



A synopsis of Neotropical Dichapetalaceae

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Summary. The Neotropical Dichapetalaceae was last monographed by Prance (1972). Since then twenty-nine new species have been described and the known geographic distribution of many species has been much extended. The 1972 treatment is updated here with summary descriptions of all Neotropical species and keys for their identification. New information on type collections and on conservation including the IUCN Red Data status for all species is given and several older names are now lectotypified.

Key Words. conservation, *Dichapetalum*, lectotypification, range extensions, *Stephanopodium*, *Tapura*.

Introduction

Since my monograph of the forty-one species of Neotropical Dichapetalaceae then known (Prance 1972), twenty-nine new species (names in bold type in text) have been added and published in many different places and throughout the geographical range of the family (Table 1). Twenty-eight of these more recent species are accepted here. This means that there are now seventy accepted species of Dichapetalaceae in the Neotropics. The purpose of this paper is to bring this scattered information together and to provide updated keys for the identification of all Neotropical species of this pantropical family. Only references published after 1972 are given under each species and details of a few collections that add considerably to the distribution into new countries are given. The IUCN (2001) conservation status for all species is given, and unless referenced they are assigned by the author of this paper. Table 1 gives the location of the twenty-nine more recently described species and Table 2 shows the number of species now recorded for each country. Two geographical areas that have received much more recent botanical activity and are known as centres of diversity are Costa Rica (7 post-monograph species) and Atlantic coastal Brazil (6 species). Ecuador and Colombia follow closely with five and four recently described species each. Map 1 shows how the range of the family was extended into Mexico and Nicaragua. All except three of the more recently described species were based on types collected post 1972. Only three were from slightly older collections (1944, 1955 and 1963) not seen by me when I prepared the monograph. The names of species described since my monograph (Prance 1972) are all in bold face and all others in italics. A complete list of all my

publications on Dichapetalaceae is given after the References.

Systematics

Dichapetalaceae Baill., *Fl. Bras. (Martius)* 12 (1): 365 (Baillon 1886) (Dichapetaleae); Engler in Engler & Prantl, *Nat. Pflanzenfam.* 3 (4): 345 (1896); Prance, *Fl. Venezuela* 3: 1 – 20 (1971); Prance, *Fl. Neotrop. Monogr.* 10: 16 (1972); Prance, *Fl. Ecuador* 12: 1 – 14 (1980); Prance, *Fl. Venez. Guayana* 4: 666 – 671 (1998); Prance, *Fl. Nicaragua, Monogr. Syst. Bot. Missouri Bot. Gard.* 85: 799 – 802 (2001); Prance, *Fl. Guianas* A27: 99 – 112 (2009); Prance, Rodríguez & Kriebel, *Manual Pl. Costa Rica* 5, *Monogr. Syst. Bot. Missouri Bot. Gard.* 119: 190 – 201 (2010).

Chaillietiaceae R.Br. in Tuckey, *Narr. Congo. Append.* 5: 442 – 444 (1818); de Candolle, *Prodr.* 2: 57 – 58 (1825); Endlicher, *Gen. Pl.* 2: 1104 (1840); Bentham & Hooker, *Gen. Pl.* 1 (1): 340 (1862).

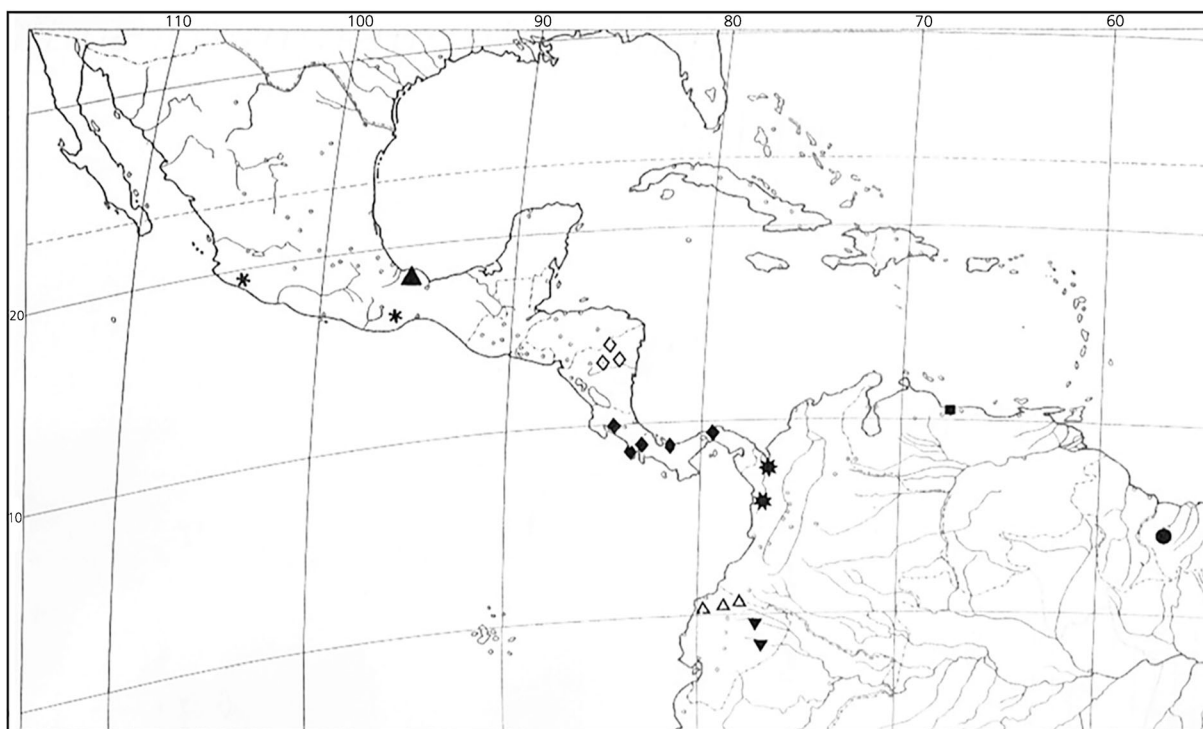
Table 1. Location of new species of Dichapetalaceae described since the monograph of Prance (1972).

Country	No. of new species since Prance (1972)
Costa Rica	7
Bahia & Espirito Santo, Brazil	6
Ecuador	4
Colombia	4
Panama	2
Mexico	2
Peru	1
Suriname	1

Table 2. Geographic distribution by country of all Neotropical *Dichapetalaceae* species.

Country	<i>Dichapetalum</i>	<i>Stephanopodium</i>	<i>Tapura</i>
Cuba			2
Haiti			1
Lesser Antilles			1
Mexico	2		1
Honduras	2		
Guatemala	3		
Belize	2		
Nicaragua	4	1	
Costa Rica	14	2	1
El Salvador	1		
Panama	7	2	3
Colombia	10	5	9
Venezuela	5	1	3
Trinidad	1		
Guyana	2		3
Suriname	2		3
French Guiana	3		5
Ecuador	7	4	6
Peru	5	1	8
Bolivia	2		3
Brazil Amazon	9		9
Brazil NE & Cerrado		1	1
Brazil E Santo, Bahia		5	4
Brazil South		4	

Trees, shrubs, lianas, or suffruticose subshrubs. *Stipules* present but usually caducous. *Leaves* simple, alternate, entire, pinnately nerved. *Inflorescence* corymbose-cymose or subcapitate, or the flowers fasciculate, axillary or more frequently attached to the petiole or rarely to the midrib. *Flowers* small, hermaphrodite or less frequently unisexual, actinomorphic to weakly zygomorphic; pedicels often articulated. *Petals* 5, either free, imbricate and almost equal, or connate into a tube, with the lobes equal or markedly unequal, the lobes usually bifid at the apex and frequently bicucullate or inflexed; often clawed at the base. *Stamens* 5, all fertile or only 3 fertile, free or adnate to the corolla tube, with filaments or rarely the anthers sessile; anthers bilocular, dehiscing longitudinally. *Disc* of 5 equal or unequal hypogynous glands alternating with the stamens, or united into a disc. *Ovary* superior, free, 2 – 3-locular, the ovules anatropous, pendulous, paired at the top of each loculus. *Styles* 2 – 3, free or more frequently connate nearly to apex, often recurved, the stigma capitate or simple. *Fruit* a dry or rarely a fleshy drupe; epicarp most frequently pubescent; mesocarp thin; endocarp hard; 1 – 2 (– 3)-locular, the loculi usually with only one seed developing; seed pendulous, without endosperm; embryo large, erect.

**Map 1.** Distribution of *Dichapetalaceae* species from Central America and N South America described since 1972. *Tapura mexicana* (*), *Dichapetalum mexicanum* (▲), *D. coronadoae* (◇), *D. hammelii* (◆), *D. foreroi* (*), *D. steyermarkii* (■), *D. schulzii* (●), *Stephanopodium longipedicellatum* (△), *T. magnifolia* (▼).

A tropical family of about 250 species in three genera, distributed throughout the lowland tropical regions of both hemispheres (but absent from Polynesia and Micronesia), extending into the subtropics in Africa and India, with 70 species in the Neotropics. The diagnostic characters of the three genera are illustrated in Fig. 1. For details of African species see Breteler (1973, 1988); for Malesian species see Leenhouts (1956, 1957) & for China see Shukun & Prance (2008).

Type genus. *Dichapetalum*. The name is derived from the Greek words (*dicha*-divided in two), and (*petalon*-petal), because of the petals with a bifid apex which is frequent in the majority of species in the family.

Since the time of my monograph, Prance (1972), the systematic position of the Dichapetalaceae has been firmly established in the Rosid I clade in the Malpighiales (Nandi *et al.* (1998), (APG 1998, 2016), Soltis *et al.* (2000) and Stevens (2001) where Chrysobalanaceae, Trigoniaceae, Euphroniaceae and Dichapetalaceae are grouped close together. This is also nearly in agreement with the earlier conclusion of Hallier (1923) who proposed merging the Dichapetalaceae, Chrysobalanaceae and the Trigoniaceae (including *Euphronia*) into a single family. However, I am in agreement with APG that keeps these taxa as separate, but closely related families.

Key to the Neotropical Genera of Dichapetalaceae

1. Petals free and regular; stamens free; inflorescence with a long distinct peduncle; frequently a climbing liana 1. **Dichapetalum**
1. Petals connate or only 3 free; stamens adnate to corolla tube; inflorescence sessile or almost so; trees or shrubs.
 2. Corolla with 5 equal obtuse lobes, shorter than the tube; fertile stamens 5, the anthers sessile on tube. 2. **Stephanopodium**
 2. Corolla zygomorphic, the lobes bifid and bicucullate, exceeding the tube in length; fertile stamens 3 or 5, the anthers on slender filaments 3. **Tapura**

1. *Dichapetalum*

Dichapetalum Thouars, *Gen. Nov. Madag.* 23 (1806); Baillon, *Fl. Bras. (Martius)* 12 (1): 369 (1886); Engler in Engler & Prantl, *Nat. Pflanzenfam.* 3 (4): 348 (1896); Engler & Krause *Nat. Pflanzenfam.* 19c: 5 – 9 (Krause 1931); Prance, *Act. Bot. Venez.* 3: 301 – 304 (1968); Prance, *Fl. Ecuador* 12: 4 – 8 (1980); Prance, *Fl. Venez. Guayana* 4: 666 – 669 (1998); Kriebel & Rodríguez, *Lankesteriana* 5: 121 – 136 (2005); Prance, *Fl. Guianas* A27: 100 – 105 (2009).

Leucosia Thouars, *Gen. Nov. Madag.* 78 (1806). Type species: *L. thouarsiana* Roem. & Schult. (= *D. leucosia* (Spreng.) Engl.).

Symphylanthus Vahl, *Skr. Naturhist.-Selsk.* 6: 86 (1810); Gleason, *N. Amer. Flora* 25: 381 (1924). Type species: *S. rugosus* Vahl (= *D. rugosum* (Vahl) Prance).

Chailletia DC., *Nouv. Bull. Soc. Philom. Paris* 40: 205 – 206 (de Candolle 1811a); *Ann. Mus. Natl. Hist. Nat.* 17: 153 (de Candolle 1811b); *Prodr.* 2: 57 (de Candolle 1825); Endlicher, *Gen. Pl.*: 340 (1840); Bentham & Hooker, *Gen. Pl.* 340 (1862). Type species: *C. pedunculata* DC. (= *D. pedunculatum* (DC.) Baill.).

Moacurra Roxb. (*Hort. Beng.* 21 (Roxburgh 1814), nom. nud.) *Fl. Ind.* 2: 69 (Roxburgh 1832). Type species: *M. gelonioides* Roxb. (= *D. gelonioides* (Roxb.) Engl.).

Mestotes Sol. ex DC., *Prodr.* 2: 57 (de Candolle 1825).

Plappertia Rchb., *Consp.* 146 (Reichenbach 1828).

Quilesia Blanco, *Fl. Filip.* ed. 1: 176 (1837). Type species: *Quilesia sericea* Blanco (= *D. timoriense* (DC.) Boerl.).

Patrisia Rohr ex Steud., *Nomencl. Bot.* ed. 2. 1: 342 (Steudel 1840), non *Patrisia* Rich.

Pentastira Ridl., *Trans. Linn. Soc. London, Bot.* 9: 27 (Ridley 1916). Type species: *Pentastira flava* Ridl. (= *D. papuanum* (Becc.) Boerl.).

Lianas, small trees and shrubs. *Leaves* alternate, petiolate, entire. *Stipules* small or rarely to 3 cm long, deciduous or persistent, the margins fimbriate in some species. *Inflorescences* branched cymose or corymbose panicles with long peduncles (peduncles short or absent in some African species), axillary or adnate to petiole or less frequently terminal. *Flowers* small, hermaphrodite, polygamous or dioecious, actinomorphic. Bracts small. *Receptacle* usually convex or subplanate. *Sepals* 5, imbricate, free, or connate at base, equal or subequal. *Petals* 5, free to the base, alternate with the sepals, usually bicucullate and 2-lobed at apex, the margins of the lobes inflexed and sometimes enveloping the anthers. *Stamens* 5, equal, free, all fertile in male and hermaphrodite flowers; filaments usually free, rarely connate at the base only; anthers broadly

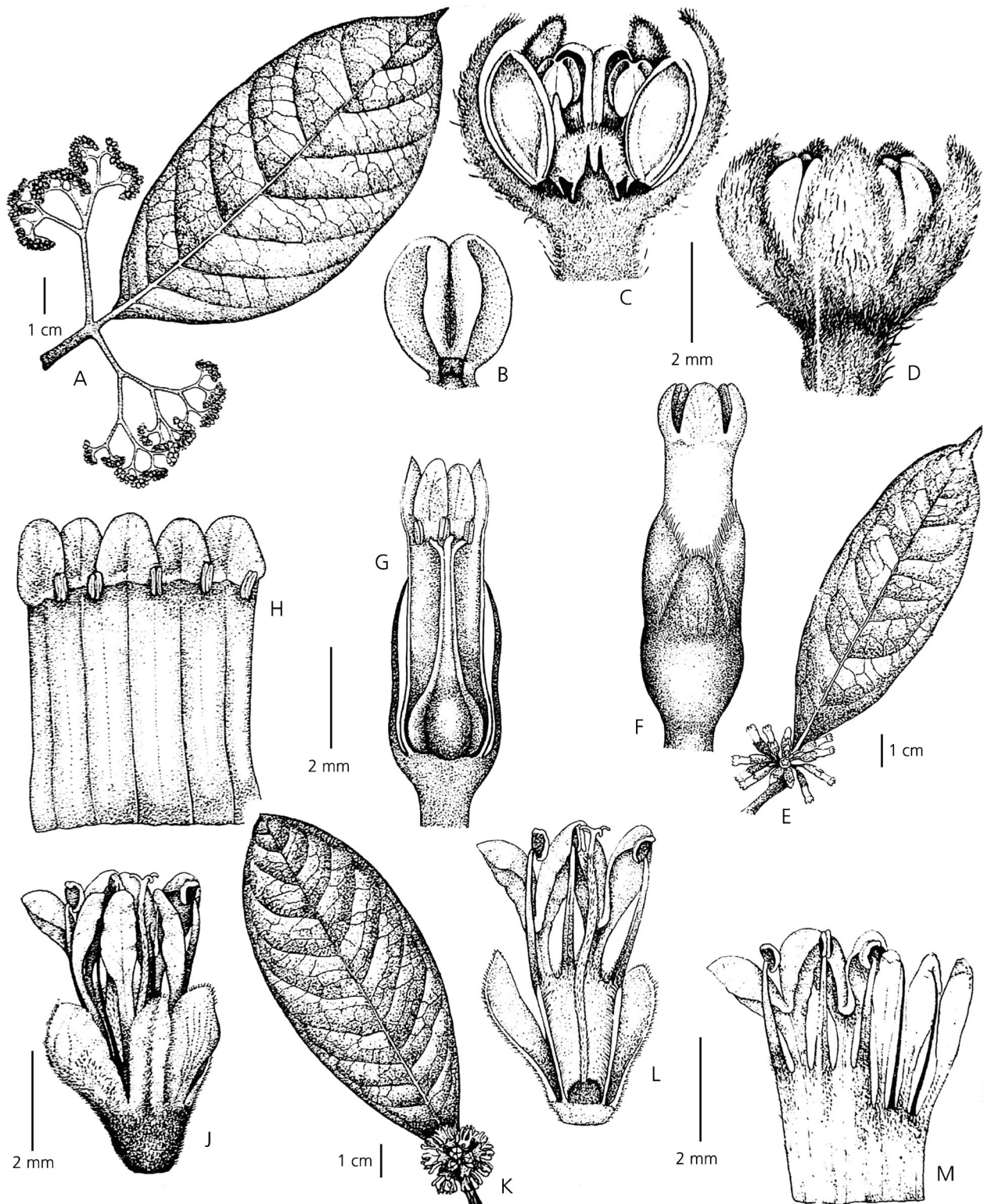


Fig. 1. Characteristics of the three genera of Dichapetalaceae. A – D *Dichapetalum spruceanum* (from Williams 6605): A leaf and inflorescence; B petal; C flower section; D flower. E – H *Stephanopodium aptotum* (from H. H. Smith 1701): E leaf and inflorescence; F flower; G flower section; H corolla and stamens. J – M *Tapura amazonica* (from Prance 14470): J flower; K leaf and inflorescence; L flower section; M corolla and stamens. DRAWN BY WILLIAM MOYE.

oblong, introrse. *Disc* usually consisting of 5 hypogynous glands which are opposite to the petals; glands entire, shallowly lobed, free or united. *Ovary* free (in American species) or rarely adnate to receptacle, globose, 2 – 3-locular with 2 ovules in each loculus. *Styles* 1 – 3, free or connate almost to apex, rudimentary pistil present in male flowers. *Fruit* a dry indehiscent drupe, 1 – 3-locular usually with one seed in each loculus; epicarp pubescent (in American species). $2n = 24$ or 96.

TYPE SPECIES. *Dichapetalum madagascariense* Poir., *Encycl. (Lamarck) Suppl.* 2: 470 (Poiret 1812); *Dict. Sci. Nat. [F. Cuvier]* 13: 178 (Poiret 1819). Type: Madagascar, 1795, L. M. A. Du Petit Thouars s.n. (holotype P; photo NY; isotypes BM000839947, MO3493616, WAG).

DISTRIBUTION. Throughout the lowland tropics in Malesia, tropical and southern Africa, and in the New World from Mexico to Peru and Amazonian Brazil, but not in the Caribbean. Most diverse and abundant in Africa (Breteler 1973, 1988).

Key to Neotropical species of *Dichapetalum*

(This key updates the ones given in Prance 1979 and 1997a).

1. Stipules fimbriate, with toothed margins, usually lianas.
 2. Inflorescence borne on petiole.
 3. Petioles 10 – 16 mm long; leaf underside with dense grey pubescence 1. **D. stahlii**
 3. Petioles 3 – 7 mm; leaf underside with sparse hirsute pubescence. 8. **D. inopinatum**
 2. Inflorescence terminal or axillary.
 4. Leaf underside glabrous or with a few stiff appressed hairs, slightly bullate.
 5. Petiole 2 – 5 mm long; pedicel 5 mm long; leaf midrib impressed 7. **D. stipulatum**
 5. Petiole 6 – 15 mm long, pedicel 2 – 3 mm long; leaf midrib plane above 10. **D. nervatum**
 4. Leaf underside hirsute or hispid tomentose, plane or bullate.
 6. Leaves bullate, coriaceous (except *D. grayumii*); leaf midrib impressed above.
 7. Leaves 15 – 32 × 6 – 19 cm; pedicel c. 5 mm 2. **D. bullatum**
 7. Leaves 5 – 22 × 1.8 – 8 cm; pedicel 1 – 4 mm.
 8. Leaves coriaceous, 5 – 10 × 1.8 – 4.7 cm; inflorescence terminal or subterminal. 5. **D. gentryi**
 8. Leaves chartaceous, 8 – 22 × 3.5 – 8 cm; inflorescence axillary 9. **D. grayumii**
 6. Leaf surface plane not bullate, chartaceous; leaf midrib plane not bullate.
 9. Leaves sessile or almost so with petioles 0 – 2 mm long 6. **D. bernalii**
 9. Leaves with petioles 3 – 6 mm long.
 10. Leaves 8.5 – 15 cm broad, the margin not revolute; stipules 10 – 30 mm long; inflorescence axillary.
 11. Liana; petioles 3 – 5 mm long; leaves acuminate, the acumen 15 – 20 mm long; inflorescence rufous hispid; pedicels 1 – 3 mm long. 3. **D. hammelii**
 11. Tree; petioles 7 – 12 mm long; leaves apiculate, the acumen 8 – 11 mm long; inflorescence grey tomentulose; pedicels 0.5 – 1 mm long 11. **D. coronadoae**
 10. Leaves 3.8 – 6.5 cm broad, the margin revolute; stipules 5 – 10 mm long; inflorescence terminal 4. **D. mexicanum**
1. Stipules with entire margins, usually trees or shrubs.
 12. Lamina with a dense, compact grey-lanate pubescence beneath 12. **D. latifolium**
 12. Lamina glabrous, hirsute, or with a few stiff hairs on lower surface.
 13. Young branches and inflorescence hispid.
 14. Lamina narrowly oblong-lanceolate, 1.1 – 5.5 cm broad; inflorescence grey-brown-pubescent, liana or tree.
 15. Lamina 1.1 – 4 cm broad; leaf lamina sparsely hirsute on both surfaces, hairs 1 – 2 mm long; young branches with hairs of 2 types, hispid 1 – 3 mm long and short curved trichomes, tree 13. **D. nevermannianum**
 15. Lamina 3 – 5.5 cm broad; leaf lamina densely hirsute on both surfaces, hairs 0.5 – 1.5 mm long; young branches uniform dense-hirsute, liana. 14. **D. reliquum**
 14. Lamina oblong, 2 – 5 cm broad; inflorescence reddish-brown-pubescent, liana. 15. **D. coelhoi**
 13. Young branches and inflorescence tomentose to glabrous, never hispid.
 16. Lamina thickly coriaceous, with conspicuously impressed venation of upper surface, densely hirsute on lower surface; inflorescence usually dark brown to rufous-pubescent. 16. **D. rugosum**
 16. Lamina coriaceous to membranous, the venation of upper surface plane (or if slightly impressed

- then with only a few stiff appressed hairs on lower surface), glabrous or with a few stiff appressed hairs on lower surface; inflorescence grey- to brown-pubescent.
17. Lamina predominantly oblong to oblong-lanceolate (length - breadth ratio usually greater than 2.5).
 18. Inflorescence terminal, the peduncles and young stem hispidulous or puberulous; petioles 1 – 7 mm long.
 19. Inflorescence sparsely puberulous; petioles 3 – 7 mm long; leaves 7 – 11cm long; style with undivided apex; disc of 5 small flattened glands 17. **D. schulzii**
 19. Inflorescence hispidulous; petioles 1 – 4 mm long; leaves 6 – 16 cm long; style with deeply trifid apex; disc entire 18. **D. pauper**
 18. Inflorescences predominantly petiolar or axillary (sometimes terminal in *D. foreroi*); young stems tomentellous to tomentose; petioles 5 – 18 mm long.
 20. Inflorescence axillary; stipules 4 – 8 mm, persistent; trees 27. **D. axillare**
 20. Inflorescence inserted on petiole or terminal; stipules usually caducous (persistent in *D. foreroi*); lianas or scandent shrubs (except *D. morenoi*)
 21. Stipules 5 – 11 mm long, persistent; leaves oblong-lanceolate, subcuneate at base. 19. **D. foreroi**
 21. Stipules 1 – 7 mm long, usually caducous; leaves oblong to oblong-lanceolate; rounded, subcordate or subcuneate at base.
 22. Flowers polygamodioecious; petioles 10 – 18 mm long; scandent shrub of Venezuela 20. **D. steyermarkii**
 22. Flowers hermaphrodite; petioles usually 3 – 9 mm long (4 – 15 in *D. donnell-smithii*); Central America, trees or shrubs.
 23. Leaf veins and lamina sparsely hirsute; leaf apex with acumen 2 – 12 mm long 21. **D. donnell-smithii**
 23. Leaf veins and lamina glabrous or with few sparse appressed hairs; leaf apex with finely pointed acumen 10 – 20 mm long.
 24. Leaves narrowly oblong-lanceolate, 1.2 – 3.5 cm broad; inflorescence brown-tomentose 22. **D. morenoi**
 24. Leaves oblong-elliptic, 2.8 – 7.3 cm broad; inflorescence grey-tomentose 23. **D. brenesii**
 17. Lamina predominantly elliptic to ovate-elliptic or ovate (length - breadth ratio usually less than 2.3).
 25. Leaves hirsute on lower surface, sometimes with slightly impressed venation on upper surface.
 26. Leaf margins undulate; leaves ovate to orbicular 24. **D. asplundeanum**
 26. Leaf margins not undulate; leaves elliptic to ovate-elliptic
 27. Stipules persistent, 5 – 15 mm long; leaves oblong-ovate 25. **D. moralesii**
 27. Stipules caducous, 1 – 8 mm long; leaves elliptic or ovate-elliptic.
 28. Lamina broadly ovate-elliptic, abruptly acuminate at apex 26. **D. spruceanum**
 28. Lamina elliptic, the apex with long thin curved acumen 21. **D. donnell-smithii**
 25. Lamina glabrous or with a few stiff appressed hairs only on lower surface, the venation prominent to plane.
 29. Lamina with mucronate or abruptly acuminate apex, the acumen usually curved, the base markedly asymmetric 26. **D. spruceanum**
 29. Lamina tapering to an acute or acuminate apex, the acumen erect, the base symmetric or slightly asymmetric.
 30. Stipules persistent; inflorescence axillary, trees. 27. **D. axillare**
 30. Stipules caducous; inflorescence usually petiolar, rarely axillary, lianas.
 31. Leaves 12 – 28 cm long; petioles 8 – 32 mm long 28. **D. froesii**
 31. Leaves 2.5 – 16 cm long; petioles 3 – 15 mm long.
 32. Inflorescence branches sparsely tomentellous to glabrous conspicuously lenticellate; flowers with pedicels 1 – 3 mm long; stipules 4 – 6 mm long, caducous. 29. **D. odoratum**
 32. Inflorescence branches farinose, tomentellous to sparsely puberulous, not conspicuously lenticellate; flowers with pedicels 0.5 – 2.75 mm long; stipules 3 – 10 mm long, persistent or caducous 30. **D. pedunculatum**

Species 1 – 11 form a closely related group (superspecies) ranging from Mexico through Central America south to western Colombia and Ecuador (Prance 1994). This group is mainly of lianas and is characterised by the fimbriate stipules and often bullate leaves. I have not given any formal taxonomic recognition to this group given the pantropical distribution of the whole genus.

1. *Dichapetalum stahlīi* Prance, *Kew Bull.* 75: 7, Figs 1, 2 (2020). <https://doi.org/10.1007/s12225-020-9863-9>. Type: Ecuador. Los Ríos: Hacienda Clementina, N slope of Cerro Samama, Pita to Torre, 425 m, 0°30'S, 79°20'W, 26 May 2006, B. Ståhl, M. Ehn & S. Patersen 6641 (holotype K; isotype GUAY).

