Platymiscium Vogel

Bente B. Klitgaard

Royal Botanic Gardens, Kew; B.Klitgaard@kew.org

Alexandre Gibau de Lima

Universidade de São Paulo; alegibau@gmail.com

Juliana Rodrigues Kuntz

Universidade Estadual de Campinas; julianakuntzgalvao@gmail.com

---

Este tratamento é composto pelos seguintes táxons: *Platymiscium*, *Platymiscium filipes*, *Platymiscium floribundum*, *Platymiscium pinnatum*, *Platymiscium pubescens*, *Platymiscium speciosum*, *Platymiscium stipulare*, *Platymiscium trinitatis*.

COMO CITAR

Klitgaard, B.B., Lima, A.G., Kuntz, J. 2020. Platymiscium *in* **Flora do Brasil 2020.** Jardim Botânico do Rio de Janeiro. Disponível em: http://floradobrasil.jbrj.gov.br/reflora/floradobrasil/FB23113.

DESCRIÇÃO

Árvores inermes. **Folhas** opostas ou verticiladas, imparipinadas; estípulas interpeciolares, vistosas e caducas; folíolos opostos a subopostos. **Inflorescências** racemosas ou paniculadas, pendentes ou eretas, axilares ou às vezes muito próximas do ápice dos ramos; brácteas precocemente caducas. **Flores** pediceladas ou subsésseis; cálice 5-laciniado; corola papilionada, amarelas ou laranjas, pétalas unguiculadas, estandarte rotundo, com guias de nectários marrons a vinosos, alas geralmente com esculturas, pétalas da quilha unidas na metade distal da margem inferior; estames 10, monadelfos, às vezes com o estame vexilar livre até próximo a base, anteras dorsifixas; ovário estipitado, uniovulado, estilete ligeiramente falcado, estigma pouco diferenciado. **Fruto** do tipo sâmara, elíptica ou oval, papirácea; semente 1, central.

COMENTÁRIO

Platymiscium compreende 19 espécies que estão distribuídas na região Neotropical desde o México até o sul do Brasil, sendo encontradas nas florestas secas e úmidas. Apresenta dois centros de diversidade, sendo eles o México e o leste do Brasil. *Platymiscium* é monofilético com base em dados morfológicos e moleculares, sendo distinguido dos demais gêneros de Leguminosae pela seguinte combinação de características: folhas opostas ou verticiladas, estípulas interpeciolares, flores papilionadas e amarelas. Economicamente, muitas das suas espécies apresentam madeira de alta qualidade e são exploradas pela indústria madeireira, geralmente de modo desordenado.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia, Caatinga, Cerrado, Mata Atlântica

Tipos de Vegetação
Caatinga (stricto sensu), Carrasco, Floresta de Igapó, Floresta de Terra Firme, Floresta de Várzea, Floresta Estacional Decidual, Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial), Restinga

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre, Amazonas, Pará, Tocantins)
Nordeste (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe)
Centro-Oeste (Distrito Federal, Goiás, Mato Grosso)
Sudeste (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)
Sul (Paraná, Santa Catarina)
Possíveis ocorrências
Nordeste (Paraíba)
Centro-Oeste (Mato Grosso)
Sudeste (Espírito Santo, Minas Gerais, São Paulo)

CHAVE DE IDENTIFICAÇÃO

1. Flores 5-9 mm compr., muito raramente 10 mm.....*P. pubescens*
1'. Flores 10-18 mm compr., muito raramente 9 mm.....2
2. Eixo da inflorescência densamente piloso.....3
2'. Eixo da inflorescência glabro.....4
3. Estípulas estreito-triangulares, 10-25 mm compr.; brácteas espatuladas, 5 x 3 mm.....*P. stipulare*
3'. Estípulas largo a estreito-triangulares, 4-15 mm compr.; brácteas ovais, 1-3 x 0,5-2 mm.....*P. trinitatis*
4. Sâmara reniforme, superfície opaca e acizentada quando seca.... .....*P. filipes*
4'. Sâmara oblonga, elíptica ou oval, superfície não opaca e acizentada quando seca.....*5*
5. Eixo da inflorescência rígido, ereto. Flores 14-18 mm compr., suculentas. Restrita aos estados do Espírito Santo e Bahia..*P. speciosum*
5'. Eixo da inflorescência delgado, geralmente pêndulo. Flores 10-18 mm compr., não suculentas.....6
6. Eixo da inflorescência 3-20 cm compr.,incluindo pedúnculo de 1-4,5 cm; racemos laxos com 10-35 (-60) flores; flores 10-18 mm compr.; alas e pétalas da quilha longo-unguiculadas. Restrita a costa leste do Brasil.....*P. floribundum*
6'. Eixo da inflorescência 4-13 cm compr.,incluindo pedúnculo de 1-2,5 cm; racemos congestos com 20-100 flores; flores 10-14 mm compr.; alas e pétalas da quilha longo-unguiculadas. No Brasil, restrita a Amazônia Ocidental.....*P. pinnatum*

BIBLIOGRAFIA

Bentham, G. 1860. A Synopsis of the Dalbergieae. J. Proc. Linn, Soc., Bot. 4, suppl.: 1 - 134.
Klitgaard, B.B. 1999. New species and nomenclatural changes in *Platymiscium*: Leguminosae: Dalbergieae. Kew Bulletin 54(4): 967–973.
Klitgaard, B.B. 2005. *Platymiscium* (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.
Klitgaard, B.B. & Lavin, M. 2005. Dalbergieae sens. lat. In G.P. Lewis, B.D. Schrire, B. Mackinder & M. Lock (eds.) Legumes of the world. Kew, Royal Botanic Gardens. p. 307-335.
Saslis-Lagoudakis, C ., Chase, M.W., Robinson, D.N.,Russell S.J. & Klitgaard, B.B. 2008. Phylogenetics of neotropical *Platymiscium* (Leguminosae: Dalbergieae): Systematics, divergence times, and biogeography inferred from nuclear ribosomal and plastid DNA sequence data. American Journal of Botany 95 : 1270 – 1286 .
Vogel, J. R. T. 1837. *Platymiscium* gen. nov. Linnaea 11: 198 - 200 + 417.

Platymiscium filipes Benth.

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es)/triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 2 - 6.5 cm. **Inflorescência: inflorescência(s)** racemo(s); **formato da inflorescência(s)** ereta(s) e espessa(s); **indumento da inflorescência(s)** glabra(s); **racemo(s)** laxo(s); **número de flor(es) por racemo(s)** 10 - 35 (- 60); **comprimento das bráctea(s)** 1 - 2 mm; **largura das bráctea(s)** 0.5 - 1 mm; **formato das bráctea(s)** estreito(s) triangular(es); **deiscência das bráctea(s)** persistente(s) após antese; **comprimento da bractéola(s)** 1 - 2 mm; **largura da bractéola(s)** 0.5 - 1 mm; **formato da bractéola(s)** estreito(s) triangular(es); **deiscência das bractéola(s)** persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** curto(s). **Fruto: formato da sâmara(s)** reniforme(s).

DESCRIÇÃO ADICIONAL

Habit: *tree*, rarely a scrambling shrub, to 15(–30) m tall, 25–80 cm in diameter; *crown* small, branched, spreading; *bark* shallowly fissured; *slash* exudes sap; *internodes* of juvenile branchlets usually hollow. Leaves opposite, 5(–7)-foliolate; *vegetative parts* glabrous; *leaf axis* 5–9.5(–14) cm long, rachis as long as, to more than twice as long as petiole; *stipules* narrowly triangular to triangular, 4–7 x 2–5 mm, caducous to late persistent; *stipels* and *food bodies* not observed; *juvenile petiolule* bases sometimes with hair tufts; *bud scales* which cover apical meristem, broadly triangular, persisting longer than stipules; *leaflets* narrowly ovate to ovate or narrowly elliptic to elliptic, distal leaflet often larger than others, 3.5–7(–10) x 1.5–4(–5) cm, base rounded, apex acuminate, veinlets in areoles with sharp edges, not intermixed with dots, primary vein flush with upper surface, upper and lower surfaces glossy, dark green. Inflorescences of lax, erect, axillary, simple racemes (occasionally with secondary branching), with 1–3 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glabrous, 3–8(–15) cm long including a 1.5–2(–5) cm long peduncle; *racemes* 20–40-flowered; *bracts* narrowly triangular, 1–2 x 0.7–1 mm, pilose along margins, persistent until flower fall; *bracteoles* narrowly triangular, 1–2 x 0.5–1 mm, connate basally, articulated from pedicel, pilose along margins, persistent until flower fall. Flowers 10–13 mm long, slender, pedicellate; *pedicels* 2–6 mm long, slender, glabrous, except basal and apical hair tufts, articulated at calyx base, caducous after flower fall; *calyx* tubular, 4–6 mm long, robust, glabrous, base attenuated, 5-toothed, abaxial three teeth triangular, acute, adaxial two teeth connate for 3/4 of their length, acute; *corolla* yellow; *standard* orbicular, 8–12 x 6–10 mm, short-clawed, yellow with a purple nectar guide centrally; *wing petals* 9–12 x 3–5 mm; *keel petals* 9–11 x 3–5 mm, adnate for a short distance along lower margins, ciliate along free part of argins and along claws; *stamen* filaments fused for 2/3 their length; *anthers* monomorphic; *ovary* long-stipitate, glabrous. Samara kidney-shaped, 4.5–6 x 2.5–3.5 cm, glabrous, base and apex rounded*; stipe* 5–6 mm long; *exocarp* dull, venation easily visible on surface, greyish on drying; *wing* of samara characteristically narrow; *seed* 3–4 x 1.5–2 cm.
Field characters. The hollow internodes are often inhabited by ants. Flowers are strongly sweetly fragrant.
Conservation status. VU A3cd, C1 ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, also due to actual and potential levels of exploitation, and due to a population size estimated to number fewer than 10,000 mature individuals and an estimated continuing decline of at least 10% over the next 10 years.
Specimens cited. Number of specimens examined, excluding type: 25. Brazil. **Pará**: grounds of the Institute de Pesquisas e Experimentação Agropecaurias do Norte, 12 June 1969, *Austin* 4191 (IAN !, MO !); Ruropolis Presidente Medici, 150 m, 25 Jan. 1076, *Bamps* 5233 (NY !); bank of Rio Mapuá, between village Emilia and the outlet of Mapuá, 18 July 1950, *Black et al.* 50-9791 (GH !, IAN !, NY !); *Burchell* 9520 (GH !, K !, L !, NY !); Gurupá, 15 May 1916, *Ducke* 16171 (RB !); “Gurupá, bord de ruisseau prés de l’Amagore”, 15 May 1916, *Ducke* 16172 (BM !, G !, MG !, P !, R !, RB !); São Luis, Rio Tapajós, 26 Aug. 1916, *Ducke* 16381 (RB !); Rio Tapajós, environ de la Cachoeira do Mangahal, 3 Sep. 1916, *Ducke* 16444 (BM !, MG !, RB !, US !); Mosqueiro, along river, 1 Jan. 1945, *Ducke* 1686 (F !, GH !, IAN !, MG !, NY !, R !, SI !, UC !, US !); Gurupá, 13 Aug. 1918, *Ducke* 17198 (BM !, G !, MG !, R !, RB !, US !); Belém, entre S. João e Val de Coão, 27 May 1926, *Ducke* 20392 (G !, K !, RB !, S !, U !, US !); Barcarena, foz do Rio do Conde, 19 June 1984, *Lins et al.* 335 (MG !); Marajó, Rio Genipapo, Retiro São José, 1 Oct. 1965, *Oliveira* 3461 (IAN !, NY !); “BR 163”, km 1417, 3 km N of Rio Itapacurá, 25 Nov. 1977, *Prance et al.* P25763 (K !, MG !, MO !, NY !, S !, UEC !, US !); Santarém, margem direita do Rio Curuana, Reserva Florestal do Curuauna (SUDAM !), localidade Barreirinha, 29 Aug. 1988, *Rosário et al.* 1050 (MG !); Mun. de Parauopebas, Serra dos Carajás, 19 July 1990, *Rosa and da Silva* 5298 (MG !); left bank of Rio Mojú, 7 July 1967, *Silva* 1021 (MG !, NY !, UEC !); Marajó, Joanes, 23 Jan. 1979, *Silva and Rosário* 4949 (MG !, NY !, UB !, US !); Gurupá, igarapé Jacupi, 11 Feb. 1979, *Silva and Rosário* 5105 (F !, MG !, NY !, US !); Igarape Una, 28 Jun. 1923, *Snethlage* 101 (F !); sitio Campina on Rio Pracuubamirím, ca. 1 hour upstream from São Sebastião de Boa Vista, 20 Oct. 1984, *Sobel et al.* 4750 (F !, K !, MO !, NY !); ca. 6 km NW of AMZA camp 3-Alfa on

rd. to camp 4-Alfa, 225 m, 9 June 1982, *Sperling et al.* 6031 (K !, MG !); 2 km W of camp ECB on the ferrovia, ca. 47 km W of road BR 150, 150 m, 28 June 1982, *Sperling et al.* 6395 (K (2 sheets) !, MEXU !).

Cultivated specimens. Brazil. **Amazonas**: Mun. Manaus, Rio Amazonas, Paraná do Careiro, near Terra Nova, 100 m, 23 Nov. 1993, *Klitgaard and Parolin* 35 (AAU !, INPA !, K !, RB !). GUYANA. "Waterloo Street, Georgetown", April 1923, *Persaud* 174 (F (3 sheets) !).

Habitat. In igapo or várzea forests, as also noted by Ducke (1922), on river banks or in forest influenced by the sea, at 0 to 50 m.

Phenology. While flowering the trees are leafless, or developing new leaves; while setting fruit trees bear mature leaves. Flowering has been recorded from May to July, fruit set in January, February, August, and November.

Vernacular names. Macacaúba (Pio Corrêa, 1974); Macacaúba da várzea; Mututí (Brazil).

Uses. Even though *P. filipes* is called Macacaúba as are the timeber trees *P. trinitatis* and *P. pinnatum* subsp. *pinnatum* var. *ulei*, I have not found any record of uses of this species.

Notes. *P. filipes* shares several morphological features with *P. pinnatum* subsp. *pinnatum* var. *diadelphum* and with *P. floribundum* var. *floribundum*. The fruits of *P. filipes* have, however, a very characteristic lunate shape with a dull greyish surface (when dry) not found in any other *Platymiscium* species. Similarly, the inflorescences of *P. filipes* are characteristically short and delicate with persistent narrowly triangular bracts and bracteoles.

Sheet of *Ducke* 16172 was determined as *P. lunatum* sp. nov. by Ducke, but the name was never published. *Ducke* 20392 has the locality written in pencil on the sheet from RB.

Freitas da Silva et al. (1989) records *P. filipes* from the state of Acre in Brazil. I have, however, seen any collections from Acre which could be referred to *P. filipes*.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Igapó, Floresta de Várzea, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Amazonas, Pará)
Possíveis ocorrências
Centro-Oeste (Mato Grosso)

MATERIAL TESTEMUNHO

A. Ducke, 20392, G, K, RB, S, U, US

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400. Bentham, G. 1860. Journ. Linn. Soc. 4: Suppl. (1860) 83.

Platymiscium floribundum Vogel

Este tratamento é composto pelos seguintes táxons: *Platymiscium floribundum*, *Platymiscium floribundum var. floribundum*, *Platymiscium floribundum var. latifolium*, *Platymiscium floribundum var. nitens*, *Platymiscium floribundum var. obtusifolium*.

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es)/triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 2 - 6.5 cm/4 - 11 (- 25) cm. **Inflorescência: inflorescência(s)** racemo(s)/panícula(s); **formato da inflorescência(s)** pêndula(s) e espessa(s)/pêndula(s) e delgada(s); **indumento da inflorescência(s)** glabra(s); **racemo(s)** laxo(s)/congesto(s); **número de flor(es) por racemo(s)** 10 - 35 (- 60); **comprimento das bráctea(s)** 2 - 3 mm/1 mm/1 - 2 mm; **largura das bráctea(s)** 1 - 2 mm/0.5 - 1 mm/0.5 mm; **formato das bráctea(s)** estreito(s) triangular(es)/triangular(es); **deiscência das bráctea(s)** precocemente caduca(s); **comprimento da bractéola(s)** 2 - 3 mm/1.5 mm/0.5 - 1 mm/1 - 2 mm; **largura da bractéola(s)** 1 - 2 mm/0.5 - 1 mm/0.5 mm; **formato da bractéola(s)** oval(ais)/triangular(es); **deiscência das bractéola(s)** precocemente caduca(s)/persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** curto(s)/longo(s). **Fruto: formato da sâmara(s)** oblongo(s)/elíptica(s)/oval(ais).

DESCRIÇÃO ADICIONAL

Platymiscium floribundum *Vogel*, Linnaea 11: 198–199 (1837). Type: Brazil. “merid”, *Sellow* 373 (holotype B† (photo neg. # 2300 (in F series) F !, G !, GH !, MO !, NY !); isotype F (= fragment of holotype) !;).
Platymiscium praecox Benth., Annales des Wiener Mus. Naturgesch. 2: 104–105 (1838). Type: Brazil. **Rio de Janeiro**: “Habitat in sylvis ad Barra de Juca”, 1827, *Martius* s.n. (lectotype M! (designated by Klitgaard, 1999[2000]); isolectotypes BM !, K (Herbariorum Hookerianum sheet) !)
Platymiscium blanchetii Benth., Martius Fl. Bras. XV, pars 1, p. 272 + Tab. 97, Fig. 1 (1859). Type: Brazil. **Bahia**: “cerca Igreja Velha”, 1841, *Blanchet* 3452 (lectotype G ! (designated by Klitgaard, 1999[2000]); isolectotypes BM !, G !; photos F !, G !, GH !, K (from IPA) !, MO !, NY !)

Habit: medium-sized to tall *tree*; *crown* loosely spreading to rounded; *bark* smooth, lenticellate, slightly fissured longitudinally when young, fissured both longitudinally and horizontally into thick rectangular blocks when old; *slash* exudes sap; *wood*: sapwood very hard, creamish, heart wood brown. Leaves opposite or 3-verticillate, both states found on same tree, 5–7(–9)-foliolate; *vegetative parts* glabrous; *leaflets* distal leaflet often larger than others, veinlets of areoles with sharp edges, not intermixed with dots, primary vein flush with upper surface.
Field characters. Sap oxidises red or stays transparent. Flowers strongly scented with a perfume which attracts large numbers of bees and wasps. Calyx green, turning maroon.

Distribution. *P. floribundum* is distributed in eastern Brazil from Ceará in the north to Santa Catarina in the south, and from interior Minas Gerais, São Paulo, Goiás, and Bahia in the west to the atlantic forests of the east.

Phenology. Prolific flowering happens while trees are leafless or are developing new leaves, and fruit set occurs when trees have mature leaves.

Vernacular names. Bálsamo, Bálsamo branco, Bálsamo rosa, Ipê rosa, Jacarandá-branco, Rabugem (all from Bahia); Coração-de-negro (Pernambuco); Curtisa, Jacarandá (Santa Catarina); Sacambu; Jacarandá-do-litoral; Jacarandá-rosa; Jacarandá-vermelha.
Uses. According to Lorenzi (1992), the wood is valuable and is used for furniture, turnery, and wood carving. It is used to some extent as an ornamental street tree, and Lorenzi (1992) suggests that it has potential use in reafforestation projects. He includes notes on regeneration.

