

Studies on the flora of the Guianas. 36**New taxa and combinations in *Pourouma* (Cecropiaceae)**

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The 23 species recognized in *Pourouma* are listed with their synonyms and distribution. Two new subspecies are described: *P. melinonii* Benoist subsp. *glabrata* C.C. Berg & van Heusden and *P. tomentosa* Miquel subsp. *persecta* Standley ex C.C. Berg & van Heusden. Ten new combinations are made: *P. bicolor* Martius subsp. *chocoana* (Standley) C.C. Berg & van Heusden, *P. bicolor* subsp. *digitata* (Trécul) C.C. Berg & van Heusden, *P. bicolor* subsp. *scobina* (Benoist) C.C. Berg & van Heusden, *P. bicolor* subsp. *tessmannii* (Mildbraed) C.C. Berg & van Heusden, *P. guianensis* Aublet subsp. *venezuelensis* (Cuatrecasas) C.C. Berg & van Heusden, *P. hirsutipetiolata* Mildbraed subsp. *hispida* (Standley & Cuatrecasas) C.C. Berg & van Heusden, *P. mollis* Trécul subsp. *triloba* (Trécul) C.C. Berg & van Heusden, *P. tomentosa* Miquel subsp. *apiculata* (Benoist) subsp. *essequiboensis* (Standley) C.C. Berg & van Heusden, and *P. tomentosa* subsp. *maroniensis* (Benoist) C.C. Berg & van Heusden. A key to the species and subspecies is presented.

The present paper gives in a concise form the results of a revisional treatment of *Pourouma* and studies on behalf of treatments of the genus for the Flora of the Guianas and the Flora de Venezuela.

1. *Pourouma guianensis* Aublet, Hist. Pl. Guiane 2: 892, t. 342. 1775.

1a. *Pourouma guianensis* Aublet subsp. *guianensis*

Synonyms: *P. acutiflora* Trécul, *P. cinerascens* Miquel, *P. fulginea* Miquel,

P. heterophylla Martius ex Miquel, *P. mildbraediana* Standley, *P. radula* Benoist, *P. scabra* Rusby, *P. substrigosa* Mildbraed, and *P. subtriloba* Rusby.

Distribution: Amazon Basin, the Guiana region, and E Brazil.

1b. *Pourouma guianensis* Aublet subsp. *venezuelensis* (Cuatrecasas) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. venezuelensis* Cuatrecasas, Bol. Soc. Venez. Ci. Nat. 15: 107. 1954.

Distribution: N Venezuela.

2. *Pourouma velutina* Miquel in Martius, Fl. Bras. 4(1): 130, t. 41. 1853.

Synonym: *P. steyermarkii* Standley & Cuatrecasas.

Distribution: Amazon Basin (Brazil, Venezuela), Suriname, French Guiana, and E Brazil (Bahia, Espirito Santo).

3. *Pourouma bicolor* Martius, Syst. Mat. Med. Bras. 34. 1843.

3a. *Pourouma bicolor* Martius subsp. *bicolor*

Synonyms: *P. aspera* Trécul, *P. crassivenosa* Mildbraed, *P. camaratana* Cuatrecasas, *P. lawrancei* Standley, and *P. schultesii* Cuatrecasas.

3b. *Pourouma bicolor* Martius subsp. *tessmannii* (Mildbraed) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. tessmannii* Mildbraed, Notizbl. Bot. Gart. Berlin-Dahlem 10: 192. 1927.

Distribution: Peru (Amazonas and Huánuco).

3c. *Pourouma bicolor* Martius subsp. *digitata* (Trécul) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. digitata* Trécul, Ann. Sci. Nat. Bot., Sér. 3, 8: 106. 1847.

Distribution: The Guiana region and the north-eastern Amazon Basin (Amapá and Pará).

3d. *Pourouma bicolor* Martius subsp. *scobina* (Benoist) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. scobina* Benoist, Bull. Mus. Hist. Nat. (Paris) 28: 320. 1922.

Synonym: *P. crassivenia* Cuatrecasas.

Distribution: Central America, through W Colombia to NW Ecuador, and to NW Venezuela; possibly also in Amazonian Peru.

3e. *Pourouma bicolor* Martius subsp. *chocoana* (Standley) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. chocoana* Standley, Publ. Field Mus. Nat. Hist., Bot. Ser., 22: 73. 1940.

Synonym: *P. johnstonii* Woodson.

Distribution: Colombia (Pacific Coastal region) to Panama.