Liana, young branches grey-tomentose. *Leaves* with petioles 10 – 16 mm long, tomentellous, terete; lamina chartaceous, weakly bullate above, elliptic, 15 – 21 × 7.5 – 9.5 cm, venation densely grey-puberulous beneath, the apex rounded to acute, rounded or slightly cordate at base; midrib slightly impressed above; secondary veins 9 – 11 pairs; *stipules* 5 – 8 mm long, tomentose, the margins fimbriate. *Inflorescence* borne on petioles near junction with lamina, bifurcate, 10 – 12 cm long, the rachis and branches grey-tomentose; peduncles 10 – 15 mm long. *Flowers* hermaphrodite, with pedicels 1 – 3 mm long; calyx 1.5 mm long, grey-tomentose on exterior, glabrous within; corolla of 5 lobes deeply bifid almost to base, glabrous; stamens 5; disc of 5 ellipsoid free glands; ovary densely lanate, style lanate at base only. *Fruit* 2 – 2.5 × 1.5 – 2 cm epicarp with compact yellow-brown pubescence.

DISTRIBUTION AND HABITAT. Ecuador: Los Ríos, primary forest at 400 – 500 m, known from only two collections. Map 2F.

CONSERVATION STATUS. Critically endangered (CR), B1ab(i,ii,iii,iv).

2. *Dichapetalum bullatum* Standl. & Steyerl., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 23: 169 (Standley & Steyerl. 1944); Prance, *Fl. Nicaragua* 1: 800 (2001). Type: Guatemala. Izabal: 2 km SE of Puerto Barrios, 15°41'37"N, 88°35'24"W, Dec. 1941, J. A. Steyerl. 39874 (holotype F-V0055095; isotypes F-V0055096, NY, US00109131, UT-LL00371590).

Liana or *shrubby vine*, the young branches hispid, glabrescent. *Leaves* with petioles 5 – 8 mm long, hispid; lamina coriaceous, bullate above, ovate-elliptic to elliptic, 15 – 32 × 6 – 19 cm, hirsute beneath, the apex acuminate, the acumen 10 – 20 mm long, rounded to subcordate at base; midrib slightly impressed and pubescent above; secondary veins 7 – 9 pairs, slightly impressed above; *stipules* c. 5 mm long,

subpersistent, the margins fimbriate. *Inflorescence* terminal, corymbose panicles, c. 12 cm long, the rachis and branches villous-tomentose; peduncles 10 – 15 mm long, densely hispid. *Flowers* hermaphrodite, with pedicels c. 5 mm long; calyx c. 3 mm long, grey-puberulous on exterior; corolla of 5 free lobes, deeply bifid, slightly cucullate, glabrous; stamens 5; disc of 5 free, ellipsoid glands, rounded at apex; ovary lanate, styles 2 – 3 lanate at base.

ILLUSTRATION. Prance (1972, Fig. 5A – D).

DISTRIBUTION AND HABITAT. Guatemala: Izabal and Honduras: Atlántida, lowland rainforest 0 – 100 m.

ADDITIONAL COLLECTION. HONDURAS. Atlántida: Esparta, La Ceiba, Tela, 100 m, 15°39'N, 87°16'W, 17 April 1994, Brandt & Hazlett 2863 (MO).

CONSERVATION STATUS. Endangered (EN), B1ab(i,ii,iv)+2a. Known from only three collections in a restricted area.

3. *Dichapetalum hammelīi* Prance, *Kew Bull.* 49: 133, Fig. 3, (1994); *Man. Pl. Costa Rica* 5: 195 (Prance *et al.* 2010). Type: Costa Rica. Puntarenas: Reserva Forestal Golfo Dulce, Osa Peninsula, c. 15 km W of Rincón, 300 – 400 m, 8°33'N, 83°35'W, 29 May 1988, B. Hammel, G. Herrera, M. M. Chavarria & A. Solís 16878 (holotype K000450023; isotype MO188420).

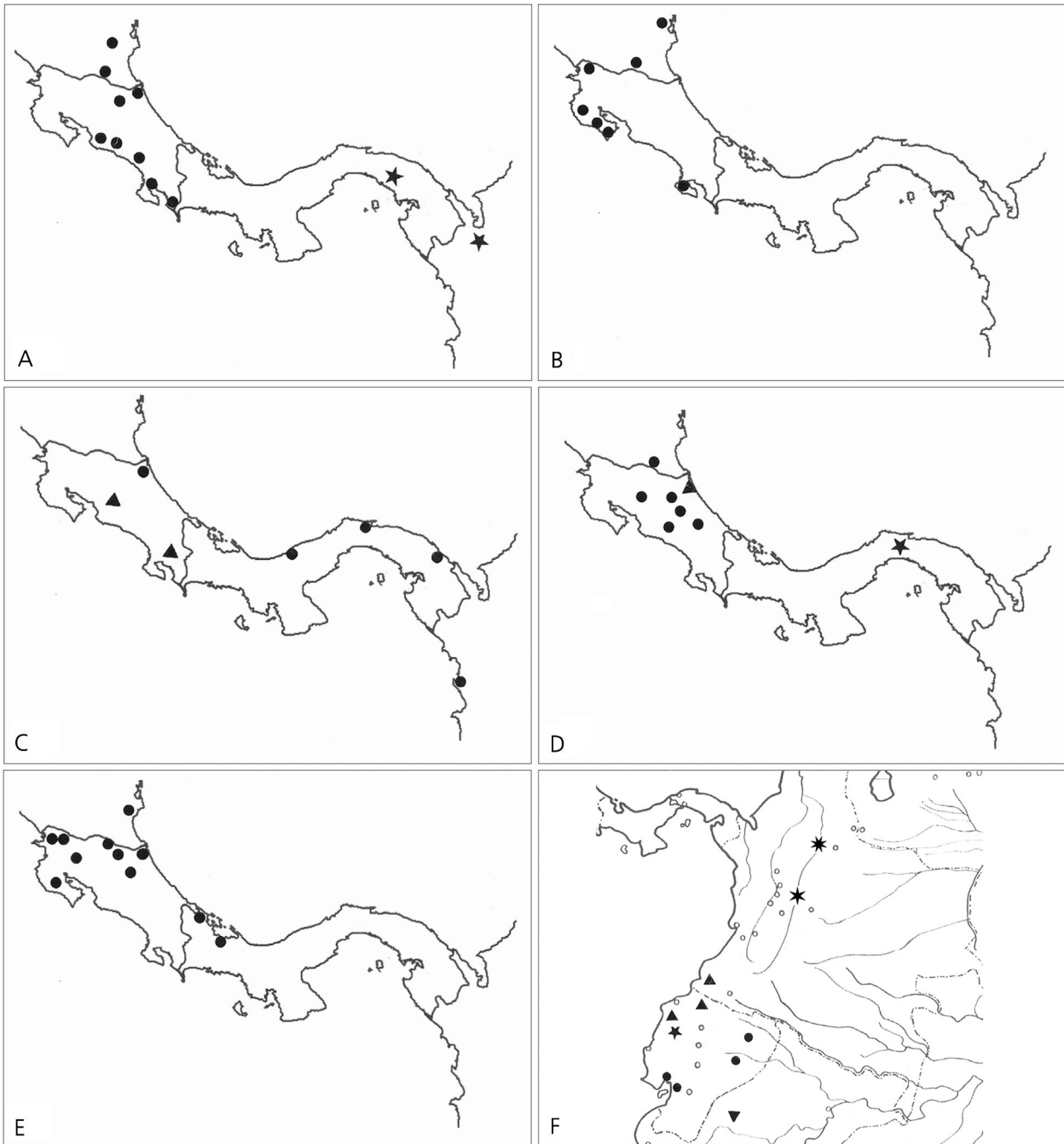
Liana, the young branches hispid-hirsute. *Leaves* with petioles 3 – 5 mm long, terete, densely hirsute; lamina chartaceous, smooth, not bullate, elliptic to oblong-obovate, 16 – 31 × 8.5 – 15 cm, sparsely hirsute beneath, the apex acuminate, the acumen 15 – 20 mm long, rounded and symmetric at base; midrib plane above; secondary veins 7 – 13 pairs, slightly impressed above; *stipules* 1 – 3 cm long, hirsute, persistent, the margins fimbriate, deeply divided and feather-like. *Inflorescence* of axillary panicles, 4 – 7 × 3.5 – 6 cm, the rachis and branches hispid-tomentose; peduncles 1 – 4 cm long, hirsute. *Flowers* hermaphrodite, with pedicels 1 – 3 mm long, tomentose; calyx 3 mm long, tomentose on exterior; corolla of 5 lobes, free, equal, deeply bifid, glabrous; stamens 5; disc of 5 ovoid glands; ovary densely hirsute, styles sometimes free to base, hirsute at base. *Fruit* globose to oblong-ellipsoid, 3.5 – 4.5 × 2.3 – 3.2 cm, epicarp densely rufous-hirsute.

DISTRIBUTION AND HABITAT. Pacific coastal Costa Rica: Alajuela, Puntarenas, San José; Panama: Canal Area, lowland forest, 1 – 450 m. Map 1.

ADDITIONAL COLLECTION. PANAMA. Canal Area: Pipeline Road, 50 – 100 m, 9°09'36"N, 79°44'44"W, 22 Nov. 1971, Gentry 2673 (MO).

CONSERVATION STATUS. Least concern (LC).

4. *Dichapetalum mexicanum* Prance, *Brittonia* 40: 443, Fig. 2 (1988). Type: Mexico. Veracruz: Los Tuxtlas range, Mun. Mecayapan, Volcán Santa Marta,



Map 2. Distribution of Dichapetalaceae species from Central America and NW South America described since 1972. A *Stephanopodium costaricense* (●), *Tapura panamensis* (★); B *Dichapetalum morenoi*; C *S. gentryi* (●), *D. reliquum* (▲); D *D. moralesii* (●), *D. gentryi* (★); *D. inopinatum* (▲); E *D. grayumii*; F *D. bernalii* (★); *S. cuspidatum* (▲), *D. asplundeanum* (●), *D. stahlia* (★), *T. ferreyrae* (▼).

19°10'48"N, 96°15'00"W, 400 m, 18 May 1976, J. V. LaFrankie 1275 (holotype MO-038185; isotype NY0005084).

Small tree, the young branches hispid pubescent. *Leaves* with petioles 4–6 mm long, hispid; laminas chartaceous,

not bullate, oblong, 14–17.5 × 3.8–6.5 cm, hirsute on venation beneath, rounded at apex, rounded and markedly asymmetric at base, the margins revolute; midrib plane above; secondary veins 8–10 pairs; *stipules* 5–10 mm long, lanceolate, hispid, persistent, the margins fimbriate. *Inflorescence* of terminal or subtermi-

nal panicles of cymules, 4–6 cm long, the rachis and branches densely brown-hispid, peduncles 1.3–1.8 cm long. *Flowers* hermaphrodite, with pedicels 1–1.5 mm long; calyx c. 1 mm long, grey-tomentose on exterior, glabrous within; corolla of 5 equal lobes, free to base, glabrous, deeply bifid almost to base, each half cucullate at apex; stamens 5; disc of 5 bi-lobed glands; ovary densely lanate, style lanate at base.

DISTRIBUTION AND HABITAT. Mexico: Veracruz, upland forest on steep slopes, known only from the type collection. Map 1.

CONSERVATION STATUS. Critically endangered (CR), B1a,2a, Known from a single locality.

5. *Dichapetalum gentryi* *Prance, Brittonia* 29: 156, Fig. 2 (1977a). Type: Panama. Panamá: Cerro Jefe, 1000 m, 22 Sept. 1972, A. Gentry 6157 (holotype MO-188401; isotype, MO-188402).

Liana or *treelet*, the young branches tomentose, glabrescent. *Leaves* with petioles 3–7 mm long, terete, hispid-tomentose; laminas, coriaceous, bullate on both surfaces, oblong-elliptic, 5–10 × 1.8–4.7 cm, densely hispid-ferruginous on both surfaces, the apex acuminate or apiculate, the acumen 4–10 mm long, rounded to subcordate at base, slightly asymmetric; midrib impressed and pubescent above; secondary veins 8–11 pairs, slightly impressed above; *stipules* 6–8 mm long, appressed pubescent, persistent, the margins fimbriate. *Inflorescence* of terminal and subterminal panicles, 3–5 cm long, the rachis and branches brown-tomentose; peduncles c. 1 cm long. *Flowers* hermaphrodite, with pedicels 1–3 mm long; calyx 1.5–2 mm long, brown-villous-tomentose on exterior; corolla of 5 equal deeply bifid lobes, slightly bicucullate, free to base; stamens 5; disc of 5 ellipsoid glands; ovary lanate, style lanate at base. *Fruit* spheroid, epicarp with dense, compact hispid spinous pubescence.

DISTRIBUTION AND HABITAT. Panama: Panamá, Bocas del Toro, 800–1000 m, upland ridge and slope forest. Map 2D.

CONSERVATION STATUS. Endangered (EN), B1ab(i,iii).

6. *Dichapetalum bernalii* *Prance, Brittonia* 40: 441, Fig. 1 (1988). Type: Colombia. Tolima: 2 km S of Mariquita, 550 m, 5°10'N, 74°55'W, 26 Nov. 1984, R. Bernal, G. Galeano & P. Franco 809 (holotype COL000002036; isotypes COL000002037, NY0000910).

Liana, the young branches densely tomentellous. *Leaves* sessile with petioles 0–2 mm long, laminas chartaceous, plane not bullate, oblong to elliptic, 9–12 × 4.5–6 cm, hirsute beneath, the apex acuminate, the

acumen 4–7 mm long, subcordate and slightly asymmetric at base; midrib plane and tomentose above; secondary veins 9–11 pairs; *stipules* 10–13 mm long, lanceolate, tomentose, persistent, the margins fimbriate. *Inflorescence* of terminal and subterminal panicles of cymules, 2–6 cm long, the rachis and branches densely yellow-brown-tomentose; peduncles 1–2 cm long. Only male flowers examined, with pedicel 1–2 mm long; calyx c. 1 mm long, tomentose on exterior, glabrous within; corolla of 5 lobes, free to base, bifid at apex, cucullate. *Stamens* 5; disc of 5 spherical glands, male flowers with a mass of lanate pubescence at rudimentary ovary.

DISTRIBUTION AND HABITAT. Colombia: Bolívar, Caldas, Tolima, forest around 500 m. Map 2F.

ADDITIONAL COLLECTIONS. COLOMBIA. Bolívar: San Pablo, 0–500 m, 31 Oct. 1979, Rentería A. *et al.* 1961 (MO). Caldas: Victoria, Carretera a Guarino, hacienda Balmoral, 25 Nov. 1967, Echeverry 1507 (COL).

CONSERVATION STATUS. This species is listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU A2c+4C, B1ab(iii), D2.

7. *Dichapetalum stipulatum* J.F. Macbr., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 11: 68 (Macbride 1931). Type: Peru. Loreto: Mishuyacu, Feb. 1930, G. Klug 1081 (holotype F-V0329335; isotype NY00005083, US00109151).

Liana, the young branches ferruginous-tomentose, glabrescent. *Leaves* with petioles 2–5 mm long, villous-tomentose; laminas coriaceous, bullate above, elliptic, 8–17.5 × 4.5–8 cm, with a few stiff appressed hairs beneath, the apex acute to acuminate, rounded or subcordate at base; midrib slightly impressed above, pubescent; secondary veins 7–9 pairs, slightly impressed above; *stipules* c. 5 mm long, villous, subpersistent, the margins fimbriate. *Inflorescence* of terminal corymbose panicles, c. 12 cm long, the rachis and branches villous-tomentose; peduncles 10–30 mm long. *Flowers* hermaphrodite, pedicels c. 5 mm long; calyx 3 mm long, villous-tomentose on exterior, lobes almost equal; corolla of 5 equal lobes, deeply bifid, slightly cucullate; stamens 5; disc of 5 ellipsoid glands, united at base into a small circular disc; ovary lanate, styles 2–3, bifid or trifid at apex, lanate at base. *Fruit* ellipsoid, epicarp with a short compact pubescence.

DISTRIBUTION AND HABITAT. Peru: Loreto, lowland forest.

CONSERVATION STATUS. Critically endangered (CR), B1ab(i,ii,iii) or possibly extinct. Known only from the type collection.

8. *Dichapetalum inopinatum* Al. Rodr. & Kriebel, *Lanksteriana* 5: 127, Fig. 1A–H (in Kriebel &

Rodrigues 2005); *Man. Pl. Costa Rica* 5: 195 (Prance *et al.* 2010). Type: Costa Rica. Limón: Parque Nacional Tortuguero, trail behind Tortuguero Lodge, 8 Feb. 1986, R. Soto s.n. (holotype CR-11699).

Liana, the young branches sparsely hirsute. *Leaves* with petioles 3–7 mm long, hirsute; lamina chartaceous, plane not bullate, obovate, 4.5–20 × 2–8.5 cm, sparsely hirsute on venation beneath, the apex shortly acuminate, obtuse to subcordate at base; midrib plane and with minute inconspicuous pubescence above; secondary veins 9–14 pairs; *stipules* 6–12 mm long, persistent, the margins fimbriate. *Inflorescence* of short panicles inserted near to base of petiole; peduncles 4–10 mm long. *Flowers* hermaphrodite, pedicels 1–3 mm long; calyx 2.5–3 mm long, corolla of 5 lobes, bifid for $\frac{3}{4}$ of length, 2.5 mm high; disc glands oblong-ovate, 0.25–0.35 mm, minutely lobed; styles 2–3, connate for most of length. *Fruit* ellipsoid to oblong-ellipsoid, 4 × 1.6–2.1 cm, epicarp densely hispid.

ILLUSTRATION. Prance *et al.* (2010: 195).

DISTRIBUTION AND HABITAT. Costa Rica: Limón, lowland rainforest. Known only from the type without full flowers. Dubiously different from *Dichapetalum grayumii*. Map 2D.

CONSERVATION STATUS. Known only from the type collection and probably critically endangered.

9. *Dichapetalum grayumii* Prance, *Kew Bull.* 49: 131, Fig. 2 (1994); Prance, *Fl. Nicaragua* 1: 800 (2001); *Man. Pl. Costa Rica* 5: 194 (Prance *et al.* 2010). Type: Costa Rica. Limón: Cerro Coronel, E of Zapote, 10°40'N, 83°40'W, 10–40 m, 12 March 1987, W. D. Stevens, G. Herrera & O. M. Montiel 24695 (holotype K000450022; isotype MO188405).

Liana, the young branches tomentellous, glabrescent. *Leaves* with petioles 2–5 mm, terete, tomentose; lamina chartaceous, slightly bullate above, oblong to elliptic, 8–22 × 3.5–8 cm, hirsute beneath, with a few stiff appressed hairs above, the apex acuminate, the acumen 8–16 mm long, rounded and slightly asymmetric at base; midrib slightly impressed and tomentose above; secondary veins 7–11 pairs, impressed above; *stipules* 4–8 mm long, lanceolate, hispid-tomentose, caducous, the margins fimbriate. *Inflorescence* of axillary cymes 1.3–5 cm long, the rachis hispid-tomentellous, peduncles 3–22 mm long. *Flowers* hermaphrodite, with pedicels 1–4 mm long; calyx c. 3 mm long, tomentose on exterior, glabrous within; corolla of 5 equal lobes, deeply bifid, glabrous; stamens 5; disc of 5 ellipsoid lobed glands; ovary densely lanate, styles 2–3, free or united for $\frac{2}{3}$ of length, glabrous. *Fruit* globose, to 4 × 4 cm, epicarp densely rufous-hirsute, the hairs stiff, erect, 4–5 mm long.

DISTRIBUTION AND HABITAT. Nicaragua: Atlántico Sur; Costa Rica: Alajuela, Guanacaste, Heredia, Limón, lowland rainforest, 0–1200 m. Map 2E.

ADDITIONAL COLLECTION. NICARAGUA. Atlántico Sur: Río Pijibaye, 50–200 m, 11°22'N, 84°01'W, 14 Jan. 1999, Rueda *et al.* 10098 (HULE, MO).

CONSERVATION STATUS. Least concern (LC).

10. *Dichapetalum nervatum* Cuatrec., *Lloydia* 11: 222 (Cuatrecasas 1948 [1949]). Type: Colombia. Valle de Cauca: Río Yurumanguí, 31 Jan. 1944, J. Cuatrecasas 15833 (holotype F-V0055100; isotypes COL000002040, COL000002041, MO1230828).

Liana, the young branches sparsely pilose to densely tomentulose. *Leaves* with petioles 6–15 mm long, sparse to densely pubescent; lamina subcoriaceous, slightly bullate above, oblong-elliptic to oblong-obovate, 5–20 × 3–8.5 cm, glabrous except for appressed hairs on venation beneath, the apex acuminate, the acumen 5–15 mm long, obtuse to subcordate, asymmetric at base; midrib plane, hirsutulous above; secondary veins 7–13 pairs; *stipules* 5–10 mm, lanceolate, caducous, the margins fimbriate. *Inflorescence* terminal or subterminal or rarely borne on petiole, 8–12 × 7–9 cm, the rachis and branches hispid, peduncles 4–15 mm long. *Flowers* hermaphrodite, with pedicels 2–3 mm; calyx c. 3 mm long, grey-puberulous and hispid on exterior; corolla 5-lobed, deeply bifid, slightly cucullate, free to base, glabrous; stamens 5; disc of 5 ellipsoid glands, slightly lobed; ovary lanate on exterior except for glabrous base, styles 2–3, united almost to apex, lanate at base. *Fruit* ellipsoid to obovoid, 1.5–2.3 × 1.3–2.7 cm, epicarp brown-tomentose.

DISTRIBUTION AND HABITAT. Costa Rica: Alajuela, Guanacaste, Heredia; Colombia: Valle de Cauca, Chocó; Ecuador: Los Ríos, Pichincha, Sucumbíos in lowland and submontane forest 50–1500 m.

ADDITIONAL COLLECTIONS. COSTA RICA. Heredia: Sarapiquí, 259 m, 10°20'20"N, 84°00'W, 29 April 1998, Rodríguez *et al.* 3319 (MO). **ECUADOR.** Pichincha: Centinela, km 12 Patricia Pilar to 24 Mayo, 7 July 1985, Dodson & Dodson 15861 (K, MO).

CONSERVATION STATUS. Least concern (LC).

11. *Dichapetalum coronadoae* Arbeláez & W. D. Stevens, *Novon* 23: 130 (2014). Type: Nicaragua. Jinotega: Mun. Winwilí, Res. Biol. Bosawas, Camp Painkira, 6 May 2008. I. Coronado G. & A. Fernández 4694 (holotype MO; isotypes F, HULE, US).

Tree, 4–12 m tall, young branches densely hirsute distally, somewhat glabrescent, bark lenticellate on mature branches. *Leaves* with petioles 7–12 mm long,

hispid; laminas membranous, plane not bullate, obovate to elliptic, 11 – 30.5 × 6 – 17 cm, pubescent throughout, the apex apiculate, the acumens 8 – 11 (– 15) mm, cuneate-attenuate, oblique, rounded or rarely subcordate at base; midrib slightly impressed and pubescent above; secondary veins 6 – 8 pairs; *stipules* 8.5 – 17 mm long, lanceolate, the margins dentate to fimbriate. *Inflorescence* dichotomously branched panicles, to 8 cm long, terminal or subterminal, the rachis and branches grey tomentulose; peduncles 2 – 3 mm long. *Flowers* hermaphrodite, pedicels 0.5 – 1 mm long; calyx 2.5 – 3.1 mm long, grey tomentulose on exterior; corolla lobes 5, free, bifid, split for half length, glabrous; stamens 5; disc of 5 free knob-shaped glands, shallowly lobed, glabrous; ovary lanate except for glabrous base, 2 – 3-locular; styles 2 – 3. *Fruit* not seen.

ILLUSTRATION. *Novon* 23: 131 (Arbeláez & Stevens 2014).

DISTRIBUTION & HABITAT. Known only in Jinotega and Atlántico Norte departments of Nicaragua, slope forests 200 – 500 m. Map 1.

CONSERVATION STATUS. Nominated as DD Data Deficient by the authors of this species.

12. *Dichapetalum latifolium* Baill., *Fl. Bras. (Martius)* 12 (1): 370 (Baillon 1886); *Fl. Venez. Guayana* 4: 667 (Prance 1998). Type: Brazil. Amazonas: São Gabriel, Rio Negro, March 1852, *R. Spruce* 2165 (holotype K000450026; isotypes F, K000450025, P01900826, W).

Dichapetalum amazonicum K.Krause ex Mildbr., *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 135 (Mildbraed 1931). Type: Peru. Loreto: Iquitos, 1924, *G. Tessmann* 3562 (holotype B lost; photos F, MO; lectotype, **designated here**, S-R-10285).

Dichapetalum vestitum (Benth.) Baill. var. *cinerascens* Baill., *Fl. Bras. (Martius)* 12 (1): 372 (Baillon 1886). Type: Brazil. Amazonas: Manaus, *K. F. P von Martius* s.n. (lectotype of Prance 1972, M0217832).

Dichapetalum scandens (Poir.) I.M.Johnst. var. *cinerascens* (Baill.) J.F.Macbr., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 13 (3): 957 (Macbride 1950).

Liana, the young branches shortly and densely tomentellous, glabrescent. *Leaves* with petioles 7 – 18 mm long, short-tomentellous; laminas coriaceous, plane not bullate, elliptic to ovate-elliptic, 8 – 36 × 4 – 21 cm, grey-lanate, compact tomentose beneath, the apex mucronate to shortly acuminate, rounded to subcuneate at base; midrib plane and pubescent above; secondary veins 6 – 8 pairs; *stipules* caducous (not seen). *Inflorescence* spreading terminal or petiolar panicles, the rachis and branches tomentellous; peduncles 10 – 35 mm long. *Flowers*

androdioecious with pedicels 1.5 – 3 mm long; calyx c. 2 mm long, grey-tomentellous on exterior, the lobes slightly unequal; corolla lobes 5, free, deeply bifid, slightly cucullate, glabrous or sparsely pubescent on exterior; stamens 5; disc of 5 free glands, weakly bifid at apex; ovary lanate on exterior, styles 2 – 3, lanate at base, glabrous above. *Fruit* ellipsoid, epicarp tomentose.

ILLUSTRATION. Prance (1972, Fig. 5E – J).

DISTRIBUTION AND HABITAT. Venezuela: Amazonas, Apure and western Amazonia; Peru: Loreto, Brazil: Amazonas; Bolivia: La Paz, lowland rainforest.

CONSERVATION STATUS. Least concern (LC).

In Prance (1972) I neglected to select lectotypes for the holotypes of several species which were lost in the destruction of the Berlin herbarium. The name *Dichapetalum amazonicum* K.Krause ex Mildbr. is one of these, but a good photo is deposited at F and there is no doubt that it belongs within *D. latifolium*.

13. *Dichapetalum nevermannianum* Standl. & Valerio, *Publ. Field Mus. Nat. Hist., Bot. Ser.* 18: 597 (Standley 1937b); *Man. Pl. Costa Rica* 5: 198 (Prance *et al.* 2010). Type: Costa Rica. Limón: Río Reventazón, bajo Cairo, Feb. 1926, *P. C. Standley* & *J. Valerio* 48497 (holotype F-L00371595).

Shrub or small tree, the young branches hispid. *Leaves* with petioles 2 – 5 mm, laminas membranous to chartaceous, plane not bullate above, oblong-lanceolate to oblong-ovate, 5 – 15 × 1.1 – 4 cm, with a sparse appressed hirsute pubescence beneath, the apex acuminate, the acumens 10 – 16 mm long, subcordate or obtuse at base; midrib slightly prominent and hirsute above; secondary veins 8 – 13 pairs; *stipules* 4 – 8 mm long, lanceolate, persistent, the margins entire. *Inflorescence* terminal, 2 – 3 × 1.5 cm, the rachis and branches hispid; peduncles 0 – 5 mm or almost sessile. *Flowers* hermaphrodite, with pedicels 1.5 – 3 mm; calyx 2.5 – 3 mm, grey-tomentose on exterior; corolla 5-lobed free to base, glabrous bifid for ¼ of length; stamens 5; disc of 5 obovate glands; ovary lanate, styles 2, united for 4/5 of length. *Fruit* ellipsoid, epicarp hispid-tomentose.

ILLUSTRATION. Prance (1972, Fig. 6G – J).

DISTRIBUTION AND HABITAT. Costa Rica: Limón and Panama: Bocas del Toro, lowland rainforest 70 – 220 m.

CONSERVATION. Least concern (LC).