Notes. *P. floribundum* has been a notorious problem to identify, partly because the taxon has not previously been studied across its geographical range, and partly because several species names, here treated as synonyms of *P. floribundum*, have been applied to the same taxon. Four varieties are recognised here, based on geographical distribution, habitat and flower size.

In habit *P. floribundum* is similar to *P. pinnatum* of the western Amazon basin and Panama. The two species are the most widespread and variable *Platymiscium* species, but there is insufficient evidence for lumping the two species. Detailed morphometric and molecular studies are required before such a decision is taken.
Key to varieties of *P. floribundum*

1. Juvenile branchlets solid; calyx longer than wide (Figs. 10A–B); habitat dry (caatinga, cerrado, restinga), rarely in forest along rivers……..….2
1. Juvenile branchlets hollow; calyx as long as broad (Figs. 10D–E); habitat humid (atlantic rain forest, river banks, riverine gallery forest)……..…3
2. Flowers 10–13(very rarely to 14) mm long; leaflets coriaceous with yellow primary,

secondary and marginal veins……....d. var. obtusifolium
2. Flowers 14–18 mm long; leaflets without yellow venation……...c. var. nitens
3. Inflorescence rachis laxly flowered (with up to 30 flowers); flowers 13–17 mm long; leaflets coriaceous……b. var. latifolium
3. Inflorescence rachis densely flowered (with up to 60 flowers); flowers 12–13 mm long; leaflets papery…….a. var. floribundum

a. var. floribundum

Habit: *tree* to 25 m tall, to 50 cm in diameter; *internodes* of juvenile branchlets hollow. Leaves: *leaf axis* 8–13 cm long, rachis as long as petiole or slightly longer; *stipules* triangular, 0.7–1 x 0.5 cm, persistent; *stipels* not observed, but juvenile petiolules with food bodies at their bases; *leaflets* oblong, narrowly elliptic to elliptic, 2.5–13(–17) x 2–9 cm, base rounded, apex acuminate, upper surface dark green, glossy, lower surface dull green. Inflorescences of pendulous, dense, axillary, simple racemes (occasionally with secondary branching), with 1 to 6 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glabrous, 10–20 cm long including an up to 4 cm long peduncle; *racemes* to 60-flowered; *bracts* oblong, 1–1.5 x 0.5 mm, glaborus, caducous before anthesis; *bracteoles* broadly triangular, 1 x 0.5 mm, glabrous, caducous before anthesis. Flowers 12–13 mm long, robust, pedicellate; *pedicels* 2–4 mm long, glabrous, articulated at calyx base, caducous after flower fall, with food bodies at base; *calyx* tubular, 5–6 mm long, robust, thick-walled, glabrous, base attenuate, 5-toothed, abaxial three teeth triangular, obtuse, adaxial two teeth connate to ca. 2/3 their length, obtuse; *corolla* yellow; *standard* 9–11 x 9–11 mm, orbicular, short-clawed, apex emarginate, with red nectar guide basally in centre; *wing petals* 9–12 x 3–5 mm, long-clawed; *keel petals* 9–12 x 2–5 mm, long-clawed, adherent along lower margins by interlocking hairs, basal part of blade pilose on inner surface*; stamen* filaments fused progressively higher abaxially, occasionally vexillary stamen fused only at base; *anthers* monomorphic; *ovary* long-stipitate, ciliate along lower margin. Samara elliptic to oblong, 6.5–9 x 2.5–4 cm, base and apex rounded, glabrous; *seed* not observed.
Field characters. Young branches and leaf internodes inhabited by aggressive ants, which cultivate scale bugs in the internodes. Slash has sap which oxidises red and gives off a strong sweetpea-like smell.

Distribution. This variety is widely distributed throughout southeastern and to a lesser extent northeastern Brazil in: Pernambuco, Bahia, Distrito Federal, Minas Gerais, Rio de Janeiro, Paraná, and Santa Catarina. It is to be expected in Goias.

Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. Atlantic rain forest, along river banks in gallery forest, and in periodically inundated forest, from sea level to 350 m (one record from 1500 m).
Phenology. I observed populations a wide range of phenological stages present: some individuals with flower buds, some flowering, and some developing fruits. Flowering has been recorded from January to April plus in August in the northern range, and from September to November in its southern range. Fruit have been recorded throughout the year. Lorenzi (1992) mentions that fruit set occurs from October to December.
Notes. The collection *Klitgaard* 1 has a few leaves with 9 leaflets, which is unusual for *P. floribundum*.
The collection *Blanchet* 2455 does not have a collecting date except on the BM sheet which gives 1842. The specimen is cited in Bentham's (1859) description of *Platymiscium praecox*.
The three sheets of *Klein* 94 have different collecting dates, probably owing to the fact that one individual tree has been collected three times within two years, and all the gatherings have been referred to the same collection number.

b. var. *latifolium* *(Benth.)Benth.*, Martius Fl. Bras.vol. XV, pars 1, p. 273 (1859).
Platymiscium latifolium Benth., Ann. Wien Mus. 2: 104–105 (1838). Type: Brazil. **Rio de Janeiro**: "Aldea do Pedro", *Schücht* s. n. (holotype K !; photo of holotype C !, F !, GH !, NY !, S !)
Platymiscium floribundum var. *majus* Benth., Martius Fl. Bras., vol. XV, pars 1, p. 273 (1859). Type: Brazil. "In sylvaticis umbrosis pr. Parahyba", *Riedel* 616 (lectotype K ! (designated by Klitgaard, 1999[2000]; photo of lectotype C !, F !, GH !, NY ! (a second Riedel collection in NY, ex Herb. LE, may be a duplicate of *Riedel* 616), S !)
Platymiscium cordatum Taubert, Flora 75: 84–86 (1892). Type: Brazil. "Habitat in Brasilia austro-orientali loco non indicato", *Glaziou* 12595 (lectotype C ! (designated by Klitgaard, 1999[2000]); isolectotype B† (photo of isolectotype F !, G !, GH !, MO !, NY !), K (2 sheets) !)

Habit: *tree* to 10(–25) m tall, 20–40(–70) cm in diameter; *internodes* of juvenile branchlets hollow. Leaves: *leaf axis* 4.5–11.5 cm long, *stipules*, *stipels* and *food bodies* not observed; *leaflets* elliptic to broadly elliptic, (3–)4.5–8(–11) x 1.5–5 cm, base rounded or obtuse, apex acuminate, coriaceous, upper surface bright green, glossy. Inflorescences of pendulous, lax, axillary, simple racemes (occasionally with secondary branching) with 1–3 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glaborus, 5–11 cm long including a 1–4.5 cm long peduncle; *racemes* 10–30-flowered; *bracts* broadly 2 x 1 mm, triangular, glabrous to pilose, ciliate along margins, caducous before anthesis; *bracteoles* 2 x 1 mm, ovate, fused basally on upper side, glabrous to pilose, ciliate along margins, persistent until flower fall. Flowers 13–17 mm long, robust, pedicellate; *pedicels* 2–6(–11) mm long, glabrous to pilose or with a tuft of hairs at base and apex, articulated at calyx base, caducous after flower fall; *calyx* bell-shaped, 5–6 mm long, robust, glabrous (sometimes pilose), base obtuse, 5-toothed, abaxial three triangular, acute, adaxial two teeth connate to ca. 2/3 their length, acute; *corolla* orange, rarely yellow; *standard* orbicular, 12–15 x 8–10 mm, long-clawed; *wing petals* 10–13 x 5–6 mm, long-clawed, glabrous or sparsely ciliate on inner surface and apically on claw; *keel petals* 10–13

x 4–5 mm, long-clawed, adnate along most of lower margins, free part of margins ciliate; *stamen* filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, glabrous. Samara elliptic or oblong, 9 x 3.2 cm, base acuminate, apex rounded, glabrous; *stipe* 1–1.5 cm long; *exocarp* brown at maturity*; seed* 2.7 x 1.4 cm, reniform. Seedlings: with tap root; germination phaneroepigeal, eophylls alternate, unifoliolate, shape cordate.
Distribution. *P. floribundum* var. *latifolium* occurs in the Brazilian states of Paraná, São Paulo, Rio de Janeiro, and with one record from Minas Gerais.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Cultivated specimens. From Butantan, cultivated in the Botanic Gardens of São Paulo, 19 Oct 1932, *Hoehne* SP 29841 (F !, K !, SP !, UB !); Campus of Instituto Agronomico do Campinas, 20 Dec. 1993, *Klitgaard et al.* 56 (AAU !, ESA !, K (2 sheets) !).
Habitat. Frequent in remnants of Atlantic rain forest, in rain forest on hill slopes, and in gallery forest along rivers, from sea level to 700 m.
Phenology. Flowering has been recorded from August to December. Fruit set has been recorded in January, April, and May.
Vernacular names. Jacaranda pitanga (Paraná); Saccambú (São Paulo)
c. var. nitens *(Vogel)Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].
Platymiscium nitens Vogel, Linnaea 11: 417. 1837; Bentham 1859, p. 273–274, + tab. 97 fig. II. Type: BRAZIL. **Rio de Janeiro**: "pr. Cabo Frio" (as written in Vogel's protologue), "habitat prope Rio de Janeiro in monte Telegraphico" (as given in Bentham (1859)), collected in 1833, 1837 or 1846, *Luschnath* s.n. (lectotype K (Herbariorum Benthamianum, on sheet with label: Martii Herb. Florae Brasil No. 177) ! (designated by Klitgaard, 1999[2000]); isolectotypes BR n.v., F (a fragment with locality as "ad Cabo Frio") !, G ! (with Martii No. 177 label) !, GH (one sheet with Luschnath on the label, and Riedel crossed out, and two other sheets with Riedel still on the label otherwise like the first) !, K !, M (with Martii No. 177 label)!, possibly in MO ! but without authoritative label; photo K (of BR sheet. On this label is written: "M. Corcovado et Telegraphic.")
Platymiscium piliferum Taubert, Flora 75: 84–86. 1892. Type: Brazil. "loco non indicato" or "Rio de Janeiro, restinga de Cabo Frio", *Glaziou* 10553 (lectotype C ! (designated by Klitgaard, 1999[2000]); isolectotypes B† (photos in F !, G !, GH !, MO !, NY !), F (fragment = few flowers and a leaf on same sheet as photo of holotype from B) !, P !)

Habit: medium-sized *tree* to 12 m tall, 10–35 cm in diameter; *internodes* of branchlets hollow or solid. Leaves: *leaf axis* 2.5–9(–17) cm long; *stipules* narrowly triangular, 5 x 3 mm, caducous; *stipels* and *food bodies* not observed; *leaflets* narrowly elliptic or ovate, 3–11.5 x 1.5–8 cm, base rounded or obtuse, apex acuminate, upper and lower surfaces dark green, dull. Inflorescences of pendulous, lax, axillary, simple racemes (occasionally with secondary branching), with 1–3 inflorescences per leaf axil; *inflorescence axis* slender, glabrous, furrowed, 6–12 cm long including a 0.5–3.5 cm long peduncle; *racemes* up to 30-flowered; *bracts* broadly triangular, 1 x 0.5 mm, glabrous, ciliate along margins, caducous before anthesis; *bracteoles* ovate, 1 x 1 mm, fused adaxially, glabrous, ciliate along margins, persistent until flower fall. Flowers 14–18 mm long, slender, pedicellate; *pedicels* 3–11 mm long, glabrous or with hair tufts at base and apex, articulated at calyx base, often persistent after flower fall; *calyx* tubular, 5–8 mm long, robust, glabrous, ciliate along teeth margins, base attenuate, 5-toothed, abaxial three triangular, acute, adaxial two teeth connate to ca. 2/3 their length, acute; *corolla* yellow; *standard* orbicular, 11–15 x 8–11(–12) mm, emarginate apically, long-clawed, with a red-brown nectar guide basally; *wing petals* 8–12(–15) x 4–5 mm, long-clawed; *keel petals* 10–13(–15) x 4–5 mm, adnate along most of lower margins, free part of margins ciliate; *stamen* filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, glabrous. Samara narrowly ovate to elliptic, 7.3–10 x 2.5–4 cm, base and apex acuminate (base tapers into stipe); *seed* 2.5–2.8 x 1.3–1.5 cm.
Distribution. Occurs in eastern Brazil from the state of Ceará to the state of Rio de Janeiro and westwards to Goiás and Mato Grosso.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Specimens cited. Number of specimens examined, excluding types: 51. Brazil. **Bahia**: Cachoeira, Vale dos Rios, Paraguaçu e Jacuipe, "Mata perto á B. Bananeiras", 115 m, Sep. 1980, *Grupo Flora Pedra do Cavalo* 776 (CEPEC !, HRB !, IPA !, K !, UEC !); Mun. Itaberaba, Faz. Morros, 15 Sep. 1984, *Hatschbach* 48207 (CEPEC !, K !, MBM !, US !); "Clareira na mata, Faz. Morro de Pedra–Itaberaba", 23 Sep. 1981, *Oliveira* 367 (CEPEC !, IPA !, K !); Mun. Jaguaquara, "6 km saindo para a Rodovia Rio-Bahia", 3 Oct. 1972, *Pinheiro* 1956 (CEPEC !, G !); Morro do Chapéu, 20 Sep. 1985, *Pinto* 102/85 (HRB !, MBM !, UB !); Mun. de Maracás, fazenda Tenquinho, ca. 20 km N de Maracás no ramal para e fazenda Santa Rita, na estrada para Planaltino, 29–30 June 1993, *Queiroz and Fraga* 3268 (HUEFS !, K !). **Ceará**: Kagado, near Maranguape, 30 m, 22 Aug. 1945, *Cutler* 8389 (F !, MO !, US !); Serra de Baturité, 24 Aug. 1908, *Ducke* 1587 (BM !, IPA !, MG !, RB !); Lagoa de Mato, 600 m, 31 Aug. 1971, *Gifford and Fonsêca* G340 (K !); "CE-Monsenhor Tabosa", 20 Sep. 1970, *Jordy Filho* 109/ herb. no. 24605 (F !, HRB !). **Distrito Federal**: Brasília, Fercal, 7 Sep. 1962, *Duarte and Santos* 133/26908 (NY (3 sheets) !); Fercal, Brasília–DF, 7 Sep 1962, *Heringer* 8984/1178 (SI !, US !); Brasília, *Heringer* s.n./32213 (NY (5 sheets) !); ca. 55 km E of Brasília on rd. to Planaltina, 850 m 13 Sep. 1964, *Irwin and Soderstrom* 6201 (K !, MO !, NY !); Chapada da Contagem, ca. 25 km NE of Brasília, 1000 m, 7 Sep. 1965, *Irwin et al.* 8053 (MO !, NY !, UB !); fazenda Planaltina, 9 Dec. 1993, *Klitgaard* 40 (AAU !, IBGE !, K !, MO !, RB !); APA de Cafuringa, fazenda Palestina, 12 Aug 1992, *Pereira and Mecenas* 2186 (IBGE !, K !); fazenda Palestina, APA de Cafuringa, 27 Sep. 1990, *Ratter et al.* 6467 (BH !, UB !). **Espirito Santo**: Floresta Rio Doce S/A. BR rd. 101 km 122. Corredo

D'Agua, *CEP* 29900 (CVRD !, K !); near Mimoso do Sul, 15 May 1966, *Duarte* 9766 (NY (2 sheets) !, RB !); Reserva Florestal da CVRD, Linhares, 5 Sep. 1974, *J.S.* 326/74 (CVRD !, K !); Mun. Linhares, reserva Florestal, Linhares CVRD, 30 Dec. 1993, *Klitgaard et al.* 60 (AAU !, CVRD !, K !, RB !). **Goiás**: Mun. Niquelandia, faz-tudo, 3 Aug. 1992, *Filgueiras and Lopes* 2397 (IBGE !); Mun. Luziania, Arraial do Mesquita, 15 Sep. 1983, *Pereira* 767 (BHCB !, IBGE !, US !); between Pirenópolis and Ceres, 13 Aug. 1978, *Pires and Santos* 16626 (NY !); *Saint-Hilaire* C1/837 (K !, P !). **Minas Gerais**: between Montes Claros and Riacho dos Machados, 20 Sep. 1963, *Castellanos and Santos* 24261 (NY !, MO !); "Vale do Jequitinhonha para Salto da Divisa", 1 Feb. 1973, *Duarte* 14178 (NY !); "Caminho de Memanha, prés de Diamantina", 1882, *Glaziou* 12594 (C !, G !, K !, P !); "Itacolumy, prés d'Ouro Preto", 1882, *Glaziou* 12596 (C !, G !, K !, P (3 sheets) !); Cachoeira do campo, 26 Dec. 1892, *Glaziou* 19044 (C !, K !, P !; photo C !, F !, GH !, NY !, S !); Mun. Gouveia, Parauna, 5 Sep. 1971, *Hatschbach* 26980 (K !, MBM !, NY !); Manhuaçu, 29 Jan. 1965, *Heringer* 10239 (NY !); Fazenda do Rasgão, 3 km from Paraopeba, 16 Nov. 1956, *Heringer* 5421 (IAN !, NY !, M !, SI !, SP !, UB !); Carangola, Rio Carangola, 400 m, 18 Sep. 1988, *Leoni* 439 (K !, UB !); Carangola, fazenda Sta. Rita, 600 m, 11 Aug. 1992, *Leoni* 1908 (K !); Curvelo, 18 Sep. 1965, *Pereira and Duarte* 9929 (NY !). **Pernambuco**: Paulista, Mata de Restinga–Janga, 25 Sep. 1955, *Andrade-Lima* 55-2138 (F !, IPA !); Tapera, 26 Sep. 1931, *Pickel* 1170 (BH !, F (2 sheets) !, GH (2 sheets) !, IPA !, US !); Tapera, 21 Oct. 1931, *Pickel* s.n. (BH !, F !, GH !, NY !, US !).; Buíque, Catimbau, Serra do Catimbau, 790 m, 18 Oct. 1994, *Rodal* 441 (K !). **Rio de Janeiro**: Cabo Frio, 1935, *Campos Porto* 28642 (NY !); Praia Bravo, Cabo Frio, 200 m, 28 Sep. 1960, *Gomes and Marx* 1186/107432 (NY !,RB !); Mun. Araruama, near dried out lake–Lagoa Araruama, on rd. to Praia das Conchas, 5 m, 3 Nov. 1993, *Klitgaard and Lima* 6 (AAU !, K (5 sheets) !, RB !); Mun. San Pedro de Aldea. Núcleo Experimental da UFF, Iguaba grande, 20 m, 3 Nov. 1993, *Klitgaard and Lima* 8 (AAU !, K !, RB !); sin loc. 9 Feb. 1940, *Kuhlmann* herb. no. 681 (B !); Mun. Cabo Frio, "estrada nova Buzios, depois de Guriri", 6 May 1987, *Lima et al.* 2870 (K !, M !, NY !, RB !); Mun. Araruama, Iguaba, Reserva da Universidade Federal Fluminense, 1 Jul 89, *Lima and Araujo* 3580 (RB !); Guanabara, Rio de Janeiro, Rocinha, 19 Nov. 1955, *Pereira* 94050 herb. no. (UB !). **Locality unknown**: *Glaziou* 2537 (C !, K !); *Glaziou* 13715 (C !, K !).

