomously” branched, paniculate or corymbose cymes. Flowers white or cream, actinomorphic, bisexual or less often unisexual, 5-merous; calyx of free or basally connate sepals with imbricate aestivation; petals free, commonly bifurcate at the apex; stamens 5, free; disc 5-lobed; ovary superior, 2-3-carpellate, with 2 ovules per carpel, the styles 1-3, free,

or connate for most of their length; stigma capitate or punctiform; pistillode present in staminate flowers. Fruit a dry, indehiscent, 1-3-locular, pubescent, green to yellowish brown drupe.

Distinctive features: Twining vines with simple, alternate, entire, stipulate leaves, inflorescences axillary or terminal cymes; flowers white, petals commonly bifurcate.

Distribution: A Pantropical genus of 153 species, with 28 species found in the Neotropics, 14 of which are reported as lianas; distributed from Mexico to Peru and the Brazilian Amazon, in wet or moist non-flooded lowland forests.

TAPURA Aublet, P1. Guiane 1: 126, t. 48. 1775.



T. hirsutissima, photo by P. Acevedo

Trees or shrubs with only *T. panamensis* Prance reported as a liana in the Neotropics. Climbing mechanism, dimensions, stem anatomy, and fruit not reported in the literature. Leaves alternate, simple, entire, thick coriaceous, with pinnate venation, rounded to sub-cordate and unequal at base; petioles 4-6 mm long, puberulous, canaliculate. Inflorescence a sessile glomerule produced at the junction between petiole and blade. Flowers 5-merous, bisexual, sessile; sepals free, ovate, sparsely hispid toward the apex; petal margins ciliate; petals free, 3 larger and enveloping stamens; fertile stamens 3, alternating with corolla lobes; ovary superior, trilocular with 2 ovules per locule, the style distal, with 3 stigmatic branches at apex.

Distinctive features: Liana with thick coriaceous sub-cordate leaves, inflorescence a sessile glomerule borne at the apex of petiole.

Distribution: A pantropical genus (Neotropics and central-east Africa) of 36 species, most of which (24 species) are found in the Neotropics, with only *T. panamensis* reported as a liana. *Tapura panamensis* is known from central Panama and the Chocó region of Colombia between 100 and 300 m elevation.

RELEVANT LITERATURE

Prance, G.T. 1972. Dichapetalaceae. Flora Neotropica Monograph 10: 1-84.

Prance, G.T. 1983. Additions to Neotropical Dichapetalaceae. Brittonia. 35: 49-54.

PICTURE VOUCHERS

Figure 1.

A. *Dichapetalum pedunculatum* (DC.) Baill. (Acevedo 6135).

B. *Dichapetalum spruceanum* Baill. (Acevedo 7498)

C. *Dichapetalum rugosum* (Vahl) Prance (Acevedo 14778)

Figure 2.

A, B. *Dichapetalum donnell-smithii* Engl. (no voucher).