14. *Dichapetalum reliquum* Kriebel & Al.Rodr., *Lankesteriana* 5: 134 (Kriebel & Rodriguez 2005);

Man. Pl. Costa Rica 5: 199 (Prance *et al.* 2010). Type: Costa Rica. San José: Ciudad Colón, Zona Protectora El Rodeo, margin of Río Jaris, 700 m, 9°53'N, 84°16'W, 24 June 2003, R. Kriebel & A. Rodríguez 3419 (holotype CR0003986574; isotypes CR61467, CR0003986577, K000370452, MO, NY842109, USJ).

Liana, the young branches densely hispid-hirsute. *Leaves* with petioles 4–7 mm, densely hirsute; lamina membranaceous, plane not bullate, oblong-lanceolate to oblong-elliptic, 8–16.5 × 3–5.5 cm, densely hirsute on venation beneath, the apex acuminate, subcordate at base; secondary veins 9–11 pairs; *stipules* 6–9 mm long, linear, caducous, the margins entire. *Inflorescence* terminal, 1.2–2 × 1.3–2.3 cm, the rachis and branches densely hirsute; peduncles 2–9 mm long or almost sessile. *Flowers* hermaphrodite or masculine, with pedicels 1–3 mm; calyx 1.5–2 mm long; corolla 5-lobed, bifid to mid-point, glabrous; stamens 5; disc of 5 oblong-ovate glands, slightly lobed; ovary lanate, styles 2–3, united for $\frac{2}{3}$ of length, lanate at base. *Fruit* ellipsoid to obovate-ellipsoid, epicarp densely hirsute.

ILLUSTRATION. Prance *et al.* (2010: 200).

DISTRIBUTION AND HABITAT. Costa Rica: Puntarenas, San José in rainforest on Pacific slopes 600–1290 m. Map 2C.

CONSERVATION STATUS. Vulnerable (VU), B1ab(iii)

15. *Dichapetalum coelhoi* Prance, *Fl. Neotrop. Monogr.* 10: 22 (1972), Fig. 7A–E. Type: Brazil. Amazonas: Manaus-Itacoatiara road, Km 104, 19 April 1968, B. W. Albuquerque, L. Coelho & J. Lima 68-119 (holotype NY0000911; isotypes INPA21145, NY0000912).

Liana, the young branches hispid. *Leaves* with petioles 3–5 mm long, hispid; lamina coriaceous, plane not bullate, oblong, 10–18 × 2–5 cm, sparsely hispid beneath, the apex acuminate, the acumen 5–15 mm long, subcordate at base, asymmetric; midrib plane, sparsely pubescent above; secondary veins 10–12 pairs; *stipules* 6 mm long, linear, hispid, the margins entire. *Inflorescence* terminal, 2–4 cm long, the rachis and branches rugose-hirsute; peduncles c. 1.5 mm long. *Flowers* hermaphrodite, with pedicels 1–3 mm long; calyx 3–3.5 mm long, tomentose on exterior; corolla lobes 5, free, equal, the apex bifid. *Stamens* 5; disc of 5 ellipsoid glands, bifid at apex; ovary lanate, styles 2, united almost to apex, lanate for basal half. *Fruit* not seen.

DISTRIBUTION AND HABITAT. Central Amazonian Brazil, known only from two collections in the region of

Manaus, Brazil: Amazonas and one from Peru: Loreto, lowland terra firme rainforest.

CONSERVATION. Vulnerable (VU), A1a,Bab(i,ii,iii).

16. *Dichapetalum rugosum* (Vahl) Prance, *Acta Bot. Venez.* 3: 303–304 (1968); *Fl. Venez. Guayana* 4: 667 (Prance 1998); Prance, *Fl. Ecuador* 12: 5 (1980); Prance, *Fl. Guianas* A27: 104 (2009); *Man. Pl. Costa Rica* 5: 200 (Prance *et al.* 2010); *Symphyllanthus rugosus* Vahl, *Skr. Naturhist.-Selsk.* 6: 88–89 (1810). Type: French Guiana, *Herb. Vahl* s.n.¹ (holotype C10010704).

Cordia scandens Poir., *Dict. Sci. Nat. [F. Cuvier]* 10: 40 (Poiret 1818). Type: French Guiana, J. Martin s.n. (holotype P). *Dichapetalum scandens* (Poir.) I.M. Johnston, *J. Arnold Arbor.* 16: 44 (Johnston 1935); Macbride, *Publ. Field. Mus. Nat. Hist., Bot. Ser.* 13 (3): 956 (1950) *pro parte*.

Chailletia vestita Benth., *Hooker's J. Bot. Kew Gard. Misc.* 3: 372 (Bentham 1851). Type: Brazil. Pará: Santarém, Jan. 1850 R. Spruce 623 (lectotype of Prance 1972, K000450029; isolectotypes K000450030, P01900821, P01900822, P01900823); R. Spruce s.n. (Nov. – March 1849–50), Brazil, Pará, Santarém (probable isotypes BM000839941, GH00045268, E00326484, FI006624, GH00045269, NY0000917, NY0000918, P01900821, P01900822, P01900823, TCD0004085, W).

Dichapetalum vestitum (Benth.) Baill., *Fl. Bras. (Martius)* 12 (1): 371 (Baillon 1886).

Dichapetalum vestitum (Benth.) Baill. var. *scandens* Baill., *Fl. Bras. (Martius)* 12 (1): 372 (Baillon 1886). Type: Brazil. Amazonas: Manaus, C. P. F. von Martius 2794 (lectotype M).

Chailletia flavicans Klotzsch in Schomburgk, *Fauna & Fl. Guiana*: 1184 (1849), **nom. nud.** *Dichapetalum flavicans* (Klotzsch) Engl., *Bot. Jahrb. Syst.* 23: 145 (Engler 1897). Type: Guyana, R. Schomburgk 1319 (holotype B, lost; photos F, MO).

Chailletia parkeri Planch. ex Triana & Planch., *Ann. Sci. Nat., Bot. Ser.* V. 15: 379 (Triana & Planchon 1872) **nom. nud.**

Liana, the young branches tomentose to tomentellous. *Leaves* with petioles 2–35 mm long, dense-tomentose; lamina thick-coriaceous, plane not bullate or weakly bullate above, oblong to ovate-elliptic 6–32 × 3.5–21 cm, densely hirsute beneath, the apex rounded to acuminate, rounded or subcordate at base; midrib plane, densely pubescent above; secondary veins 7–14 pairs; *stipules* c. 5 mm, lanceolate, caducous or subpersistent, dense-tomentose, the margins entire. *Inflorescence* terminal, axillary or petiolar corymbose

¹ The collector of this specimen is thought to be L.C.M. Richard

panicles, the rachis and branches brown to rufous-tomentose; peduncles 3 – 35 mm. *Flowers* hermaphrodite, with pedicels 0.5 – 2 mm long; calyx 3 – 3.5 mm long, densely ferruginous-tomentose on the exterior; corolla 5-lobed, free to base, bifid, slightly cucullate at apex, glabrous; stamens 5; disc of 5 bifid glands, united at base; ovary lanate, styles 2 – 3, lanate at base. *Fruit* oblong-ovoid, 2 – 4 × 1 – 3 cm, epicarp velutinous-tomentose.

ILLUSTRATION. Martius, *Fl. Bras.* 12 (1) t. 76, 1886 (as *Dichapetalum vestitum*).

DISTRIBUTION AND HABITAT. Costa Rica: Alajuela, Heredia, Limón; Colombia: Cundinamarca, Guaviare, Santander, Tolima; Peru: Huánuco, Loreto, Pasco, San Martín; Venezuela: Barinas, Bolívar, Portuguesa; the Guianas; Ecuador: Napo, Orellana, Pastaza; Amazonian Brazil: Acre, Amazonas, Amapá, Pará, Rondônia, Roraima. A widespread species in primary and secondary lowland forests, 0 – 500 m.

CONSERVATION STATUS. This species is listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU B1ab(iii), D2, but is so widespread elsewhere that it must be of Least Concern (LC).

17. *Dichapetalum schulzii* Prance, *Bull. Torrey Bot. Club* 106: 309 (1979); Prance, *Fl. Guianas* A27: 105 (2009). Type: Suriname. Lower slopes of Frederick Top, 2 km SE of Juliana Top, 325 m, 7 Aug. 1963, H. S. Irwin, G. T. Prance, T. Soderstrom & N. Holmgren 54582 (holotype NY0915; isotypes AAU, U0008402).

Shrub 1.5 m tall, the young branches sparsely puberulous. *Leaves* with petioles 3 – 7 mm long, terete, sparsely pubescent; lamina chartaceous, plane not bullate, narrowly oblong to oblong-lanceolate, 7 – 11 × 2.8 – 4 cm, glabrous beneath except for a few scattered stiff appressed hairs, the apex finely pointed acuminate, the acumen 10 – 20 mm long, rounded and slightly asymmetric at base; midrib plane and densely pubescent with stiff appressed hairs above; secondary veins 7 – 9 pairs; *stipules* small, c. 1 mm long, lanceolate, hirtellous pubescent, the margins entire. *Inflorescence* of few-flowered terminal panicles, to 2 cm long, the rachis and branches brown-tomentose; peduncles 10 – 15 mm long. *Flowers* hermaphrodite, with pedicels 1.5 – 2 mm long; calyx 1 mm long, grey-tomentellous on exterior; corolla 5-lobed, deeply bifid, free to base, glabrous; stamens 5; disc of 5 small glands flattened against filament bases; ovary hirsute and style united, 1, hirsute.

DISTRIBUTION AND HABITAT. Forested slopes in Central Suriname, 50 – 350 m. Map 1.

CONSERVATION STATUS. Vulnerable (VU), B1b(i,ii,iv,v). Known from only two collections.

18. *Dichapetalum pauper* Rizzini, *Revista Brasil. Biol.* 12: 101 (1952). Type: Brazil. Pará: Gurupá, Jan. 1916, W. A. Ducke MG 15945 (holotype RB00542262, isotype MG015945, RB00538290).

Liana, the young branches hispid-tomentose, soon glabrous. *Leaves* with petioles 1 – 4 mm long, hispid to tomentose; lamina coriaceous, plane not bullate, oblong to oblong-lanceolate, 6 – 16 × 1.7 – 4 cm, with a few stiff appressed hairs beneath, the apex acuminate, curved, rounded to subcordate at base, asymmetric; midrib almost plane and pubescent above; secondary veins 8 – 11 pairs; *stipules* c. 2 mm long, ovate, persistent, the margins entire. *Inflorescence* short terminal panicles, the rachis and branches hispid-tomentose; peduncles 5 – 20 mm long, rufous pubescent. *Flowers* hermaphrodite, with pedicels 1.5 – 2.5 mm long; calyx c. 2.5 mm long, tomentose on exterior; corolla lobes 5, free, deeply bifid, glabrous; stamens 5; disc entire, flattened; ovary lanate, styles 3, free for $\frac{3}{4}$ length, lanate at base. *Fruit* ellipsoid, epicarp densely tomentose.

ILLUSTRATION. Prance (1972, Fig. 6A – F).

DISTRIBUTION AND HABITAT. Amazonian Brazil: Amazonas, Pará. lowland rainforest.

CONSERVATION STATUS. Least concern (LC).

19. *Dichapetalum foreroi* Prance, *Mutisia* 42: 1 – 3, Fig. 1 (1977b). Type: Colombia. Chocó: Río Serrano 4 – 6 km from Guayabal, 28 April 1975, E. Forero, R. Jaramillo, M. & J. McElroy 1318 (holotype COL000002038; isotypes COL000002039, MO1701778).

Liana, the young branches tomentellous, glabrescent. *Leaves* with petioles 5 – 12 mm long, tomentellous; lamina chartaceous, plane not bullate, oblong lanceolate, 6 – 11.5 × 2 – 3.3 cm, glabrous beneath except for a few stiff appressed hairs, the apex acute or acuminate, the acumen 5 – 10 mm long, subcuneate and slightly asymmetrical at base; secondary veins 8 – 11 pairs; *stipules* linear, 5 – 11 mm long, appressed-hirsutulous, subpersistent, the margins entire. *Inflorescences* of short cymose panicles, terminal or borne on petioles, the rachis and branches appressed brown-tomentellous; peduncles 8 – 12 mm long, tomentellous. *Flowers* hermaphrodite, with pedicels 0.5 – 2 mm long; calyx c. 1.5 mm long, the lobes appressed brown-tomentellous on exterior; corolla of 5 equal lobes, deeply bifid almost to base, glabrous, free to base; stamens 5; disc of 5 free lobed glands; ovary lanate on exterior, styles 2, lanate at base, glabrous above.

DISTRIBUTION AND HABITAT. Atlantic coastal Colombia: Chocó, Valle del Cauca, lowland forest, 0 – 200 m. Map 1.

CONSERVATION STATUS. This species is listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU A2c+4c, D2.

20. *Dichapetalum steyermarkii* Prance, *Acta Bot. Venez.* 3: 301, Fig. 8 (1968); Prance, *Fl. Venezuela* 3: 7 (1971). Type: Venezuela. Aragua: Parque Nacional Henri Pittier, Quebrada la Esperanza, 500 – 600 m, 24 Oct. 1961, J. A. Steyermark 89875 (holotype VEN; isotypes NY0000916, US00109150).

Scandent shrub, the young branches tomentellous, glabrescent. *Leaves* with petioles 10 – 18 mm long, rugose, tomentellous, glabrescent; laminas coriaceous, oblong, 8 – 16 × 3 – 5 cm, glabrous beneath except for sparsely pilose venation, the apex acuminate, the acumen 3 – 13 mm long, acute to rounded at base, slightly asymmetric; midrib plane above, tomentellous; secondary veins 7 – 9 pairs, slightly impressed above; *stipules* linear, c. 2 mm long, tomentellous, membranaceous, caducous, the margins entire. *Inflorescence* cymose-corymbose, adnate to petiole, the rachis and branches sparsely tomentellous, peduncles 8 – 20 mm long. *Flowers* polygamo-dioecious, with pedicels c. 1 mm long; calyx lobes tomentellous on exterior; corolla lobes 5, slightly bilobed and bicucullate; stamens 5; disc of 5 glands; ovary densely lanate, style lanate at base.

ILLUSTRATION. Prance (1971: 9).

DISTRIBUTION AND HABITAT. Venezuela: Aragua, known only from two collections in lowland slope forest. Map 1.

CONSERVATION STATUS. Vulnerable (VU), B1a.

21. *Dichapetalum donnell-smithii* Engl., in Engler & Prantl, *Nat. Pflanzenfam.* 3 (4): 349 (1896); *Man. Pl. Costa Rica* 5: 193 (Prance *et al.* 2010). Type: Guatemala. Esquintla: 1100 m, March 1890, J. D. Smith 2067 (holotype B, lost; lectotype, **designated here**, NY00000906; isolectotypes G00357742, GH00045264, K000450021, M0217827, P01900828, US00109133, US01094534).

Symphyllanthus donnell-smithii (Engl.) Gleason, *N. Amer. Flora* 25: 381 (1924).

Tree or shrub, the young branches tomentose or tomentellous. *Leaves* with petioles 4 – 15 mm, tomentellous when young; laminas chartaceous to subcoriaceous, plane not bullate, elliptic, oblong-elliptic or oblong-lanceolate, 3 – 17 × 2.5 – 12.5 cm, densely hirsute beneath, the apex acuminate, the acumen 2 – 12 mm long, cuneate at base or rarely rounded; midrib plane to prominulous above; secondary veins 6 – 12 pairs; *stipules* 1 – 5 mm, deltoid, caducous, the margins entire. *Inflorescence* petiolar, terminal or axillary, 0.5 – 6 × 0.75 – 3 cm, the rachis and branches velutinous-tomentose; peduncles 2 – 13 mm. *Flowers* hermaphrodite, with pedicels 1 – 3 mm long; calyx 2 – 2.5 mm long, tomentose on exterior; corolla of 5 bifid lobes, slightly cucullate, free to base, glabrous; stamens 5; disc of 5 ellipsoid lobes; ovary lanate, style lanate at base. *Fruit* ovoid to ovoid-obovate, 2 – 2.5 × 0.5 – 1 cm, epicarp brown-tomentulose.

Key to varieties of *Dichapetalum donnell-smithii*

1. Leaves ovate-elliptic to oblong, 3.8 – 12.5 cm broad, length/breadth ratio 1.6 – 2.7. usually hirsute beneath; stipules 2 – 5 mm long var. **donnell-smithii**
1. Leaves oblong to oblong-lanceolate, 2.5 – 6.5 cm broad, length/breadth ratio 2.5 – 4.1. glabrous or with a few stiff appressed hairs beneath; stipules 1 – 3 mm long var. **chiapasense**

21a. var. *donnell-smithii*

DISTRIBUTION AND HABITAT. Southern Mexico: Chiapas, Oaxaca, Quintana Roo, Tabasco, Veracruz; Guatemala; Belize; El Salvador; Honduras; Costa Rica: Alajuela, San José, Puntarenas; Panama: Chiriquí, Bocas del Toro; Colombia: Chocó, upland scrubland, thicket and forest at 1500 – 2300 m.

ADDITIONAL COLLECTIONS. COLOMBIA. Chocó: Riosucio, Parque Nacional Los Catiós, near Campamento Tilupo, 290 m, 7°65'03"N, 77°08'33"W, 29 May 1978, Forero *et al.* 1626 (COL, MO). Santander: Aeropuerto camino a Pto.

Parra, Carare, Opon, 240 m, 6°19'57"N, 73°20'10"W, 10 June 1979, Rentería A. *et al.* 1533 (HUA, MO).

CONSERVATION STATUS. This species is listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU D2, but is not so in Central America and in the IUCN Red List: Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019). *Dichapetalum donnell-smithii*. *The IUCN Red List of Threatened Species* 2019:e.T146704245A146781094. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T146704245A146781094.en>. Downloaded 9 Nov. 2020.

21b. var. *chiapasense* (Standl.) Prance, *Fl. Neotrop. Monogr.* 10: 28 (1972).

Dichapetalum chiapasense Standl. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 17: 196 (Standley 1937a). Type: Mexico. Chiapas: Monte Ovando, 24 Dec. 1936, E. Matuda 679 (holotype MICH1192187; isotypes MEXU78128, US00109132; isotype fragments F-V0055097, UT-LL00371591).

Dichapetalum gentlei Lundell, *Wrightia* 3: 173 (1966). Type: Guatemala. Alta Verapaz: Sebol, April 1964, E. Contreras 5383 (holotype UT-LL00371592; isotypes S-R-10288, US00109136).

DISTRIBUTION AND HABITAT. Mexico: Chiapas, Quintana Roo, Veracruz; Guatemala; Honduras; Belize; Costa Rica: San José; Panama: Chiriquí, Colón, scrub and forest, 0 – 1700 m.

CONSERVATION STATUS. Least concern (LC).

22. *Dichapetalum morenoi* Prance, *Kew Bull.* 52: 216 – 218, Fig. 2 (1997a); Prance, *Fl. Nicaragua* 1: 801 (2001); *Man. Pl. Costa Rica* 5: 196 (Prance *et al.* 2010). Type: Nicaragua. Río San Juan: La Gloria 3.5 km NE of Boca de Sabalo, 11°03'N, 84°26'W, 20 March 1985, P. P. Moreno 25468 (holotype K000450024; isotypes MO188404, NY00038494).

Trees to 20 m tall or shrub, the young branches sparsely appressed-puberulous, glabrescent. Leaves with petioles 2 – 7 mm long; lamina chartaceous, oblong-lanceolate, 4 – 14 × 1.2 – 3.5 cm, glabrous beneath except for a few stiff appressed hairs, the apex acuminate, the acumen 10 – 20 mm long, acute and symmetric at base; midrib slightly prominent above, with few appressed hairs; primary veins 7 – 10 pairs; stipules 2 – 7 mm long, lanceolate, appressed puberulous, caducous, the margins entire. Inflorescence a dichotomous panicle of cymes, 1.5 – 4 × 1.8 – 4.5 cm, inserted on middle of petiole, the rachis and branches brown-tomentose; peduncles 4 – 17 mm long. Flowers hermaphrodite, with pedicels 1 – 2.75 mm; calyx 0.5 mm long, grey-brown tomentose on exterior; corolla of 5 equal lobes, bicucullate at apex, glabrous; disc of 5 pairs of ellipsoid glands, slightly lobed; ovary lanate, styles 2 – 3, united for ½ or ⅔ of length, lanate at base. Young fruit globose; epicarp densely velutinous-tomentose.

DISTRIBUTION AND HABITAT. Nicaragua: Atlántico Sur, Río San Juan and Costa Rica: Guanacaste, Puntarenas, San José, lowland rainforest 0 – 1110 m. Map 2B.

CONSERVATION STATUS. Least concern (LC).

23. *Dichapetalum brenesii* Standl., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 23: 13 (in Standley & Steyermark 1943); *Man. Pl. Costa Rica* 5: 193 (Prance *et al.* 2010). Type:

Costa Rica. Alajuela: Zarcero, 975 m, April 1937, Austin Smith 4120 (holotype F-V0055094; isotypes CR, EAP86325 fragm., MO1698096, UC, UT-LL00371589).

Shrub or small tree 2 – 6 m tall, the young branches strigose-puberulent. Leaves with petioles 4 – 17 mm long, sparsely sericeous, with 2 – 4 minute teeth on upper surface; lamina chartaceous to subcoriaceous, plane not bullate, oblong-elliptic to obovate-elliptic, 7 – 21 × 2.8 – 7.3 cm, glabrous beneath except for sparsely sericeous midrib, the apex acuminate, cuneate to obtuse at base, the margins undulate; secondary veins 7 – 11 pairs; stipules 3 – 6 mm long, linear, caducous, the margins entire. Inflorescence 2.7 – 6.5 × 1.9 – 6 cm, terminal and petiolar, the rachis and branches sericeous-grey-tomentulose; peduncles 4 – 19 mm long. Flowers hermaphrodite, with pedicels 2 – 8 mm long; calyx 2.5 – 2.75 mm long; corolla 5-lobed, bifid for ¼ of length, 2 – 2.5 mm, glabrous; stamens 5, disc glands obovate, 0.4 – 0.5 mm high, slightly divided; ovary lanate, styles 2 – 3, free for ½ length, lanate at base. Fruit ovoid-elliptic, epicarp brown-tomentulose.

DISTRIBUTION AND HABITAT. Belize and Costa Rica: Alajuela, Cartago, Guanacaste, Heredia, Limón, Puntarenas, San José, highland rainforest 1500 – 2260 m.

CONSERVATION STATUS. Least concern (LC).

In Prance (1972) I treated this species as a synonym of *Dichapetalum axillare*. With much more material available now I agree with Kriebel & Rodríguez (2005) that this is a distinct species with a much more highland distribution than the lowland *D. axillare*.

24. *Dichapetalum asplundeanum* Prance, *Fl. Ecuador* 12: 5, Fig. 1 (1980). Type: Ecuador. Guayas: W of Guayaquil, 12 Feb. 1955, E. Asplund 15418 (holotype S-R-10286).

Tree to 15 m tall, the young branches tomentellous, glabrescent. Leaves with petioles 6 – 12 mm long, terete, tomentellous; lamina chartaceous, plane not bullate, ovate to orbicular, 14 – 20 × 8 – 12.5 cm, sparsely hirsute beneath especially on veins, the apex acuminate, the acumen 1 – 22 mm long, curved, subcordate and symmetric at base; midrib plane or slightly impressed above; secondary veins 7 – 8 pairs; stipules 7 – 9 mm long, lanceolate, tomentellous, caducous, the margins entire. Inflorescence axillary or petiolar spreading panicles, 4 – 6.5 cm long, the rachis and branches grey-tomentellous; peduncles 1.5 – 3 cm long. Flowers hermaphrodite, with pedicels 1 – 3 mm long; calyx c. 2 mm long, grey-tomentellous on exterior, glabrous within; corolla lobes 5, free to base, apex bifid, slightly cucullate; stamens 5 – 6; disc of 5 glands; ovary lanate, style glabrous.

DISTRIBUTION AND HABITAT. Ecuador: Guayas, Napo, Pastaza, wooded hill slopes. Map 2F.

CONSERVATION STATUS. Listed as vulnerable by IUCN (Rojas *et al.* 2004) (VU) B1ab(iii).

25. *Dichapetalum moralesii* Prance, *Kew Bull.* 52: 216, 218 – 219, Fig. 1 (1997a); *Man. Pl. Costa Rica* 5: 196 (Prance *et al.* 2010). Type: Costa Rica. Heredia: La Selva Protection zone, road to Q. Cantarana, 350 m, 20 Jan. 1983, G. S. Hartshorn 2558 (holotype K; isotypes CR142408, MO126237, MO2220202, NY, US03339166).

Trees to 25 m tall, the young branches densely golden tan-tomentose. *Leaves* with petioles 3 – 11 mm long, terete, tomentose; laminas chartaceous, smooth not bullate oblong-ovate, 9 – 26 × 3 – 13 cm, sparsely hirsute beneath, the apex acuminate, the acumen 7 – 15 mm long, rounded to acute, symmetric; midrib plane and tomentose, hirsute beneath; secondary veins 7 – 15 pairs; *stipules* 5 – 15 mm long, linear, tomentose, persistent, the margins entire. *Inflorescence* a dichotomous panicle of cymules inserted on middle of petiole, 4 – 6 × 3 – 7 cm; the rachis and branches densely yellow-brown pubescent; peduncles 5 – 25 mm long. *Flowers* hermaphrodite shortly pedicellate, pedicels 0.5 – 2 mm long; calyx c. 1.5 – 2.5 mm long, grey-tomentose externally; corolla of 5 free equal lobes, bicucullate at apex to ¼ or ½ of length, glabrous; stamens 5; disc of 5 ellipsoid glands, entire; ovary lanate on exterior, styles 2 – 3 united for ½ of length, lanate at base. *Fruit* ellipsoid to obovoid, 1.5 – 2 × 1 – 1.5 cm, epicarp brown tomentulose.

DISTRIBUTION AND HABITAT. lowland and highland rainforest, 350 – 2300 m, in Nicaragua: Río San Juan; Costa Rica: Heredia, Limón, San José. Map 2D.

ADDITIONAL COLLECTION. NICARAGUA. Río San Juan: Mun. El Castillo, Dos Bocas Bartola, 100 m, 11°00'08"N, 84°16'31"W, 29 April 2005, Urbina 3343 (HULE, MO).

CONSERVATION STATUS. Least concern (LC).

26. *Dichapetalum spruceanum* Baill., *Fl. Bras. (Martius)* 12 (1): 371 (Baillon 1886); Prance, *Fl. Ecuador* 12: 6 (1980). Type: Peru. San Martín: Tarapoto, Nov. 1855, R. Spruce 4927 (holotype K000201333; isotypes BM000839943, CGE, F, IAN24158, K000201334, P01900820, W)

Symphyllanthus plicatus Gleason, *Phytologia* 1: 26 (1933). Type: Colombia. Boyaca: Alto Chapon, 7000 ft, 9 Aug. 1932, A. E. Lawrence 414 (holotype NY00467961; isotypes A00045294, FV0055109, MO251962, S-R-10290).

Tree or *vine*, the young branches tomentellous, glabrescent. *Leaves* with petioles 7 – 15 mm long, sparsely short-tomentellous to puberulous when young; laminas coriaceous, plane not bullate, ovate to elliptic, 8 – 30 × 4 – 16.5 cm, sparsely hirsute or with a few stiff appressed hairs beneath, the apex abruptly acuminate, the acumen 5 – 10 mm long, usually curved, rounded to cuneate at base, asymmetric; midrib plane above, pubescent when young; secondary veins 8 – 10 pairs plane to slightly impressed above; *stipules* to 8 mm long, lanceolate, tomentellous, caducous, the margins entire. *Inflorescence* axillary and petiolar spreading panicles, 4 – 6.5 cm long, the rachis and branches shortly puberulous; peduncles 8 – 30 mm long. *Flowers* hermaphrodite, with pedicels c. 0.5 mm long; calyx c. 2 mm long, grey-tomentose on exterior; corolla lobes 5, free, deeply bifid, slightly cucullate at apex, glabrous; stamens 5; disc of 5 ellipsoid gland, apex lobed; ovary lanate, styles 2 – 3, united almost to apex, lanate at base. *Fruit* ellipsoid, epicarp short, dense appressed pubescent. Fig. 1A – D.

ILLUSTRATION. Prance (1980, Fig. 3A – D).

DISTRIBUTION AND HABITAT. Western Amazonia. Colombia: Antioquia, Boyacá, Meta, Putumayo; Peru: Amazonas, Madre de Dios, Loreto, San Martín; Ecuador: Napo, Orellana, Pastaza, Sucumbíos; Brazil: Amazonas, Pará, Rondônia; Bolivia, La Paz, lowland rainforest, 50 – 1000 m.