Habitat. Common in a wide range of habitats: on calcareous outcrops, in gallery forest along rivers, restinga on sandy soil, and in open caatinga with the Cactaceae species *Cereus jamacuru* DC., from sea level to 900 m.

Phenology. Flowering has been recorded in May, and from August to November. Fruit set has been recorded in December, and from May to August.

Vernacular names. Angelim-Bravo (Goiás); Balsamo (Bahia); Fejão cru (Distrito Federal, Goiás); Jacarandá-branco (Bahia); Pau Ferro (Goiás); Rabujeira (Ceará); Rabugem (Ceará); Rabugem rabugeita (Bahia, Goiás); Ipê-Candeia (Espirito Santo).

Uses. The wood is used for house construction and is said one of the best for furniture (Distrito Federal, Goiás).

Notes. According to the label notes to the collection *Ducke* 1587 it has two localities: Guaramiranga, São Salvador as written on the sheet from MG and Serra de Baturité as written on the sheets from BM and RB.

In the protologue to *P. piliferum* there no type locality is cited. The type specimen label also lacks locality indicating, as with many other Glaziou collections, that Glaziou might haverenumbered part of another collector's material and falsified the label of his "cleptotype" (see the collection *Glaziou* 10553). *Heringer* 5421 is a mixed collection of *P. floribundum* and *P. pubescens*. The NY, RB, and SI sheets are *P. pubescens*, while the IAN, M, SP, and UB sheets are *P. floribundum* var. *latifolium*. Locality and collection dates are also mixed up. *Pickel* 1170 has mixed collecting data. It seems that the same tree has been collected in flower and fruit several times over an 8 year period, and all material has been given the same collection number.

d. var. obtusifolium (*Harms) Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].

Platymiscium obtusifolium Harms, Bot. Jahrb. Syst., 42: 214–215. 1908. Type: Brazil. **Bahia**: Catinga bei Calderão, 38°50'W; 9°27'S, Oct. 1906, *Ule* 7247 (lectotype K ! (designated by Klitgaard, 1999[2000]); (isolectotypes B† (photos F !, GH !, MO !, NY (3) !), G !, HBG !; photos of lectotype C !, F !, GH !, L !, NY !, S !)

Habit: short to medium-sized *tree* to 8 (–25) m tall, 10–15 cm in diameter; *wood* durable; *internodes* of juvenile branchlets solid. Leaves: *leaf axis* 3–8 cm long, rachis as long as petiole; *stipules* triangular, 2 x 2 mm, caducous, chartaceous; *stipels* sometimes present, shape as "miniature stipules", these 2 x 0.5 mm, tread-like; *juvenile petiolule* bases with food bodies; *leaflets* broadly ovate, 3–8.5 x 2–4.5 cm, base rounded or obtuse, apex acuminate, upper surface dark green, dull, lower surface lighter green, dull, sometimes sparsely hairy, primary and secondary venation and marginal vein yellow. Inflorescences of pendulous, lax, axillary, simple racemes (occasionally with secondary branching), with 1–3 inflorescences per leaf axil; *inflorescence axis* slender, furrowed, glabrous, 3–10 cm long including a 1–2 cm long peduncle; *racemes* 18–35-flowered; *bracts* narrowly triangular, 1.5 x 0.5 mm, glabrous, usually caducous before flower fall; *bracteoles* ovate, 1–1.5 x 1–1.5 mm, fused for some length along upper margins, glabrous, papery, caducous before or persistent after flower fall. Flowers 10–13(–14) mm long, slender, pedicellate; *pedicels* 5–7 mm long, glabrous or with tufts of hairs apically and basally, articulated at calyx base, persistent after flower fall; *calyx* tubular, 5–6 mm long, robust, glabrous, base attenuate, 5-toothed, abaxial three teeth triangular, obtuse, adaxial two teeth connate to 2/3 their length, obtuse; *corolla* yellow; *standard* orbicular, 11–12 x 9–12 mm, apex emarginate, short- and broad-clawed, with purple nectar guide at base; *wing petals* 11 x 4–6 mm, long-clawed; *keel petals* 12 x 4–5 mm, short-clawed, shortly fused along lower margins, glabrous; *stamen* filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, ciliate along lower suture. Samara ovate, elliptic, 4.5–5 x 2.5 cm, base rounded, apex acuminate; *stipe* ca. 1 cm long; *exocarp* rusty brown, dull when mature*; seed* 2.8 x 1.3 cm, staminal sheath and calyx persistent during early fruit development. Seedlings: germination is phaneroepigeal, the first eophylls opposite, unifoliolate, cordate.

Distribution. Scattered in north-eastern Brazil throughout the states of Bahia, Ceará, Pernambuco, Piauí, and with one record from the northwestern state of Rôndonia, from sea level to 650 m.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. Caatinga, deciduous forest, carrasco, at 450 to 650 m.
Phenology. Flowering is recorded in August and November. Fruit bearing trees have been recorded all year round.
VERNACULAR NAMES. Cedro bravo, Jacarandá-de-canudo, Potumuju (Bahia); Carrancudo, Rabugeira, Rabugem, Rabuja branca, Violeta coração (Ceará).Uses. Wood durable.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Amazônia, Caatinga, Cerrado, Mata Atlântica

Tipos de Vegetação
Caatinga (stricto sensu), Carrasco, Floresta Estacional Decidual, Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Tocantins)
Nordeste (Alagoas, Bahia, Ceará, Maranhão, Paraíba, Pernambuco, Piauí, Rio Grande do Norte, Sergipe)
Centro-Oeste (Distrito Federal, Goiás, Mato Grosso)
Sudeste (Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo)
Sul (Paraná, Santa Catarina)
Possíveis ocorrências
Nordeste (Paraíba)
Sudeste (Espírito Santo, Minas Gerais, São Paulo)

CHAVE DE IDENTIFICAÇÃO

1. Ramos jovens sólidos; sépalas mais longas que largas; ocorrem em ambientes secos (caatinga, cerrado, restinga) raramente em nas florestas ripárias...2
1'. Ramos jovens ocos; sépalas tão longas quanto largas; ocorrem em ambientes úmidos (floresta ombrófila e florestas ripárias).....3
2. Folíolos com nervuras primárias, secundárias e marginais amarelas; flores 12-13(-14) mm compr.....var. *obtusifolium*
2'. Folíolos sem nervuras amarelas; flores 14-18 mm compr.....var. *nitens*
3. Folíolos coriáceos; inflorescência laxa, com até 30 flores; flores 13-17 mm compr.....var. *latifolium*
3'. Folíolos papiráceos; inflorescência laxa, com até 60 flores; flores 12-13 mm compr.....var. *floribundum*

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.
Klitgaard, B.B. & Lavin, M. 2005. Dalbergieae *s.l.* In: Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (eds.). Legumes of the World, Royal Botanic Gardens, Kew. pp307—335.

Saslis-Lagoudakis, C., Chase, M.W., Robinson, D.N., Russell, S.J. and Klitgaard, B.B. 2008. Phylogenetics of neotropical *Platymiscium* (Leguminosae: Dalbergieae): systematics, divergence times, and biogeography inferred from nuclear ribosomal and plastid DNA sequence data. Am. J. Botany 95 (10): 1270-1286.
Klitgaard, B.B. 2010. *Brownea*, *Browneopsis*, *Centrolobium*, *Platymiscium*. In: Forzza, R.C. et al. (eds.), Catálogo de plantas e fungos do Brasil vol 2, pp. 1001, 1006, 1078-1079. Instituto de Pasquisas Jardim Botânico do Rio de Janeiro, RJ. (http://floradobrasil.jbrj.gov.br/2010/FB022840).
Klitgaard, B.B. & (2016). *Platymiscium* Vog., *Platypodium* Vog., *Pterocarpus* Jacq. *In* Tozzi, A.M.G.A. (*ed*.) Papilionoideae. Flora Fanerogâmica do Estado de São Paulo. São Paulo: Instituto de Botânica. Vol. 8: 167-397.

Platymiscium floribundum var. *latifolium* (Benth.) Benth.

Tem como sinônimo
basiônimo *Platymiscium latifolium* Benth.
heterotípico *Platymiscium cordatum* Taub.
heterotípico *Platymiscium floribundum* var. *majus* Benth.

DESCRIÇÃO

Árvore com 10 (- 25) m alt., 20-40 (-70) cm diâm.; entrenós dos ramos jovens ocos. **Folhas** com eixo foliar 4,5-11,5 cm compr.; estípulas, estipelas e corpúsculos alimentares não observados; folíolos elípticos a largo-elípticos, (3 -) 4,5-8 (-11) x 1,5-5 cm compr., base arredondada ou obtusa, ápice acuminado, coriáceos, face adaxial verde-clara, lustrosa. **Inflorescências** racemos pêndulos, delgados, axilares, com 10-30 flores, simples (ocasionalmente com ramificação secundária) com 1 a 3 inflorescências por axila foliar; eixo de inflorescência espesso, glabro, com 5-11 cm compr., incluindo um pedúnculo de 1-4,5 cm compr.; brácteas 2 x 1 mm compr., triangulares, glabras a pilosas, ciliadas ao longo das margens, caducas antes da antese; bractéolas 2 x 1 mm compr., ovais, fundidos basalmente na face adaxial, glabras a pilosas, ciliadas ao longo das margens, persistentes até a queda das flores. **Flores** 13-17 mm compr., robustas, pediceladas; pedicelos de 2-6 (- 11) mm compr., glabros a pilosos ou com um tufo de tricomas na base e no ápice, articulados na base do cálice, caducos após a queda das flores; cálice campanulado, 5-6 mm compr., robusto, glabro (às vezes piloso), base obtusa, três dentes abaxiais triangulares, agudos, dois dentes adaxiais unidos em 2/3 do comprimento, agudos; corola laranja, raramente amarela; estandarte orbicular, 12-15 x 8-10 mm, base longo-unguiculada; alas 10-13 x 5-6 mm, base longo-unguiculada, glabras ou esparsamente ciliadas na face interna e no ápice do ungículo; pétalas da quilha 10-13 x 4-5 mm, base longo-unguiculada, adnatas ao longo da maioria das margens inferiores, ciliada na parte livre das margens; filetes fundidos progressivamente mais alto abaxialmente; anteras monomórficas; ovário longo-estipitado, glabro. **Sâmara** elíptica ou oblonga, 9 x 3,2 cm, base acuminada, ápice arredondado, glabro; estipe 1-1,5 cm compr.; exocarpo marrom na maturidade; semente 2,7 x 1,4 cm, reniforme.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Mata Atlântica

Tipos de Vegetação
Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Sudeste (Minas Gerais, Rio de Janeiro, São Paulo)
Sul (Paraná)

MATERIAL TESTEMUNHO

G. Hatschbach, 45691, C, GB, K, MBM, MEXU, UB
Handro, O., 959, UB, MEXU, MBM, K, GB, C
Barreto, 1976, UB, MEXU, MBM, K, GB, C
Pereira, 5736, UB, MEXU, MBM, K, GB, C

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium floribundum var. *nitens* (Vogel) Klitg.

Tem como sinônimo
basiônimo *Platymiscium nitens* Vogel
heterotípico *Platymiscium piliferum* Taub.

DESCRIÇÃO

Árvore de até 12 m alt., 10-35 cm diâm.; entrenós dos ramos ocos ou sólidos. **Folhas** com eixo foliar 2,5-9 (- 17) cm compr.; estípulas estreitamente triangulares, 5 x 3 mm, caducas; estipelas e corpos alimentares não observados; folíolos estreitamente elípticos ou ovais, 3-11,5 x 1,5-8 cm, base arredondada ou obtusa, ápice acuminado, faces adaxial e abaxial verde escuras, opacas. **Inflorescências** racemos pêndulos, delgados, axilares, com até 30 flores, simples (ocasionalmente com ramificação secundária), com 1 a 3 inflorescências por axila foliar; eixo da inflorescência delgado, glabro, sulcado, 6-12 cm compr., incluindo um pedúnculo de 0,5-3,5 cm compr.; brácteas largo-triangulares, 1 x 0,5 mm, glabras, ciliadas ao longo das margens, caducas antes da antese; bractéolas ovais, 1 x 1 mm, fundidos adaxialmente, glabros, ciliados ao longo das margens, persistentes até a queda das flores. **Flores** 14-18 mm compr., delgadas, pediceladas; pedicelos de 3-11 mm compr. glabros ou com tufos de tricomas na base e no ápice, articulados na base do cálice, frequentemente persistentes após a queda das flores; cálice tubular, 5-8 mm compr., robusto, glabro, ciliado ao longo das margens dos dentes, base atenuada, três dentes abaxiais triangulares, agudos, dois dentes adaxiais fundidos em 2/3 do comprimento, agudo; corola amarela; estandarte orbicular, 11-15 x 8 -11 (-12) mm, ápice emarginado, base longo-unguiculada, com guia de néctar vermelho-marrom na base; alas 8-12 (-15) x 4-5 mm, base longo-unguiculada; pétalas da quilha 10-13 (-15) x 4-5 mm, adnatas ao longo da maior parte das margens inferiores, ciliada na parte livre das margens; filetes fundidos progressivamente mais alto abaxialmente; anteras monomórficas; ovário longo-estipitado, glabro. **Sâmara** estreitamente oval a elíptica, 7,3-10 x 2,5-4 cm, base e ápice acuminados (base atenuada na estipe); semente 2,5-2,8 x 1,3-1,5 cm.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Caatinga, Cerrado, Mata Atlântica

Tipos de Vegetação
Carrasco, Floresta Estacional Decidual, Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia, Ceará, Pernambuco, Piauí)
Centro-Oeste (Distrito Federal, Goiás)
Sudeste (Espírito Santo, Minas Gerais, Rio de Janeiro)

MATERIAL TESTEMUNHO

A.P. Duarte, 9766, RB, NY
H.S. Irwin, 8053, RB, NY
Grupo Pedra do Cavalo, 776, RB, NY
H. C. de Lima, 2870, NY, RB

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium floribundum var. *obtusifolium* (Harms) Klitg.

Tem como sinônimo
basiônimo *Platymiscium obtusifolium* Harms

DESCRIÇÃO

Árvore, de pequeno a médio porte 8 (-25) m alt., 10-15 cm diâm.; entrenós dos ramos jovens sólidos. **Folhas** com eixo foliar de 3-8 cm compr., raque e pecíolo do mesmo tamanho; estípulas triangulares, 2 x 2 mm, caducas, cartáceas; estipelas algumas vezes presentes, 2 x 0,5 mm, filiformes; corpúsculos alimentares na base do pecíolo jovem; folíolos largo-ovais, 3-8,5 x 2-4,5 cm, base arredondada ou obtusa, ápice acuminado, face adaxial verde-escura, opaca, face abaxial verde-clara, opaca, às vezes esparsamente pilosa, nervuras primária, secundárias e marginais amarelas. **Inflorescências** racemos pêndulos, delgados, axilares, 18-35 flores, simples (ocasionalmente com ramificação secundária), com 1-3 inflorescências por axila foliar; eixo da inflorescência delgado, sulcado, glabro, com 3-10 cm compr., incluindo um pedúnculo de 1-2 cm; brácteas estreitamente triangulares, 1,5 x 0,5 mm, glabras, geralmente caducas antes da queda das flores; bractéolas ovais, 1-1,5 x 1-1,5 mm, fundidos parcialmente ao longo das margens superiores, glabras, papiráceas, caducas ou persistentes após a queda da flor. **Flores** 10-13 (-14) mm compr., delgadas, pediceladas; pedicelos de 5-7 mm compr., glabros ou com tufos de tricomas no ápice e base, articulados na base do cálice, persistentes após a queda das flores; cálice tubular, 5-6 mm compr., robusto, glabro, base atenuada, três dentes abaxiais triangulares, obtusos, dois dentes adaxiais unidos em 2/3 do comprimento, obtusos; corola amarela; estandarte orbicular, 11-12 x 9-12 mm, ápice emarginado, base largo e curto-unguiculada, com guia de néctar roxo na base; alas 11 x 4-6 mm, longo-unguiculadas; pétalas da quilha 12 x 4-5 mm, base curto-unguiculada, curtamente fundidas ao longo das margens inferiores, glabras; filetes fundidos progressivamente mais alto abaxialmente; anteras monomórficas; ovário longo-estipitado, ciliado ao longo da sutura inferior. **Sâmara** oval ou elíptica, 4,5-5 x 2,5 cm, base arredondada, ápice acuminado; estipe ca.1 cm compr.; exocarpo marrom-ferrugíneo, opaco quando maduro; sementes 2,8 x 1,3 cm, bainha estaminal e cálice persistentes durante o desenvolvimento inicial dos frutos.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Caatinga, Cerrado

Tipos de Vegetação
Caatinga (stricto sensu), Carrasco, Floresta Estacional Decidual, Floresta Estacional Semidecidual

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia, Ceará, Pernambuco, Piauí)
Possíveis ocorrências
Sudeste (Minas Gerais)

MATERIAL TESTEMUNHO

Bautista, H.P., 871, K, EAC, 18521
Ferraz, s.n., K, EAC, 18521
Fernandes, s.n., K, EAC, 18521
Assis Viana, s.n., EAC, 18521, K

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium floribundum Vogel var. *floribundum*

Tem como sinônimo
heterotípico *Platymiscium blanchetii* Benth.
heterotípico *Platymiscium praecox* Benth.

DESCRIÇÃO

Árvore com até 25 m alt e 50 cm diâm.; entrenós dos ramos jovens ocos. **Folhas** com eixo foliar de 8-13 cm compr., raque tão longa quanto o pecíolo ou um pouco mais; estípulas triangulares, 0,7-1 x 0,5 cm, persistentes; estipelas não observados, pecíolos juvenis com corpúsculos alimentares na base; folíolos oblongos, estreitamente elípticos a elípticos, 2,5-13 (-17) x 2-9 cm, base arredondada, ápice acuminado, face adaxial verde escura, lustrosa, superfície abaxial verde opaco. **Inflorescências** racemos pêndulos, congestos, axilares, com até 60 flores, simples (ocasionalmente com ramificação secundária), com 1 a 6 inflorescências por axila foliar; eixo da inflorescência espesso, glabro, com 10-20 cm compr., incluindo um pedúnculo de até 4 cm compr.; brácteas oblongas, 1-1,5 x 0,5 mm, glabras, caducas antes da antese; bractéolas largamente triangulares, 1 x 0,5 mm, glabras, caducas antes da antese. **Flores** 12-13 mm compr., robustas, pediceladas; pedicelos de 2-4 mm compr., glabros, articulados na base do cálice, caducos após a queda das flores, com corpúsculos alimentares na base; cálice tubular, 5-6 mm compr., robusto, paredes espessas, glabro, base atenuada, 5-dentado, três dentes abaxiais triangulares, obtusos, dois dentes adaxiais unidos em 2/3 do comprimento, obtusos; corola amarela; estandarte orbicular, 9-11 x 9-11 mm, base curto-unguiculada, ápice emarginado, com guia de néctar vermelhona porção centro-basal; alas 9-12 x 3-5 mm, base longo-unguiculada; pétalas de quilha 9-12 x 2-5 mm, base longo-unguiculada, unidas ao longo das margens inferiores pelos tricomas entrelaçados, parte basal da lâmina pilosa na superfície interna; filetes fundidos progressivamente mais alto abaxialmente, estame vexilar ocasionalmente fundido apenas na base; anteras monomórficas; ovário longo-estipitado, ciliado ao longo da margem inferior. **Sâmara** elíptica a oblonga, 6,5-9 x 2,5-4 cm, base e ápice arredondados, glabras; semente não observada.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Caatinga, Mata Atlântica

Tipos de Vegetação
Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia, Ceará, Pernambuco)
Centro-Oeste (Distrito Federal)
Sudeste (Minas Gerais, Rio de Janeiro)
Sul (Paraná, Santa Catarina)
Possíveis ocorrências
Nordeste (Paraíba)
Sudeste (Espírito Santo, São Paulo)

MATERIAL TESTEMUNHO

F. Sellow, 373, F

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium pinnatum (Jacq.) Dugand

Este tratamento é composto pelos seguintes táxons: *Platymiscium pinnatum*, *Platymiscium pinnatum var. ulei*.