CONSERVATION STATUS. Listed as least concern (LC) in the IUCN Red list: Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019). *Dichapetalum spruceanum*. *The IUCN Red List of Threatened Species* 2019: e.T144045715A149008887. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144045715A149008887.en>. Downloaded 9 Nov. 2020.

27. *Dichapetalum axillare* Woodson, *Ann. Missouri Bot. Gard.* 29: 353 (1942); Lewis, *Fl. Panama* 96A: 9 – 12 (1967); Prance, *Fl. Nicaragua* 1: 800 (2001); *Man. Pl. Costa Rica* 5: 192 (Prance *et al.* 2010). Type: Panama. Coclé: N of El Valle de Antón, 1000 m, 14 July 1940, P. H. Allen 2202 (holotype MO188403; isotypes EAP, GH00045263, NY00000905, US00109129, UT-LL00371588).

Dichapetalum costaricense Prance, *Kew Bull.* 49: 129 – 131 (1994). Type: Costa Rica. Alajuela: Reserva Biológica Monteverde, Río Peñas Blancas, 800 m, 3 May 1989, E. Bello & E. Cruz 842 (holotype K; isotypes CR, INB1560403, MO188419, NY00076792).

Shrub or *small tree*, the young branches sparsely tomentellous, later glabrescent. *Leaves* with petioles 2 – 8 mm, rarely longer, tomentellous; laminas chartaceous to subcoriaceous, plane not bullate,

oblong or elliptic to oblong-elliptic, 4 – 22 × 2.5 – 11 cm, glabrous except for sparse strigose hairs on the venation and midrib beneath, the apex acute to acuminate, obtuse to subcordate at base, often asymmetric; midrib impressed to prominent above; secondary veins 7 – 11 pairs; *stipules* 2 – 12 mm long, linear or weakly deltoid, persistent, or caducous, the margins entire. *Inflorescence* short terminal or axillary panicles, 2.5 – 5 × 2.5 – 9 cm, the rachis and branches grey-brown tomentose or puberulent, peduncles 4 – 20 mm long. *Flowers* hermaphrodite, with pedicels 0.2 – 2 mm long; calyx c. 2.5 mm long, tomentose on exterior; corolla lobes 5, bifid to ½ or ¾ of length, free, glabrous; stamens 5; disc of 5 tack-like free glands, obovate, slightly lobed; ovary lanate, styles 2 – 3, united for ½ to ⅔ of length, lanate at base. *Fruit* ellipsoid to obovate, epicarp shortly grey-brown tomentellous.

ILLUSTRATIONS. Lewis, *Fl. Panama* 96a, Fig. 1 (1967); Prance (1972, Fig. 9G – L).

DISTRIBUTION AND HABITAT. Costa Rica: Alajuela, Heredia, Limón, Puntarenas; Panama: Colón, Darién, Panamá, San Blas, Veraguas; Colombia: Antioquia, Chocó, lowland rainforest 50 – 1000 m.

CONSERVATION. Listed as least concern (LC) in the IUCN Red list: [Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019). *Dichapetalum axillare*. *The IUCN Red List of Threatened Species* 2019: e.T144045290A149008799. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144045290A149008799.en>. Downloaded 9 Nov. 2020], but the synonym, *D. costaricense* is listed as vulnerable (VU) in the IUCN Red List (1998).

28. *Dichapetalum froesii* Prance, *Fl. Neotrop. Monogr.* 10: 32 (1972); Prance, *Fl. Venez. Guayana* 4: 667 (1998). Type: Brazil. Amazonas: Rio Içana, Tunuí, May 1948, G. A. Black 48-2884 (holotype NY0913; isotypes COL, IAN33558, P01900827).

Liana, the young branches sparsely tomentellous. *Leaves* with petioles 8 – 32 mm long, sparsely tomentellous; laminas chartaceous, plane not bullate, elliptic, 12 – 28 × 5 – 15 cm, with sparse appressed hairs beneath, the apex acuminate, the acumen 8 – 15 mm long, round to subcuneate at base; midrib plane or slightly impressed above; secondary veins 7 – 10 pairs; *stipules* 7 mm long, lanceolate, tomentellous, caducous, the margins entire. *Inflorescence* petiolar panicles, 3 – 8 cm long, petiolar, the rachis and branches sparsely tomentellous to puberulous; peduncles 1.5 – 4.5 mm long. *Flowers* hermaphrodite, with pedicels 1.5 – 2 mm long; calyx c. 2.5 mm long, grey-puberulous on exterior; corolla lobes 5, free,

slightly bifid at apex, glabrous; stamens 5; disc of 5 ellipsoid, united glands; ovary lanate, styles 2, lanate at base. *Fruit* ellipsoid, epicarp short-appressed tomentose.

ILLUSTRATION. Prance (1972, Fig. 7F – L); Prance (1994, Fig. 1).

DISTRIBUTION AND HABITAT. Western Amazonia, Colombia: Caquetá, Putumayo; Ecuador: Guayas, Napo; Venezuela: Amazonas; Brazil: Amazonas, lowland rainforest, 50 – 400 m.

ADDITIONAL COLLECTIONS. ECUADOR. Napo: Parque Nacional Yasuni, 230 m, 0°52'S, 76°05'W, 11 Jan. 1998, Coello 16 (MO); Venezuela: Amazonas: Dept. Atures, 45 km SE of Puerto Ayacucho, 200 – 300 m, 5°35'N, 67°14'W, 11 May 1980, Steyermark *et al.* 122256 (MO).

CONSERVATION STATUS. Least concern (LC).

29. *Dichapetalum odoratum* Baill., *Fl. Bras. (Martius)* 12 (1): 371 (Baillon 1886); Prance, *Fl. Venez. Guayana* 4: 667 (1998); *Man. Pl. Costa Rica* 5: 198 (Prance *et al.* 2010). Type: Brazil. Amazonas: Panurú, Oct. 1852, R. Spruce 2864 (holotype P; isotypes BM000839942, BR000006991388, C10010703, CGE, E00326502, F V0055101, G00357731, G00357732, G00357733, GH00045266, GH00045267, GOET003101, K000450027, K000450028, LD1757378, LE00003024, MPU020438, NY0914, OXF, P01900824, P01900825, RB00538289, W).

Liana, the young branches puberulous to glabrous, conspicuously lenticellate. *Leaves* with petioles 3 – 15 mm, sparsely tomentellous to glabrous, laminas chartaceous, plane not bullate above, elliptic to oblong-elliptic, 2.5 – 16 × 2 – 9 cm, farinose-puberulent when young, then glabrous or with a few stiff appressed hairs beneath, the apex acuminate, the acumen 5 – 15 mm long, cordate, rounded to cuneate at base, midrib plane, glabrous to sparsely puberulous above; secondary veins 6 – 10 pairs; *stipules* 4 – 6 mm long, linear, caducous, the margins entire. *Inflorescence* petiolar, terminal or rarely axillary, 3 – 7 × 1.4 – 9.5 cm, the rachis and branches tomentellous to glabrescent; peduncles 1 – 3.5 cm. *Flowers* hermaphrodite, with pedicels 0.2 – 1.5 mm long; calyx 1.5 – 2 mm long, grey-puberulous on exterior; corolla 5-lobed, deeply bifid, free to base, glabrous; stamens 5; disc of 5 short glands, the apices bifid; ovary lanate, styles 2 – 3 united for 4/5 of length, lanate at base. *Fruit* obovoid to obovoid-elliptic, epicarp brown-tomentose.

ILLUSTRATION. Prance (1998: 668, Fig. 527).

DISTRIBUTION AND HABITAT. Costa Rica: Cartago, Limón; Panama: Coclé, Colón; Colombia: Antioquia,

Valle del Cauca; Venezuela: Amazonas; Ecuador: Napo; Peru: Amazonas, Loreto, Madre de Dios, Pasco; Brazil: Acre, Amazonas, Pará, Roraima, Rondônia; Guyana, widespread in lowland rainforest 0 – 1500 m. **CONSERVATION STATUS.** Listed as least concern (LC) in the IUCN Red List (2020): Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019). *Dichapetalum odoratum*. *The IUCN Red List of Threatened Species* 2019: e.T144045542A149019425. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144045542A149019425.en>. Downloaded 9 Nov. 2020.

30. *Dichapetalum pedunculatum* (DC.) Baill., *Hist. Pl.* 5: 140 (Baillon 1874a); Prance, *Fl. Venez. Guayana* 4: 667 (1998); Prance, *Fl. Nicaragua* 1: 801 (2001); Prance, *Fl. Guianas* A27: 101 (2009); *Man. Pl. Costa Rica* 5: 199 (Prance *et al.* 2010).

Chailletia pedunculata DC., *Nouv. Bull. Sci. Soc. Philom. Paris* 40: 205 (de Candolle 1811a); *Ann. Mus. Paris* 17: 153 – 159 (de Candolle 1811b). Type: French Guiana, *J. B. Patris* s.n. (holotype G-DC). *Symphylanthus glaber* Vahl, *Skr. Naturhist.-Selsk.* 6: 86 (1810). Type: French Guiana, *Richard* s.n. (holotype C, Herb Vahl 73/11, 71/1, isotypes G00356943, P01900829, P01900830).

Dichapetalum glabrum (Vahl) Prance, *Acta Bot. Venez.* 3: 304 (1968), nom. illegit.

Liana, the young branches farinose tomentellous, to glabrous. *Leaves* with petioles 4 – 12 mm, farinose; lamina chartaceous to coriaceous, plane not bullate, elliptic, oblong-elliptic to obovate-elliptic, 5 – 16 × 2 – 7.5 cm, glabrous or with a few stiff appressed hairs beneath, the apex acuminate, obtuse to cuneate at base, slightly asymmetric, midrib plane above; secondary veins 7 – 10 pairs; *stipules* linear, 3 – 10 mm long, caducous, the margins entire. *Inflorescence* petiolar or terminal, 2.2 – 4.6 × 2.5 – 5.6 cm, the rachis and branches farinose tomentellous to glabrescent; peduncles 0.5 – 3.5 cm long. *Flowers* hermaphrodite, with pedicels 0.5 – 2.75 mm long; calyx 1.5 – 2 mm long, tomentose on exterior; corolla 5-lobed free to base, deeply bifid for ½ to ¾ of length, glabrous; stamens 5; disc of 5 large glands with lobes apices; ovary lanate, styles 2 – 3 free or united, lanate at base. *Fruit* ellipsoid, 2.3 × 0.8 cm, the epicarp short brown-tomentellous.

ILLUSTRATIONS. De Candolle (1811, Fig. 1a – 1); Martius, *Fl. Bras.* 12 (1) t. 75 (1886); Prance (1972, Fig. 9A – F); Prance (1998: 669, Fig. 528); Prance (2009: 102, Fig. 11).

DISTRIBUTION AND HABITAT. Costa Rica: Cartago, Heredia, Limón; Panama: Darién; Colombia; Venezuela: Amazonas, Bolívar, Delta Amacuro, Monagas, Trujillo, Sucre; Trinidad; the Guianas, and Brazil: Amapá,

Amazonas, Pará, Roraima, widespread vine of rainforests 0 – 1200 m.

CONSERVATION STATUS. Least concern (LC).

Excluded species

Dichapetalum beckii Fern.-Casas, *Fontqueria* 2: 15 (Fernández-Casas 1983) = *Casimirella beckii* (Fern.-Casas) Breteler, Icacinaceae.

Dichapetalum prancei Fern.-Casas, *Fontqueria* 2: 15 (Fernández-Casas 1983) = *Casimirella guaranitica* Hassl., Icacinaceae.

2. *Stephanopodium*

Stephanopodium Poepp. & Endl., *Nov. Gen. Sp. Pl.* 3: 40, t. 246 (Poeppig & Endlicher 1843); Endlicher, *Gen. Suppl.* 3: 97 (1843); Bentham & Hooker, *Gen. Pl.*: 341 (1862); Baillon, *Fl. Bras. (Martius)* 12 (1): 376 (1886); Engler in Engler & Prantl, *Nat. Pflanzenfam.* 3 (4): 350 (1896); Prance, *Acta Bot. Venez.* 2 (2): 50 (1966); Prance, *Fl. Neotrop. Monogr.* 10: 36 (1972); Prance, *Fl. Ecuador* 12: 8 (1980).

Slender trees or shrubs. *Leaves* alternate, petiolate, entire. *Stipules* small, deciduous. *Inflorescences* of small sessile or shortly pedunculate glomerules adnate to the petioles. *Flowers* hermaphrodite or polygamo-dioecious, actinomorphic. Bracts small. Receptacle campanulate to cylindrical. Sepals 5, imbricate, slightly to very unequal. Petals united into a long obconical or rarely cylindrical, tube, with 5 equal broadly ovate lobes which are shorter than the tube, the lobes entire at the apex. Stamens 5, all fertile, alternate with corolla lobes and adnate to mouth of corolla tube; anthers sessile or subsessile. Disc of 5 hypogynous glands which are opposite the corolla lobes, the glands entire, equal to unequal, free or connate. Ovary globose, free, 2 – 3-locular with 2 ovules in each loculus. Styles 2 – 3, free or connate to apex. *Fruit* a dry coriaceous drupe, usually bilocular but sometimes with only one loculus developing.

TYPE SPECIES. *Stephanopodium peruvianum* Poepp. & Endl. The name *Stephanopodium* is derived from the Greek words *stephanos* = a crown or wreath, and *podion* = a foot, referring to the flowers which 'crown' the petioles at the base 'foot' of the leaf.

DISTRIBUTION. Nicaragua, Costa Rica, Panama, Colombia, Peru, Venezuela, and in eastern central Brazil, but not in the intervening area.

Since the last update of this genus, Prance (1995) only one new species from Bahia, Brazil has been added, but this is now six more species than in the monograph, Prance (1972) and the range has been extended northward into Nicaragua.

Key to species of *Stephanopodium*

1. Corolla tube a long narrow cylinder, usually exerted beyond calyx lobes (except in *S. peruvianum*) calyx lobes extremely unequal.
 2. Corolla tube exerted beyond calyx lobes.
 3. Leaves oblong to lanceolate, 5 – 9.5 × 1.7 – 2.8 cm; petioles canaliculate; corolla tube lanate at throat within 1. ***S. engleri***
 3. Leaves elliptic 10 – 16 × 3 – 6 cm; petioles terete; corolla tube glabrous within 2. ***S. aptotum***
 2. Corolla tube equalling calyx lobes 4. ***S. peruvianum***
1. Corolla tube, and usually the lobes, included, broad, obconical; calyx lobes equal or only slightly unequal.
 4. Leaf undersurface hirsutulous-pubescent 3. ***S. estrellense***
 4. Leaf undersurface glabrous or with a few stiff appressed hairs only
 5. Leaves 25 – 32 × 9 – 14 cm 12. ***S. magnifolium***
 5. Leaves much smaller (to 12 – 22 × 3.8 – 7.8 cm in *S. angulatum*, smaller in all other species)
 6. Leaf apex cuspidate; pedicels 1.5 – 7 mm long; leaf midrib always prominent above.
 7. Pedicels 5 – 7 mm long; leaves membranous 11. ***S. longipedicellatum***
 7. Pedicels 2 – 3 mm long; leaves coriaceous or chartaceous
 8. Leaves chartaceous, primary veins prominulous beneath; exterior of calyx tomentellous; ovary sparsely villous, corolla tube 5-lobed 9. ***S. genyri***
 8. Leaves coriaceous, secondary veins prominent beneath; exterior of calyx sparsely puberulous; ovary glabrous; corolla tube 4-lobed. 8. ***S. cuspidatum***
 6. Leaf apex acute or acuminate; pedicels 0 – 2 mm (except in *S. angulatum* 3 – 5 mm); leaf midrib usually plane or impressed (prominent in *S. angulatum*)
 9. Midrib prominent above; leaves thickly coriaceous, 9 – 22 × 3.8 – 7.8 cm.
 10. Pedicels 3 – 5 mm; stipules 1 – 1.5 mm long 5. ***S. angulatum***
 10. Pedicels 1.5 – 2 mm long; stipules 3 – 3.5 mm long
 11. Corolla tube equalling calyx, Colombia to Peru 4. ***S. peruvianum***
 11. Corolla tube shorter than calyx; Nicaragua to Panama 7. ***S. costaricense***
 9. Midrib plane or impressed; leaves chartaceous or thinly coriaceous, smaller than above; pedicels 0 – 2 mm.
 12. Petioles 9 – 15 mm long, or bluntly acuminate tomentellous when young; leaf apex rounded to acute 6. ***S. blanchetianum***
 12. Petioles 4 – 8 mm long (to 10 mm in *S. venezuelanum*); leaf apex usually distinctly acuminate (except in *S. sessile*).
 13. Leaf apex acute; flowers sessile 14. ***S. sessile***
 13. Leaf apex distinctly acuminate; flowers pedicellate (except in *S. venezuelanum*)
 14. Flowers hermaphrodite; pedicels 1 – 2 mm, not articulate.
 15. Inflorescence inserted on apical portion of petiole; stipules with short appressed trichomes; leaves glabrous 10. ***S. gracile***
 15. Inflorescence inserted on mid portion of petiole; stipules densely setose pubescent; midrib with sparse minute stellate and long ascending trichomes, beneath 13. ***S. organense***
 14. Flowers polygamous, sessile or with articulate pedicels 1 – 1.5 mm.
 16. Leaves elliptic, 5.5 – 10.5 × 2 – 5.5 cm; flowers subsessile, without articulate pedicels. 15. ***S. venezuelanum***
 16. Leaves oblong, 9.5 – 16.5 × 3 – 6 cm; pedicels 1 – 1.5 mm, distinctly articulate 7. ***S. costaricense***

1. *Stephanopodium engleri* Baill., *Adansonia* 11: 109, pl. 9 (Baillon 1873). Type: Brazil. Minas Gerais: Lagoa Santa, April 1864, E. Warming 1841 (holotype P01900817; isotypes C10010706, C10010707, F-0055106, F-V0055107, P01900817).

Tree, the young branches sparsely puberulous, soon glabrous. *Leaves* with petioles 5 – 10 mm long, canaliculate, sparsely pubescent; laminae subcoriaceous, oblong to lanceolate, 5 – 9.5 × 1.7 – 2.8 cm, glabrous beneath, the apex acuminate, the acumen 6

– 15 mm long, cuneate and equal or slightly asymmetric at base; midrib slightly impressed above, prominent and with sparse appressed pubescence beneath; secondary veins 7 – 10 pairs; *stipules* 3 mm long, lanceolate, tomentellous, subsistent. *Inflorescence* of dense-flowered sessile glomerules, inserted on petiole. *Flowers* hermaphrodite, subsessile; corolla tube exerted beyond calyx lobes, the 5 lobes slightly bifid, glabrous on exterior, lanate towards mouth within; ovary tomentose, styles 2 united only on basal ¼, sparsely pubescent. *Fruit* irregularly ellipsoid, epicarp velutinous-ferruginous.

ILLUSTRATIONS. Martius, *Fl. Bras.* 12 (1) t. 78 (1886); Engler & Krause (1931, Fig. 4C – F). Prance (1972, Fig. 16A – G).

DISTRIBUTION AND HABITAT. Brazil: Bahia, Minas Gerais, in woodland and Atlantic rainforest.

ADDITIONAL COLLECTION. BRAZIL. Bahia: Porto Seguro, Parque Nacional Monte Pascoal, lower slopes Monte Pascoal, 100 – 200 m, 15°15'53"S, 40°34'29"W, 14 Nov. 1996, Thomas 11237 (MBM, MO, NY).

CONSERVATION STATUS. Listed as endangered in the Brazilian Red List (Martinelli & Moraes 2013): EN. Blab(i,ii,iii)+2ab(i,ii,iii). Most of its habitat destroyed.

2. *Stephanopodium aptotum* L.C.Wheeler, *Proc. Biol. Soc. Washington* 53: 7, Fig. 18 (1940). Type: Colombia. Magdalena: Santa Marta, above Onaca, 17 Aug. 1898, H. H. Smith 1701 (holotype GH00045293; isotypes BM000839936, F-V0055104, G, K000450035, L3764168, MICH1239746, MO1701812, PH00027861, NY467955, U0001575, US00109156, US01094529).

Small tree, the young branches glabrous. *Leaves* with petioles 6 – 10 mm long, terete, rugose, glabrescent; lamina coriaceous, elliptic, 10 – 16 × 3.5 – 6 cm, glabrous beneath, the apex acute to bluntly acuminate, cuneate and symmetric at base; midrib plane or weakly impressed above, prominent and glabrous beneath; secondary veins 9 – 10 pairs; *stipules* 4 mm long, lanceolate, caducous, glabrescent. *Inflorescence* of dense-flowered sessile glomerules on petioles. *Flowers* hermaphrodite, with pedicels to 5 mm long; corolla tube exerted well beyond calyx, with 5 small equal lobes, glabrous on both surfaces; ovary short-tomentellous, styles 3, united except for upper portion, short-tomentellous; disc of 5 free large glands, the apices rounded. Old fruit only seen, pubescent, pedicellate. Fig. 1E – H.

ILLUSTRATION. Prance (1980, Fig. 3E – H).

DISTRIBUTION AND HABITAT. Colombia: Antioquia, Magdalena, montane forest.

ADDITIONAL COLLECTION. COLOMBIA. Antioquia: Caldas, 2440 m, 21 Oct. 1985, Escobar & Giraldo 5987 (HUA, MO).

CONSERVATION STATUS. This species is listed as endangered in the *Colombian Red Data book*, Calderón *et al.* (2002), EN A2c+4c. and least concern (LC) in the IUCN Red list (2020), I would tend to agree with the assessment of Colombia. IUCN SSC Global Tree Specialist Group & Botanic Gardens Conservation International (BGCI). (2020). *Stephanopodium aptotum*. *The IUCN Red List of Threatened Species* 2020: e.T153202487A153213928. <https://doi.org/10.2305/IUCN.UK.2020-1.RLTS.T153202487A153213928.es>. Downloaded 9 Nov. 2020.

3. *Stephanopodium estrellense* Baill., *Fl. Bras. (Martius)* 12 (1): 377 (Baillon 1886). Type: Brazil. Rio de Janeiro: 1844, H. A. Weddell 769 (holotype P01900815; isotypes F-V0055108, G00357706, G00357707, P01900816).

Stephanopodium sessiliflorum Kuhlman. ex Rizzini, *Revista Bras. Biol.* 12: 104 (1952). Type: Brazil. Rio de Janeiro: Horto Florestal, Jan. 1948, J. G. Kuhlmann RB 73047 (holotype RB00538299, isotype NY00467959).

Small tree, the young branches tomentellous, glabrescent. *Leaves* with petioles 6 – 10 mm long, canaliculate, tomentose when young; lamina coriaceous, oblong to oblong-lanceolate, 9 – 12.5 × 2.5 – 4.2 cm, hirsutulous beneath, the apex acuminate, the acumen 5 – 15 mm long, cuneate, symmetric or slightly asymmetric at base; midrib plane to weakly impressed above; secondary veins 8 – 10 pairs; *stipules* lanceolate, to 4 mm long, tomentose, caducous. *Inflorescence* of dense-flowered sessile glomerules inserted on petiole. *Flowers* hermaphrodite, with short pedicels; corolla tube included, 5-lobed, the lobes slightly bifid, exterior pubescent above, glabrous below; ovary villous, styles 2 – 3 separate for ½ length. *Fruit* globose, epicarp velutinous-tomentose.

ILLUSTRATION. Prance (1972, Fig. 16H – O).

DISTRIBUTION AND HABITAT. Vicinity of Rio de Janeiro and São Paulo Brazil, Atlantic coastal forest.

CONSERVATION STATUS. EN Endangered, Blab(I,ii,iii)+2ab(ii,iii). Fernandez, E., Moraes, M. & Gomes, M. (2020). *Stephanopodium estrellense*. *The IUCN Red List of Threatened Species* 2020: e.T163468289A169293530. <https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T163468289A169293530.pt>. Downloaded 9 Nov. 2020.

4. *Stephanopodium peruvianum* Poepp. & Endl., *Nov. Gen. Sp. Pl.* 3: 40, t. 246 (Poeppig & Endlicher 1843). Type: Peru. San Martín: Tocache, July 1830, E. F. Poeppig 1986 (holotype W0049022; isotypes G258931/1, F-V0329341, F0329342, L0931083, LE00003029,

P01900814, W0049021, W1889-0113866, W1889-0146418).

Small to medium sized tree, the young branches sparsely puberulous, soon glabrous. *Leaves* with petioles 5–9 mm long, shallowly canaliculate, sparsely puberulent when young; lamina coriaceous, elliptic, 9–18 × 3–7 cm, glabrous beneath, the apex abruptly acuminate, the acumen 5–13 mm long, rounded to cuneate at base; midrib prominent above, prominent and glabrous or with a few stiff appressed hairs beneath; secondary veins 7–10 pairs; *stipules* 3–3.5 mm long, deltoid, sparsely pubescent, caducous. *Inflorescence* of dense-flowered glomerules on petioles. *Flowers* androdioecious, with pedicels 1.5–2 mm long; corolla equalling calyx in length, with 5 equal lobes, the tube glabrous except at base of stamens within; ovary tomentose, styles 3, united up to trifid apex; disc of 5 free, large glands. *Fruit* ellipsoid, epicarp with short dense appressed pubescence.

ILLUSTRATION. Prance (1972: 44, Fig. 17A–F).

DISTRIBUTION AND HABITAT. Colombia: Amazonas, Caquetá; Ecuador: Guayas, Napo, Orellana, Pastaza; Peru: Cusco, Húanuco, Loreto, San Martín, primary lowland rainforests, 100–600 m.

ADDITIONAL COLLECTIONS. ECUADOR. Guayas: Napo, Orellana, Parque Nacional, Yasuní, 250 m, 0°33'S, 76°30'W, 28 July 1993, *Aulestia & Greff* 188 (ECUAMZ, K, MO, QCNE). Pastaza: Vía Auca, 115 km SofCoca, Río Tigüino, 320 m, 1°15'S, 76°55'W, 4 May 1989, *Neill & Rubio* 8993 (K, MO).

CONSERVATION STATUS. Least concern (LC).

5. *Stephanopodium angulatum* (Little) Prance, *Fl. Neotrop. Monogr.* 10: 45 (1972); Prance, *Fl. Ecuador* 12: 9 (1980). *Tapura angulata* Little, *Phytologia* 18: 412 (1969). Type: Ecuador. Esmeraldas: Camino Pacto, NW of Quito, 25 Feb. 1965, *E. L. Little & R. G. Dixon* 20451 (holotype US00109159; isotypes NY000467965, NY000467966; US00130755).

Tree to 10 m tall, the young branches sparsely puberulous, glabrescent. *Leaves* with petioles 7–12 mm long, shallowly canaliculate, puberulous, glabrescent, rugose; lamina coriaceous, elliptic, 12–22 × 3.8–7.8 cm, glabrous beneath, papillose on both surfaces, the apex acuminate, the acumen 7–18 mm long, cuneate at base; midrib prominent above, prominent and glabrous or with a few stiff appressed hairs beneath; secondary veins 10–12 pairs; *stipules* 1–1.5 mm long, lanceolate, glabrous, caducous. *Inflorescence* of dense-flowered sessile glomerules on petioles. *Flowers* hermaphrodite, with pedicels 3–5 mm long. Corolla equalling calyx in length, with 5 equal lobes with rounded apices, sparsely puberulous on exterior, lanate within; ovary tomentose, styles 3, united almost to apex, hirsute. *Fruit* ellipsoid 2–3 cm long, epicarp velutinous tomentose.

DISTRIBUTION AND HABITAT. Colombia: Antioquia, Nariño; Carchi, Ecuador: Carchi, Esmeraldas, Napo, Pichinchas, montane forest, 1200–2450 m.

ADDITIONAL COLLECTIONS. COLOMBIA. Antioquia: Urrao, Parque Nacional Natural Las Orquideas, Río Calles, 1450 m, 6°32'N, 76°19'W, 6 Dec. 1993, *Cogollo et al.* 7896 (MO, US). Nariño: Barbacoas, El Páramo, 1269 m, 1°20'N, 78°08'W, 21 Feb. 1993, *Betancur et al.* 3954 (COL, MO).

CONSERVATION STATUS. Least concern (LC).

6. *Stephanopodium blanchetianum* Baill., *Fl. Bras. (Martius)* 12 (1): 377 (Baillon 1886). Type: Brazil. Bahia: Ilhéus, 1836, *J. S. Blanchet* 2338 (holotype P01900819; isotypes BR0000006991098, F-V0055101, F-V0055105, G00357708, G00357709, G00357710, K000450031, LE00003028).

Tapura obovata Rizzini, *Revista Bras. Biol.* 12: 107 (1952). Type: Brazil. Bahia: Rio Grongogy basin, Oct. 1915, *H. M. Curran* 67 (lectotype, here designated RB10585; isolectotype US00109172).

Tree to 15 m tall, the young branches shortly tomentellous, glabrescent. *Leaves* with petioles 9–15 mm long, canaliculate, tomentellous when young; lamina coriaceous, elliptic to oblong, 6.5–11.5 × 2.8–5.7 cm, glabrous beneath, the apex acute to bluntly acuminate, subcuneate and symmetric at base; midrib slightly impressed above, prominent and tomentellous beneath; secondary veins 8–11 pairs; *stipules* c. 2 mm long, triangular, pubescent, caducous. *Inflorescence* of dense-flowered glomerules on petioles. *Flowers* hermaphrodite, with pedicels 0.5–1.5 mm long; corolla tube included, with 5 small equal lobes, tomentose on exterior except at base, densely lanate within; ovary pilose, styles 2, sparsely pubescent; disc of 5 large separate glands.

DISTRIBUTION AND HABITAT. Brazil: Bahia, Espírito Santo, São Paulo, Atlantic coastal forest 200–1000 m.

CONSERVATION STATUS. Least concern (LC).

Two Curran syntypes were cited in the protologue of *Tapura obovata* and so it is necessary to select a lectotype here.

7. *Stephanopodium costaricense* Prance, *Kew Bull.* 50: 300, Fig. 1 (1995); *Man. Pl. Costa Rica* 5: 201 (Prance et al. 2010). Type: Costa Rica. Puntarenas: Fila Banegas, Rancho Quemado, 400 m, 8°41'20"N, 83°33'30"W, 8 May 1992, *J. Marín* 489 (holotype K 0 0 0 4 5 0 0 3 2; isotypes C R 2 1 5 8 7 2, INB1578600MO150847, WAG).

Tree to 20 m tall, the trunk deeply fissured, the young branches sparsely appressed-puberulous. *Leaves* with petioles 4–9 mm long, puberulous when young,

terete, rugulose with age; laminas coriaceous, oblong, 9.5 – 16.5 × 3 – 6 cm, glabrous on both surfaces, the apex acuminate, the acumen 2 – 15 mm long, cuneate and equal or slightly unequal at base; midrib prominulous and flattened above; secondary veins 7 – 10 pairs; *stipules* triangular, c. 3 mm long, subsistent. *Inflorescence* of sessile glomerules inserted on apical portion of petiole near lamina. *Flowers* polygamous, with pedicels 1 – 1.5 mm, articulated just below calyx, corolla tube included, 5-lobed, interior sparsely pubescent at base only; disc of 5 pairs of small glands, gynoeceum not seen.

ILLUSTRATION. Prance *et al.* (2010: 201).

DISTRIBUTION AND HABITAT. Nicaragua: Atlántico Sur, Río San Juan; Costa Rica: Alajuela, Heredia, Limón, Osa, Puntarenas, San José; Panama: Chiriquí, lowland rainforest 0 – 500 m. Map 2A.

ADDITIONAL COLLECTIONS. NICARAGUA: Río San Juan, 60 m, 10°58'N, 84°20'W, 15 Jan. 2005, *Rueda et al.* 17787 (HULE, MO). PANAMA: Chiriquí: Peninsula de Burica, El Chorogo, 350 – 400 m, 8°17'N, 82°58'W, 15 May 2007, *Galdames et al.* 57998 (MO).

CONSERVATION STATUS. Least concern (LC).

8. *Stephanopodium cuspidatum* Prance, *Kew Bull.* 50: 302 – 305, Fig. 3 (1995). Type: Ecuador. Esmeraldas: Río Lita, Sector El Crystal, 0°49'N, 78°26'W, 1450 m, 20 Aug. 1989, *W. A. Palacios* 4376 (holotype K; isotype MO251935).

Tree 15 m tall, the young branches glabrous. *Leaves* with petioles 8 – 12 mm long, glabrous, terete, rugose; laminas coriaceous, oblong, 11 – 15 × 4.2 – 6.5 cm, glabrous above, with few stiff appressed hairs beneath, the apex cuspidate, the acumen 7 – 15 mm long, cuneate and symmetric at base; midrib prominent on both surfaces; secondary veins 8 – 9 pairs; *stipules* lanceolate, 7 – 9 mm long, persistent. *Inflorescence* of sessile glomerules inserted on upper portion of petiole. *Flowers* hermaphrodite, with pedicels 2 – 3 mm long, articulate just below calyx; calyx sparsely puberulous on exterior; corolla tube included, 4-lobed, interior glabrous; ovary and style glabrous; disc of 5 small glands.

DISTRIBUTION AND HABITAT. Colombia: Nariño, Ecuador: Esmeraldas, lowland and submontane forest 250 – 1500 m. Map 2F.

CONSERVATION STATUS. This species is listed as endangered in the *Colombian Red Data book*, Calderón *et al.* (2002), EN B1ab (iii).

9. *Stephanopodium gentryi* Prance, *Kew Bull.* 47: 545, Fig. 1 (1992). Type: Colombia. Chocó: Orillas del Río

Mutatá, 6°05'N, 77°25'W, 7 Jan. 1973, *E. Forero & A. Gentry* 714 (holotype COL000002043; isotypes MO197762, NY467957; RB00538296).

Tree 15 m tall, the young branches puberulous, soon glabrous. *Leaves* with petioles 5 – 10 mm long, terete, appressed puberulous, smooth; laminas chartaceous, oblong, 8 – 12.5 × 3 – 4.5 cm, glabrous above, with sparse appressed hairs beneath, the apex cuspidate, the acumen 5 – 8 mm long, cuneate and symmetric at base; midrib prominent on both surfaces; secondary veins 5 – 6 pairs; *stipules* lanceolate, 4 – 5 mm long, puberulous, early-caducous. *Inflorescence* of dense sessile glomerules inserted on upper portion of petiole. *Flowers* hermaphrodite, with thin pedicels 2 – 3 mm long; calyx tomentellous on exterior; corolla tube included, 5-lobed, glabrous on both surfaces, ovary villose, styles 2, villose; disc of 5 ellipsoid glands.

DISTRIBUTION AND HABITAT. Costa Rica: Limón; Panama: Colón, San Blas and Colombia: Chocó, Nariño, lowland forest. Map 2C.

ADDITIONAL COLLECTIONS. COSTA RICA: Limón: Finca La Suerte, 50 m, 10°26'24"N, 83°46'48"W, 10 July 1995, *Aguilar* 4209 (INB, MO). PANAMA: San Blas: El Llano-Cartí road, 350 m, 19.1 km from Panamerican Hwy, 9°18'00"N, 78°58'30"W, 18 Nov. 1984, *de Nevers* 4323 (MO).

CONSERVATION STATUS. This species is listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU D2.

10. *Stephanopodium gracile* Fiaschi & Amorim, *Brittonia* 64: 154, Fig. 1 (2012). Type: Brazil. Bahia: Prado, km 21 road Itamaraju-Prado, 17 Feb. 1994, *J. R. Pirani, J. A. Kallunki, I. Cordeiro & P. L. R. Moraes* 3002 (holotype SPF; isotypes CEPEC16703, CEPEC118943, HUEFS191390, K000370298, K000370364, MBM, MO1278034, NY1842820, NY395693, RB00513847).

Treelet 3 – 4 m tall, the young branches glabrescent. *Leaves* with petioles 4 – 8 mm long, plane or slightly canalicate, dense short-pubescent; laminas membranous to subchartaceous, obovate to oblanceolate or narrowly elliptic, 8.1 – 13 × 3.7 – 5.5 cm, glabrous on both surfaces, the apex acuminate, the base obtuse, sometimes slightly asymmetric; midrib impressed to distally plane above; secondary veins 6 – 8 pairs; *stipules* 1.5 – 2.5 × 0.7 – 1.4 mm, triangular, glabrescent. *Inflorescence* of sessile glomerules inserted on apical portion of petiole. *Flowers* hermaphrodite, with basally articulated pedicels, 1 – 1.5 mm long; corolla tube included, 5-lobed, glabrous; ovary hirsute, styles 2 mm long, stigmas 2; disc of 5 laterally compressed glands. *Fruit* 1.8 × 1.8 cm, spheroid, densely chestnut hirtellous.

DISTRIBUTION & HABITAT. Brazil: Bahia, Espírito Santo, lowland Atlantic tabuleiro rainforest. Map 3D.

CONSERVATION STATUS. Vulnerable (VU), B1ab(i,ii,iii,iv).

11. *Stephanopodium longipedicellatum* Prance, *Kew Bull.* 50: 302, Fig. 2 (1995). Type: Ecuador. Carchi: Tulcan Canton, Parroquia Chical, Reserva Indígena Awá, 1°02'N, 78°16'W, 1000 m, 23 – 27 May 1992, G. Tipaz, C. Quelal & G. Cantincuz 1113 (holotype K000450036; isotypes MO288030, QCNE).

Tree 8 m tall, the young branches glabrous, rugulose. *Leaves* with petioles 7 – 9 mm long, terete, glabrous, rugose; laminas membranous, oblong, 11 – 14 × 5 – 6 cm, glabrous except for a few stiff appressed hairs towards base of lower surface, the apex cuspidate, the acumen 10 – 15 mm long, the base cuneate, symmetric; midrib prominulous above; secondary veins 7 – 9 pairs; *stipules* lanceolate, 5 – 7 mm long, persistent. *Inflorescence* of few-flowered sessile glomerules on upper portion of petiole. *Flowers* with pedicels 5 – 7 mm long, articulated just below the flower; corolla tube included, 5-lobed, glabrous; ovary and style glabrous; disc of 5 lobed glands.

DISTRIBUTION AND HABITAT. Humid submontane forest, 200 – 1000 m in Ecuador: Carchi, Esmeraldas. Map 1.

CONSERVATION STATUS. Listed as vulnerable by IUCN, B1ab(iii), Rojas *et al.* (2004).

12. *Stephanopodium magnifolium* Prance, *Kew Bull.* 49: 136, Fig. 4 (1994). Type: Brazil. Bahia: Mun. Uruçuca, Distrito de Serra Grande, 7.3 km road Serra Grande do Itacaré, 14°25'S, 39°01'W, 11 – 21 Sept. 1991, A. M. de Carvalho, W. W. Thomas & T. S. dos Santos 3578 (holotype CEPEC52174; isotypes K000450034, NY05947).

Small trees, the young branches glabrescent. *Leaves* with petioles 16 – 40 mm long, weakly canaliculate, rugose, glabrous; laminas coriaceous, oblong-elliptic, 25 – 32 × 9 – 14 cm, glabrous beneath except for a few stiff appressed hairs, the apex rounded or bluntly acute, the base cuneate, symmetric; midrib slightly impressed above; secondary veins 11 – 15 pairs; *stipules* not seen. *Inflorescence* of dense-flowered glomerules inserted towards base of petiole. *Flowers* hermaphrodite, sessile; corolla tube included, 5-lobed, exterior tomentellous towards apex, glabrous at base; ovary and styles glabrous; disc of 5 large separate glands.

DISTRIBUTION AND HABITAT. Understorey of lowland forest Brazil: Bahia. Map 3C.

CONSERVATION. Listed as vulnerable by IUCN, D2 and Critically endangered in the Brazilian Red Data Book (Martinelli & Moraes 2013), CR, B1ab(i,ii,iii,v)+2ab(i,ii,iii,v).

13. *Stephanopodium organense* (Rizzini) Prance, *Fl. Neotrop. Monogr.* 10: 49 (1972); *Stephanopodium estrellense* Rizzini var. *organense* Rizzini, *Revista Bras. Biol.* 12: 102 (1952). Type: Brazil. Rio de Janeiro: Serra dos Orgãos, 15 March 1949, A. Barbosa Pereira 62 (holotype RB0054266; isotypes MBM353501, MBML38995, NY000467956, RB00542367, RB00538295, SP415633).

Small tree, the young branches sparsely tomentellous, glabrescent. *Leaves* with petioles 5 – 7 mm long, shallow-canaliculate, appressed pubescent; laminas membranaceous, oblong to oblong-lanceolate, 3.5 – 8.5 × 1.5 – 3.7 cm, with a few stiff appressed hairs near base beneath, the apex finely acuminate, the acumen 5 – 15 mm long, cuneate and symmetric or slightly asymmetric at base; midrib plane above, prominent and with appressed pubescence beneath; secondary veins 8 – 10 pairs; *stipules* c. 4 mm long, lanceolate, subpersistent, tomentellous. *Inflorescence* of small sessile glomerules on petioles. *Flowers* hermaphrodite, with pedicels 1 – 2 mm long; corolla tube included, 5 lobes equal, entire, glabrous on both surfaces except for a few hairs beneath the anthers; ovary tomentose, styles 3, united until trifid apex, glabrous; disc of 5 large glabrous glands.

ILLUSTRATION. Prance (1972: 44, Fig. 17G – L).

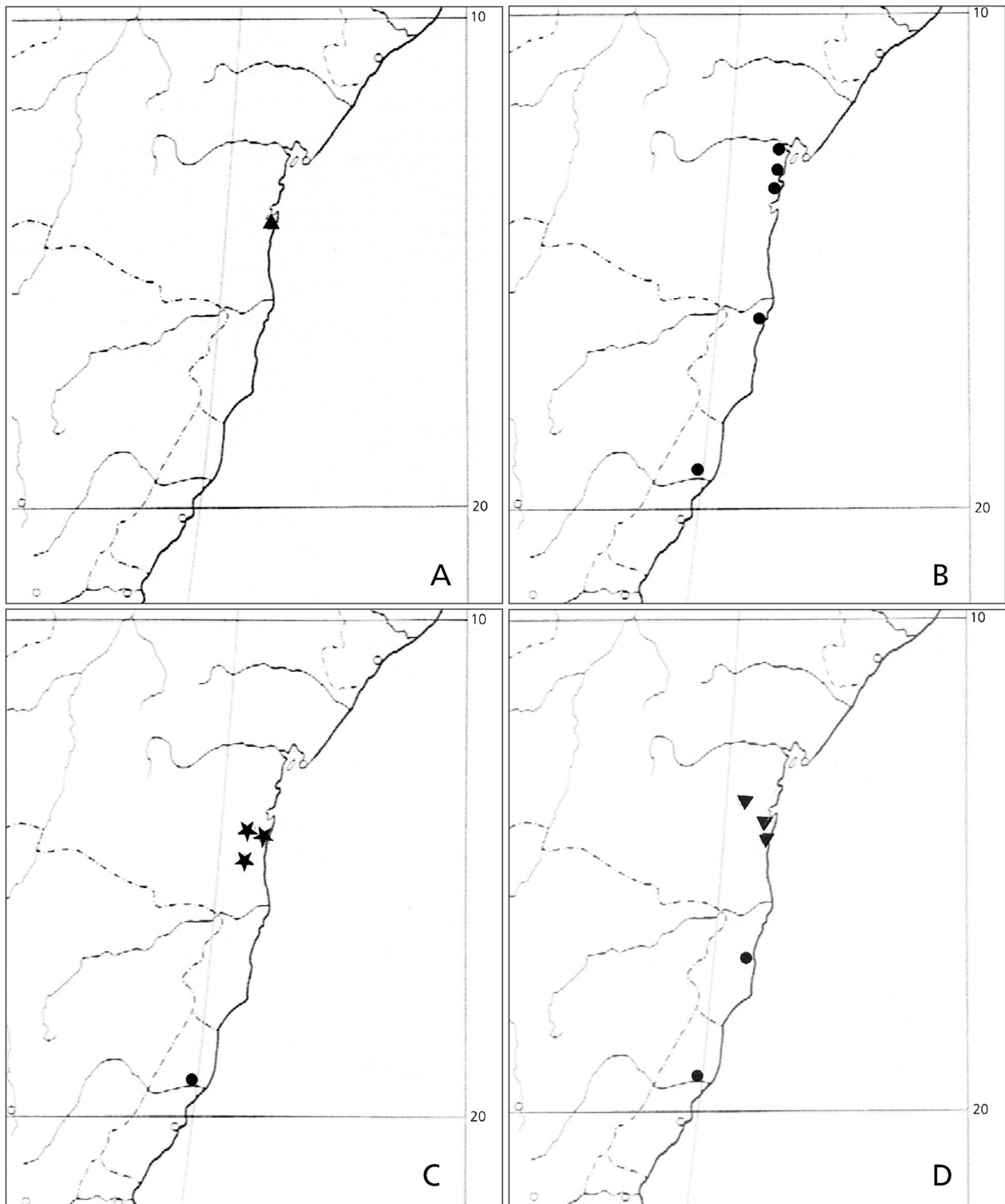
DISTRIBUTION AND HABITAT. Brazil: Espírito Santo, Rio de Janeiro, São Paulo, Atlantic coastal upland forests, 600 – 1400 m.

CONSERVATION STATUS. Least concern (LC).

14. *Stephanopodium sessile* Rizzini, *Revista Bras. Biol.* 12: 103, Fig. 19 (1952). Type: Brazil. Rio de Janeiro: Horto Florestal, 9 Jan. 1929, Pessôal do Horto Florestal RB 139381 (holotype RB00542253, isotypes MBM105686, NY467958, R, RB00538295).

Small tree, the young branches glabrescent. *Leaves* with petioles 4 – 7 mm long, canaliculate, sparsely puberulous; laminas coriaceous, elliptic to oblong, 4 – 12 × 1.5 – 5.5 cm, glabrous beneath, the apex acute or bluntly acuminate, cuneate and asymmetric at base; midrib slightly impressed to plane above; prominent and glabrous or with a few stiff appressed hairs beneath; secondary veins 8 – 11 pairs; *stipules* to 4 mm long, lanceolate, persistent, sparsely puberulous. *Inflorescence* of dense-flowered sessile glomerules on petioles. *Flowers* hermaphrodite, sessile, corolla tube included, the lobes 5, equal slightly bifid, glabrous on both surfaces; ovary tomentellous, styles 2, glabrescent.

DISTRIBUTION AND HABITAT. Forests around Rio de Janeiro, Brazil.



Map 3. Distribution of Dichapetalaceae species from Eastern Brazil described since 1972. A *Tapura martiniae*; B *T. wurdackiana*; C *Stephanopodium magnifolium* (★), *T. follii* (●); D *T. zeilimae* (▼), *S. gracile* (●).

CONSERVATION STATUS. Vulnerable (VU), B1ab(i,ii,iii).

15. *Stephanopodium venezuelanum* Prance, *Acta Bot. Venez.* 2: 50, Fig. 6 (1966); Prance, *Fl. Venezuela* 3: 13

(1971). Type: Venezuela. Sucre: Península de Paria, Cerro Patao, 20 July 1962, *J. A. Steyermark & G. Agostini* 91198 (holotype VEN; isotypes K, NY000467960, US00109157).

Shrub or treelet to 4 m, the young branches sparsely puberulous, soon glabrous. *Leaves* with petioles 4 – 7 mm long, canaliculate, puberulous soon glabrescent; laminae submembranaceous, elliptic, 5.5 – 10.5 × 2 – 5.5 cm, glabrous on both surfaces, the apex acuminate, the acumen 3 – 10 mm long, the base subcuneate, asymmetric; midrib plane, puberulous, glabrescent above; secondary veins 6 – 8 pairs; *stipules* caducous, not seen. *Inflorescence* of small cymules inserted at the base of the petiole, peduncles 2 mm long. Androgynous flowers only seen, subsessile not articulate; corolla tube included, glabrous on exterior, tomentose within; rudimentary ovary pilose.

ILLUSTRATION. Prance (1971: 14, Figs a – c).

DISTRIBUTION AND HABITAT. Venezuela: Sucre, cloud forest on the Paria Peninsula, 800 – 1050 m.

CONSERVATION. Endangered (EN), B1ab(i,ii,iii).

3. *Tapura*

Tapura Aubl., *Hist. Pl. Guiane* 1: 126, t. 48 (Aublet 1775); Jussieu, *Gen. Pl.* 419 (1789); Prance, *Fl. Neotrop. Monogr.* 10: 49 (1972); Prance, *Fl. Venez. Guayana* 4: 669 – 671 (1998); Prance, *Fl. Ecuador* 12: 9 – 12 (1980).

Rohria Schreb., *Gen. Pl.* ed. 8 [a] 1: 30. (Schreber 1789), non *Rohria* Vahl.

Gonypetalum Ule, *Verh. Bot. Vereins Prov. Brandenburg* 48: 174 (1907); Macbride, *Publ. Field Mus. Nat. Hist., Bot. Ser.* 13 (3): 963 – 964 (1950).

Trees or shrubs. *Leaves* alternate, petiolate, entire, usually coriaceous. *Stipules* small, deciduous or persistent. *Inflorescences* of densely crowded glomerules adnate to and sessile or subsessile on the petioles or midrib (except for small axillary cymules in *T. singularis*, and long pedunculate in some African species). *Flowers* small, hermaphrodite or polygamous, weakly zygomorphic. Bracts small and often scale-like. Sepals 5, imbricate, connate at base, usually unequal rarely equal. Petals 5, connate at base to form a long distinct tube, or free almost to base, the lobes imbricate, usually with 2 much larger broad lobes which are bifid and bicucullate at apex, and 3 smaller linear-lanceolate entire lobes, rarely with 3 equal or nearly equal bicucullate lobes only. Stamens 5, all fertile or more frequently 3 fertile and 2 reduced to sterile staminodes, the filaments adnate to inside of corolla tube or to base of corolla in species without a distinct tube; anthers introrse. Disc semiannular or 2 – 3-partite. Ovary free, globose, 2 – 3-locular with 2 ovules in each loculus. Style single, 2 – 3-lobed at apex or divided for much of length. *Fruit* a dry coriaceous drupe, 1 – 3-locular with one seed in each loculus.

TYPE SPECIES. *Tapura guianensis* Aubl. The name *Tapura* is derived from the local name in French Guiana.

DISTRIBUTION. Greater and Lesser Antilles and South America from Pacific coastal Colombia through the Guianas and common in Amazonia. Also 8 species in Africa.

Key to species of *Tapura*

(The key below updates the key in Prance 1983a)

1. Inflorescences borne on midrib of leaf.
 2. Leaves elliptic, 22 – 26 × 9 – 11 cm, subcoriaceous. 3. **T. ferreyrae**
 2. Leaves oblong, 8 – 14 × 1.4 – 5.5 cm, chartaceous.
 3. Flowers c. 2 mm long; midrib prominent above; inflorescence of many flowers; corolla lobes almost equal; staminodes absent. 1. **T. juliani**
 3. Flowers 8 – 12 mm long; midrib slightly impressed above; inflorescence of few flowers; corolla lobes markedly unequal; staminodes 2. 2. **T. peruviana**
1. Inflorescences borne on petioles or axillary in *T. singularis*.
 4. Inflorescences with a distinct peduncle, axillary or petiolar.
 5. Inflorescences axillary; secondary veins 6 – 8 pairs. 23. **T. singularis**
 5. Inflorescences borne on petioles; secondary veins 12 – 17 pairs. 15. **T. juruana**
 4. Inflorescences sessile on petioles or almost so.
 6. Leaf undersurface densely hirsutulous, or lanate velutinous at least when young.
 7. Ovary pubescent; leaf underside pubescence persistent with age.
 8. Leaves elliptic or obovate-oblong, undersurface densely velutinous; petioles 6 – 16 mm long. 5. **T. amazonica**
 8. Leaves narrowly oblong, undersurface lanate-velutinous; petioles 17 – 27 mm long. 25. **T. wurdackiana**
 7. Ovary glabrous; leaf underside pubescence glabrescent with age. 26. **T. zeilimae**
 6. Leaf undersurface glabrous when mature or with a few stiff appressed hairs only.

9. Leaf apex retuse, rounded or acute or rarely bluntly acuminate; exterior of calyx glabrescent, leaf margins usually revolute.
10. Leaves 1.3 – 2.8 cm long, orbicular; midrib plane above; inflorescences 1 – 3 flowered; midrib plane above 21. **T. orbicularis**
10. Leaves 2 – 12 cm long, rarely orbicular, usually elliptic; midrib slightly impressed above; inflorescences many-flowered, less in *T. haitiensis*.
11. Leaves obovate to orbicular; inflorescence few-flowered 14. **T. haitiensis**
11. Leaves elliptic to obovate; inflorescence many-flowered.
12. Leaf base asymmetric; petals free to base 22. **T. panamensis**
12. Leaf base symmetric; petals united at base into a tube.
13. Leaves lanceolate to narrowly elliptic; pedicels 1 – 2 mm long 19. **T. martiniae**
13. Leaves oblong, elliptic to lanceolate, flowers sessile 11. **T. cubensis**
9. Leaf apex acuminate, usually with a fine acumen, rarely only bluntly acuminate; exterior of calyx pubescent; plants of South America or Lesser Antilles.
14. Upper surface of midrib impressed.
15. Flowers with distinct pedicels, 1.5 – 2.5 mm long.
16. Fertile stamens 5. 16. **T. lanceolata**
16. Fertile stamens 3.
17. Leaves 20 – 28 × 8 – 11 cm; petioles 20 – 33 mm long 18. **T. magnifolia**
17. Leaves 5.5 – 15 × 1.8 – 7.5 cm; petioles 5 – 13 mm long
18. Leaves bluntly acuminate; flowers 5 – 6 mm long; corolla lobes 5; staminodes 2. 17. **T. latifolia**
18. Leaves with long thin acumen; flowers c. 3 mm long; corolla lobes 3; staminodes absent 9. **T. coriacea**
15. Flowers sessile or almost so.
19. Leaves bullate above 6. **T. bullata**
19. Leaves not bullate above.
20. Corolla lobes free almost to base.
21. Leaves thinly membranous; petioles tomentose 4. **T. acreana**
21. Leaves coriaceous; petioles sparsely appressed-pubescent.
22. Leaves with finely pointed acumen 3 – 7 mm long; lamina oblong-elliptic; petioles 8 – 15 mm long 24. **T. tessmannii**
22. Leaves with apex bluntly acuminate to rounded, base markedly unequal; lamina broadly ovate; petioles 4 – 6 mm long 22. **T. panamensis**
20. Corolla lobes united into a long distinct tube, the filaments inserted on it.
23. Fertile stamens 3; staminodes 2.
24. Petioles and inflorescences densely tomentellous or velutinous; leaves hirsute beneath.
25. Ovary glabrous, leaves 9 – 18 × 3.5 – 11 cm, velutinous below when young 26. **T. zeilimae**
25. Ovary pubescent; leaves 3 – 25 × 2.2 – 9 cm; hirsute or glabrous beneath.
26. Leaves coriaceous, hirsute beneath 5. **T. amazonica**
26. Leaves chartaceous, pubescent beneath only on midrib 12. **T. follii**
24. Petioles glabrescent; inflorescences and flowers grey-puberulous; leaves glabrous or with a few appressed hairs beneath.
27. Petioles 1 – 4 mm long; inflorescences few-flowered, inserted at junction of petiole with lamina. 2. **T. peruviana**
27. Petioles 5 – 15 mm long; inflorescences many-flowered, inserted below junction of lamina with petiole 13. **T. guianensis**
23. Fertile stamens 5; staminodes absent.
28. Leaf lamina chartaceous; pedicels 1 – 2 mm; midrib glabrous above. . . 16. **T. lanceolata**
28. Leaf lamina coriaceous; flowers sessile; midrib sparse appressed pubescent. 7. **T. capitulifera**
14. Upper surface of midrib prominent or plane.
29. Fertile stamens 3; leaves 6 – 11.5 cm long; secondary veins 10 – 13 pairs 20. **T. mexicana**

29. Fertile stamens 4; leaves 9 – 16 cm long; secondary veins 6 – 8 pairs.
 30. Leaf underside papillose; flower exterior grey tomentellous 10. **T. costata**
 30. Leaf underside not papillose; flower exterior yellow-brown tomentellous 8. **T. colombiana**

1. *Tapura juliani* J.F. Macbr., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 13 (3): 961 (Macbride 1950). Type: Peru. Loreto: Florida, mouth of Río Zubineta, March 1931, G. Klug 2010 (holotype F-V0042536; isotypes A00045301, BM000839930, K, MO251933, NY000467973, S-R-10293, US00109169).