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es)/triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 2 - 6.5 cm/4 - 11 (- 25) cm. **Inflorescência: inflorescência(s)** racemo(s); **formato da inflorescência(s)** ereta(s) e espessa(s)/pêndula(s) e espessa(s); **indumento da inflorescência(s)** glabra(s); **racemo(s)** congesto(s); **número de flor(es) por racemo(s)** 20 - 100; **comprimento das bráctea(s)** 2 - 3 mm; **largura das bráctea(s)** 1 - 2 mm/0.5 - 1 mm; **formato das bráctea(s)** oblongo(s); **deiscência das bráctea(s)** precocemente caduca(s); **comprimento da bractéola(s)** 1 - 2 mm; **largura da bractéola(s)** 1 - 2 mm; **formato da bractéola(s)** oval(ais); **deiscência das bractéola(s)** precocemente caduca(s)/persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** curto(s). **Fruto: formato da sâmara(s)** oblongo(s).

DESCRIÇÃO ADICIONAL

Platymiscium pinnatum (*Jacq.*) *Dugand*, Contribuciones a la Historia Natural Colombiana 1: 10–12 (1938); Record, S. J. and Hess, R. W., p. 311 (1943); Pittier, H., p. 94 (1944); Woods, R. D., p. 14–15 (1951); Dugand, A., p. 112–113 (1955); Castañeda, R. R., p. 144 + fig. 57 (1965); Dwyer, J.D., p. 427 (1965); Holdridge, L. R. and Poveda, L. J. A., p 220 (1975); Allen, O. N. and Allen, E. K., p 535 (1981); Hoyos F., J., p. 577–578, + figs. 343, 344 (1985); Enrech, N. X. de and Agostini, G, p. 116–118 (1987); Klitgaard, B. B. p. 512 (1993); Klitgaard, B. B. pp. 139 (1995); pp. 967–973 (1999)[2000]; Neill, D. et al. p. 480 (1999); Klitgaard, B. B., pp. 1048–1049 (2001). Basionym: *Amerimnon pinnatum* Jacq., Select. Stirp. Amer. Hist., p. 200–201, Tab. 117, Fig. 50 (1763); Castañeda, R. R., p. 144–145 + fig. 57 (1965). Type. (lectotype Tab. 117, Fig. 50 in Jacquin 1788 (designated by Klitgaard, 1999[2000]).
Platymiscium cochabambense Rusby, Mem. Torrey Bot. Club 6: 26 (1886). Type: Bolivia. **Cochabamba**: vicinity of Cochabamba (in protologue locality given as Espirito Santo), 1891, *Bang* 1181 (holotype NY !; isotypes BM !, GH !, K !, MO !, NY !, US !).
Platymiscium urophyllum Harms, Feddes Repert. Spec. Nov. Regni 24: 213 (1928). Type. Colombia. **Santa Marta**: Don Jaca, 9 May 1926, *Schultze* 289 (holotype B † (photo of holotype in F ! including fragment of holotype. Photo taken in B shows two sheets: one flowering and one fruiting); photos of destroyed holotype G !, MO !, NY !).
Habit: tall *tree* to 20(–33) m tall, 28–30(–100) cm in diameter; sometimes with small buttresses; *crown* spreading to rounded; *bark* smooth, greenish-grey, shallowly fissured when young, more deeply fissured into rectangular blocks (1 x 3–4 cm) when older, outer bark 5 mm thick, inner bark 8–10 mm thick; *slash* exudes greenish sap which oxidises dark red; *wood* very hard, heartwood reddish brown; *internodes* of juvenile branchlets hollow or solid. Leaves opposite, rarely 3-verticillate, 5–7(–9, very rarely–11)-foliolate; *vegetative parts* glabrous; *leaflets*: veinlets of areoles with sharp edges, usually intermixed with dots, primary vein flush with upper surface, upper surface dark green, dull, lower surface lighter green, dull. Inflorescences of erect or pendulous, axillary, simple racemes (occasionally with secondary branching); *racemes* 20–100-flowered. Flowers pedicellate; *pedicels* articulated at calyx base, persistent after flower fall; *calyx* cup-shaped, robust, glabrous, base obtuse. Samara broadly to narrowly elliptic, glabrous; *exocarp* rusty brown at maturity.
Field characters. Inner bark a cinnamon brown colour. Slash yellowish with a smell of green beans (*Vicia faba*), sap oxidises red. Calyx initially green, turning purple later. Corolla yellow, standard with a purple nectar guide. Flowers are very fragrant, and attract large numbers of bees, which most probably are the principal pollinators. Trees flower prolifically, making them very showy and easily visible from a distance. When internodes are hollow the trees house large numbers of ants.
Notes. Diagnostic characters distinguishing subspecies and varieties of *P. pinnatum* will be described under each infraspecific taxon. A comparison between *P. pinnatum* and *P. floribundum* can be found under the general Notes to *P. floribundum*.
A very interesting exchange of letters, dated 1954 and 1955, exists between A. Dugand in Bogotá and N. Y. Sandwith in the Royal Botanic Gardens, Kew. These letters discuss the taxonomy of *P. pinnatum*, amongst other things the synonymisation of *P. polystachyum* and *P. ulei* under *P. pinnatum*, with which I agree totally. As already mentioned in the introduction, Sandwith stressed the fact that *Platymiscium* is in need of critical revision: “once again, it looks as if a critical revision of *Platymiscium* were needed, to be done by someone who can assemble hundreds of sheets from all parts of its range”.

Key to subspecies of *P. pinnatum*
1. Bracteoles persistent on pedicel after flower fall, usually broadly ovate, 2–4 x 2–4 mm (Fig. 11A)……..B. subsp. polystachyum
1. Bracteoles usually caducous from pedicel before flower fall, ovate or narrowly oblong,

1–4 x 0.5–1.5 mm (Figs. 11B–D.)……...A. subsp. pinnatum

A. subsp. pinnatum

Key to varieties of subsp. *pinnatum*

1. Flower equalling, to twice as long as, pedicel; calyx dark brown; leaflets small, elliptic, 1.5–7 x 1–4 cm……..c. var. diadelphum
1. Flower ca. 2–4 times as long as pedicel; calyx not dark brown; leaflets large, usually not elliptic, 3.5–15 x 2–9.5 cm……...2.
2. Racemes densely flowered, inflorescence axis thick; pedicel 2–4 mm long, club-shaped after flower fall (Fig. 11C); flower 10–11 mm long…….b. var. ulei.
2. Racemes laxly flowered, inflorescence axis slender; pedicel 3–7(–12) mm long (Fig. 11D); flower 10–14 mm long…….a. var. pinnatum.

a. var. pinnatum

Tree 20(–32) m tall, 30–47 cm in diameter; *internodes* of juvenile branchlets hollow or solid. Leaves 5–7(–9), very rarely 11-foliolate; *leaf axis* 5.5–11(–16) cm long, including a (2.5–)3.5–5.5(–7) cm long petiole; *stipules* narrowly triangular to broadly triangular or, rarely, oblong, 5–10(–15) x 5–10(–15) mm, caducous; *bud scales* and juvenile petiolule bases with food bodies intermixed with hairs; *leaflets* broadly elliptic to elliptic or broadly ovate to ovate, distal leaflet often larger than others, 4–15 x 2–9.5 cm, base rounded, apex acute. Inflorescences of pendulous, lax, axillary, simple racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* slender, smooth, glabrous, 4–13 cm long including a 1–2.5 cm long peduncle; *racemes* to 36-flowered; *bract* narrowly ovate, 3 x 1 mm, ciliate along margins, caducous before anthesis; *bracteoles* ovate, 1–2 x 1 mm long, ciliate along margins, persistent some time after anthesis. Flowers 10–14 mm long, slender, pedicellate; *pedicels* 3–7(–12) mm long, slender, articulated at calyx base, caducous after flower fall; *calyx* tubular, 4–6 mm long, glabrous, ciliate along teeth margins, 5-toothed, abaxial three teeth triangular, obtuse, adaxial two teeth fused for 3/4 of their length, acuminate; *corolla* yellow; *standard* orbicular, 9–12(–13) x 7–12 mm, long-clawed, yellow marginally purple centrally; *wing petals* 8–13 x 4–5 mm, long-clawed; *keel petals* 9–13 x 3–4 mm, adnate for a short distance along lower margins, ciliate along free parts of lower margins, sometimes also on claw; *stamen* filaments fused progressively higher abaxially for 1/2–2/3 of their length, vexillary stamen sometimes only fused at base; *anthers* monomorphic; *ovary* stipitate, glabrous. Samara 5.5–10.5 x 2.5–3.8 cm; *stipe* 10–14(–20) mm long; *seed* 2–2.5 x 1 cm, reniform. Chromosome number: n=10 (Goldblatt, 1981).

Field characters. Nitrogen fixing root nodules were observed by Barrios and Gonzalez (1971) in Venezuela.

Distribution. Panama, northwestern Venezuela, Colombia, Ecuador, Peru to Bolivia, from sea level to 800 m.

Conservation status. LC ~ least concern.

Habitat. In Venezuela and Colombia *P. pinnatum* subsp. *pinnatum* var. *pinnatum* is a common tree and is found in a wide range of habitats: deciduous to evergreen forest, along rivers in arid coastal scrub, and in transitional forest between savanna and tall gallery forest. In Ecuador and Peru it is scattered, but in Bolivia it becomes common again in dry to humid habitats, e.g. semi-deciduous forest on sandy soil with the mimosoid species *Anadenanthera macrocarpa* (Benth.) Brenan and Phytolaccaceae species *Gallesia integrifolia* (Spreng.) Harms, from sea level to 1350 m.

Phenology. Individuals flower when almost leafless or have juvenile leaves. In Venezuela and Colombia flowering has been recorded from late January to early May. In Ecuador, Peru, and Bolivia flowering has been recorded from early September to early November. Fruits set one to two months after flowering.

Vernacular names. Bohuëxeni (Chácobo, Bolivia); Caoba (Cofán, Ecuador) (Woods, 1951) states that Caoba is the Spanish word for mahogany); Quira (Spanish ?, Venezuela); Roble María (Venezuela); Tarára amarilla (Bolivia); Trébol (Colombia); Tahuari negro (Peru). Pittier (1944) mentions the names Roble blanco, Roble colorado, Tasajo (Tuy language), and Uvedita (Maiquetía language) for Venezuela.

Uses. Used for house construction (Ecuador, Bolivia); medicine for skin ailments (Bolivia). According to Record and Hess (1943) and Allen and Allen (1981) var. *pinnatum* is a very important timber tree in Venezuela and Panama, the durable wood is used for construction timber, furniture, cabinet making, and wooden tools. Castañeda (1965) notes that, when corn tarts are cooked over *P. pinnatum* (= var. *pinnatum*) leaves, the smoke gives them a very pleasant taste.

b. var. ulei (*Harms ex Harms*) *Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].

Platymiscium ulei Harms ex Harms, Verh. Bot. Vereins Prov. Brandenburg 58: 170 (1907) [mentioned as *Platymiscium ulei* Harms, Flora 94(3): 494 (1905), nomen nudum]; Ducke, A., p. 157 (1922); Ducke, A., p. 315 (1925); Record, S. J. and Hess, R. W., p. 311 (1943); Ducke, A., p. 189 (1949); Pio Corrêa, M., p. 3 (1974); Allen, O. N. and Allen, E. K., p. 535 (1981); Santos, E., p. 189 (1987). Type: Brazil. **Amazonas**: Río Juruá, Bom Fim, Nov. 1900, *Ule* 5070 (holotype B†; photos of holotype F !, G !, GH !, MO !, NY (2) !); isotypes F !, HBG !, K !, L !)

Tree 10–17 m tall, 20–25 cm in diameter; *internodes* of juvenile branchlets hollow. Leaves 5–7-foliolate; *leaf axis* 9–16.5 cm long, including a 3–5.5 cm long petiole; *stipules* narrowly triangular to triangular, 10–15 x 10–15 mm, caducous; *bud scales* and juvenile petiolule bases with food bodies intermixed with hairs; *leaflets* elliptic, ovate or oblong, distal leaflet often larger than others, 3.5–13 x 2–6 cm, base rounded, apex acute. Inflorescences of pendulous to erect, densely-flowered, axillary, simple

racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glabrous, 5–10 cm long including a 0.25–2 cm long peduncle; *racemes* 28–100-flowered; *bracts* oblong, 2 x 1 mm, glabrous or ciliate along margins, caducous before anthesis; *bracteoles* ovate, 1.5–2 x 1–1.5 mm, connate adaxially, glabrous or ciliate along margins, usually caducous before anthesis (occasionally persistent after flower fall). Flowers 10–11(– 12) mm long, slender, pedicellate; *pedicels* 2–4 mm long, glabrous or sparsely pilose basally, articulated at calyx base, persisting as a club-shaped peg after flower fall; *calyx* tubular, 4–5 mm long, ciliate along teeth margins, abaxial three teeth triangular, acute, adaxial two teeth almost totally fused, acute; *corolla* yellow; *standard* orbicular, 9–11 x 7–9 mm, short-clawed, yellow marginally with a purple nectarguide centrally; *wing petals* 9–11 x 3–5 mm, short-clawed; *keel petals* 9–11 x 3–5 mm, short-adnate along lower margins, ciliate along free part of margins; *stamen* filaments fused progressively higher abaxially for 1/2–2/3 of their length; *anthers* monomorphic; *ovary* long-stipitate, glabrous or ciliate along both margins of suture. Samara 11–12 x 4 cm; *stipe* 5–6 mm long; *seed* 1.5–2 x 1 cm, oblong.

Field characters. Medium-sized to tall tree. Calyx initially green, turning dark red. Flowers are strongly scented. Ants live in the internodes of young branches.

Distribution. Mainly distributed in Amazonian Brazil from the state of Pará to the state of Acré, with scattered occurrences in Amazonian Colombia, Ecuador, and Peru.

Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 80% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.

Habitat. Usually found in primary or secondary várzea forests (where it is seen to be a dominant pioneer tree together with *Senna reticulata* (Willd.) Irwin and Barnby and *Cecropia* sp.), but occasionally also in terra firme forests, at 100 to 700 m.

Phenology. Flowering has been recorded from January to April, from June to August, and from October to November. Var. *ulei* is not as seasonally dependant as most of the other *Platymiscium* species, and it retains its leaves during flowering.

Vernacular names. Macacaúba, Macacaúba-da-várzea, Tamburi (Brazil); Amansi, Shitari runto, Tahuari negro (Peru).

Uses. According to Record and Hess (1943), Ducke (1949), Pio Corrêa (1974) and Allen and Allen (1981) *P. pinnatum* subsp. *pinnatum* var. *ulei* is a very important timber tree in Brazil, with a durable wood used for building construction, furniture, cabinet making, wooden tools, etc.

COMENTÁRIO

Platymiscium pinnatum (*Jacq.*) *Dugand*, Contribuciones a la Historia Natural Colombiana 1: 10–12 (1938); Record, S. J. and Hess, R. W., p. 311 (1943); Pittier, H., p. 94 (1944); Woods, R. D., p. 14–15 (1951); Dugand, A., p. 112–113 (1955); Castañeda, R. R., p. 144 + fig. 57 (1965); Dwyer, J.D., p. 427 (1965); Holdridge, L. R. and Poveda, L. J. A., p 220 (1975); Allen, O. N. and Allen, E. K., p 535 (1981); Hoyos F., J., p. 577–578, + figs. 343, 344 (1985); Enrech, N. X. de and Agostini, G, p. 116–118 (1987); Klitgaard, B. B. p. 512 (1993); Klitgaard, B. B. pp. 139 (1995); pp. 967–973 (1999)[2000]; Neill, D. et al. p. 480 (1999); Klitgaard, B. B., pp. 1048–1049 (2001). Basionym: *Amerimnon pinnatum* Jacq., Select. Stirp. Amer. Hist., p. 200–201, Tab. 117, Fig. 50 (1763); Castañeda, R. R., p. 144–145 + fig. 57 (1965). Type. (lectotype Tab. 117, Fig. 50 in Jacquin 1788 (designated by Klitgaard, 1999[2000]).

Platymiscium cochabambense Rusby, Mem. Torrey Bot. Club 6: 26 (1886). Type: Bolivia. **Cochabamba**: vicinity of Cochabamba (in protologue locality given as Espirito Santo), 1891, *Bang* 1181 (holotype NY !; isotypes BM !, GH !, K !, MO !, NY !, US !).

Platymiscium urophyllum Harms, Feddes Repert. Spec. Nov. Regni 24: 213 (1928). Type. Colombia. **Santa Marta**: Don Jaca, 9 May 1926, *Schultze* 289 (holotype B † (photo of holotype in F ! including fragment of holotype. Photo taken in B shows two sheets: one flowering and one fruiting); photos of destroyed holotype G !, MO !, NY !).

Habit: tall *tree* to 20(–33) m tall, 28–30(–100) cm in diameter; sometimes with small buttresses; *crown* spreading to rounded; *bark* smooth, greenish-grey, shallowly fissured when young, more deeply fissured into rectangular blocks (1 x 3–4 cm) when older, outer bark 5 mm thick, inner bark 8–10 mm thick; *slash* exudes greenish sap which oxidises dark red; *wood* very hard, heartwood reddish brown; *internodes* of juvenile branchlets hollow or solid. Leaves opposite, rarely 3-verticillate, 5–7(–9, very rarely–11)-foliolate; *vegetative parts* glabrous; *leaflets*: veinlets of areoles with sharp edges, usually intermixed with dots, primary vein flush with upper surface, upper surface dark green, dull, lower surface lighter green, dull. Inflorescences of erect or pendulous, axillary, simple racemes (occasionally with secondary branching); *racemes* 20–100-flowered. Flowers pedicellate; *pedicels* articulated at calyx base, persistent after flower fall; *calyx* cup-shaped, robust, glabrous, base obtuse. Samara broadly to narrowly elliptic, glabrous; *exocarp* rusty brown at maturity. Fig. 11.

Field characters. Inner bark a cinnamon brown colour. Slash yellowish with a smell of green beans (*Vicia faba*), sap oxidises red. Calyx initially green, turning purple later. Corolla yellow, standard with a purple nectar guide. Flowers are very fragrant, and attract large numbers of bees, which most probably are the principal pollinators. Trees flower prolifically, making them very showy and easily visible from a distance. When internodes are hollow the trees house large numbers of ants.

Notes. Diagnostic characters distinguishing subspecies and varieties of *P. pinnatum* will be described under each infraspecific taxon. A comparison between *P. pinnatum* and *P. floribundum* can be found under the general Notes to *P. floribundum*.

A very interesting exchange of letters, dated 1954 and 1955, exists between A. Dugand in Bogotá and N. Y. Sandwith in the Royal Botanic Gardens, Kew. These letters discuss the taxonomy of *P. pinnatum*, amongst other things the synonymisation of *P. polystachyum* and *P. ulei* under *P. pinnatum*, with which I agree totally. As already mentioned in the introduction, Sandwith stressed the fact that *Platymiscium* is in need of critical revision: “once again, it looks as if a critical revision of *Platymiscium* were needed, to be done by someone who can assemble hundreds of sheets from all parts of its range”.

Key to subspecies of *P. pinnatum*

1. Bracteoles persistent on pedicel after flower fall, usually broadly ovate, 2–4 x 2–4 mm (Fig. 11A)……..B. subsp. polystachyum
1. Bracteoles usually caducous from pedicel before flower fall, ovate or narrowly oblong, 1–4 x 0.5–1.5 mm (Figs. 11B–D.)……...A. subsp. pinnatum

A. subsp. pinnatum

Key to varieties of subsp. *pinnatum*

1. Flower equalling, to twice as long as, pedicel; calyx dark brown; leaflets small, elliptic, 1.5–7 x 1–4 cm……..c. var. diadelphum
1. Flower ca. 2–4 times as long as pedicel; calyx not dark brown; leaflets large, usually not elliptic, 3.5–15 x 2–9.5 cm……...2.
2. Racemes densely flowered, inflorescence axis thick; pedicel 2–4 mm long, club-shaped after flower fall (Fig. 11C); flower 10–11 mm long…….b. var. ulei.
2. Racemes laxly flowered, inflorescence axis slender; pedicel 3–7(–12) mm long (Fig. 11D); flower 10–14 mm long…….a. var. pinnatum.

a. var. pinnatum

Tree 20(–32) m tall, 30–47 cm in diameter; *internodes* of juvenile branchlets hollow or solid. Leaves 5–7(–9), very rarely 11-foliolate; *leaf axis* 5.5–11(–16) cm long, including a (2.5–)3.5–5.5(–7) cm long petiole; *stipules* narrowly triangular to broadly triangular or, rarely, oblong, 5–10(–15) x 5–10(–15) mm, caducous; *bud scales* and juvenile petiolule bases with food bodies intermixed with hairs; *leaflets* broadly elliptic to elliptic or broadly ovate to ovate, distal leaflet often larger than others, 4–15 x 2–9.5 cm, base rounded, apex acute. Inflorescences of pendulous, lax, axillary, simple racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* slender, smooth, glabrous, 4–13 cm long including a 1–2.5 cm long peduncle; *racemes* to 36-flowered; *bract* narrowly ovate, 3 x 1 mm, ciliate along margins, caducous before anthesis; *bracteoles* ovate, 1–2 x 1 mm long, ciliate along margins, persistent some time after anthesis. Flowers 10–14 mm long, slender, pedicellate; *pedicels* 3–7(–12) mm long, slender, articulated at calyx base, caducous after flower fall; *calyx* tubular, 4–6 mm long, glabrous, ciliate along teeth margins, 5-toothed, abaxial three teeth triangular, obtuse, adaxial two teeth fused for 3/4 of their length, acuminate; *corolla* yellow; *standard* orbicular, 9–12(–13) x 7–12 mm, long-clawed, yellow marginally purple centrally; *wing petals* 8–13 x 4–5 mm, long-clawed; *keel petals* 9–13 x 3–4 mm, adnate for a short distance along lower margins, ciliate along free parts of lower margins, sometimes also on claw; *stamen* filaments fused progressively higher abaxially for 1/2–2/3 of their length, vexillary stamen sometimes only fused at base; *anthers* monomorphic; *ovary* stipitate, glabrous. Samara 5.5–10.5 x 2.5–3.8 cm; *stipe* 10–14(–20) mm long; *seed* 2–2.5 x 1 cm, reniform. Chromosome number: n=10 (Goldblatt, 1981). Fig. +++.

Field characters. Nitrogen fixing root nodules were observed by Barrios and Gonzalez (1971) in Venezuela.

Distribution. Panama, northwestern Venezuela, Colombia, Ecuador, Peru to Bolivia, from sea level to 800 m. Map +++.

Conservation status. LC ~ least concern.

Specimens cited. Number of specimens examined, excluding types: 53. Bolivia. **Beni**: prov. Ballivián, “La Embocada 3 km hacia La Paz”, 250 m, 20 July 1981, *Beck* 6912 (L !, NY !); prov. Ballivián, San Borja 64 km towards Espiritu, 26 Aug. 1985, *Beck* 12188 (NY !); prov. Vaca Diez, vicinity of Chácobo village Alto Ivón, 200 m, 12 June 1991, *Stijfhoorn* 658 (NY !); “Trinidad–Missiones Guarayos”, 250 m, Sep. 1926, *Werdermann* 2575 (K !, MO !). **Pando**: prov. Nicolas Suárez, Cobija 2 km S, 260 m, 19 Oct. 1988, *Beck* 17123 (NY !). **Santa Cruz**: university campus of University of Santa Cruz, Santa Cruz city, 20 April 1988, *Bettella* 85 (NY !, US !); Quebrada Callejas, 5 km NE of Cotoca, 375 m, 26 Oct. 1990, *Centurión and Quevedo* 1201 (NY !); near Santa Cruz, Jan. 1911, *Herzog* 1297 (G !, L !, S !, W !); prov. Andrés Ibañez, along rd. Santa Cruz–Samaipata, 3 km SW of Angostura, 700 m, 25 Jan. 1987, *Nee* 33803 (NY !); prov. Andrés Ibañez, Jardin Botanico de Santa Cruz, 12 km E of centre of Santa Cruz on rd. to Cotoa, 375 m, 16 Oct. 1990, *Nee* 39283 (MEXU !, NY (3 sheets) !, SP !); *Nee* 39284 (MEXU !, NY !); road San Ramón–Ascención de Guarayos, forest along Río Limones, 240 m, 12 June 1991, *Nee and Coimbra S.* 41653

(AAU !, K !, MEXU !, NY !); San Ramon, 400 m, 11 Nov. 1990, *Pennington et al.* 13252 (K !); Santa Cruz town, campus Universitario, 437 m, 28 Sep. 1989, *Quevedo S.* 17 (MO !, NY !); prov. Sara, Buena Vista, 450 m, 13 Sep. 1924, *Steinbach* 6418 (GH !, US !); prov. Sara, Río Palometillas, 400 m, 25 Sep. 1924, *Steinbach* 6459 (G !, GH !, K !); prov. Sara, Buena Vista, 450 m, 3 Oct. 1924, *Steinbach* 6560 (BM !, F !, G !, GH !, K !, MO !, NY !, S !, UC !); Buena Vista, 450 m, 8 Oct. 1924, *Steinbach* 6589 (BM !, F !, GH !, K !); 8 Dec. 1924, *Steinbach* 6720 (BM !, F !, G (2 sheets) !, GH !, K !, MO !, S !, UC !, W !); prov. Sara, Río Palometillas, 400 m, 16 June 1927, *Steinbach* 7903 (BM !, F !, G !, GH (2 sheets) !, K !, MO !, NY !, S !, U !, UC !). Colombia. **Atlántico**: near Salgar, 22 March 1949, *Dugand* 4312 (K !, US !); km 5 on rd. to Puerto Colombia, 11 April 1964, *Dugand* 6756 (US !); Barranquilla, May 1927, *Elias* 175 (NY !, US !); 200 m, April 1928, *Elias* 480 (US !); dist. Barranquilla, Puerto Colombia, 19 April 1974, *Plowman* 3534 (GH !, K !, MO !, NY !, U !, US !). **Bolivar**: Mun. Magangue, rd. Cascajal–Ceibal, 50 m, 29 Jan. 1987, *Cuadros V.* 3176 (MEXU !, MO !, NY !); vicinity of Cartagena, 1920, *Heriberto* 386 (US !); on the rd. between Sabana Beltrán and Juan Arias, 15 Sep. 1963, *Romero-Castañeda* 9955 (AAU !); Mun. Sata Catalina, near Algarrobo, ca. 4 km SSW of Peñique, 230 m, 13 Aug. 1985, *Zarucchi and Cuadros V.* 4121 (K !, MEXU !, MO !, NY !, U (2 sheets) !). **Magdalena**: Barranquilla and vicinity, March 1932, *Elias* 985 (BM !, F !, NY !); S of Santa Marta, 5 April 1927, *Killip and Smith* 21086 (GH (2 sheets) !, NY !); Sabanas de Camperucho, Valledupar, 17 July 1956, *Llano* 20 (US !); in Gaira, 16 April 1948, *Romero-Castañeda* 1006 (US !); Mun. Fundación, ca. 16 km N of Santa Rosa, 600 m, 6 Aug. 1971, *Romero-Castañeda* 11242 (F !, MO !, NY !). **Santander**: between Río Zulia and Cúcuta, 450 m, 24 July 1940, *Cuatrecasas and Garcia Barriga* 10168 (F !). Ecuador. **Esmeraldas**: Property of “La Facultad de Sciencias de Esmeraldas”, near El Jardin Botanico de Esmeraldas, pasture, 50 m, 4. Dec. 1991, *Klitgaard and Lajones* 94489 (AAU !, QCA !, QCNE !); Río Guayllabamba, 10 km E of Quinindé, 130 m, 5 Oct. 1965, *Little and Dixon* 21228 (F !, MO !, NY !, US !); Anchayacu, Eloy Alfaro, Lagarto–Mayronga, ca. km 7, 9. Nov. 1994, *Pennington et al.* 15018 (K (2 sheets) !); Quinindé, Aug. 1983, *Veloz* s.n. (NY !). **Morona-Santiago**: “Parroquia Bomboiza”, near “la Misión Salesiana Shuar”, 800 m, 2 Nov. 1986, *Cerón et al.* 207 (AAU !). Napo: Road MAXUS, km 4.4 right hand, 300 m, 26 Sep. 1997, *Klitgaard et al.* 635 (AAU !, K !, LOJA !, NY !, QCNE !). Panama. Panamá: Chepo, 1924, *Kluge* 56 (F !, FHO !, OHF !). Peru. **Amazonas**: mouth of Río Apaya, *Tessmann* 4828 (G !, NY !). **Huánuco**: prov. Leoncio Prado, dist. Rupa Rupa, 700 m, 29 Oct. 1965, *Vásquez A.* 103 (F !, K !, NY !, P !). **Pasco:** Prov. Oxapampa, Palcazu valley, Cabeza de Mono, 5–6 km west of Iscosacin, 325 m, 17–20 April 1983, *Smith* 3777 (K !, MO !). Venezuela. **Apure**: dist. Pedro Camejo, 35 air line km NE of Puerto Paez, just NE of Isla El Gallo, 40 m, 23 Feb. 1978, *Davidse and González* 14462 (GB !, MEXU !, MO (2 sheets) !, NY !); 5 km W of the Bruzual–San Fernando Highway, 70 m, 4 March 1987, *Davidse and González* 14841 (GB !, MEXU !, MO (2 sheets) !). **Barinas**: km 79 rd. Barinas-San Cristóbal, bank of Río Bumbun, 350 m, 16 July 1964, *Breteler* 4036 (F (2 sheets) !, G !, M !, MO !, NY !, RB !, S !, SP !, U !, US !); Reserva Forestal de Caparo Unidad Uno., 100 m, 11 March 1971, *Jiménez S.* 1290 (NY !). **Portuguesa**: “Fundo El Chaparral”, 14 km NE of Guanare, km 3 SE of the right bank of Río Portuguesa, 180 m, 22 Nov. 1986, *Aymard C. and Cuello* 4960 (MO !). **Táchira**: km 53-58 on rd. San Antonio-Rubio, 1350 m, 22 Nov. 1948, *Garcia-Barriga* 13278 (US !). **Zulia**: dist. Perijá, around “la Estación Hidrológica Aricuaisá–Pie de Monte, 175 m, 25 Feb. 1982, *Bunting et al.* 11060 (US !); dist. Bolívar, Cuenca del Embalse Burro Negro, km 2 on rd. to Piedras Blancas, 6 April 1979, *Bunting et al.* 7189 (NY !, US !).

Habitat. In Venezuela and Colombia *P. pinnatum* subsp. *pinnatum* var. *pinnatum* is a common tree and is found in a wide range of habitats: deciduous to evergreen forest, along rivers in arid coastal scrub, and in transitional forest between savanna and tall gallery forest. In Ecuador and Peru it is scattered, but in Bolivia it becomes common again in dry to humid habitats, e.g. semi-deciduous forest on sandy soil with the mimosoid species *Anadenanthera macrocarpa* (Benth.) Brenan and Phytolaccaceae species *Gallesia integrifolia* (Spreng.) Harms, from sea level to 1350 m.

Phenology. Individuals flower when almost leafless or have juvenile leaves. In Venezuela and Colombia flowering has been recorded from late January to early May. In Ecuador, Peru, and Bolivia flowering has been recorded from early September to early November. Fruits set one to two months after flowering.

Vernacular names. Bohuëxeni (Chácobo, Bolivia); Caoba (Cofán, Ecuador) (Woods, 1951) states that Caoba is the Spanish word for mahogany); Quira (Spanish ?, Venezuela); Roble María (Venezuela); Tarára amarilla (Bolivia); Trébol (Colombia); Tahuari negro (Peru). Pittier (1944) mentions the names Roble blanco, Roble colorado, Tasajo (Tuy language), and Uvedita (Maiquetía language) for Venezuela.

Uses. Used for house construction (Ecuador, Bolivia); medicine for skin ailments (Bolivia). According to Record and Hess (1943) and Allen and Allen (1981) var. *pinnatum* is a very important timber tree in Venezuela and Panama, the durable wood is used for construction timber, furniture, cabinet making, and wooden tools. Castañeda (1965) notes that, when corn tarts are cooked over *P. pinnatum* (= var. *pinnatum*) leaves, the smoke gives them a very pleasant taste.

Notes. The Munich sheet of *Breteler* 4036 has 20 mm long fruit stipes. *Heriberto* 386 from Colombia states on the label “type locality for *P. pinnatum*”. The sheet from NY of *Smith* 23, Colombia is marked no. 23a.

b. var. ulei (*Harms ex Harms*) *Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].
Platymiscium ulei Harms ex Harms, Verh. Bot. Vereins Prov. Brandenburg 58: 170 (1907) [mentioned as *Platymiscium ulei* Harms, Flora 94(3): 494 (1905), nomen nudum]; Ducke, A., p. 157 (1922); Ducke, A., p. 315 (1925); Record, S. J. and Hess, R. W., p. 311 (1943); Ducke, A., p. 189 (1949); Pio Corrêa, M., p. 3 (1974); Allen, O. N. and Allen, E. K., p. 535 (1981); Santos, E., p. 189 (1987). Type: Brazil. **Amazonas**: Río Juruá, Bom Fim, Nov. 1900, *Ule* 5070 (holotype B†; photos of holotype F !, G !, GH !, MO !, NY (2) !); isotypes F !, HBG !, K !, L !)

Tree 10–17 m tall, 20–25 cm in diameter; *internodes* of juvenile branchlets hollow. Leaves 5–7-foliolate; *leaf axis* 9–16.5 cm long, including a 3–5.5 cm long petiole; *stipules* narrowly triangular to triangular, 10–15 x 10–15 mm, caducous; *bud scales* and juvenile petiolule bases with food bodies intermixed with hairs; *leaflets* elliptic, ovate or oblong, distal leaflet often larger than others, 3.5–13 x 2–6 cm, base rounded, apex acute. Inflorescences of pendulous to erect, densely-flowered, axillary, simple racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glabrous, 5–10 cm long including a 0.25–2 cm long peduncle; *racemes* 28–100-flowered; *bracts* oblong, 2 x 1 mm, glabrous or ciliate along margins, caducous before anthesis; *bracteoles* ovate, 1.5–2 x 1–1.5 mm, connate adaxially, glabrous or ciliate along margins, usually caducous before anthesis (occasionally persistent after flower fall). Flowers 10–11(– 12) mm long, slender, pedicellate; *pedicels* 2–4 mm long, glabrous or sparsely pilose basally, articulated at calyx base, persisting as a club-shaped peg after flower fall; *calyx* tubular, 4–5 mm long, ciliate along teeth margins, abaxial three teeth triangular, acute, adaxial two teeth almost totally fused, acute; *corolla* yellow; *standard* orbicular, 9–11 x 7–9 mm, short-clawed, yellow marginally with a purple nectarguide centrally; *wing petals* 9–11 x 3–5 mm, short-clawed; *keel petals* 9–11 x 3–5 mm, short-adnate along lower margins, ciliate along free part of margins; *stamen* filaments fused progressively higher abaxially for 1/2–2/3 of their length; *anthers* monomorphic; *ovary* long-stipitate, glabrous or ciliate along both margins of suture. Samara 11–12 x 4 cm; *stipe* 5–6 mm long; *seed* 1.5–2 x 1 cm, oblong. Fig. +++.

Field characters. Medium-sized to tall tree. Calyx initially green, turning dark red. Flowers are strongly scented. Ants live in the internodes of young branches.

Distribution. Mainly distributed in Amazonian Brazil from the state of Pará to the state of Acré, with scattered occurrences in Amazonian Colombia, Ecuador, and Peru. Map +++.

Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 80% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.

Specimens cited. Number of specimens examined, excluding type: 16. Brazil. **Acré**: “Mun. de Cruzeiro do Sul, margem esquerda do Rio Juruá, seringal Nazaré”, 22 March 1992, *Ferreira et al.* 10902 (K !); north bank of Rio Juruá, opposite Cruzeiro do Sul, 27 Oct. 1966, *Prance et al.* 2922 (F !, INPA !, K !, MG !, NY (2 sheets) !, R !, S !, U !). **Amazonas**: “Estrada Manaus-Itacoatiara, km 194”, 9 July 1968, *Byron and Monteiro* s.n./INPA no. 21.305 (INPA !, K !, MBM !); “Pariutius, silva ab amazonum fluvio”, 7 Aug. 1936, *Ducke* 254 (NY (2 sheets) !); Mun. Manaus, Rio Amazonas, Paraná do Careiro, near Terra Nova, 100 m, 23 Nov. 1993, *Klitgaard and Parolin* 36 (AAU !, K (2 sheets) !, RB !); Fortaleza, Rio Jurua, Oct. 1901, *Ule* 5909 (G !, HBG !, K (2 sheets) !, L !, MG !; photo F !). **Pará**: “Paraná do Adanacá, Faro”, 20 Feb. 1915, *Ducke* 10540 (BM (2 sheets) !, G (3 sheets) !, MG !, P !, RB !); Faro, 6 Jan. 1920, *Ducke* 11561 (G !, K !, RB !, S !, U !, US !); “ad ripas inundatus fl. Matapy prope Macapá”, 30 April 1926, *Ducke* 20391 (RB !, S !, U !). Colombia. **Amazonas**: Puerto Nariño, above confluence of Río Amazonas and Río Loretoyacu, 100 m, 16 June 1973, *Soejarto et al.* 4186 (NY (2 sheets) !). Ecuador. **Napo**: Limoncocha, 300 m, 22 Nov. 1994, *Pennington et al.* 15030 (K (2 sheets) !). **Zamora-Chinchipe**: Miazi, 26 Oct. 1991, *Palacios* 8615 (AAU !, QCNE !). PERU. **Huanuco**: prov. Leoncio Prado, dist. Rupa Rupa, East of Tingo María, close to Cerro Quemado, 700–800 m, 7 Sep. 1978, *Schunke V.* 10585 (MO !); prov. Leoncio Prado, dist. Rupa Rupa, 700 m, 13 Dec. 1965, *Vásquez A.* 109 (F !, K !, NY !, US !). **Loreto**: “Zungarococha (Iquitos)”, 100 m, 19 July 1974, *Ayala* 636 (K !, MO !). **Ucayali**: Coronel Portillo, Yarina Cocha, grounds of Summer Institute of Linguistics, 16 March 1982, *Gentry and Smith* 36400 (MEXU !, MO !).