Small tree, the young branches glabrous. *Leaves* with petioles 1.5 – 4.5 mm long, terete to shallowly canaliculate, rugose, glabrous when mature; lamina membranaceous, oblong to oblong-elliptic, 8.5 – 12 × 2.7 – 4 cm, glabrous on both surfaces except for a few stiff appressed hairs beneath, the apex caudate-acuminate, the acuminate 10 – 15 mm long, cuneate to subcuneate, asymmetric at base, midrib prominent above; secondary veins 5 – 6 pairs; *stipules* c. 1.5 mm long, deltoid, glabrous subcaducous. *Inflorescence* of sessile glomerules borne on midrib well above petioles. *Flowers* polygamous, sessile, c. 2 mm long; calyx lobes short-pubescent on exterior, corolla lobes united at base into a short tube, the lobes and base of tube glabrous, lobes shortly exerted beyond calyx; stamens 3; ovary and style not seen.

ILLUSTRATION. *Fl. Neotrop. Monogr.* 10: 53, Fig. 20A – C (Prance 1972).

DISTRIBUTION AND HABITAT. Peru: Loreto, lowland rainforest.

CONSERVATION STATUS. Vulnerable (VU), B1ab(i,iii,iv).

2. *Tapura peruviana* K.Krause, *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 135 (in Mildbraed 1931); Prance, *Fl.*

Ecuador 12: 10, Fig. 2 (1980). Type: Peru. Loreto: mouth of Río Santiago, Sept. 1924, G. Tessmann 4054 (holotype B, lost; lectotype, **selected here**, NY467976).

Tapura leucantha K.Krause, *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 136 (in Mildbraed 1931). Type: Peru. Loreto: Nov. 1924, G. Tessmann 4545 (holotype B, lost; lectotype, **designated here**, G00357762, isolectotype NY00046794).

Small tree to 13 m tall, the young branches puberulous, soon glabrous. *Leaves* with petioles 1 – 4 mm long, shallowly canaliculate to terete, appressed pubescent; lamina membranaceous, oblong, 9 – 13 × 2.8 – 5 cm, glabrous beneath except for a few stiff appressed hairs, the apex cuspidate-acuminate, the acuminate 10 – 18 mm long, rounded to subcuneate at base, asymmetric, midrib impressed above; secondary veins 7 – 16 pairs; *stipules* c. 2 mm long, oblong, caducous. *Inflorescence* of sessile glomerules inserted on midrib or upper portion of petiole. *Flowers* hermaphrodite, 8 – 12 mm long, with pedicels c. 1 mm long; calyx lobes short-pubescent on exterior the lobes unequal; corolla lobes far exceeding calyx lobes with 2 large bicucullate lobes and 3 small narrow lobes, slightly fused at base, densely pubescent at base of lobes and filaments within, with few sparse hairs on exterior; stamens 3 fertile, staminodes 2; ovary tomentose, styles 3, united with trifid apex, pubescent throughout. *Fruit* ellipsoid, epicarp sparsely tomentellous.

Key to varieties of *Tapura peruviana*

1. Inflorescence borne on the midrib well above lamina base. a. var. **peruviana**
 1. Inflorescence borne on upper portion of petiole b. var. **petioliflora**

2a. *Tapura peruviana* K.Krause var. *peruviana*.

ILLUSTRATION. Prance (1972: 55, Fig. 21F – J; Prance (1980: 10, Fig. 2.).

DISTRIBUTION AND HABITAT. Ecuador: Napo, Pastaza, Sucumbíos; Amazonian Peru: Amazonas, Loreto, Madre de Dios, Pasco, San Martín; Brazil: Amazonas, riverine forest, 200 – 800 m.

ADDITIONAL COLLECTION. BRAZIL: Amazonas: Estirão do Equador, Rio Javari, Atalaia do Norte, 8 Aug. 1973, Lleras et al. P17230 (INPA, NY, WAG).

CONSERVATION STATUS. Least concern (LC).

2b. *Tapura peruviana* K.Krause var. *petioliflora* Prance, *Fl. Neotrop. Monogr.* 10: 54 (1972); Prance, *Fl. Ecuador* 12: 12 (1980). Type: Peru. Loreto: Río Marañón,

above Pongo de Manseriche, 26 Dec. 1931, *Y. Mexia* 6349 (holotype NY000467977; isotypes BM000839929, F-V0042537, G260241/1, GB, GH00045304, K, MICH1192189, MO251932, MO1846399, S-R-10296, U, UC510147, US00109174, WISv0255768).

DISTRIBUTION AND HABITAT. Colombia: Putumayo; Ecuador: Napo, Pastaza, Zamora-Chinchi; Amazonian Peru: Ayacucho, Loreto, lowland rainforest 200 – 1200 m.

ADDITIONAL COLLECTION. COLOMBIA. Putumayo: Río Gineo, 8 km W of Villargarzon, 300 m, *Plowman* 2042 (US).

CONSERVATION STATUS. Least concern (LC).

3. *Tapura ferreyrae* Prance, *Bull. Torrey Bot. Club* 110: 70, Fig. 1 (1983b). Type: Peru. Loreto: Centros Campanquiz, 9 km W of La Vista, 4°50'S, 77°40'W, 250 m, 2 Dec. 1978, *D. C. Wasshausen & F. Encarnación* 893 (holotype US2904889; isotypes NY467972, USM).

Small treelet 2 m tall, the young branches glabrous. *Leaves* with petioles 10 – 17 mm long, rugulose, terete, sparsely puberulous; laminae subcoriaceous, elliptic, 22 – 26 × 9 – 11 cm, glabrous above, with a few stiff appressed hairs beneath, apex acuminate, the acumen 10 – 20 mm long, subcuneate and slightly symmetric at base; midrib impressed above; secondary veins 12 – 16 pairs; *stipules* caducous. *Inflorescence* of sessile glomerules borne on midrib 5 – 8 mm above petiole. *Flowers* hermaphrodite, sessile; calyx lobes unequal, sparsely pubescent on middle of exterior; corolla exerted beyond calyx lobes, the lobes united at base into a tube; stamens 3, staminodes 2 – 3; ovary pilose, styles 3, united with trifid apex, pubescent. *Young fruit* ellipsoid, epicarp with short compact velutinous pubescence

DISTRIBUTION AND HABITAT. Known only from the type collection in lowland forest of Peru: Loreto. Map 2F.

CONSERVATION STATUS. Listed by León *et al.* (2006) as critically endangered (CR), B1ab(iii).

4. *Tapura acreana* (Ule) Rizzini, *Revista Bras. Biol.* 12: 107 (1952); *Gonyptalum acreanum* Ule, *Notizbl. Königl. Bot. Gart. Berlin* 6: 312 (1915). Type: Brazil. Acre: São Francisco, Oct. 1911, *E. Ule* 9524 (holotype B, lost, F photo; lectotype, **designated here**, RB 00538291; isolectotypes G00357704, L2174543, MG, NY, UC, WAG0001151 frag).

Medium-sized tree, the young branches tomentellous. *Leaves* with petioles 8 – 16 mm long, tomentellous, canaliculate; laminae membranaceous, oblong, 6.5 – 10 × 2.2 – 10 cm, with a few stiff appressed hairs especially

near to midrib beneath, the apex acuminate, the acumen 7 – 10 mm long; subcuneate and symmetric at base; midrib impressed above, prominent and with appressed pubescence beneath; secondary veins 9 – 10 pairs; *stipules* to 5 mm long, triangular, pubescent, caducous. *Inflorescence* of sessile glomerules on upper portion of petiole. *Flowers* hermaphrodite, sessile; calyx lobes unequal, grey-tomentose on exterior; corolla exerted beyond calyx lobes, with 2 large cucullate lobes and 3 smaller simple lobes, briefly connate at base, sparsely pubescent to glabrous on exterior, filled by a lanate mass within; stamens 3, staminodes 2; ovary pilose, styles 3, united with a deeply trifid apex.

ILLUSTRATION. Prance (1972: 61, Fig. 24F – J).

DISTRIBUTION AND HABITAT. Western Amazonia, Peru: Loreto, Madre de Dios, Pasco; Brazil: Acre; Bolivia: Beni, La Paz, Santa Cruz, riverside forest.

CONSERVATION STATUS. Least concern (LC).

5. *Tapura amazonica* Poepp. & Endl., *Nov. Gen. et Sp.* 3: 41, t. 246 (Poeppig & Endlicher 1843); *Fl. Venez. Guayana* 4: 670 (Prance 1998); Prance, *Fl. Guianas* A27: 106 (2009). Type: Brazil. Amazonas: Tefé, *E. F. Poeppig* 2673 (holotype W0049029; isotypes F-V0055115, W0049019, W18890146429).

Tapura ciliata Gardner, *Icon. Pl.* II. 1, t. 466 (1842), *Tapura amazonica* var. *ciliata* (Gardner) Baill., *Fl. Bras. (Martius)* 12 (1): 375. (Baillon 1886). Type: Brazil. Goiás: Natividade, 1841, *G. Gardner* 3087 (holotype K000450042; isotypes BM000839925, CGE, E00326483, F-V0055117, G00357702, G00357703, GH00045299, GH00045300, HAL0077164, IPA40625, K000450043, K000450044, NY000467969, NY000467970, OXF, P01900812, P05539113, US00109163, W18890000367).

Tapura amazonica var. *cuspidata* Baill., *Fl. Bras. (Martius)* 12 (1): 375 (Baillon 1886).

Tapura amazonica var. *dasyphylla* Baill., *Fl. Bras. (Martius)* 12 (1): 375 (Baillon 1886).

Tapura amazonica var. *sublanceolata* Baill., *Fl. Bras. (Martius)* 12 (1): 375 (Baillon 1886).

Tree to 30 m tall, usually much smaller, the young branches fulvous-tomentose, becoming glabrous with age. *Leaves* with petioles 6 – 16 mm long, tomentose, canaliculate; laminae coriaceous, elliptic to obovate-oblong or oblong, 3 – 25 × 3 – 9 cm, the apex obtuse to shortly acuminate, the acumen 0 – 10 mm long, rounded to cuneate and often slightly asymmetric at base, usually plane rarely slightly bullate above, sparse to dense-hirsutulous beneath; midrib impressed above, prominent and pubescent when young beneath; secondary veins 8 – 22 pairs; *stipules* triangular, 2 –

4 mm long, pubescent, subpersistent. *Inflorescence* dense glomerules on upper portion of petioles. *Flowers* hermaphrodite, sessile or with short pedicels 0.25 – 2 mm long; calyx 3.5 – 5.5 mm long, tomentose on exterior, the lobes unequal; corolla exceeding calyx lobes, with 2 larger bicucullate lobes and 3 smaller

simple lobes, united at base into a very short tube, the tube glabrous on exterior, filled by a lanate mass of hair within; fertile stamens 3, staminodes 2; ovary 3 pilose, styles 3 united, apex trifid pubescent throughout. *Fruit* oblong-ellipsoid, to 3 cm long, epicarp shortly appressed velutinous pubescent. Fig. 1J – M.

Key to the varieties of *Tapura amazonica*

1. Small tree to 8 m tall; leaves 6 – 25 cm long, obtuse to acuminate at apex **5a. var. amazonica**
 1. Large tree to 30 m tall; leaves 3 – 7.5 (– 9) cm long, retuse to acute at apex **5b. var. manausensis**

5a. *Tapura amazonica* Poepp. & Endl. var. *amazonica*

Small tree to 8 m tall; leaves 6 – 25 cm long, obtuse to acuminate at apex.

ILLUSTRATIONS. Baillon (1886: t. 77); Prance (1972: 57, Fig. 22E – K); Prance (1980: 11, Fig. 3J – M); Amorim *et al.* (2016): 753, Fig. 4A – C.

DISTRIBUTION AND HABITAT. Widespread in Amazonia and central Brazil. Colombia: Amazonas, Caquetá, Guaviare, Vaupés; Venezuela: Amazonas; the Guianas; Ecuador: Napo, Orellana, Pichincha, Sucumbíos; Peru: Amazonas, Loreto; Brazil: Amazonas, Distrito Federal, Goiás, Mato Grosso, Maranhão, Pará, Rondônia, Tocantins; Bolivia: Beni, Cochabamba, Pando, Santa Cruz, forest on terra firme and cerradão.

CONSERVATION STATUS. Listed as least concern (LC) in the IUCN Red list:

Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group. 2019. *Tapura amazonica*. *The IUCN Red List of Threatened Species* 2019: e.T144046458A149019525. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144046458A149019525.en>. Downloaded 9 Nov. 2020.

NOTE. Baillon (1886) gave no indication of what specimens fell into his three varieties *cuspidata*, *dasyphylla* and *sublanceolata* of this species and hence these names remain untypified.

5b. *Tapura amazonica* Poepp. & Endl. var. *manausensis* Prance, *Fl. Neotrop. Monogr.* 10: 58 (1972). Type: Brazil. Amazonas: Manaus, Igarapé Mindu, 12 July 1929, W. A. Ducke RB 23654 (holotype US1516530; isotypes G00357698, INPA8622, K000450045, RB00542247, S08-19763, U1294294). W. A. Ducke s.n. (same data probable isotypes NY1104803, P01900813).

Large tree to 30 m tall; leaves 3 – 7.5 (– 9.5) cm long, oblong to elliptic, retuse or acute at apex.

DISTRIBUTION AND HABITAT. Brazil: Amazonas, forest on terra firme near to Manaus.

CONSERVATION STATUS. Least concern (LC).

6. *Tapura bullata* Standl., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 22 (2): 86 (Standley 1940). Type: Colombia. Sur de Santander: vicinity of Barranca Bermeja, between Sogamosa and Colorado rivers, 11 Jan. 1935, O. Haught 1510 (holotype F-V0055116; isotypes BM000839928, COL000002044, MO1701862, NY467967, US00109162).

Small tree, the young branches sparsely pubescent, becoming glabrous with age. *Leaves* with petioles 11 – 16 mm long, sparsely pubescent, becoming glabrous, shallowly canaliculate, rugose; lamina coriaceous, oblong-lanceolate, 15 – 23 × 4.8 – 6.5 cm, the apex acuminate, the acumen 10 – 25 mm long, subcuneate and markedly asymmetric at base, glabrous except for a few stiff appressed hairs beneath; midrib slightly impressed to plane above, prominent and sparsely appressed pubescent beneath; *stipules* lanceolate, to 7 mm long, persistent, tomentellous. *Inflorescence* dense-flowered sessile glomerules on upper portion of petioles. *Flowers* hermaphrodite, sessile, ovate to lanceolate, tomentellous; calyx c. 5 mm long, tomentellous on exterior, the lobes unequal; corolla exerted beyond calyx lobes, with 3 large lobes (the apex not cucullate) and 2 small almost filamentous lobes, united at base into a short tube, the tube densely lanate within; fertile stamens 3, staminodes 2; ovary pilose on exterior, styles 3, united with a trifid apex, hirsute throughout.

DISTRIBUTION AND HABITAT. Known only from the type specimen from Sur de Santander, Colombia.

CONSERVATION STATUS. This species is listed as critically endangered in the *Colombian Red Data book*, Calderón *et al.* (2002), CR B1ab(iii).

7. *Tapura capitulifera* Baill., *Adansonia* 2: 112 (Baillon 1873); Prance, *Fl. Venez. Guayana* 4: 671 (1998); Prance, *Fl. Guianas* A27: 108 (2009). Type: Venezuela. Amazonas: Rio Casiquiari, Dec. 1853, R. Spruce 3188 (holotype

P01900808; isotypes BM000839926, BR0000006991425, C10010709, CGE, E00326482, F-V0044119, G-258873/1, GH00045297, GH00045298, GOET003108, K000450053, LD1747394, LE00003030, NY467968, OXF, P01900809, RB00538302, W).

Chailletia capitulifera Spruce ex Baill., *Compt. Rend. Assoc. Franc. Avancem. Sci.* 1874: 479 (Baillon 1874b), **nom. nud.**

Tree to 15 m tall, the young branches tomentellous, soon glabrous. *Leaves* with petioles 5 – 15 mm long, tomentellous when young, becoming less so with age, canaliculate; lamina coriaceous, oblong to obovate-lanceolate, 5 – 12 × 1.8 – 5 cm, the apex acuminate, the acumen 3 – 10 mm long, subcuneate and slightly asymmetric at base, glabrous or with a few stiff appressed hairs only beneath, papillose; midrib slightly impressed above, prominent and with a sparse appressed pubescence beneath; secondary veins 9 – 15 pairs; *stipules* triangular-lanceolate, c. 1.5 mm long, pubescent, caducous. *Inflorescence* of dense-flowered glomerules inserted on upper portion of petioles. *Flowers* hermaphrodite, sessile or subsessile; calyx 2 – 3 mm long, grey-tomentellous on exterior, the lobes unequal; corolla slightly exceeding the calyx lobes, with 2 large bicucullate lobes and 3 slightly smaller simple lobes, united at base to form a short tube, the tube glabrous on exterior, filled by a dense lanate mass within; fertile stamens 5, alternating with corolla lobes, the filaments inserted on corolla tube at base of lobes, lanate at base, staminodes absent; ovary pilose on exterior, styles 3 united with trifid apex. *Fruit* ellipsoid, usually unilocular, 12 – 18 mm long; epicarp short-dense-velutinous-tomentose.

ILLUSTRATIONS. Prance (1972: 61, Fig. 24A – E); Prance (1998: 679, Fig. 529); Prance (2009: 109, Fig. 12).

DISTRIBUTION AND HABITAT. Venezuela: Amazonas, Bolívar, Delta Amacuro and the Guianas, primary forests on terra firme.

CONSERVATION STATUS. Least concern (LC).

8. *Tapura colombiana* Cuatrec., *Lloydia* 11: 220 (Cuatrecasas 1949). Type: Colombia. Valle del Cauca: between Tabor and Carrizales, 23 Oct. 1946, J. Cuatrecasas 22470 (holotype F-V0055118; isotypes BC638965, COL00002045, F-V0055119, MO1230826, P01900807, S-R-10291, U0001576, US00109164).

Tree 8 m tall, the young branches sparsely pubescent, becoming glabrous with age. *Leaves* with petioles 7 – 10 mm long, sparsely pubescent, becoming glabrescent, rugose, terete; lamina coriaceous, obovate-oblong, 9 – 16 × 3 – 6.5 cm, the apex abruptly

acuminate, the acumen 5 – 10 mm long, cuneate and slightly asymmetric at base, glabrous beneath; midrib prominent above, glabrous and prominent beneath; secondary veins 6 – 7 pairs. *Stipules* caducous (not seen). *Inflorescence* of dense sessile glomerules inserted on upper portion of petioles. *Flowers* hermaphrodite, sessile; calyx 5 – 6 mm long, yellow-brown-velutinous-tomentellous on exterior, the lobes slightly unequal; corolla exerted beyond calyx lobes, with 4 equal short bicucullate lobes united at base into a long tube, the tube glabrous on exterior, densely lanate within; fertile stamens 4, the filaments inserted on corolla tube at base of the lobes, lanate pubescent, staminodes absent; ovary hirsute, styles 2 or 3, if 2 then one deeply divided near to apex, hirsute throughout.

DISTRIBUTION AND HABITAT. Colombia: Antioquia, Valle del Cauca, montane forest 1700 – 2400 m.

ADDITIONAL COLLECTION. COLOMBIA. Antioquia: Verreda La corrala, Finca La Zarza, Caldas, 6.08333, -75.6, 2440 m, 22 June 1987, Escobar *et al.* 7762 (MO, US).

CONSERVATION STATUS. This species is listed as vulnerable in the Colombian Red Data book, Calderón *et al.* (2002), VU A2c+4c.

9. *Tapura coriacea* J.F. Macbr., *Publ. Field Mus. Nat. Hist., Bot. Ser.* 11: 68 (Macbride 1931); *Publ. Field Mus. Nat. Hist., Bot. Ser.* 13 (3): 960 (Macbride 1950). Type: Peru. Loreto: near Iquitos, Oct. 1929, G. Klug 602 (holotype F-V0042535; isotypes G-260260/1, NY000467971, US00109165).

Small to medium sized tree, the young branches sparsely puberulous-glabrescent. *Leaves* with petioles 5 – 10 mm long, sparsely puberulous becoming glabrous with age, shallowly canaliculate; lamina oblong to oblong-elliptic, coriaceous, 5.5 – 11.5 cm long, 1.8 – 4.2 cm broad, acuminate at apex, the acumen 5 – 10 mm long, cuneate to subcuneate and equal or slightly unequal at base, glabrous beneath; midrib impressed above, prominent and glabrous beneath; primary veins 6 – 8 pairs, arcuate, anastomosing. *Stipules* triangular, 1.5 – 2 mm long, tomentose, caducous. *Inflorescence*, of dense-flowered sessile glomerules on upper portion of petioles. *Flowers* androdioecious, pedicels 1.5 – 2 mm long, tomentellous; calyx 3 – 4 mm long, grey-tomentellous on exterior, the lobes slightly unequal; corolla exerted well beyond calyx lobes, of 3 equal lobes two of which are markedly bicucullate, and the third only slightly bifid, united at base into a long tube, the tube puberulous-glabrescent on exterior, tomentose within; fertile stamens 3, staminodes absent, ovary reduced to a residual swelling in flowers examined.

ILLUSTRATION. Prance (1972: 53, Fig. 20D – F).

DISTRIBUTION AND HABITAT. Lowland rainforest on terra firme in Colombia: Amazonas; Ecuador: Napo, Orellana, Pastaza; Peru: Amazonas, Huanuco, Loreto, Madre de Dios; Brazil: Acre, Rondônia.

ADDITIONAL COLLECTIONS. **ECUADOR.** Napo: Orellana, Parque Nacional Yasuní, 230 m, 0°48'S, 76°28'W, 6 Oct. 1993, *Dik* 725 (K, MO, QCNE). **BRAZIL.** Acre: Mun. Cruzeiro do Sul, mouth of Igarapé São João do Breu. -9.13333, -72.75, 18 March 1992, C. A. *Cid Ferreira* 10853 (INPA, MO, NY, UFA).

CONSERVATION STATUS. Least concern (LC).

10. *Tapura costata* Cuatrec., *Lloydia* 11: 221 (Cuatrecasas 1949). Type: Colombia. Valle del Cauca: Río Calima, 10 m, 7 March 1944, *J. Cuatrecasas* 16746 (holotype F-V0055120; isotype COL000002047, MO1230827).

Tree to 20 m tall, the young branches sparsely puberulous, glabrescent. *Leaves* with petioles 8 – 15 mm long, sparsely puberulous, glabrescent, rugose; lamina coriaceous, not bullate, oblong-lanceolate 9 – 16 × 4 – 5 cm, glabrous and papillose beneath, the apex abruptly acuminate, the acumen 4 – 10 mm long, cuneate at base symmetric or slightly asymmetric, the margins revolute; midrib prominent above; secondary veins 7 – 8 pairs, widely spaced. *Inflorescence* a few-flowered sessile glomerule inserted on petiole near to lamina base; calyx grey-tomentellous on exterior, lobes equal; stamens 4; ovary lanate, styles 2 – 3, pubescent at base.

DISTRIBUTION AND HABITAT. Atlantic coastal Colombia: Valle del Cauca, lowland forest.

ADDITIONAL COLLECTION. **COLOMBIA.** Valle del Cauca: Buenaventura, Bajo Calima, 100 m, 3°59'N, 76°58'W, 11 July 1984, *Gentry et al.* 47887 (MO).

CONSERVATION STATUS. This species is listed as endangered in the *Colombian Red Data book*, Calderón *et al.* (2002), EN B1ab(iii). It is still only known from three collections from the same area.

In Prance (1972) because the type only had immature flower buds, I mistakenly treated this species as a synonym of *Stephanopodium peruvianum*. As noted in

Prance (1983a), further material has shown it to be a distinct species of *Tapura* as was originally concluded by Cuatrecasas.

11. *Tapura cubensis* (Poepp. & Endl.) Griseb., *Cat. Pl. Cub.*: 56 (Grisebach 1866); *Chailletia cubensis* Poepp. & Endl., *Nov. Gen. et Sp.* 3: 41, t. 246 (Poeppig & Endlicher 1843). Type: Cuba, Las Piedras, 1824, *E. F. Poeppig* s.n. (holotype W0049023; isotype P04022898).

Tapura cubensis var. *wrightiana* Baill., *Fl. Bras. (Martius)* 12 (1): 375 (Baillon 1886). Type: C. *Wright* 2220 (lectotype, **designated here**, P04764436; isoelectotypes BM, G00357766, G00357767, GH, GOET003109, K000450038, LE00003031, NY001498509, NY001498510, S08-19793, UC, US00958220, W, YU244760, YU244761).

Tapura obovata Britton & P. Wilson, *Bull. Torrey Bot. Club* 43 (9): 465 (in Britton 1916). Type: Cuba, Isle of Pines, 19 – 20 March 1916, *N. L. Britton & P. Wilson* 15607 (holotype NY0074484; isotypes F-V0055114, MO197637, P, S-R-10294; US00109171).

Small to medium sized tree or shrub, the young branches sparsely pubescent, soon becoming glabrous. *Leaves* with petioles 2 – 7 mm long, puberulous to glabrous, rugose, shallowly canaliculate; lamina thickly coriaceous, oblong, orbicular, elliptic or lanceolate, 2 – 10 × 1 – 5.8 cm, the apex rounded to acute or rarely bluntly acuminate, rounded to subcuneate and symmetric at base, glabrous beneath, margin slightly revolute; midrib slightly impressed above especially on lower portion, prominent and glabrous beneath or with a few stiff appressed hairs; secondary veins 5 – 8 pairs; *stipules* deltoid, to 1 mm long, caducous. *Inflorescence* of many-flowered sessile glomerules on upper portion of petioles. *Flowers* hermaphrodite, sessile; calyx 2 – 4.5 mm long, puberulous on exterior, the lobes unequal; corolla exceeding calyx lobes, with 2 large bicucullate lobes and 3 smaller simple lobes, united at base to form a distinct tube, the tube glabrous on exterior, sparsely pubescent at base of lobes within; fertile stamens 3, staminodes 2; ovary, pilose on exterior, styles 3 united with trifid apex, pubescent throughout. *Fruit* roundish, 1.0 – 1.5 cm diam.; epicarp with a short appressed pubescence.

Key to the subspecies of *Tapura cubensis*

1. Leaves 4 – 10 cm long, elliptic, orbicular to oblong; calyx c. 5 mm long; inflorescence many-flowered; corolla tube short. 11a. subsp. **cubensis**
1. Leaves 2.6 – 5 cm long, elliptic to lanceolate; calyx c. 3 mm long; inflorescences few-flowered (4 – 8 flowers); corolla tube long. 11b. subsp. **minor**

11a. *Tapura cubensis* subsp. *cubensis*

Tree. Leaves 3 – 10 × 1.7 – 5.8 cm, oblong, obovate, elliptic or orbicular. Calyx 3 – 4.5 mm long; corolla tube short. *Inflorescences* many-flowered.

ILLUSTRATION. Prance (1972: 57, Fig. 22A – D).

DISTRIBUTION AND HABITAT. Cuba and Isle of Pines, and Cerro Jefe, Panama, growing on a wide range of habitats on acid soil. Collected from Serpentine Barrens, dry woods, wet woodland, coastal thicket and pinelands.

ADDITIONAL COLLECTION. PANAMA. Panamá: Cerro Jefe. 700 m, 9°11'30"N, 79°23'55"W, 23 Feb. 1970, Dressler 3825 (MO).

CONSERVATION STATUS. Least concern (LC).

The original description of var. *wrightiana* cited two Wright specimens, 1299 and 2220 and so it was necessary to choose one as a lectotype. As 2220 is chosen here because it is the flowering specimen and the syntype Wright 1299 (BR, G, GH, GOET003110, K, LE, MO, P04764435, S08-19794, YU244760), the fruiting specimen, now becomes a lectoparatype.

11b. *Tapura cubensis* subsp. *minor* Prance, *Fl. Neotrop. Monogr.* 10: 63 (1972). Type: Cuba. Oriente: Centeno, Moa, June 1945, A. Clémente Tétéau 4367 (holotype GH000452965; isotype US00109166).

Small shrub. Leaves 2 – 6 × 0.8 – 2.8 cm, lanceolate or narrowly oblong. Calyx 2 – 3 mm long; corolla tube long. *Inflorescence* few-flowered.

DISTRIBUTION AND HABITAT. Cuba: Oriente Province, confined to pinelands and Serpentine Barrens.

CONSERVATION STATUS. Near threatened (NT).