SEEDLING COLLECTION. *Klitgaard and Parolin* 36 (AAU, K).

Habitat. Usually found in primary or secondary várzea forests (where it is seen to be a dominant pioneer tree together with *Senna reticulata* (Willd.) Irwin and Barnby and *Cecropia* sp.), but occasionally also in terra firme forests, at 100 to 700 m.

Phenology. Flowering has been recorded from January to April, from June to August, and from October to November. Var. *ulei* is not as seasonally dependant as most of the other *Platymiscium* species, and it retains its leaves during flowering.

Vernacular names. Macacaúba, Macacaúba-da-várzea, Tamburi (Brazil); Amansi, Shitari runto, Tahuari negro (Peru).

Uses. According to Record and Hess (1943), Ducke (1949), Pio Corrêa (1974) and Allen and Allen (1981) *P. pinnatum* subsp. *pinnatum* var. *ulei* is a very important timber tree in Brazil, with a durable wood used for building construction, furniture, cabinet making, wooden tools, etc.

c. var. diadelphum (*S.F. Blake*) *Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].
Platymiscium diadelphum S.F. Blake, Contr. U. S. Natl. Herb. 20(3): 525 (1918); Pittier, H., p. 95 (1944); Aristeguieta, L., p. 150–151, + fig. 46 (1962); Hoyos F., J., p. 306 + fig. (1978); Hoyos F., J., p. 577–578, + figs. 343, 344 (1985); Ricardi, M. et al., p. 171–173, figs. 68, 69 (1987); Enrech, N. X. de and Agostini, G., p. 118–120 (1987). Type: Venezuela. **Miranda**: Carabobo, between La Entrada and Las Trincheras, rd. Valencia-Puerto Cabellos, 350 m, 2 May 1920, *Pittier* 8818 (holotype US !; isotypes G !, GH !, NY !, SI !).

Tree up to 20–30 m tall, to 50 cm in diameter; *internodes* of juvenile branchlets hollow or solid. Leaves 5–7(very rarely 9)-foliolate; *leaf axis* 6.5–13 cm long, including a 2.5–3.5 cm long petiole; *stipules* broadly triangular to triangular, 5–7 x 5–7 mm, caducous; *bud scales* and juvenile petiolule bases with food bodies; *leaflets* elliptic, distal leaflet often larger than others, 1.5–5 x 1–3 cm, base rounded, apex acute. Inflorescences of erect to pendulous, lax, axillary, simple racemes (occasionally with

secondary branching), with 1 to 2 inflorescences per leaf axil; *inflorescence axis* slender, smooth, glabrous, 6–8(–12) cm long including a 1–2.5 cm long peduncle; *racemes* 22–26-flowered; *bracts* narrowly oblong, 2–4 x 0.5–1 mm, ciliate along margins, caducous before anthesis; *bracteoles* narrowly oblong, 2–4 x 0.5–1 mm, ciliate along margins, caducous before anthesis. Flowers 9–11 mm long, slender, pedicellate; *pedicels* 5–6 mm long, slender, pilose, with or without hair tufts and/or food bodies at base and apex, articulated at calyx base, caducous at flower fall; *calyx* tubular, 3–5 mm long, ciliate along teeth margins, abaxial three teeth triangular, acute, adaxial two teeth fused for 2/3 their length, acute; *corolla* yellow; *standard* orbicular or broadly oblong, 8–9 x 7–8 mm, long-clawed, yellow marginally, with a purple nectarguide centrally; *wing petals* 8 x 3 mm, long-clawed; *keel petals* 7–9 x 3 mm, shortly adnate along lower margins, glabrous; *stamen* filaments fused progressively higher abaxially for 1/2–2/3 of their length, sometimes vexillary stamen fused only at base; *anthers* monomorphic; *ovary* long-stipitate, pilose all over. Samara 6.5 x 3 cm; *stipe* 8 mm long; *seed* 1.5–2 x 1 cm, oblong. Seedlings: germination is phaneroepigeal; *first eophylls* opposite, unifoliolate, cordate. Fig. +++.

Field characters. Calyx dark brown, corolla yellow. Flowers very strongly scented.
Distribution. Abundant in northern Venezuela, extending to the Guianas and Colombia. This variety is not currently known from Brazil, but recent herbarium material may show that is it native to Brazil, so look out for P. pinnatum, particularly from NE Brazil.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 80% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. The variety grows in a wide range of habitats, including dry forest, deciduous forest, open savanna, and along river margins, at sea level to about 1300 m.
Phenology. Trees are deciduous. While flowering the trees produce new leaves. The main flowering season in Venezuela is February to April, and fruit set is from August to October. In Surinam and French Guiana flowering has been recorded in September and October.
Vernacular names Koenatepi (Surinam); Mututi, Mutisisî (wayãpi), Ripicole (French Guiana); Roble (Venezuela).
Uses. Roots are used for sharpening knives (French Guiana), and trees are cultivated as ornamentals and shade trees in Venezuela (Hoyos, 1985).
Notes. In their treatment of Platymiscium for Venezuela de Enrech and Agostini (1987) recognized *P. pinnatum* subsp. *pinnatum* var. *diadelphum* as a species separate from *P. pinnatum* based on the stature of the tree, the small flowers, dark brown calyces, and diadelphous androecium. In the present treatment, however, the only distinctive characters of variety *diadelphum* are the small flowers and the brown calyces.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Igapó, Floresta de Várzea, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre, Amazonas, Pará)

Platymiscium pinnatum var. *ulei* (Harms) Klitg.

Tem como sinônimo
basiônimo *Platymiscium ulei* Harms

DESCRIÇÃO

Árvore ca. 10–17 m alt., 20–25 cm diâm.; entrenós de ramos jovens ocos. **Folhas** 5–7–foliolato; eixo da folha com 9–16,5 cm compr., incluindo um pecíolo de 3–5,5 cm compr.; estípulas estreitamente triangulares a triangulares, 10–15 x 10–15 mm, caducas; pecíolos juvenis com corpúsculos alimentares junto com tricomas na base; folíolos elípticos, ovais ou oblongos, folíolos distais frequentemente maiores que outros, 3,5–13 x 2–6 cm, base arredondada, ápice agudo. **Inflorescências** racemos pendentes a eretos, congestos, axilares e simples (ocasionalmente com ramificação secundária), com 1-2 inflorescências por axila foliar; eixo de inflorescência espesso, glabro, com 5–10 cm compr., incluindo um pedúnculo de 0,25–2 cm compr.; racemos com 28–100 flores; brácteas oblongas, 2 x 1 mm, glabras ou ciliadas ao longo das margens, caducas antes da antese; bractéolas ovais, 1,5–2 x 1–1,5 mm, conadas adaxialmente, glabras ou ciliadas ao longo das margens, geralmente caducas antes da antese (ocasionalmente persistentes após a queda das flores). **Flores** 10–11 (–12) mm compr., delgadas, pediceladas; pedicelos de 2–4 mm compr., glabros ou esparsamente pilosos na base, articulados na base do cálice, persistindo após a queda das flores; cálice tubular, 4–5 mm compr., ciliado ao longo das margens dos dentes, três dentes abaxiais triangulares, agudos, dois dentes adaxiais quase totalmente fundidos, agudos; corola amarela; estandarte orbicular, 9–11 x 7–9 mm, base curto-unguiculadas, marginalmente amarelo com um guia de néctar roxo central; alas 9–11 x 3–5 mm, base curto-unguiculada; pétalas da quilha de 9–11 x 3–5 mm, adnatas ao longo das margens inferiores, ciliadas ao longo da porção livre das margens; filetes fundidos progressivamente mais altos abaxialmente; anteras monomórficas; ovário longo estipitado, glabro ou ciliado ao longo das duas margens da sutura. **Sâmara** 11–12 x 4 cm; estipe 5–6 mm compr.; semente 1,5–2 x 1 cm, oblonga.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Igapó, Floresta de Várzea, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre, Amazonas, Pará)

MATERIAL TESTEMUNHO

Klitgaard, B.B., 36, RB, K, AAU
G.T. Prance, 2922, AAU, K, RB

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium pubescens Micheli

Este tratamento é composto pelos seguintes táxons: *Platymiscium pubescens*, *Platymiscium pubescens subsp. fragrans*, *Platymiscium pubescens subsp. pubescens*, *Platymiscium pubescens subsp. zehntneri*.

DESCRIÇÃO

Folha: formato da estípula(s) oblongo(s); **indumento da face(s) abaxial dos folíolo(s)** piloso(s); **indumento da raque foliar** piloso(s); **comprimento dos folíolo(s) distal(ais)** 2 - 6.5 cm. **Inflorescência: inflorescência(s)** racemo(s); **formato da inflorescência(s)** pêndula(s) e delgada(s); **indumento da inflorescência(s)** piloso(s); **racemo(s)** laxo(s); **número de flor(es) por racemo(s)** 10 - 35 (- 60); **comprimento das bráctea(s)** 1 mm; **largura das bráctea(s)** 0.5 mm; **formato das bráctea(s)** triangular(es); **deiscência das bráctea(s)** precocemente caduca(s); **comprimento da bractéola(s)** 0.5 mm; **largura da bractéola(s)** 0.25 mm; **formato da bractéola(s)** estreito(s) triangular(es); **deiscência das bractéola(s)** precocemente caduca(s). **Flor: comprimento das flor(es)** menor(es) ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** longo(s). **Fruto: formato da sâmara(s)** elíptica(s)/reniforme(s).

DESCRIÇÃO ADICIONAL

Platymiscium pubescens *Micheli*, Copenhagen Vidensk. Medd. 27: 101–102 (1875); Harms, H. p. 64 (1922); Sandwith, N. Y. tab. 3249 (1934); Lewis, G. P. p. 227 (1987); Killeen, T. J. et al. p. 479 (1993); Klitgaard, B. B. 967–973 (1999)[2000]. Type: Brazil. **Minas Gerais**: Lagoa Santa, 19 Oct. 1864, *Warming* 2815 (holotype C !; isotypes C !, F !, G !; photos of holotype F !, GH !, MO !)

Habit: *tree* to 15 m tall, to 30 cm in diameter; *crown* open; *bark* slightly fissured and lenticellate when young, more densely lenticellate and deeply fissured when old, greyish brown; *wood* durable, reddish; *internodes* of juvenile branchlets usually solid. Leaves opposite, (5–)7–9-foliolate; *vegetative parts* hirsute to hirtellous when young, glabrate with age, except leaflets which stay hairy to maturity; *leaf axis* (5–)10(–14) cm long, rachis two to three times as long as petiole; *stipules* long, oblong, spathulate or narrowly triangular, sometimes splitting in two to the base, 5–12(–18) mm, caducous; *leaflets* on adult individuals narrowly elliptic to elliptic, on young individuals narrowly ovate to widely ovate, distal leaflet larger others, 2–6.5 x 1–4.5 cm, base rounded or cordate, apex acute or acuminate, veinlets in areoles with diffuse edges, primary vein flush with to channelled on upper surface. Inflorescences of pendulous, catkin-like, axillary, simple racemes, usually with 1 inflorescence per leaf axil; *inflorescence axis* slender, pubescent, furrowed, (3–)8(–16) cm long including a to 4 cm long peduncle; *racemes* 30–70-flowered; *bracts* triangular, 1 x 0.5 mm, matted pubescent, caducous before anthesis; *bracteoles* narrowly triangular, 0.5 x 0.25 mm, matted pubescent, caducous before anthesis. Flowers 6–8 mm long, robust, pedicellate or subsessile; *pedicels* to 4 mm long, matted pubescent, not articulated at calyx base, caducous after flower fall; *calyx* tubular, 3–4 mm long, delicate, matted pubescent, base attenuate, 5-toothed, abaxial three teeth triangular, acute, adaxial two teeth minute, obtuse; *corolla* pale yellow; *standard* orbicular, 5–7 x 5–7 mm, long-clawed, with a purple nectar guide centrally; *wing petals* c. 6 x 3 mm, long-clawed; *keel petals* 5–6 x 2–3 mm, adnate along most of lower margins, free part of margins glabrous; *stamen* filaments fused for 1/2 their length, the vexillary stamen only fused at base; *anthers* monomorphic; *ovary* long-stipitate, densely hairy all over or sparsely along sutures. Samara elliptic or ± reniform, 3–6 x 1.5–2 cm, glabrate, puberulent or with a matted pubescent indumentum at maturity; *exocarp* green when immature, rusty brown when mature, glossy when exocarp ± glabrous; *seed* 5–14 x 3–6 mm, reniform with radicular end more swollen than the other; *testa* dull.

Field Characters. Flowers are sweetly scented and attract large numbers of bees. The bark slash gives a strong smell of cucumbers. The corolla is cream or yellow, the standard with a central purple nectar guide.

Key to subspecies of *P. pubescens*

1. Lower surface of leaflets hirsute, and midvein on upper surface, at maturity more hairy on veins than on blade; apex of leaflets ending in a hair tuft; samara c. 6 x 2 cm, elliptic, base and apex acute……..a. subsp. pubescens

1. Lower surface of leaflets hirsute all over, also at maturity, glabrous on upper surface; apex of leaflets ending in an extension of the midvein; samara c. 3 x 1.5 cm, reniform, base and apex obtuse……..2

2. Samara when juvenile puberulent along margins of suture, at maturity glabrous, glossy; Brazil…….b. subsp. zehntneri

2. Samara pubescent all over, the pubescence persisting until maturity; Bolivia……..c. subsp. fragrans

a. Platymiscium pubescens *Micheli* subsp. **pubescens**

Leaves *food bodies* at petiolule bases; *leaflets* hirsute on lower surface, and on midvein on upper surface; *apex* of leaflets ending in a tuft of hairs, at maturity more hairy on veins than on blade. Samara elliptic, 6 x 2 cm, base and apex acute, pubescent, at maturity puberulent to glabrate. Seedlings: germination epigeal, with storage cotyledons; *first eophylls* alternate, unifoliolate, eophylls soon becoming opposite, imparipinnate. Figs. +++

Distribution. The subspecies occurs in Brazil in the Distrito Federal, and in the state of Espirito Santo, Minas Gerais and Rio de Janeiro.
Conservation status. VU A1cd ~ vulnerable because of a population size reduction of ³ 50% over the last 10 years due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. Cerrado vegetation, secondary vegetation, in cut over woods, and as a remnant in fields, at 300–750 m.
Phenology. Flowering has been recorded in October and November, fruiting in November and December. Fruits from last season do occasionally stay on the tree through to May. Trees flower either leafless or when developing new leaves. While in fruit they have mature leaves.
Vernacular names. Timburí, Timburíl, Jacarandá-branco (Lewis, 1987).
Uses. *P. pubescens* (= subsp. *pubescens*) is used ornamentally and in reafforestation projects, and it is widely used as timber for construction and for fence posts (Lorenzi, 2002).
Notes. The collection *Warming* s.n. is perhaps the same gathering as *Warming* 2815 and may thus be an isotype. Of the collection *Warming* 2815 one sheet from C bears a handwritten description, and this specimen is said to be collected in nov. 1865, the sheets bear 1 and 2, respectively after the number, the sheet from F has number 3. The collections *Silva* 238 and *Pinto* 221/81 have the leaflets and samara shapes of subsp. *pubescens*; but the samaras are almost glabrous as in subsp. *zehntneri*.

b. Platymiscium pubescens *Micheli* subsp. **zehntneri** (*Harms*)*Klitgaard*, Kew Bull. 54: 970 (1999)[2000].
Platymiscium zehntneri Harms, Bot. Jahrb. Syst. 57, suppl. 127: 64 (1922). Type: Brazil. Bahia: “zwischen Riachas das Neves und Boi Mauso, am Wegen Santa Rita–Baneiras”, Oct. 1912, *Zehntner* 470/4011 (lectotype M ! (including Harms’ handwritten description) (designated by Klitgaard, 1999[2000]); isolectotypes B †, RB !; photo of lectotype K !; photo of destroyed holotype from B at F ! (including fragment of destroyed type from B), G !, GH !, MO !, NY (2) !; photo of isolectotype from RB at K !)

Leaves: *food bodies at petiolule* bases; *leaflets* hirsute all over on lower surface, also at maturity; *apex* of leaflets ending in an extension of the midvein. Samara reniform, 3 x 1.5 cm, base and apex obtuse, juvenile fruit puberulent along both sutures, at maturity glabrous, glossy.

Distribution. The subspecies is restricted to the Brazilian state Bahia.
Conservation status. EN A3cd ~ endangered because of a population size reduction of ³ 50% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. In caatinga vegetation, and in deciduous forest on calcareous soil, at 400–700 m.
Phenology. Flowering has been recorded in October and November, fruiting in January to May. While flowering the trees are either leafless or have young leaves. While in fruit they have mature leaves. Treelets start to flower when 1.50 m tall (pers. obs.).
vernacular names. Cedro Bravo, Potumuju, Cedrim.
Notes. For differences between subsp. *zehntneri* and related taxa see Notes under *P. lasiocarpum*. The collections *Zethner* 4076, 4083 and *Hatchbach* 44145, all from Bahia, are 7- rather than 9-foliolate, the latter being the more usual number of leaflets for the species. These collections also have the longest stipules recorded for this subspecies ((5–)8–12 mm), and their fruits are only hairy along the margins of the suture. The collection *Zehntner* 592/4076 is a fruit bearing collection which is mentioned in Harms’ protologue. On the RB sheet no. 4076 is written in pencil “Kleiner bis mittelgrösser Baum; zur Zeit nicht in Blüte, dagegen oft mit hellgrünen (in ... Zurlande) oder braunen (reif) Fruchtständen”. For an explanation of Zehntner collection numbers e.g. 592/4076 see Lewis (1987).

c. Platymiscium pubescens *Micheli* subsp. **fragrans** (*Rusby*)*Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].
Platymiscium fragrans Rusby, Mem. N.Y. Bot. Gard. 7: 267 (1927). Sandwith, N. Y. Tab. 3249 (1934). Type: Bolivia. Beni: Rurrenabaque, 8 Jan. 1922, *Cardenas* 2033 (holotype NY !; isotypes GH !, K !, US !).
Leaves: *food bodies* not observed; *leaflets* hirsute all over on lower surface, also at maturity; *apex* of leaflets ending in an extension of the midvein. Samara reniform, 3 x 1.5 cm, base and apex obtuse, pubescent all over, pubescence persisting until maturity.
Field characters. Inflorescence axes and calyx yellow-green.
Distribution. Restricted to the Bolivian department of Santa Cruz on the lower slopes of the Andes.
Conservation status. NT ~ near threatened.
Habitat. In secondary subtropical semideciduous forest, on fine sandy or silty soil, with *Gallesia integrifolia* (Phytolaccaceae) and the mimosoid *Anadenanthera colubrina* (Vell.) Brenan var. *cebil* (Griseb.) Reis., on river banks, sandy flood plains, in decidous subtropical dry forest on steep Andean foothills, at 300 to 1400 m.
Phenology. Flowering has been recorded from October to November, fruit set from December to May. While flowering the trees are either leafless or have young leaves. While in fruit they have mature leaves.
Vernacular names. Tamamosí (Bolivia), Quebra cuña (Bolivia).

Forma de Vida

Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia, Caatinga, Cerrado

Tipos de Vegetação
Caatinga (stricto sensu), Floresta Estacional Decidual, Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre)
Nordeste (Bahia)
Centro-Oeste (Distrito Federal)
Sudeste (Espírito Santo, Minas Gerais, Rio de Janeiro)

CHAVE DE IDENTIFICAÇÃO

Chave para as subespécies de *P. pubescens*
1. Folíolos com indumento hirsuto na face abaxial e na nervura principal da face adaxial, ápice da lâmina terminando em um tufo de tricomas; sâmaras 6 x 2 cm, elípticas, base e ápice agudos.....subps. *pubescens*
1'. Folíolos com indumento hirsuto apenas na face abaxial, face adaxial glabra, ápice da lâmina terminando em uma extensão da nervura principal; sâmaras 3 x 1,5 cm, reniformes, base e ápice obtusos
2. Sâmaras glabras, ou pubérulas nas suturas apenas quando imaturas.....subps. *zehntneri*
2'. Sâmaras pubescentes.....subps. *fragrans*

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium pubescens Micheli subsp. *pubescens*

DESCRIÇÃO

Folhas com corpúsculos alimentares na base do pecíolo; folíolos hirsutos na face abaxial e na nervura principal da face adaxial; ápice dos folíolos terminando em um tufo de tricomas, na maturidade mais piloso nas nervuras do que na lâmina. **Samara** elíptica, 6 x 2 cm, base e ápice agudos, pubescente, na maturidade pubérula a glabra.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Caatinga, Cerrado

Tipos de Vegetação
Floresta Estacional Semidecidual, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia)
Centro-Oeste (Distrito Federal)
Sudeste (Espírito Santo, Minas Gerais, Rio de Janeiro)

MATERIAL TESTEMUNHO

Klitgaard, B.B., 15, NY, K, BHCB, AAU
Machado-Nunes, 67, NY, K, BHCB, AAU

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium pubescens subsp. *fragrans* (Rusby) Klitg.

Tem como sinônimo
basiônimo *Platymiscium fragans* Rusby

DESCRIÇÃO

Folhas com corpúsculos alimentares não observados; folíolos hirsutos na face abaxial; ápice dos folíolos terminando em uma extensão da nervura principal. **Samara** reniforme, 3 x 1,5 cm, base e ápice obtusos, pubescente mesmo na maturidade.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre)

MATERIAL TESTEMUNHO

C. Ferreira, 11493, NY

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium pubescens subsp. *zehntneri* (Harms) Klitg.

Tem como sinônimo
basiônimo *Platymiscium zehntneri* Harms

DESCRIÇÃO

Folhas com corpúsculos alimentares na base dos peciólulos; folíolos hirsutos na face abaxial; ápice dos folíolos terminando em uma extensão da nervura principal. **Samara** reniforme, 3 x 1,5 cm, base e ápice obtusos, pubérula nas suturas quando imatura e glabra na maturidade.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Caatinga

Tipos de Vegetação
Caatinga (stricto sensu), Floresta Estacional Decidual

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia)

MATERIAL TESTEMUNHO

A.M. Carvalho, 2432, UEC, UB, SP, IBGE, HUEFS

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium speciosum Vogel

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es)/triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 4 - 11 (- 25) cm. **Inflorescência: inflorescência(s)** racemo(s)/panícula(s); **formato da inflorescência(s)** ereta(s) e espessa(s); **indumento da inflorescência(s)** glabra(s); **racemo(s)** congesto(s); **número de flor(es) por racemo(s)** 10 - 35 (- 60)/20 - 100; **comprimento das bráctea(s)** 0.5 - 1 mm; **largura das bráctea(s)** 0.5 mm; **formato das bráctea(s)** oval(ais); **deiscência das bráctea(s)** persistente(s) após antese; **comprimento da bractéola(s)** 1 - 2 mm; **largura da bractéola(s)** 0.5 mm; **formato da bractéola(s)** oval(ais); **deiscência das bractéola(s)** persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** longo(s). **Fruto: formato da sâmara(s)** não observado.

DESCRIÇÃO ADICIONAL

Platymiscium speciosum *Vogel*, Linnaea 11: 200 (1837); Bentham, G., p. 104 (1838); Bentham, G., p. 273 (1859); Bentham, G., p. 81–84 (1860); Enrech, N. X. de and Agostini, G., p. 101 (1987). Type: BRAZIL. **Bahia:** sin. loc. *Sellow* 759 (holotype B†, F (fragment) !; photos of holotype F (photos taken in B, F neg. # 2303 in the F series) !, GH !, MO (2) !, NY !)

Habit: *tree* to 14 m tall, 5–15 cm in diameter; *crown* rounded; *bark* smooth, lenticellate, slightly fissured longitudinally when young, fissured both longitudinally and horizontally into rectangular thick flakes when old; *slash* exudes sap; *wood* very hard, creamish; *internodes* of juvenile branchlets hollow. Leaves opposite or 3-verticillate, both states found on same tree, 5–7-foliolate; *vegetative parts* glabrous; *leaf axis* 5–11(–23) cm long, rachis longer than petiole; *stipules* broadly ovate to narrowly triangular, 0.5–1 x 0.5–1 cm, caducous; *stipels* and *food bodies* present on juvenile petiolule bases; *leaflets* broadly to narrowly elliptic, distal leaflet often larger than others, 9–20 x 4.5–13 cm, base rounded apex acuminate, veinlets of areoles with sharp edges, not intermixed with dots, primary vein flush with to prominent on upper surface, coriaceous, glossy green on both surfaces. Inflorescences of erect, dense, axillary, simple racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* thick, smooth, glabrous, 6–12(–14) cm long including a 2–4.5 cm long peduncle; *racemes* 12–72-flowered; *bracts* ovate, 0.5–1 x 0.5 mm, pilose along margins, persistent until flower fall; *bracteoles* narrowly ovate, c. 1 x 0.5 mm, pilose along margins, persistent until flower fall. Flowers 14–18 mm long, robust, fleshy, pedicellate; *pedicels* 1–2(–5) mm long, glabrous, with hair tufts at base and apex, articulated at calyx base, caducous after flower fall; *calyx* tubular, 5–6 mm long, robust, glabrous, slightly gibbous adaxially, base attenuate, 5-toothed, abaxial three teeth triangular, acute, adaxial two teeth connate to 3/4 their length, acute; *corolla* orange, sometimes yellow; *standard* heart-shaped, 11–13 x 12–14 mm, long-clawed, with a maroon nectar guide at base; *wing petals* 13–14 x 7–8 mm, long-clawed; *keel petals* 11–12 x 5–6 mm, long-clawed, free or loosely adnate by interlocking hairs along lower margins, free part of margins ciliate; *stamen* filaments fused progressively higher abaxially, adaxially base of staminal sheath shaped as a pseudofenestrum; *anthers* monomorphic; *ovary* long-stipitate, glabrous. Samara not seen.

Field characters. The transparent sap sometimes oxidises red, and it gives a strong smell of sweet peas when cut. Internodes are inhabited by aggressive ants.
Distribution. Locally endemic to eastern Bahia and Espirito Santo, near sea level. Conservation status. CR A3cd ~ critically endangered because of a population size reduction of ³ 80% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. Infrequent in low restinga and tall Atlantic rain forest; soil sandy and water-logged, at sea level to 50 m.
Phenology. Flowering occurs when trees have juvenile leaves. Flowering has been recorded in November and December.
Common name. Ipê-Candeia (Espirito Santo).

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, é endêmica do Brasil

Domínios Fitogeográficos
Mata Atlântica

Tipos de Vegetação
Floresta Ombrófila (Floresta Pluvial), Restinga

Distribuição Geográfica
Ocorrências confirmadas
Nordeste (Bahia)
Sudeste (Espírito Santo)

MATERIAL TESTEMUNHO

A.M. Carvalho, 4275, RB, K, AAU
B.B. Klitgaard, 83, AAU, K, RB

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium stipulare Benth.

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 4 - 11 (- 25) cm. **Inflorescência: inflorescência(s)** racemo(s)/panícula(s); **formato da inflorescência(s)** ereta(s) e espessa(s); **indumento da inflorescência(s)** piloso(s); **racemo(s)** congesto(s); **número de flor(es) por racemo(s)** 20 - 100; **comprimento das bráctea(s)** maior(es) que 3 mm; **largura das bráctea(s)** maior(es) que 2 mm; **formato das bráctea(s)** oval(ais); **deiscência das bráctea(s)** persistente(s) após antese; **comprimento da bractéola(s)** 2 - 3 mm; **largura da bractéola(s)** 1 - 2 mm; **formato da bractéola(s)** oval(ais); **deiscência das bractéola(s)** persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** curto(s). **Fruto: formato da sâmara(s)** elíptica(s).

DESCRIÇÃO ADICIONAL

Platymiscium stipulare *Benth. ex Benth*. Journ. Proc. Linn. Soc. 4, suppl.: 82 (1860) [nomen nudum: described as *Platymiscium stipularis* by Benth., p. 272 + tab. 96, fig. II (1859), only illustration]; Harms, H., p. 170–171 (1907); Macbride, J. F., p. 268 (1943); Allen, O. N. and Allen, E. K., p. 536 (1981); McKey, D., p. 673–718 (1989); Freitas da Silva, M. et al., 229 (1989); Klitgaard, B. B., p. 512 (1993); Neill et al., 480 (1999). Type: Peru. **San Martín**: “prope Tarapoto”, 1856, *Spruce* 4292 (lectotype K ! (Herbariorum Benthamianum, the sheet with Bentham’s handwriting) (designated here); isolectotypes BM (2 sheets) !, C (2 sheets) !, F (2 sheets of fragments) !, G (3 sheets) !, GH !, K (4 sheets) !, LUND !, NY (2 sheets) !, OXF !, P !, W !; photo of type C !, F !, GH !, MO !, NY !, S !).

Habit: *tree* to 30 m tall, 30–50 cm in diameter; *crown* open; *bark* smooth to slightly furrowed, bright grey; *wood* heavy, hard, sapwood cream, heartwood brown; *internodes* of juvenile branchlets usually hollow. Leaves opposite or 3-verticillate, (3–)5(–7)-foliolate; *vegetative parts* glabrous; *leaf axis* (5–)11–21 cm long, rachis more than one time as long as petiole; *stipules* narrowly triangular, 10–25 mm long, caducous; *leaflets* broadly elliptic to elliptic or broadly ovate to ovate, sizes of all leaflets differer from young to mature tree, 7.5–20 x 5–12 cm, base rounded, apex acuminate, veinlets in areoles with sharp edges, not intermixed with dots, primary vein flush with upper surface, upper surface waxy, slightly coriaceous, glossy, dark green, lower surface dull, dark green. Inflorescences of erect, densely-flowered, axillary, simple racemes (occasionally with secondary branching), usually with one inflorescence per leaf axil, sometimes with two; *inflorescence bud scales* robust, caducous; *inflorescence axis* thick, furrowed, with prominent pedicel scars, tomentose, (5–)8–20 cm long including a 1–1.5 cm long peduncle; *racemes* 70–130-flowered; *bracts* spathulate, 5 x 3 mm, glabrous or ciliate along margins, persistent after flower fall; *bracteoles* narrowly ovate to ovate, 2–3 x 1.5 mm, connate basally, apically glabrate on outer surface basally tomentose, and with hair tufts on inner surface basally, persistent after flower fall. Flowers 12–16 mm long, slender, pedicellate; *pedicels* 5–7 mm long, tomentose, articulated at calyx base; *calyx* cup-shaped, 4–5 mm long, robust, glabrous, ciliate along teeth margins, base rounded, 5-toothed, abaxial three teeth triangular, acute, adaxial two teeth, obtuse; *corolla* bright yellow or orange; *standard* orbicular, 9–13 x 7–11 mm, short-clawed, with a purple nectar guide centrally; *wing petals* 11–14 x 3–7 mm, short-clawed; *keel petals* 11–15 x (3–)5–6 mm, adnate along most of lower margins, ciliate along free part of lower margins and along claws; *stamen* monadelphous or pseudo-monadelphous, filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, glabrous, rarely ciliate along upper suture. Samara elliptic, 6.5–7 x 3.5–4 cm; *exocarp* glabrous, hard, glossy; *seed* not observed.

Field characters. Young individuals often have larger leaflets differing in shape from leaflets on adult trees. The hollow branchlets and internodes are often inhabited by ants, these may be aggressive or non-aggressive species. This was mentioned by Bentham (1860) in the protologue to *P. stipulare*, and McKey (1989) described *P. stipulare* as an “ant-plant”. On older trees the leaves tend to cluster terminally on the branches.
Allen and Allen (1981) observed nitrogenfixing root nodules on a cultivated specimen in Hawaii.
distribution. The species occurs in Amazonian Ecuador in the provinces Morona Santiago, Pastaza, Napo, and Sucumbios; in Amazonian Peru in the departments Huánuco, Madre de Dios, Loreto, Amazonas, and San Martín; in Beni, Bolivia, and in Acre, Brazil.

Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. Primary or secondary rain forest on terre firme or along rivers, from sea level to 750 m.
Phenology. While flowering the trees are often leafless or developing new leaves. While in fruit they often bear mature leaves. One collection was made with flowers, fruits and leaves, the type *Spruce* 4292. As seen with other Spruce collections, however,

he may, have returned to the same tree several times, collecting the tree at different stages in its reproductive cycle, but using the same collection number. Flowering has been recorded in May, and in September (the majority of collections) in Ecuador and from October to November in Peru. Fruit set has been recorded in Ecuador in October, January, and February, and in Peru in April, May, and October.
vernacular names Cáhap nana, Huambisa (Peru); Caoba (Ecuador).
Uses. In Ecuador the species is considered a valuable timber.
Notes. *P. stipulare* is readily recognised by large stipules, large bracts and bracteoles, unique features which it does not share with any other *Platymiscium* species. Its closest relative appears to be *P. trinitatis*. In Peru, where the two species grow sympatrically, individuals have an intermediate range of character states (e. g. the collection *Klug* 3832) which may suggest that hybridisation occurs. *Ule* 6449 has the most slender keel petals which are only 3 mm wide. In *Spruce* 4292 (the type collection) both monadelphous and pseudo-diadelphous androecia are found.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Igapó, Floresta de Várzea, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Acre, Amazonas)

MATERIAL TESTEMUNHO

M. Silveira, 826, NY, K

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium trinitatis Benth.

Este tratamento é composto pelos seguintes táxons: *Platymiscium trinitatis*, *Platymiscium trinitatis var. duckei*, *Platymiscium trinitatis var. nigrum*.

Tem como sinônimo
heterotípico *Platymiscium duckei* var. *durum* Ducke
heterotípico *Platymiscium duckei* var. *nigrum* Ducke
heterotípico *Platymiscium duckei* Huber
heterotípico *Platymiscium nigrum* Ducke

DESCRIÇÃO

Folha: formato da estípula(s) estreito(s) triangular(es)/triangular(es); **indumento da face(s) abaxial dos folíolo(s)** glabro(s); **indumento da raque foliar** glabro(s); **comprimento dos folíolo(s) distal(ais)** 4 - 11 (- 25) cm. **Inflorescência: inflorescência(s)** racemo(s)/panícula(s); **formato da inflorescência(s)** ereta(s) e espessa(s)/pêndula(s) e espessa(s); **indumento da inflorescência(s)** piloso(s); **racemo(s)** laxo(s)/congesto(s); **número de flor(es) por racemo(s)** 10 - 35 (- 60)/20 - 100; **comprimento das bráctea(s)** 2 - 3 mm/1 mm/0.5 - 1 mm; **largura das bráctea(s)** 1 - 2 mm/0.5 - 1 mm/0.5 mm; **formato das bráctea(s)** oval(ais); **deiscência das bráctea(s)** precocemente caduca(s)/persistente(s) após antese; **comprimento da bractéola(s)** 2 - 3 mm/0.5 - 1 mm/1 - 2 mm; **largura da bractéola(s)** 1 - 2 mm/0.5 - 1 mm; **formato da bractéola(s)** oval(ais); **deiscência das bractéola(s)** precocemente caduca(s)/persistente(s) após antese. **Flor: comprimento das flor(es)** maior ou igual à 10 mm; **unguículo(s) das ala(s) e quilha(s)** curto(s)/longo(s). **Fruto: formato da sâmara(s)** oblongo(s)/reniforme(s).

DESCRIÇÃO ADICIONAL

Platymiscium trinitatis *Benth*., Journ. Proc. Linn. Soc. 4, suppl.: 82 (1860); Grisebach, A. H. R., p. 201 (1860); Ducke, A., p. 88 (1925); Williams, R. O., p. 257 (1928); Amshoff, G. J. H., p. 56 (1939); Marshall, R. C., p. 84–87, Fig. p. 85 (1939); Record, S. J. and Hess, R. W., p. 311 (1943); Ducke, A., 190 (1949); Aragão, C. A. and Gottlieb, O. R., p. 1629–1630 (1974); Corrêa, M. Pio and V Azeredo Penna, L., 1974, p. 3 (1984); Allen, O. N. and Allen, E. K., p. 535 (1981); Enrech, N. X. de and Agostini, G., p. 114–116 (1987); Mennega, E. A. et al., p. 178 (1988); Howard, R., p. 441 (1988); Freitas da Silva, M. et al., p. 228–229 (1989). Chichignoud, M. et al., p. 210 (1990); Lorenzi, H., p. 223 (1992); Klitgaard, B. B., p. 970–971 (1999)[2000]. Type: Trinidad. *Purdie* 36 (lectotype K ! (Herbariorum Hookeriorum) (designated here); isolectotype K !; photos of lectotype C !, F !, GH !, NY !, S !).