12. *Tapura follii* Prance, *BioLania* 6: 492, Fig. 1A, B (1997b). Type: Brazil. Espírito Santo: Reserva Florestal da Linhares, CVRD, -19.391099, -40.0722007, 100 m, 10 Feb. 1994, D. A. Follie 2207 (holotype CVRD4831; isotypes CEPEC101417, K450048, RB623245).

Tree to 15 m tall, the young branches appressed puberulous, glabrescent. *Leaves* with petioles 5 – 8 × 2.5 – 3 mm, striate, velutinous, glabrescent; lamina chartaceous, oblong, 5 – 9 × 1.5 – 4.5 cm, glabrous on both surfaces, except for villous midrib beneath, apex abruptly acuminate, base obtuse; midrib impressed above; secondary veins 6 – 8 pairs; *stipules* 2 – 3 mm long, early caducous. *Inflorescence* sessile glomerules, inserted on apical portion of petiole. *Flowers* hermaphrodite, subsessile, pedicels c. 1 mm long; calyx lobes unequal, tomentose on exterior; corolla exceeding

calyx lobes, the lobes united at base into a tube 3 – 4 mm long; stamens 3; ovary pilose at apex, style 6 – 7.5 mm long. *Young fruit* globose, epicarp densely ferruginous tomentose.

ILLUSTRATION. Amorim *et al.* (2016: 749, Fig. 1A – C; 750, Fig. 2A – D).

DISTRIBUTION AND HABITAT. Brazil: Espírito Santo, Atlantic coastal forest. Map 3C.

CONSERVATION STATUS. Listed as critically endangered (CR), B2ab(ii)+D, by Amorim *et al.* (2016). Fernandez, E. & Gomes, M. (2020). *Tapura follie*. *The IUCN Red List of Threatened Species* 2020: e.T163480404A169279080. <https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T163480404A169279080.pt>. Downloaded 9 Nov. 2020.

13. *Tapura guianensis* Aubl., *Hist. Pl. Guiane* 1: 126, t. 48 (Aublet 1775); Prance, *Fl. Venez. Guayana* 4: 671 (1998); Prance, *Fl. Guianas* A27: 110 (2009); *Man. Pl. Costa Rica* 5: 202 (Prance *et al.* 2010). Type: J. B. C. F. Aublet s.n., French Guiana, (lectotype, **designated here**, BM000839927).

Rohria schreberi J.F.Gmel., *Syst. Nat.*, ed. 13 [bis] 2 (1): 93 (Gmelin 1791).

Rohria tapura J.F.Gmel., *Syst. Nat.*, ed. 13 [bis] 2 (1): 93 (Gmelin 1791).

Rohria petioliflora Willd., *Sp. Pl.* 1(1): 186 (Willdenow 1797). Type: *Collector unknown* s.n. (LINN).

Chailletia sessiliflora DC., *Nouv. Bull. Soc. Philom. Paris* 40: 205 (De Candolle 1811a); *Ann. Mus. Natl. Hist. Nat. Paris* 17: 153 (De Candolle 1811b). Type: J. Martin s.n., French Guiana, (holotype G-DC; isotype P01900805).

Tapura cucullata Benth., *Hooker's J. Bot. Kew Gard. Misc.* 5: 292 (Bentham 1853). Type: Brazil. Amazonas: Jan. 1852, R. Spruce 2226 (**lectotype, designated here**, K000450046; isolectotypes BM000839924, K000450047, M0217847, P01900804, TCD0004090, W).

Tapura negrensis Suess., *Repert. Spec. Nov. Regni Veg.* 51: 199 (Suessenguth 1942). Type: Brazil. Amazonas: Rio Negro, S. Felipe, Sept. 1922, P. von Luetzelburg 22231 (holotype M0217842).

Tree to 9 m tall or shrub, the young branches glabrous or sparsely puberulous, glabrescent. *Leaves* with petioles 5 – 15 mm long, sparsely puberulous to appressed pubescent when young becoming less pubescent with age, rugose, terete to shallowly canaliculate; lamina coriaceous, most frequently oblong to ovate-elliptic rarely oblong-lanceolate or lanceolate, 6 – 23 × 2.1 – 9 cm, the apex acuminate, the acumen 4 – 18 mm long, rounded to cuneate and asymmetric at base, glabrous or with a few stiff appressed hairs beneath; midrib impressed above, prominent and glabrous or with a few stiff appressed hairs only beneath; secondary veins

7 – 14 pairs; *stipules* lanceolate, to 2 mm long, caducous. *Inflorescence* of dense sessile glomerules inserted on upper portion of petioles. *Flowers* hermaphrodite, sessile or on short pedicels; calyx 3.5 – 5.5 mm long, tomentellous to sparsely puberulous on exterior, the lobes unequal; corolla exerted beyond calyx lobes, consisting of 2 larger bicucullate and 3 smaller simple lobes, united at base to form a long tube, the tube glabrescent on exterior, filled by a dense lanate mass within; fertile stamens 3, the bases densely pubescent, staminodes 2; ovary 3 locular pilose-tomentose, styles 3, united with trifold apex, pubescent throughout. *Fruit* ellipsoid to narrowly oblong; epicarp with a short compact velutinous pubescence.

ILLUSTRATIONS. Prance (1971: 15, Figs f – h); Prance (1998: 670, Fig. 530); Prance *et al.* (2010: 202).

DISTRIBUTION AND HABITAT. Costa Rica: Alajuela, Heredia, Limón; Panama: Darién, San Blas; Colombia: Antioquia, Caquetá, Santander, Valle del Cauca; Venezuela: Amazonas, Bolívar, Delta Amacuro; the Guianas; Peru: Loreto, San Martín; Ecuador: Morona-Santiago, Napo, Sucumbíos; Amazonian Brazil: Amapá, Amazonas, Mato Grosso, Pará, Rondônia, Roraima. Widespread in lowland terra firme and flooded forests, 0 – 1350 m.

ADDITIONAL COLLECTIONS. COSTA RICA. Heredia: Sarapiquí, Parque Nacional Braulio Carrillo, Puesto El Ceibo, 765 m, 10°17'24"N, 84°04'12"W, 20 March 1994, Boyle & Espino 2996 (CR, MO). **PANAMA.** Darién: Cerro Tacarcuna, W ridge of Cerro Mali, 1150 – 1350 m, 8°07'N, 77°22'W, 23 Jan. 1975, Gentry & Mori 13840 (MO, NY). **COLOMBIA.** Antioquia: Puerto Berrío, vereda Alicante, vía San Juan de Bedout, La Cabaña, 2 March 1990, Callejas 9291 (HUA, K, MO, NY). **ECUADOR.** Napo: Orellana, Estación Experimental INIAP-Payamino, 5 km N of Coca, 250 m, 0°26'S, 77°00'W, 18 Feb. 1986, Palacios 1045 (MO, NY, QAME).

CONSERVATION STATUS. Listed as least concern (LC) in the IUCN Red List:

Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group (2019). *Tapura guianensis*. *The IUCN Red List of Threatened Species* 2019: e.T144046617A149056662. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144046617A149056662.en>. Downloaded 9 Nov. 2020.

Material collected since 1972 has greatly extended the known distribution of this species. One of the two collections of Spruce 2226 at Kew is chosen as the lectotype of *Tapura cucullata* here.

14. *Tapura haitiensis* Urb. & Ekman, *Ark. Bot.* 20A (15): 44 (in Urban 1926); Prance, *Brittonia* 36: 15 – 17 (1984). Type: Haiti, Massif de la Hotte, 2 Dec. 1925,

E. L. Ekman 5241 (holotype S-R-10292; isotypes S08-19814, US00109168).

Tree 4 – 5 m tall, much branched, the young branches puberulous, soon glabrous. *Leaves* with petioles 1.5 – 8 mm long, sparsely appressed pubescent when young, becoming rugose, terete; laminae broadly obovate to orbicular, 3 – 8.5 × 2.5 – 6.5 cm, the apex retuse or rounded, rounded to subcuneate at base, glabrous beneath, margins revolute; midrib slightly impressed above at least on lower portion, prominent beneath and with a few stiff appressed hairs only; secondary veins 6 – 8 pairs; *stipules* triangular, c. 1 mm long, caducous. *Inflorescence* of few-flowered (2 – 4) sessile glomerules on midrib just above the junction with the petiole. *Flowers* hermaphrodite, sessile; calyx 5 – 6 mm long, puberulous on exterior, the lobes extremely unequal with 3 large ones and 2 much smaller; corolla exceeding calyx lobes, with 2 large bicucullate lobes and 3 smaller, simple lobes, united at base to form a distinct tube, the tube glabrous on exterior, sparsely hirsutulous on inner surface, white turning cream with age; fertile stamens 3, staminodes 2; disc circular and lobed, inserted tightly appressed between base of corolla tube and ovary; ovary tomentellous on exterior, styles 3, united, hirsutulous for entire length, apex trifold. *Young fruit* ovoid, epicarp with short, appressed pubescence.

DISTRIBUTION AND HABITAT. Known only from Massif de la Hotte in Haiti.

ADDITIONAL COLLECTION. HAITI: Dept. de la Grand'Anse. Massif de la Hotte, 44 km S of Roseaux on road to Camp Perrin, 780 m, 14 Nov. 1982, W. R. Buck 9188 (NY).

CONSERVATION STATUS. Critically endangered (CR), B1a(iii).

This species was described in 1926 by Urban and Ekman based on sterile material. The collection by Buck cited above enabled a full description to be made of this rare and threatened species in Prance (1984).

15. *Tapura juruana* (Ule) Rizzini, *Revista Bras. Biol.* 12 (1): 106 (1952); *Gonypetalum juruanum* Ule, *Verh. Bot. Vereins Prov. Brandenburg* 38: 174 (1907). Type: Brazil. Amazonas: Rio Jurua, 1900, *E. Ule* 5172 (holotype B lost; photos F, MO, NY; lectotype, designated here MG005146; isolectotypes F0044118 frag, G00357764, HBG506965, K000450049, L, RB 20716).

Tree to 20 m tall, the young branches shortly tomentellous, soon glabrous. *Leaves* with petioles 5 – 12 mm long, shortly tomentellous when young, canaliculate; laminae chartaceous, oblong, 6 – 16 × 2.2 – 4.5 cm, the apex

acuminate, the acumen 8 – 15 mm long, subcuneate and slightly asymmetric at base, sparsely appressed hirsutulous beneath; midrib impressed above, prominent and appressed pubescent-glabrescent beneath; secondary veins 12 – 17 pairs; *stipules* lanceolate, c. 2 mm long, pubescent, subsistent. *Inflorescence* borne in 2 short clustered cymes inserted on upper portion of petioles, peduncles 1 – 4 mm long. *Flowers* hermaphrodite, sessile; calyx 3 – 4 mm long, grey-puberulous on exterior, the lobes unequal; corolla exceeding calyx lobes, with 2 large bicucullate lobes and 2 smaller simple lobes, the larger lobes free almost to base, the other lobes and filaments united into a small tube, the tube glabrescent on exterior, filled by a dense lanate mass of hair within; fertile stamens 3, staminodes 2; ovary tomentose on exterior, styles 3 united with a trifid apex, sparsely pubescent. *Fruit* ellipsoid, c. 1.5 cm long; epicarp with a dense compact pubescence.

ILLUSTRATION. Engler & Krause (1931, Fig. 5 E – L).

DISTRIBUTION AND HABITAT. Western Amazonia, Colombia: Amazonas, Guaviare; Peru, Loreto, Madre de Dios, Pasco; Ecuador: Napo, Orellana, Pastaza; Brazil: Acre, Amazonas, Rondônia; Bolivia: Beni, La Paz, Pando, Santa Cruz, periodically flooded forest and beside rivers.

ADDITIONAL COLLECTION. ECUADOR. Pastaza: Vía Auca, 110 km S of Coca, 10 km from Río Tigüino, 320 m, 1°15'S, 76°55'W, 7 Jan. 1989, *Palacios et al.* 3373 (K, MO).

CONSERVATION STATUS. Listed as least concern (LC) in the IUCN Red List (BGCI *et al.* 2019). Botanic Gardens Conservation International (BGCI) & IUCN SSC Global Tree Specialist Group. 2019. *Tapura juruana*. *The IUCN Red List of Threatened Species* 2019: e.T144046672A149034395. <https://doi.org/10.2305/IUCN.UK.2019-2.RLTS.T144046672A149034395.en>. Downloaded 18 Nov. 2021.

16. *Tapura lanceolata* (Ducke) Rizzini, *Revista Bras. Biol.* 12: 105, Fig. 28 (1952). *Gonypetalum lanceolatum* Ducke, *Bull. Mus. Natl. Hist. Nat.*, ser. 2, 4: 737 (1932); *Arq. Jard. Bot. Rio de Janeiro* 6: 43 (Ducke 1933). Type: Brazil. Amazonas: Manaus, 2 Feb. 1930, *W. A. Ducke* RB 23657 (lectotype of Prance (1972) RB00538293; isolectotypes CEPEC130527, G00357763, INPA9038, K000450050, MBM353495, NY0000944, NY0000945, P, RB00542254, S-R-10297, U0001577, US00109176). Possible isolectotypes, same date F-V0092293, MG195571, SP415678.

Small to medium sized tree to 18 m tall, the young branches sparsely puberulous, soon glabrous. *Leaves* with petioles 5 – 12 mm long, sparsely appressed pubescent, rugose, canaliculate; laminas chartaceous,

oblong-elliptic, 6 – 14 × 2 – 5.5 cm, the apex acuminate, the acumen 6 – 20 cm long, subcuneate and slightly asymmetric at base, glabrous except for a few stiff appressed hairs towards base beneath; midrib impressed above, prominent and glabrous beneath; secondary veins 9 – 13 pairs; *stipules* triangular, c. 1 mm long, pubescent, caducous. *Inflorescence* of many-flowered sessile glomerules inserted on upper portion of petioles. *Flowers* hermaphrodite; pedicels 1 – 2 mm long, pubescent; calyx 2.5 – 3 mm long, grey-puberulous on exterior, the lobes unequal; corolla exerted beyond calyx lobes, with 2 large bicucullate lobes and 3 smaller simple lobes, the lobes united at base to form a distinct tube, the tube sparsely pubescent, glabrescent on exterior, lanate within; fertile stamens 5 (– 4), filaments lanate pubescent at base, staminodes absent; ovary, pilose-tomentose on exterior, styles, united with trifid apex, pubescent throughout. *Fruit* not seen.

DISTRIBUTION AND HABITAT. Brazil: Amazonas. Known only from forest on non-flooded ground around Manaus and the Rio Negro region.

CONSERVATION STATUS. Vulnerable (VU) A1a,B1ab(i,ii,iii),

17. *Tapura latifolia* Benth., *Hooker's J. Bot. Kew Gard. Misc.* 5: 291 (Bentham 1853). Type: without locality (certainly from Lesser Antilles), *Herb. Forsyth* s.n. (holotype K000450039; isotype K000450040).

Tapura pedicellaris Chodat, *Bull. Herb. Boissier* 4: 498 (1896), **nom. nud.** Type: Martinique, May 1870, *L. Hahn* 1478 (BM, BR, K000450040, W).

Tapura antillana Gleason, *N. Amer. Fl.* 25: 382 (1924). Type: Lesser Antilles, Dominica, 1915, *W. C. Fishlock* 13 (holotype, NY00074483; isotypes, F-V0055111, F-V0055112, F-V0055113, GH000045295, K, MO251934, NY, US00109160, US00958246).

Tree to 18 m tall, the young branches glabrous. *Leaves* with petioles 7 – 13 mm long, glabrous, rugose, terete or shallowly canaliculate; laminas thickly coriaceous, oblong, oblong-ovate, or elliptic, 6.5 – 15 × 2.5 – 7.5 cm, the apex acute or bluntly acuminate, rounded to subcuneate and markedly asymmetric at base, glabrous or with a few stiff appressed hairs towards base beneath; midrib impressed at least on lower portion above, sometimes plane on upper portion, prominent and glabrous or with a few appressed hairs beneath; secondary veins 7 – 12 pairs; *stipules* triangular, to 2 mm long, puberulous, caducous. *Inflorescence* of dense-flowered sessile glomerules inserted on upper portion of petioles. *Flowers* hermaphrodite, pedicels 2.5 – 4.5 mm long, pubescent; calyx 4.5 – 5.5 mm long, grey-tomentellous on exterior, the lobes unequal;

corolla exerted beyond calyx lobes, with 2 large bicucullate lobes, and 3 smaller simple lobes, united at base to form a distinct tube, the tube sparsely puberulous to glabrous, filled by a lanate mass within, fertile stamens 3, staminodes 2; ovary tomentose-pilose on exterior, styles 3, united, apex trifid, pubescent throughout. *Fruit* ellipsoid, c. 2 × 1.7 cm; epicarp short-dense-tomentose.

DISTRIBUTION AND HABITAT. Lesser Antilles from Guadeloupe to St. Lucia, forests.

CONSERVATION STATUS. Least concern (LC).

18. *Tapura magnifolia* Prance, *Brittonia* 40: 445, Fig. 3 (Prance 1988). Type: Ecuador. Pastaza: Río Curaray, near mouth of Río Queramo, 1°30'S, 76°32'W, 230 m, 29 Aug. 1985, W. Palacios & D. Neill 744 (holotype NY000467975; isotypes MO288035, QAME).

Tree 6 m tall, the young branches sparsely puberulous. *Leaves* with petioles 2.2–3.3 mm long, terete, rugulose, glabrous; lamina coriaceous, elliptic, 20–28 × 8–11 cm, glabrous above, apex acuminate, the acumen 12–16 mm long, subcuneate at base, with few stiff appressed hairs beneath; midrib slightly impressed above; secondary veins 10–13 pairs; *stipules* triangular, 3 mm long, caducous. *Inflorescence* of sessile glomerules on upper portion of petioles. *Flowers* hermaphrodite, pedicels 2–3 mm long; calyx lobes 5–6 mm long, grey-puberulous on exterior, unequal, corolla lobes, exerted, 2 larger bicucullate lobes and 3 smaller simple lobes fused into a tube at base; fertile stamens 3, staminodes 2; ovary pilose, styles 3, united, apex trifid, pubescent.

DISTRIBUTION AND HABITAT. Ecuador: Napo, Pastaza, lowland forest. Map 1.

CONSERVATION STATUS. Listed as near Threatened (NT) Rojas *et al.* (2004).

19. *Tapura martiniae* Amorim & D.S.Lisboa, *Syst. Bot.* 41: 748 (in Amorim *et al.* 2016). Type: Brazil. Bahia: Itacaré, road Ilhéus-Itacaré, Campo Cheiroso, 14°22'50"S, 39°02'23"W, 100–125 m, 21 Nov. 2015, A. M. Amorim, C. S. Pessoa, C. C. de Paula, D. S. Lisboa & J. L. Paixão 9905 (holotype CEPEC149053; isotypes FLOR, HUEFS229453, UESC23815, INPA, K, MBM, UESC23815, NY02859379, P01168076, 20B01191039, SPF).

Trees to 15 m tall, the young branches glabrescent, occasionally pendulous. *Leaves* with petioles 5–12 × 2.5–3 mm, striate, sparsely velutinous, glabrescent; lamina coriaceous, narrowly elliptic to lanceolate, 2.1–16.3 × 1–4 cm, margin strongly revolute, glabrous above, with sparse appressed caducous trichomes, beneath, apex acute or rarely retuse, base obtuse to cuneate, usually

symmetric; midrib impressed above; secondary veins 7–10 pairs, *stipules* 2–3 mm long, caducous. *Inflorescence* sessile, dense-flowered glomerules inserted on apical portion of petiole. *Flowers* hermaphrodite, subsessile, pedicels 1–2 mm long, articulated at base; calyx lobes 1.5–2 mm long, velutinous on exterior; corolla lobes fused into a tube at base c. 4 mm long; stamens 3; ovary pilose, styles 3, united, 7.5–9 mm long, apex trifid, lanate. *Fruit* spheroid, 1.8–2.2 × 1.7–1.8 cm, epicarp densely velutinous.

ILLUSTRATION. Amorim *et al.* (2016 Fig. 1D–L, Fig. 2E–I).

DISTRIBUTION AND HABITAT. Brazil: Bahia, lowland Atlantic rainforest. Map 3A.

CONSERVATION STATUS. Listed as critically endangered (CR), B1;B2ab(iii,iv)+D, by Amorim *et al.* (2016).

20. *Tapura mexicana* Prance, *Bull. Torrey Bot. Club* 103: 21, Fig. 1 (1976). Type: Mexico. Oaxaca: Pluma Hidalgo, 1944, C. J. Leyva s.n. (holotype NY000467962; isotype US00109170).

Small to medium sized tree, the young branches appressed-puberulous, soon glabrous. *Leaves* with petioles 7–13 mm long, rugose, appressed-puberulous, lamina coriaceous, oblong, 6–11.5 × 2.5–4 cm, glabrous on both surfaces; apex acute or acuminate, base subcuneate, the acumen 3–9 mm long, midrib plane above; secondary veins 10–13 pairs, nervation papillose beneath; *stipules* small, linear, caducous. *Inflorescence* of sessile glomerules inserted on upper portion of petiole. *Flowers* hermaphrodite, sessile; calyx lobes 3 mm long, appressed puberulous on exterior; corolla with 2 large, cucullate lobes and 3 small simple lobes, fused into a tube at base; fertile stamens 3, staminodes 2; ovary tomentellous, styles 3, lanate. *Fruit* elliptic, curved, 1.5–2 cm long, epicarp appressed tomentellous.

DISTRIBUTION AND HABITAT. Mexico: Oaxaca and Jalisco, gallery forest, 500–1070 m. Map 1.

ADDITIONAL COLLECTION. MEXICO. Jalisco: 4 Jan. 1990, Cochrane *et al.* 11923 (K).

CONSERVATION STATUS. Endangered (EN), A1(c), B1a,b(i,ii,iii).

21. *Tapura orbicularis* Ekman ex Urb., *Repert. Spec. Nov. Regni Veg.* 20: 305 (Urban 1924). Type: Cuba. Oriente: Sierra Nipe, 30 Sept. 1922, E. L. Ekman 15303 (holotype S-R-10295; isotypes G00357760, NY00074486, NY001498531, S08-19798, US00109173).

Small tree, the young branches sparsely puberulous, soon becoming glabrous. *Leaves* with petioles 1.5–4 mm long, glabrous, rugose, terete; lamina thickly coriaceous, orbicular to broadly obovate, 1.3–2.8 × 1

– 2 cm, rounded at apex, rounded and equal at base, glabrous beneath; midrib plane above, prominent and glabrous beneath; secondary veins 3 – 5 pairs, arcuate, anastomosing; *stipules* to 1 mm long, deltoid, subsistent. *Flowers* hermaphrodite, with short pedicels c. 0.5 mm long, borne in pairs or solitary on the upper portion of petioles; calyx 2.5 – 3 mm long, puberulous on exterior, the lobes slightly unequal; corolla included, with 2 large bicucullate lobes, and 3 smaller simple lobes, the lobes shortly connate at base, but not forming a tube, glabrous on exterior, with a few sparsely distributed hairs only within; fertile stamens 3, staminodes 2; ovary tomentose on exterior, styles 3, united at base glabrous, apex trifid. *Fruit* narrowly oblong, 1.1 – 2 cm long; epicarp with a short velutinous pubescence.

ILLUSTRATION. Engler & Krause (1931, Fig. 5A – D).

DISTRIBUTION AND HABITAT. Cuba: Oriente, confined to the arid scrublands of the Serpentine Barrens.

CONSERVATION STATUS. Listed as vulnerable by IUCN, B1+2c. Areces-Mallea, A. E. (1998). *Tapura orbicularis*. *The IUCN Red List of Threatened Species* 1998: e.T31640A9649432. <https://doi.org/10.2305/IUCN.UK.1998.RLTS.T31640A9649432.en>. Downloaded 9 Nov. 2020.

22. *Tapura panamensis* Prance, *Brittonia* 35: 50, Fig. 1 (1983a). Type: Panama. Panamá: mountains above Torti Arriba, Canazas Chain, 400 – 700 m, 8°56'01"N, 78°25'25"W, 3 Dec. 1977, J. P. Folsom, L. Collins & G. A. de Monte 6713 (holotype MO188400; isotype NY000467963).

Tree and possibly *liana*, the young branches sparsely pubescent, glabrescent. *Leaves* with petioles 4 – 6 mm long, rugose, sparsely puberulous, shallowly canaliculate; laminae thickly coriaceous, oblong to broadly ovate, 3.5 – 7 × 2.5 – 5 cm, glabrous on both surfaces; the apex bluntly acuminate, rounded or often retuse, rounded to subcordate and markedly asymmetric at base, margins slightly revolute; midrib slightly impressed above; secondary veins 8 – 12 pairs; *stipules* caducous. *Inflorescence* of sessile glomerules on petiole at junction with lamina. *Flowers* hermaphrodite, sessile; calyx lobes appressed hispid pubescent towards apex, glabrous below; corolla lobes 5, 3 larger and enveloping stamens in bud, free to base; stamens 3; ovary pilose, styles 3, united, glabrous, apex trifid.

DISTRIBUTION AND HABITAT. Panama: Panamá; Colombia: Chocó, upland forest, known from only two collections. Map 2A.

ADDITIONAL COLLECTION. COLOMBIA. Chocó: Zona de Urabá, Cerros del Cuchillo Negro, Riosucio, 100 – 300 m, 21 May 1988, Cárdenas *et al.* 2026 (MO).

CONSERVATION STATUS. Listed as vulnerable in the *Colombian Red Data book*, Calderón *et al.* (2002), VU B1ab(iii), D2.

The field notes of the type specimen of this species record it as a liana. The other collection mentions it as a tree which is more likely in *Tapura* which is a genus of trees and shrubs

23. *Tapura singularis* Ducke, *Trop. Woods* 90: 21 (1947); Rizzini, *Revista Bras. Biol.* 12 (1): 106 (1952); Prance, *Fl. Guianas* A27: 99 – 112 (2009). Type: Brazil. Pará: Belém, Bosque Municipal, 4 April 1946, W. A. Ducke 1930 (holotype MG018372; isotypes A00045305, F-V0055121, F-V0055122, GH00045305, IAN12523, INPA16528, K000450052, NY467978, NY335341, R000075386, R000075386a, RB00538304, RB00542245, US00109175).

Tree to 25 m tall, the young branches shortly tomentellous, becoming glabrous with age. *Leaves* with petioles 3 – 10 mm long, shortly tomentellous, becoming almost glabrous with age, canaliculate to terete, rugose; lamina coriaceous, oblong to oblong-lanceolate, 5 – 15 × 1.4 – 4.5 cm, acuminate at apex, the acumen 2 – 12 mm long, subcuneate and equal to slightly asymmetric at base, glabrous beneath except for a few stiff appressed hairs; midrib slightly impressed above, prominent beneath and with a stiff appressed pubescence, becoming glabrous with age; secondary veins 6 – 8 pairs; *stipules* lanceolate, to 4 mm long, persistent. *Inflorescence* of short axillary cymes, peduncles 1 – 12 mm long, tomentellous. *Flowers* hermaphrodite, pedicels 1.5 – 3 mm long; calyx 4 – 5 mm long, shortly pubescent on exterior, the lobes slightly unequal; corolla far exceeding calyx lobes, with 2 large bicucullate lobes and 3 small simple lobes, all lobes united at base to form a long tube, the tube sparsely pubescent-glabrescent on exterior, filled with a lanate mass of hair within; fertile stamens 3, staminodes 2; ovary tomentose on exterior, styles 3, united, apex trifid pubescent throughout. *Fruit* globose to ellipsoid, c. 2 cm long; epicarp with a dense compact velutinous pubescence.

ILLUSTRATION. Prance (1972: 55, Fig. 21A – E).

DISTRIBUTION AND HABITAT. Confined to forests of eastern Amazonian Brazil: Amapá, Pará and French Guiana on periodically flooded or non-flooded ground.

ADDITIONAL COLLECTION. FRENCH GUIANA, Borne Frontier no1, 2.21. -54.42, 3 Oct. 2006, Molino & Sabatier 2297 (CAY, US).

CONSERVATION STATUS. Least concern (LC).

24. *Tapura tessmannii* (K.Krause) Prance, *Fl. Neotrop. Monogr.* 10: 68 (1972). *Gonypetalum tessmannii*

K.Krause, *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 137 (1931). Type: Peru. Loreto: Isidro, 22 Jan. 1924, G. Tessmann 4987 (holotype B, lost; photos F, MO); lectotype, **designated here**, NY00000946; isolectotypes F-V0042534 frag, G-260239/1, S-R-10299).

Large tree, the young branches puberulous, becoming glabrous with age. *Leaves* with petioles 8 – 15 mm long, sparsely tomentellous, shallowly canaliculate; lamina coriaceous, oblong-elliptic, 5.5 – 6.8 × 2 – 3.5 cm broad, acuminate at apex, the acumen 3 – 7 mm long, subcuneate and equal at base; with a few sparse appressed hairs especially near to midrib beneath; midrib impressed above; prominent and appressed pubescent beneath; secondary veins 9 – 12 pairs; *stipules* triangular, to 3 mm long, pubescent, caducous. *Inflorescence* of many-flowered sessile glomerules on upper portion of petioles. *Flowers* hermaphrodite, sessile; calyx c. 3 mm long, grey-tomentose on exterior, the lobes unequal; corolla exerted beyond calyx lobes, with 2 large bicucullate lobes and 3 smaller simple lobes, the lobes united only at extreme base, glabrous on exterior, the lobes and staminal filaments with a dense lanate mass; fertile stamens 3, staminodes 2; ovary tomentose on exterior, styles 3, united, apex trifid.

DISTRIBUTION AND HABITAT. Known from the type collection from Peru: Loreto and from one collection from Brazil: Mato Grosso.

ADDITIONAL COLLECTION. BRAZIL. Mato Grosso: Aripuanã. Km 238, BR174, Nucleo Juína, 16 Jan. 1979, M. G. da Silva 4291 (IAN, NY).

CONSERVATION STATUS. Vulnerable (VU), A1a,c+B1ab(i,ii,iii,iv).

25. *Tapura wurdackiana* Prance, *BioLania* 6: 492, Fig 1C, J (1997b). Type: Brazil. Espírito Santo: Mun. Linhares, Reserva Natural da CVRD, Estrada Flamengo, 17 Dec. 1987, G. L. Farias 151 (holotype CVRD1698; isotypes CEPEC101415, K000370295, RB00623256).

Trees to 15 m tall, the young branches tomentose, glabrescent. *Leaves* with petioles 17 – 27 × 3 – 5 mm; lamina coriaceous, narrowly oblong, 5 – 25 × 3 – 10 cm, glabrous above, with dense grey-lanate pubescence beneath; apex obtuse or slightly acuminate, base obtuse; midrib impressed above; secondary veins 7 – 15 pairs; *stipules* ovate, c. 0.5 – 1 mm long, caducous. *Inflorescence* sessile, dense-flowered glomerules inserted on upper portion of petiole. *Flowers* sessile; calyx lobes c. 5 mm long, tomentose on exterior; corolla exceeding calyx, with 2 larger bicucullate lobes and 3 small simple lobes, united into a tubular base 3.5 – 4.5 mm long, filled by a dense mass of lanate hair within; fertile stamens 3,

staminodes 2; ovary tomentellous, styles 3, united, 7 – 8 mm long, trifid at apex, densely sericeous; disc of 3 flattened glands.

ILLUSTRATION. Amorim *et al.* (2016: 753, Fig. 4D – F; 754, Fig. 5A – E).

DISTRIBUTION AND HABITAT. Brazil: Alagoas, Bahia, Espírito Santo, lowland Atlantic coastal forest. Map 3B.

CONSERVATION STATUS. Listed as vulnerable (VU), B1; B2a, by Amorim *et al.* (2016). Fernandez, E. & Gomes, M. (2020). *Tapura wurdackiana*. *The IUCN Red List of Threatened Species* 2020: e.T163482711A169276602. <https://doi.org/10.2305/IUCN.UK.2020-2.RLTS.T163482711A169276602.pt>. Downloaded 9 Nov. 2020.

26. *Tapura zei-limae* Amorim & Fiaschi, *Syst. Bot.* 41: 752 (Amorim *et al.* 2016). Type: Brazil. Bahia: Mun. Itacaré, road Itacaré-Ubaituba, 7 km from Itacaré, RPPN Fazenda Capitão, 14°19'54"S, 39°01'45"W, 100 – 150 m, 15 Dec. 2014, A. M. Amorim, C. S. Pessoa & J. L. Paixão 8943 (holotype CEPEC; isotypes FLOR, INPA, K, P01168075, RB01191363, SPF, UESE23818).

Trees to 20 m tall, the young branches densely lanate, glabrescent. *Leaves* with petioles 6 – 25 × 4 – 5 mm, striate, densely lanate, later glabrescent; lamina coriaceous, elliptic to ovate, 5.5 – 22.6 × 2 – 11 cm, glabrous above, densely lanate when young beneath, glabrescent; apex abruptly acute or rarely retuse, base obtuse often unequal; midrib impressed above; secondary veins 7 – 16 pairs; *stipules* ovate, 2 – 3 mm long, caducous. *Inflorescence* sessile glomerules inserted on upper portion of petiole. *Flowers* hermaphrodite, subsessile, pedicels 1.5 – 2 mm long, articulated at base; calyx lobes tomentose on exterior; corolla lobes united into a tube 3.5 – 4 mm long at base; stamens 3; ovary glabrous, style 7.5 – 9 mm long, sericeous to lanate.

ILLUSTRATIONS. Amorim *et al.* (2016: 753, Fig. 4G – L; 754, Fig. 5F – I).

DISTRIBUTION AND HABITAT. Brazil: Bahia, submontane areas of Atlantic coastal forest. Map 3D.

CONSERVATION STATUS. Vulnerable (VU), B1ab(i,ii,iii,iv).

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References

- Amorim, A. M., Lisboa, D. S., Marinho, L. C. & Fiaschi, P. (2016). Novelty in *Tapura* (Dichapetalaceae) from the Brazilian Atlantic forest. *Syst. Bot.* 41: 747 – 757.
- APG (1998). An ordinal classification of the families of flowering plants. *Ann. Missouri Bot. Gard.* 85: 531 – 553.
- APG IV (2016). An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: APG IV. *J. Linn. Soc., Bot.* 181: 1 – 20.
- Arbeláez, A. L. & Stevens, W. D. (2014). *Dichapetalum coronodoae*, a new species of Dichapetalaceae from Nicaragua. *Novon* 23: 130 – 132.
- Aublet, J. B. C. F. (1775). *Histoire des plantes de la Guiane Française* 1: 126, t. 48. J. Cramer, Vaduz.
- Baillon, H. (1873). Nouvelles observations sur les Euphorbiacées. *Adansonia* 11: 72 – 138.
- ____ (1874a). *Histoire des plantes* 5: 140. Librairie Hachette, Paris.
- ____ (1874b). *Compt. Rend. Assoc. Franc. Avancem. Sci.* 1874: 479.
- ____ (1886). Dichapetaleae. *Fl. Bras. (Martius)* 12 (1): 365 – 378.
- Bentham, G. (1851). Second report on Mr. Spruce's collection of dried plants from North Brazil. *Hooker's J. Bot. Kew Gard. Misc.* 3: 366 – 373.
- ____ (1853). Notes on two little-known genera connected with the South American flora. *Hooker's J. Bot. Kew Gard. Misc.* 5: 289 – 296.
- ____ & Hooker, J. D. (1862). *Genera Plantarum* 1 (1): 340. A. Black, London.
- Blanco, M. (1837). *Flora de Filipinas* ed. 1: 176. En la Inprenta de Sto. Thomas por D. Candido Lopez, Manila.
- Breteler, F. J. (1973). The African Dichapetalaceae: a taxonomic revision. *Meded. Landbouww. Wageningen* 73-13: 1 – 123.
- ____ (1988). *The African Dichapetalaceae: Indices to literature and scientific names*. Agricultural University, Wageningen.
- Britton, N. L. (1916). Studies of West Indian Plants – VIII. *Bull. Torrey Bot. Club* 43(9): 441 – 469.
- Calderón, E., Galeano, G. & Garcia, N. (2002). Dichapetalaceae. In: *Libro rojo de plantas fanerógamas de Colombia*. 1: 119 – 139. Inst. Alexander von Humboldt, Inst. De Ciencias Naturales & Ministerio del Medio Ambiente, Bogotá.
- Chodat, R. (1896). In: F. Barth, Anatomie comparée de la tige de la feuille des Trigoniacées et des Chaillietiacées (Dichapétalées). *Bull. Herb. Boissier* 4 (7): 481 – 520.
- Cuatrecasas, J. (1948 [1949]). Studies in South American plants, I. *Lloydia* 11: 185 – 225.
- De Candolle, A. (1811a). Description du *Chaillietia*, nouveau genre de plantes. *Nouv. Bull. Soc. Philom. Paris* 40: 205 – 206.
- ____ (1811b). Description du *Chaillietia*, nouveau genre de plantes. *Ann. Mus. Natl. Hist. Nat.* 17: 153 – 159.
- ____ (1825). *Prodromus systemati naturalis regni vegetabilis* 2: 57. Treuttel & Würtz, Paris, Strasbourg, London.
- Ducke, A. (1932). Espèces nouvelles de plantes de l'Amazonie brésilienne. *Bull. Mus. Natl. Hist. Nat., ser. 2, 4*: 720 – 749.
- ____ (1933). *Arg. Jard. Bot. Rio de Janeiro* 6: 43.
- ____ (1947). New Forest trees and climbers of the Amazon. VI. *Trop. Woods* 90: 7 – 30.
- Endlicher, S. (1840). *Genera Plantarum secundum ordines naturales disposita* 2: 1104. F. Beck, Vindobonae.
- ____ (1843). *Genera Plantarum secundum ordines naturales disposita. Supplementum* 3. F. Beck, Vindobonae.
- Engler, A. (1897). Dichapetalaceae Africanae. *Bot. Jahrb. Syst.* 23: 133 – 145.
- ____ & Krause, K. (1931). Dichapetalaceae. *Die natürlichen Pflanzenfamilien* ed. 2, 19c: 5 – 11. W. Engelmann, Leipzig.
- ____ & Prantl, K. A. E. (1896). *Die natürlichen Pflanzenfamilien* 3 (4): 345. W. Engelmann, Leipzig.
- Fernández-Casas, J. (1983). Dos nuevos Dicapetaláceas sudamericanas. *Fontqueria* 2: 15 – 18.
- Fiaschi, P. & Amorim, A. M. (2012). A new species of *Stephanopodium* (Dichapetalaceae) from Eastern Brazil. *Brittonia* 64: 153 – 156.
- Gardner, G. (1842). *Tapura ciliata* t. CDLXVI. *Icon. Pl.* II. 1, t. 466.
- Gleason, H. A. (1924). *North American Flora* 25: 381, 382. New York Botanical Garden.
- ____ (1933). Studies on the flora of northern South America — XVIII. Plantae Lawranceanae Colombianae. *Phytologia* 1: 25 – 38.
- Gmelin, J. F. (1791). *Systema Naturae. Tomus II. Editio decima tertia...reformatum*. G. E. Beer, Lipsiae.
- Grisebach, A. H. R. (1866). *Catalogus Plantarum Cubensium exhibens collectionem Wrightianam aliasque minores ex insula Cuba missas*. Apud Gulielmum Engelmann, Lipsae.
- Hallier, H. (1923). Beitrage zur Kenntnis der Linaceen (DC. 1819) Dumort, *Beih. Bot. Centralbl.* 21: 1 – 178.

- IUCN (1998). *1997 IUCN Red List of Threatened Plants* (World Conservation Monitoring Centre, eds K. S. Walter & H. J. Gillett). IUCN Species Survival Commission, Gland & Cambridge.
- ____ (2001). *IUCN Red List Categories and Criteria, Version 3.1*. Prepared by the IUCN Species Survival Commission, IUCN, Gland & Cambridge.
- Johnston, I. M. (1935). Studies in Boraginaceae, X. The Boraginaceae of northeastern South America. *J. Arnold Arbor.* 16: 1 – 64.
- Jussieu, A. L. de (1789). *Genera plantarum secundum ordines naturales disposita*: 419. Viduam Henrissant et Theophilum Barrois, Paris.
- Krause, K. (1931). Dichapetalaceae. In: J. Mildbraed, *Plantae Tessmannianae peruvianae VIII. Notizbl. Bot. Gart. Berlin-Dahlem* 11: 135 – 137.
- Kriebel, R. & Rodríguez, A. (2005). Revisión del género *Dichapetalum* (Dichapetalaceae) en Costa Rica. *Lankesteriana* 5: 121 – 136.
- Leenhouts, P. W. (1956). Some notes on the genus *Dichapetalum* in Asia, Australia and Melanesia. *Reinwardtia* 4 (1): 75 – 87.
- ____ (1957). Dichapetalaceae. *Flora Malesiana* 1, 5: 305–316.
- León, B., Roque, J., Ulloa Ulloa, C., Pitman, N. C. A., Jørgensen, P. M. & Cano Echevarría, A. (2006 [2007]). El Libro Rojo de las Plantas Endémicas del Perú. *Revista Peruana Biol.* 13 (2): 1s – 971s.
- Lewis, W. H. (1967). Flora of Panama. Part VI. Family 96A Dichapetalaceae. *Ann. Missouri Bot. Gard.* 54: 9 – 12.
- Little Jr., E. L. (1969). New tree species from Esmeraldas, Ecuador (continued). *Phytologia* 18: 404 – 418.
- Lundell, C. L. (1966). The Mexican and Central American species of *Dichapetalum*. *Wrightia* 3: 173 – 176.
- Macbride, J. F. (1931). Spermatophytes, mostly Peruvian – IV. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 11: 39 – 69.
- ____ (1950). Dichapetalaceae. In: Flora of Peru. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 13 (3): 954 – 964.
- Martinelli, G. & Moraes, M. A. (eds) (2013). *Livro vermelho da flora do Brasil*. Andre Jakobsson/Jardim Botânico do Rio de Janeiro, Rio de Janeiro.
- Martius, C. F. P. von (1886). *Flora brasiliensis* 12 (1). J. Cramer, Weinheim.
- Mildbraed, J. (1931). Plantae Tessmannianae peruvianae VIII. *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 135 – 146.
- Nandi, O. I., Chase, M. W. & Endress, P. K. (1998). A combined cladistic analysis of angiosperms using *rbcL* and non-molecular data sets. *Ann. Missouri Bot. Gard.* 85: 137 – 212.
- Poeppig, E. F. & Endlicher, S. F. L. (1843). *Nova Genera ac Species Plantarum quas in Regno Chilensi Peruviano et in terra Amazonica*. Vol. 3. Sumptibus F. Hofmeister, Lipsiae.
- Poiret, J. L. M. (1812). In: J. B. A. P. M. Lamarck, *Encyclopédie Méthodique. Botanique. Supplement.* 2: 470. Agasse, Paris.
- ____ (1818). *Dictionnaire des Sciences Naturelles [F. Cuvier]* 10: 40. F. G. Levrault, Strasbourg.
- ____ (1819). *Dictionnaire des Sciences Naturelles [F. Cuvier]* 13: 178. F. G. Levrault, Strasbourg.
- Prance, G. T. (1966). Dichapetalaceae, In: J. A. Steyermark & G. Agostini, *Exploración Botánica del Cerro Patao. Acta Bot. Venez.* 2 (2): 50 – 51.
- ____ (1968). New and interesting Dichapetalaceae from Venezuela. *Acta Bot. Venez.* 3: 301 – 304.
- ____ (1971). Dichapetalaceae. In: T. Lasser (ed.), *Flora de Venezuela* 3 (1): 1 – 20. Instituto Botánico, Caracas.
- ____ (1972). Dichapetalaceae. *Fl. Neotrop. Monogr.* 10: 1 – 84. Hafner, New York.
- ____ (1976). *Tapura* (Dichapetalaceae) a genus new to Mexico. *Bull. Torrey Bot. Club* 103: 21 – 22.
- ____ (1977a). Two new species for the Flora of Panama. *Brittonia* 29: 154 – 158.
- ____ (1977b). A new Colombian species of Dichapetalaceae. *Mutisia* 42: 1 – 3.
- ____ (1979). A new species of *Dichapetalum* from Suriname. *Bull. Torrey Bot. Club* 106: 309 – 312.
- ____ (1980). Dichapetalaceae. *Flora of Ecuador* 12: 1 – 14. Publishing House of the Swedish Research Councils, Stockholm.
- ____ (1983a). Additions to Neotropical Dichapetalaceae. *Brittonia* 35: 49 – 54.
- ____ (1983b). A new species of *Tapura* (Dichapetalaceae) from Peru. *Bull. Torrey Bot. Club* 110: 70 – 72.
- ____ (1984). The rediscovery of *Tapura haitiensis* (Dichapetalaceae). *Brittonia* 36: 15 – 17.
- ____ (1988). Three new species of Dichapetalaceae from tropical America. *Brittonia* 40: 441 – 446.
- ____ (1992). A new species of *Stephanopodium* (Dichapetalaceae) from Colombia. *Kew Bull.* 47: 545 – 546.
- ____ (1994). Four new species of Neotropical Dichapetalaceae. *Kew Bull.* 49: 129 – 136.
- ____ (1995). A synopsis of *Stephanopodium* (Dichapetalaceae). *Kew Bull.* 50: 295 – 305.
- ____ (1997a). Additions to Neotropical *Dichapetalum*. *Kew Bull.* 52: 213 – 219.
- ____ (1997b). *Tapura* (Dichapetalaceae) from the Mata Atlantica of Brazil. *BioLlania* 6: 491 – 496.
- ____ (1998). Dichapetalaceae. In: J. A. Steyermark, P. E. Berry & B. K. Holst (eds), *Flora of the Venezuelan Guayana* 4: 666 – 671. Missouri Botanical Garden Press, St. Louis.
- ____ (2001). Dichapetalaceae, In: W. D. Stevens, C. Ulloa Ulloa, A. Pool & O. M. Montiel (eds), Dichapetalaceae, Flora de Nicaragua. *Monogr. Syst. Bot. Missouri Bot. Gard.* 85 (1): 799 – 802.
- ____ (2009). Dichapetalaceae. *Flora of the Guianas Ser. A*, 27, 113: 99 – 112. Royal Botanic Gardens, Kew.
- ____ (2020). *Dichapetalum stahlii* (Dichapetalaceae), a new species from Ecuador. *Kew Bull.* 75. 7. <https://doi.org/10.1007/s12225-020-9863-9>

- _____, Rodríguez, A. & Kriebel, R. (2010). Dichapetalaceae. In: B. E. Hammel, M. H. Grayum, C. Herrera & N. Zamora (eds), *Manual de Plantas de Costa Rica* 5: 190 – 202. *Monogr. Syst. Bot. Missouri Bot. Gard.* 119
- Reichenbach, H. G. L. (1828). *Conspectus regni vegetabilis per gradus naturales evoluti*. Apud C. Cnobloch, Lipsiae.
- Ridley, H. N. (1916). Report on the botany of the Wollaston Expedition to Dutch New Guinea, 1912 – 13. *Trans. Linn. Soc. London, Bot.* 9: 1 – 269.
- Rizzini, C. T. (1952). Dichapetalaceae Brasilienses. *Revista Brasil. Biol.* 12: 97 – 108.
- Rojas, W., Valenzuela, J. C. & Pitman, N. (2004). *Tapura magnifolia*. *The IUCN Red List of Threatened Species* 2004: e.T45159A10983966. <https://doi.org/10.2305/IUCN.UK.2004.RLTS.T45159A10983966.en>. Downloaded 5 Nov. 2020.
- Roxburgh, W. (1814). *Hortus Bengalensis*. Mission Press, Serampore.
- _____. (1832). *Flora Indica* 2. Serampore.
- Schomburgk, R. (1849). *Versuch einer Fauna und Flora von Britisch-Guiana*. J. Weber, Leipzig.
- Schreber, J. C. D. (1789). *Genera plantarum* ed. 8[a] 1: 30. sumtu Varrentrappii et Wenner, Francofurti ad Moenum.
- Shukun, C. & Prance, G. T. (2008). Dichapetalaceae, *Flora of China* 11: 160 – 161. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis. 11: 160 – 161.
- Soltis, D. E., Soltis, P. S., Chase, M. W., Mort, M. E., Albach, D. C., Zanis, M., Savolainen, V., Hahn, W. H., Hoot, S. B., Fay, M. F., Axtell, M., Swensen, S. M., Prince, L. M., Kress, W. J., Nixon K. C. & Farris, J. S. (2000). Angiosperm phylogeny inferred from 18S rDNA, *rbcL*, and *atpB* sequences. *J. Linn. Soc., Bot.* 133: 381 – 461.
- Standley, P. C. (1937a). Studies of American Plants — VII. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 17: 155 – 224.
- _____. (1937b). Flora of Costa Rica Part II. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 18: 597.
- _____. (1940). Studies of American Plants — X. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 22 (2): 65 – 129.
- _____. & Steyermark, J. A. (1943). Studies of Central American Plants — III. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 23: 1 – 28.
- _____. & _____. (1944). Studies of Central American Plants — VI. *Publ. Field Mus. Nat. Hist., Bot. Ser.* 23: 169.
- Steudel, E. G. (1840). *Nomenclator Botanicus* ed. 2. 1: 342. J. G. Cottae, Stuttgartiae et Tubingae.
- Stevens, P. F. (2001 onwards). Angiosperm Phylogeny Website. Version 14, July 2017 <http://www.mobot.org/MOBOT/research/APweb/>.
- Suessenguth, K. (1942). *Repert. Spec. Nov. Regni Veg.* 51: 199.
- Thouars, A. A. Du Petit (1806). *Genera Nova Madagascariensis*. Paris.
- Triana, M. M. & Planchon, J. E. (1872). Prodrômus Floræ Novo-Granatensis. *Ann. Sci. Nat., Bot. Ser.* V. 15: 352 – 382.
- Tuckey, J. H. (1818). *Narrative of an expedition to explore the river Zaire: usually called the Congo, in South Africa, in 1816*. J. Murray, London.
- Ule, E. H. G. (1907). Beiträge zur Flora der Hylaea II. *Verh. Bot. Vereins Prov. Brandenburg* 48: 117 – 208.
- _____. (1915). Dichapetalaceae. In: R. Pilger, *Plantae Uleanae novae vel minus cognitae*. Heft 4. *Notizbl. Königl. Bot. Gart. Berlin* 6: 312 – 313.
- Urban, I. (1924). Sertum Antillanum. XX. *Repert. Spec. Nov. Regni Veg.* 20: 297 – 313.
- _____. (1926). Plantae haitiensis novae vel rariores III. a cl. E. L. Ekman lectae. *Ark. Bot.* 20A (15): 1 – 94.
- Vahl, M. (1810). Beskrivelse over nye planteslaegter. *Skr. Naturhist.-Selsk.* 6: 84 – 128.
- Wheeler, L. C. (1940). Dichapetalaceae et Euphorbiaceae novae. *Proc. Biol. Soc. Washington* 53: 7 – 11.
- Willdenow, C. L. (1797). *Species Plantarum*, ed. 4. 1 (1). G. C. Nauk, Berolini.
- Woodson, R. E. (1942). Contributions toward a Flora of Panama. VI. Collections chiefly by Von Wendel in Bocas Del Toro. *Ann. Missouri Bot. Gard.* 29: 317 – 379.

Complete list of publications on Dichapetalaceae by G. T. Prance

- Prance, G. T. (1966). Dichapetalaceae. In: J. A. Steyermark & G. Agostini, *Exploración Botánica del Cerro Patao*. *Acta Bot. Venez.* 2 (2): 50 – 51.
- _____. (1971). Dichapetalaceae. In: T. Lasser (ed.), *Flora de Venezuela* 3 (1): 1 – 20. Instituto Botánico, Caracas.
- _____. (1972). Monograph of Dichapetalaceae. *Flora Neotrop. Monogr.* 10: 1 – 84. Hafner, New York.
- _____. (1976). *Tapura* (Dichapetalaceae) a genus new to Mexico. *Bull. Torrey Bot. Club* 103: 21 – 22.
- _____. (1979). A new species of *Dichapetalum* from Suriname. *Bull. Torrey Bot. Club* 106: 309 – 312.
- _____. (1980). Dichapetalaceae, *Flora of Ecuador* 12: 1 – 14. Publishing House of the Swedish Research Councils, Stockholm.
- _____. (1983a). Additions to Neotropical Dichapetalaceae. *Brittonia* 35: 49 – 54.
- _____. (1983b). A new species of *Tapura* (Dichapetalaceae) from Peru. *Bull. Torrey Bot. Club* 110: 70 – 72.
- _____. (1984). Rediscovery of *Tapura haitiensis* (Dichapetalaceae) *Brittonia* 36: 15 – 17.
- _____. (1988). Three new species of Dichapetalaceae from tropical America. *Brittonia* 40: 441 – 446.
- _____. (1992). A new species of *Stephanopodium* (Dichapetalaceae) from Colombia. *Kew Bull.* 47: 545 – 546.
- _____. (1994). Four new species of Neotropical Dichapetalaceae. *Kew Bull.* 49: 129 – 136.
- _____. (1995). A synopsis of *Stephanopodium* (Dichapetalaceae). *Kew Bull.* 50: 295 – 305.

- ____ (1997a). Additions to Neotropical Dichapetalaceae. *Kew Bull.* 52: 213 – 219.
- ____ (1997b). *Tapura* (Dichapetalaceae) from the Mata Atlantica of Brazil. *BioLlania* 6: 491 – 496.
- ____ (1998). Dichapetalaceae. In: J. A. Steyermark, P. E. Berry & B. K. Holst (eds), *Flora of the Venezuelan Guyana* 4: 666 – 671. Missouri Botanical Garden Press, St. Louis.
- ____ (1999). Dichapetalaceae. In: P. M. Jørgensen & S. León-Yáñez (eds), *Catalogue of the vascular Plants of Ecuador*, pp. 436 – 437. Missouri Botanical Garden Press.
- ____ (2001a). Dichapetalaceae, In: W. D. Stevens, C. Ulloa Ulloa, A. Pool & O. M. Montiel (eds), Dichapetalaceae, Flora de Nicaragua. *Monogr. Syst. Bot. Missouri Bot. Gard.* 85 (1): 799 – 802.
- ____ (2001b). Dichapetalaceae, *Flora de Colombia* 20: 1 – 62. Instituto de Ciencias Naturales, Universidad Nacional de Colombia, Bogota.
- ____ (2002). Dichapetalaceae. Pp 247 – 249 In: S. A. Mori *et al.* (eds), *Guide to the vascular plants of French Guiana, Part 2. Dicotyledons*. New York Botanical Garden.
- ____ (2004). Dichapetalaceae. In: N. Smith, S. A. Mori *et al.* (eds), *Flowering plants of the Neotropics*, pp. 127 – 128. Princeton University Press in association with the New York Botanical Garden, Princeton, N.J., Oxford.
- ____ (2007). Dichapetalaceae, Flora da Reserva Ducke, Amazonas, Brazil. *Rodriguesia* 58: 487 – 492.
- ____ (2008). Dichapetalaceae. In: D. C. Daly & M. Silveira (eds), *Primeiro catálogo da Flora do Acre, Brasil*, p. 186. Univ. Federal do Acre, Rio Branco, Brazil.
- ____ (2009). Dichapetalaceae. *Flora of the Guianas*. Ser A. 27: 99 – 112. Royal Botanic Gardens, Kew.
- ____, Rodríguez, A. & Kriebel, R. (2010b). Dichapetalaceae. In: B. Hammel *et al.* (eds), *Manual de Plantas de Costa Rica* 5: 190 – 202. *Monogr. Syst. Bot. Missouri Bot. Gard.* 119.
- ____ (2014). Dichapetalaceae. In: K. Kubitzki (ed.), *The Families and genera of vascular plants*. Vol. 11: 32 – 37. Springer, Heidelberg, London.
- ____ & Chávez, E. (2015). Dichapetalaceae, In: P. M. Jørgensen *et al.* (eds), *Catálogo de las Plantas Vasculares de Bolivia*: 567. Missouri Botanical Garden Press, St. Louis.
- ____ (2020). *Dichapetalum stahlui* (Dichapetalaceae) a new species from Ecuador. *Kew Bull.* 75. 7 (2020). <https://doi.org/10.1007/s12225-020-9863-9>.
- Shukun, C. & Prance, G. T. (2008). Dichapetalaceae *Flora of China* 11: 160 – 161. Science Press, Beijing and Missouri Botanical Garden Press, St. Louis.
- Sothers, C. A., Brito, J. M. & Prance, G. T. (1999). Dichapetalaceae. In: J. E. L. da S. Ribeiro *et al.*, *Flora da Reserva Ducke: Guia de identificação das plantas vasculares de uma floresta de terra-firme na Amazônia Central*, pp. 482 – 483. INPA, Manaus.

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