Habit: *tree* 10–30 m tall, 20–40 cm in diameter; *bark* grey-brown, deeply fissured to form rectangular or square blocks, outer bark 5 mm thick, inner bark 5 mm thick, fibrous; *slash* exudes a cream-coloured sap which oxidises red; *wood* white when young, rose-brown coloured when mature, very hard; *internodes* of juvenile branches usually solid. Leaves opposite, (3–)5–7(–9)-foliolate; *vegetative parts* glabrous; *leaf axis* 5–14 cm long, including a petiole 2.5–6 cm long; *stipules* broadly to narrowly triangular, 4–15 x 2–4 mm, caducous; *stipels* intermixed with food bodies sometimes present at petiolule bases, the stipels like appear as “miniature stipules” or as small hair tufts; *leaflets* narrowly to broadly elliptic, distal leaflet often larger than others, 4–11(–25) x 2.5–6(–10) cm, base rounded, apex acuminate, veinlets in areoles with sharp edges, not intermixed with dots, primary vein flush with to prominent on upper surface, upper surface glossy, dark green, lower surface dull green. Samara elliptic, 5.5–9(–11) x 2.5–4.5(–5) cm, base and apex rounded, glabrous*; stipe* to 20 mm long; *exocarp* cream coloured, papery at maturity; *seed* 2–2.5 x 1–1.25 cm.

Field characters. The hollow internodes are inhabited by ants. There are small holes in the branchlets where the ants emerge. Flowers very sweetly scented, and very attractive to bees.
Phenology. When trees are flowering they usually only have juvenile leaves, and when setting fruit they have mature leaves.
Notes. Ducke (1925) wrote: “*P. duckei* Huber doit etre trés proche de *P. trinitatis* Benth., j´ignore quelles sont les differences”, realising that the two species were related. Already de Enrech and Agostini (1987) synonymised *P. duckei* under *P. trinitatis*. Here I recognise the varieties of *P. duckei* as varieties of *P. trinitatis*.

Key to varieties

1. Inflorescence axes more than 10 cm long, usually pendulous; bracts minute, 0.5–1 x 0.5 mm, caducous; calyx tomentose all over or only basally.....2

1. Inflorescence axes less than 10 cm long, erect; bracts larger, 2–3 x 1–2 mm, persistent; calyx glabrate, ciliate along margins.....c. var. nigrum.
2. Inflorescence axes tomentose, densely flowered, rachises with up to 100 flowers; bracteoles 2–3 x 1–2 mm; calyx tomentose all over.....b. var. duckei.
2. Inflorescence axes tomentose, laxly flowered, rachises with 20–60 flowers; bracteoles 0.5–1 mm; calyx tomentose.....a. var. trinitatis.

a. Platymiscium trinitatis *Benth*. var. **trinitatis**

Inflorescences of lax, pendulous, axillary, simple racemes (occasionally with secondary branching), with 1–2 inflorescences per leaf axil; *inflorescence axis* thick, furrowed, tomentose, to 14(–20) cm long including a 1–4 cm long peduncle; *racemes* 20–60-flowered; *bracts* ovate, 0.5–1 x 0.5–1 mm, tomentose, persistent after flower fall; *bracteoles* ovate, 0.5–1 x 0.5–1 mm, tomentose, persistent after flower fall. Flowers 12–17 mm long, slender, pedicellate; *pedicels* 2–8 mm long, tomentose, articulated at calyx base, persistent after flower fall; *calyx* bell-shaped, 4–6 mm long, delicate, tomentose, bright green, base attenuate, 5-toothed, abaxial three teeth triangular, acute, adaxial two teeth minute, obtuse; *corolla* yellow or orange; *standard* orbicular, 12–17 x 8–11 mm, long-clawed, with black or brown nectar guide; *wing petals* 10–14 x 4–5 mm, long-clawed; *keel petals* 10–15 x 4–5 mm, fused along most of lower margins, ciliate along free part of lower margins and along upper part of claws; *stamen* filaments progressively fused higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, pilose along upper suture. Seedlings: germination is phaneroepigeal; *first eophylls* unifoliolate and alternate.
Field characters. Root nodules observed by Norris (1969) were round to elongated.
Distribution. Mainly distributed in Venezuela in the states of Anzoategui, Barinas, Falcon, Guárico, Lara, Merida, Miranda, Monagas, Sucre, and Zulia; but it also extends into Guyana, where it is rare in the north-central district (Mennega et al. 1988). It is also known from an odd disjunction between in the departments of Beni and Pando in Bolivia.
Conservation status. LC ~ least concern.
Habitat. The variety grows in a wide range of habitats: in savanna or in transition to savanna, in periodically inundated forest, and in humid deciduous forest. It is sometimes a dominant tree in thorn scrub, but is scarce in the other vegetation types. Mainly fund on clayey soil, from sea level to ca. 550 m.
Phenology. Flowering takes place while the trees are almost leafless or have only juvenile leaves. During fruit set the trees have mature leaves. Flowering has been recorded in Venezuela and Trinidad in March, April, May, July, August, and November, in Bolivia in August, in Guyana in January, February, and March, and in St. Thomas in April. Fruiting specimens were colelcted Guyana in January and March, and in Venezuela in March.
vernacular names. Hormigo (Trinidad); Roble (Venezuela, Trinidad, Tobago); Palo gualberto (Bolivia).
Uses. According to Allen and Allen (1981) *P. trinitatis* var. *trinitatis* is a very important timber tree in Venezuela. The hard wood is suitable for durable construction, for furniture making, cabinets, veneer, and minor turnery objects. It is also much used in Trinidad. In Venezuela fresh leaves sometimes are placed on the head to treat headaches.
Notes. See also under Notes to species *P. trinitatis*. De Enrech and Agostini (1987) observed that in some areas in Venezuela, especially the states of Lara and Barinas it is difficult to distinguish between *P. trinitatis* (= var. *trinitatis*) and *P. pinnatum* (= subsp. *pinnatum* var. *pinnatum)* as the inflorescence axes of *P. trinitatis* lack indumentum in those areas. They go on to state that where *P. pinnatum* and *P. trinitatis* occur sympatrically, in the southern part of Lara state, there is a wide range in certain characters. They also suggest that the two species might hybridize in that area. The collection *Meneces and Terceros* 137 from Bolivia represents a wide disjunction. The collection was identified as *P. ulei* (= *P. pinnatum* subsp. *pinnatum* var. *ulei*) by Killeen et al. (1993).

b. var. duckei (*Huber*)*Klitgaard*, Kew Bull. 54: 967–973 1999[2000].
Platymiscium duckei Huber, Bol. Mus. Paraense Hist. Nat. Ethnogr./Bol. Mus. Goeldi (Paraense) 6: 83. (1910); Ducke, A., p. 156 (1922); Harms, H., p. 64 (1922); Ducke, A., p. 190 (1949); Corrêa, M. Pio and Penna, L. de. A., p. 2–3 (1984); Santos, E., p. 190 (1987); Enrech, N. X. de and Agostini, G., p. 115 (1987). *Platymiscium duckei* var. *duckei* Ducke, Arch. Jard. Bot. Rio de Janeiro 4: 86–88 (1925). Type: Brazil. **State Amazonas**: "Ad ostium Flumium Teffé", Sep. 1904, *Ducke* 6727 (lectotype MG ! (designated by Klitgaard, 1999[2000]) (flowering sheet collected 6–30 Sep. 1904); isolectotypes F !, MG ! (fruiting sheet collected 6. Sep. 1904), RB !; photo of lectotype AAU !, F !).
Platymiscium duckei var. *durum* Ducke, Arch. Jard. Bot. Rio de Janeiro 4: 86–88 (1925). Type: BRAZIL. **Pará**: ad Rio Branco de Obidos, 31 Oct. 1919, Herb. Jard. Bot. Rio (legit A. Ducke) no. 11556 (lectotype RB ! (designated by Klitgaard, 1999[2000]); isolectotype G !, K (2 sheets)!, S !, U !, US !)
Inflorescences of dense, erect to pendulous, axillary, simple racemes (occasionally with secondary branching), with 1–3 inflorescences per leaf axil; *inflorescence axis* thick, furrowed, tomentose, 10–14 cm long including a to 1 cm long peduncle; *racemes* up to 100-flowered; *bracts* ovate, 1 x 0.5 mm, tomentose, caducous before flower fall; *bracteoles* ovate, 2–3 x 1–2 mm, tomentose, often persistent for some time after anthesis. Flowers 14–17 mm long, slender, pedicellate; *pedicels* 2–7 mm long, tomentose, articulated a calyx base, persistent after flower fall; *calyx* bell-shaped, 5–7 mm long, delicate, tomentose, base tapered, 5-toothed, adaxial three teeth triangular, acute, adaxial two teeth almost totally fused, acute; *corolla* yellow; *standard* orbicular, 11–15 x 8–10 mm, apex emarginate, short-clawed, sometimes with a brown nectar guide; *wing petals* 10–15 x 4–5 mm, short-clawed; *keel petals* 12–14 x 4–5 mm, fused along lower margins,

ciliate along free part of lower margins and along upper part of claws; *stamen* filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, tomentose along upper margin of suture. Seedlings: not seen.

Distribution. The main distribution is centred in the states of Pará, Amazonas and Maranhão in Brazil; but the taxon extends to French Guiana, Surinam, Guyana, the department of San Martín in Peru, and the department of Amazonas in Colombia.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. In primary or secondary rain forest on terra firme or in varzéa, recorded from savanna in Guyana, from sea level to ca. 400 m.
Phenology. Flowering has been recorded in January and September in Brazil, in September in Colombia, in October in Peru, in September in Surinam, in February in Guyana, and in August in French Guiana. Alençar et al. (1979) report var. *duckei* to flower primarily from August to November, and to set fruits from September to December, which is concordant with the information obtained from collection labels.
Vernacular names. Macacaúba da terra firme (Amazonas, Brazil); Macacaúba (Amazonas, Brazil); Guarapiranga (Maranhão, Brazil); Koenatepi (Surinam).
Uses. Wood used to make furniture (Maranhão, Brazil); one of the most valuable Amazonian woods (Amazonas, Brazil). “This species has one of the most beautiful woods found in the Amazon”, Huber (1910) wrote in his original description of *P. duckei*.
Notes. The two collections by A. Ducke with the herbarium numbers Herb. Amaz. Mus. Pará 11852 and Herb. Jard. Bot. Rio 5583, are both herbarium collections of the live material grown in the Botanic Garden of Museu Goeldi in Belém. They are both cited in Ducke’s (1925) description of *P. duckei* var. *duckei*. The lectotype of *P. duckei* var. *durum* was selected from the following syntypes cited by Ducke (1925): Herb. Jard. Bot. Rio (collected by A. Ducke) no. 11556, no. 11558, no. 17214, no. 17205, and Herb. Amazon. Mus. Pará no. 9183. Ducke (1925) mentioned in his description of *P. duckei* var. *durum* that the collection H. J. B. R. 17205 is transitional with *P. duckei* var. *nigrum* because of the hairy calyces. It is here considered as belonging to var. *nigrum* and not to var. *duckei*.

c. var. nigrum (*Ducke*)*Klitgaard*, Kew Bull. 54: 967–973 (1999)[2000].

Platymiscium nigrum Ducke, Arch. Jard. Rio de Janeiro 3: 156–158 (1922); Amshoff, G. J. H., p. 56 (1939); Corrêa Pio, M., p. 2–3 (1974); Enrech, N. X. de and Agostini, G., p. 115 (1987). *Platymiscium duckei* var. *nigrum* Ducke, Arch. Jard. Bot. Rio de Janeiro 4: 86–88 (1925). Type. Brazil. **Pará**: Obidos, campo firme do Cicandatuba, Fazenda S. José, 4 Jan. 1916, *Ducke* 15926 (flowering) (lectotype RB ! (designated by Klitgaard, 1999[2000]); isolectotypes BM !, F (fragment) !, MG !, R !, US !; photo F !, MO !; paralectotypes: same loc. as *Ducke* 15926, 26 July 1912, *Ducke* 12073 (fruiting) (BM !, F (fragment) !, G (2 sheets) !, MG !, P !, RB !, US; photo F !).
Inflorescences of short, dense, erect, axillary, simple racemes (occasionally with secondary branching), with one to several inflorescences per leaf axil; *inflorescence axis* thick, smooth, with villous tomentum, to 8 cm long including an up to 0.5 cm long peduncle; *racemes* 20–40-flowered; *bracts* ovate, 2–3 x 1–2 mm, basally tomentose, apically glabrate, persistent after flower fall; *bracteol*es ovate, 1.5 x 0.5 mm, often connate basally, tomentose, persistent after flower fall. Flowers 10–15 mm long, robust, pedicellate; *pedicels* 2–6 mm long, tomentose, not articulated at calyx base, ending in a knob-shaped apex, persistent some time after flower fall; *calyx* bell-shaped, 5–6 mm long, robust, glabrate, margins ciliate, base attenuate, 5-toothed, abaxial three teeth triangular, acute, adaxial two almost totally fused, obtuse; *corolla* yellow; *standard* orbicular, apex emarginate, 12–13 x 10 mm, short-clawed, with dark brown nectar guide; *wing petals* 13–14 x 5–6 mm, short-clawed; *keel petals* 13–14 x 5 mm, lower margins fused, ciliate along free part of lower margins; *stamen* filaments fused progressively higher abaxially; *anthers* monomorphic; *ovary* long-stipitate, ciliate along upper suture. Seedlings: not seen.

Distribution. The main distribution is in Brazil in the state of Pará, with extensions into the states of Amazonas and Maranhão, and to Guyana.
Conservation status. VU A3cd ~ vulnerable because of a population size reduction of ³ 30% over the next 10 year due to a decline in area of occupancy, extent of occurance and/or quality of habitat, and due to actual and potential levels of exploitation.
Habitat. In humid forest on terra firme and in varzéa forest, from sea level to about 100 m.
Phenology. Flowering has been recorded from October to February, and fruit set has been recorded in November.
vernacular names. Macacaúba, Macacaúba da terre firme, Macacaúba vermelha, Macacaúba preta, Jacarandá, Louro vermelha (Brazil); Wara-War (Guyana).
Uses. The beautiful wood is used for making luxury furniture, for cabinet making, and for billiard cues.
Notes. See also Notes to species *P. trinitatis*. On the border between the Brazilian states of Maranhão and Ceará *P. trinitatis* var. *nigrum* occurs sympatrically with *P. floribundum* var. *obtusifolium*, and there is a variation in characters that may have resulted from hybridisation–a parallel phenomenon to the one taking place in Venezuela between infraspecific taxa of *P. pinnatum* and *P. trinitatis*. The collection *Dahlgren* s.n. (F !, GH !) from Ceará may well represent such a hybrid between *P. floribundum* var. *obtusifolium* and *P. trinitatis* var. *nigrum*.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Terra Firme, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Amazonas, Pará)
Nordeste (Maranhão)

CHAVE DE IDENTIFICAÇÃO

Chave para as variedades de *P. trinitatis*
1. Eixo da inflorescência com mais de 10 cm compr., geralmente pêndulo; brácteas 0,5-1 x 0,5 mm, caducas; cálice tomentoso em toda sua extensão ou apenas na base.....var. *duckei*
1'. Eixo da inflorescência com menos de 10 cm compr., ereto; brácteas 2-3 x 1-2 mm, persistentes; cálice glabro em sua maior extensão, ciliado apenas nas margens.....var. *nigrum*

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium trinitatis var. *duckei* (Huber) Klitg.

Tem como sinônimo
basiônimo *Platymiscium duckei* Huber
heterotípico *Platymiscium duckei* var. *durum* Ducke

DESCRIÇÃO

Inflorescências racemos congestos, eretos a pendentes, axilares e simples (ocasionalmente com ramificação secundária), com 1 a 3 inflorescências por axila foliar; eixo de inflorescência grosso, sulcado, tomentoso, 10–14 cm de comprimento, incluindo um pedúnculo de até 1 cm compr.; racemos de até 100 flores; brácteas ovais, 1 x 0,5 mm, tomentosas, caducas antes da queda das flores; bractéolas ovais, 2–3 x 1–2 mm, tomentosas, geralmente persistentes após a antese. **Flores** 14–17 mm compr., delgadas, pediceladas; pedicelo de 2–7 mm compr., tomentoso, articulado na base do cálice, persistentes após a queda das flores; cálice campanulado, 5–7 mm compr., delicado, tomentoso, 5-dentado, 3 dentes abaxiais triangulares, agudos, e 2 dentes adaxiais quase totalmente fundidos, agudos; corola amarela; estandarte orbicular, 11–15 x 8–10 mm, ápice emarginado, base curto-unguiculada, às vezes com um guia de néctar marrom; alas 10–15 x 4-5 mm, base curto-unguiculada; pétalas da quilha 12–14 x 4-5 mm, fundidas ao longo das margens inferiores, ciliadas ao longo da porção livre das margens inferiores e ao longo da parte superior dos unguículos; filetes fundidos e progressivamente mais longos abaxialmente; anteras monomórficas; ovário longo-estipitado, tomentoso ao longo da margem superior da sutura.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Terra Firme, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Amazonas, Pará)
Nordeste (Maranhão)

MATERIAL TESTEMUNHO

B.A. Krukoff, 6112, NY, MO, K, F, BM
A. Ducke, 6727, NY, MO, K, F, BM

BIBLIOGRAFIA

Klitgaard, B.B. 2005. Platymiscium (Leguminosae: Dalbergieae): biogeography, systematics, morphology, taxonomy, and uses. Kew Bulletin 60:321-400.

Platymiscium trinitatis var. *nigrum* (Ducke) Klitg.

Tem como sinônimo
basiônimo *Platymiscium nigrum* Ducke

DESCRIÇÃO

Inflorescências racemos curtos, congestos, eretos, axilares e simples (ocasionalmente com ramificação secundária), com uma a várias inflorescências por axila foliar; eixo da inflorescência espesso, viloso, 8 cm compr., incluindo um pedúnculo de até 0,5 cm compr.; racemos com 20 a 40 flores; brácteas ovais, 2–3 x 1–2 mm, tomentosas na base, glabras no ápice, persistentes após a queda das flores; bractéolas ovais, 1,5 x 0,5 mm, geralmente conatas na base, tomentosas, persistentes após a queda das flores. Flores 10–15 mm compr., robustas, pediceladas; pedicelos 2–6 mm compr., tomentosos, não articulados na base do cálice, terminando em um ápice em forma de botão, persistente algum tempo após a queda das flores; cálice campanulado, 5–6 mm compr., robusto, glabro, margens ciliadas, base atenuada, 5-dentado, três dentes abaxiais triangulares, agudos, dois dentes adaxiais quase totalmente fundidos, obtusos; corola amarela; estandarte orbicular, 12–13 x 10 mm, ápice emarginado, base curto-unguiculada, com guia de néctar marrom escuro; alas 13–14 x 5–6 mm, base curto-unguiculada; pétalas da quilha 13-14 x 5 mm, margens inferiores fundidas, ciliadas ao longo da porção livre das margens inferiores; filetes fundidos e progressivamente mais altos abaxialmente; anteras monomórficas; ovário longo–estipitado, ciliado ao longo da sutura superior.

Forma de Vida
Árvore

Substrato
Terrícola

DISTRIBUIÇÃO

Nativa, não é endêmica do Brasil

Domínios Fitogeográficos
Amazônia

Tipos de Vegetação
Floresta de Terra Firme, Floresta Ombrófila (Floresta Pluvial)

Distribuição Geográfica
Ocorrências confirmadas
Norte (Amazonas, Pará)
Nordeste (Maranhão)

MATERIAL TESTEMUNHO

A. Ducke, 17211, K, (K000908489), P (P02767989), K, (K000908488), Pará