4. **Pourouma cecropiifolia** Martius, Reise Bras. 3: 1130. 1831.
 Synonyms: *P. edulis* Dufresne, *P. multifida* Trécul, *P. sapida* Karsten, and *P. uvifera* Rusby.
 Distribution: Upper Amazon Basin (Colombia, Ecuador, Brazil, Peru, Bolivia, Venezuela).
5. **Pourouma cucura** Standley & Cuatrecasas, Fieldiana, Bot. 28(1): 211. 1951.
 Synonym: *P. garciana* Cuatrecasas.
 Distribution: (Upper) Amazon Basin.
6. **Pourouma cuspidata** Mildbraed, Notizbl. Bot. Gart. Berlin-Dahlem 10: 417. 1928.
 Synonym: *P. tergoscabra* Cuatrecasas.
 Distribution: Upper Amazon Basin.
7. **Pourouma myrmecophila** Ducke, Bull. Mus. Hist. Nat. (Paris), Sér. 2, 4: 723. 1932.
 Distribution: Upper Amazon Basin.
8. **Pourouma formicarum** Ducke, Tropical Woods 90: 9. 1947.
 Distribution: Upper Amazon Basin.
9. **Pourouma phaeotricha** Mildbraed, Notizbl. Bot. Gart. Berlin-Dahlem 10: 193. 1927.
 Distribution: Upper Amazon Basin.
10. **Pourouma mollis** Trécul, Ann. Sci. Nat. Bot., Sér. 3, 8: 102. 1847.
- 10a. **Pourouma mollis** Trécul subsp. **mollis**
 Distribution: Amazon Basin (Brazil, Peru), French Guiana, Suriname, E Guyana, and E Brazil (Bahia, Espirito Santo).
- 10b. **Pourouma mollis** Trécul subsp. **triloba** (Trécul) C.C. Berg & van Heusden, stat. et comb. nov.
 Basionym: *P. triloba* Trécul, Ann. Sci. Nat. Bot., Sér. 3, 8: 104. 1847.
 Synonyms: *P. jaramilloi* Cuatrecasas, *P. jussiaeana* Trécul, and *P. triloba* Klotzsch.
 Distribution: Upper Amazon Basin.
11. **Pourouma melinonii** Benoist, Bull. Mus. Hist. Nat. (Paris) 28: 318. 1922.
- 11a. **Pourouma melinonii** Benoist subsp. **melinonii**
 Synonyms: *P. apaporiensis* Cuatrecasas, *P. apaporiensis* forma *macrophylla* Cuatrecasas.
 Distribution: Amazon Basin and the Guiana region.

11b. *Pourouma melinonii* Benoist subsp. *glabrata* C.C. Berg & van Heusden, subsp. nov.

Recedit a subspecie *melinonii* inter alia lamina semper tri- ad quinquepartita basi que plus minusve profunde cordata et periantho statu fructifero subglabro.

Differs from subsp. *melinonii*, e.g., in the always 3–5 parted lamina with a more or less deeply cordate base and the subglabrous fruiting perianth.

Typus: Panama. Canal Zone: Pipeline road, ca. 10 km NW of Gamboa, 14 Dec 1973 (♀), *Berg & Nee 355* (holotype U; isotypes BG, COL, K, MO, NY, PMA).

Additional collections: Panama. Canal Zone: Gamboa, 12 Oct 1971 (♀), *Gentry 2406* (MO, NA), 21 Nov 1971 (♀), *Gentry 2657* (MO). San Blas: Río Cangandi, near Cangandi, 10 Feb 1985 (♀), *de Nevers 4929* (BG). Colombia. Antioquia: Anori, 6–12 Sep 1973 (♀), *Soejarto 4283* (MO). Bolívar: 38 km W of Barrancabermeja, 24 Feb 1967 (♂), *de Bruijn 1496*, 25 Feb 1967 (♀), *de Bruijn 1502*, 1 Mar 1967 (st), *de Bruijn 1546*, 2 Mar 1967 (st), *de Bruijn 1555* (all in F, M, MO, NY, S, U, US, VEN, WAG).

12. *Pourouma hirsutipetiolata* Mildbraed, Notizbl. Bot. Gart. Berlin-Dahlem 10: 420. 1928.

12a. *Pourouma hirsutipetiolata* Mildbraed subsp. *hirsutipetiolata*

Distribution: Northern Colombia.

12b. *Pourouma hirsutipetiolata* Mildbraed subsp. *hispida* (Standley & Cuatrecasas) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. hispida* Standley & Cuatrecasas, *Caldasia* 7: 299. 1956.

Distribution: Colombia (Pacific Coastal area).

13. *Pourouma tomentosa* Miquel in Martius, Fl. Bras. 4(1): 128, t. 38. 1853.

13a. *Pourouma tomentosa* Miquel subsp. *tomentosa*

Synonym: *P. albistipulata* Cuatrecasas.

Distribution: Upper Amazon Basin.

13b. *Pourouma tomentosa* Miquel subsp. *apiculata* (Benoist) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. apiculata* Benoist, Bull. Mus. Hist. Nat. (Paris) 28: 321. 1922.

Synonym: *Coussapoa krukovii* Standley.

Distribution: Upper Amazon Basin.

13c. *Pourouma tomentosa* Miquel subsp. *persecta* Standley ex C.C. Berg & van Heusden, subsp. nov.

Recedit a subspeciebus *tomentosa* et *maroniensi* lamina quinque ad novem-partita, a subspecie *apiculata* basi laminae cordata, et a subspecie *essequiuboensi* ramulis foliiferis et petiolis flavo-hirsutis.

Differs from subsp. *tomentosa* and subsp. *maroniensis* in the 5–9-parted lamina, from subsp. *apiculata* in the cordate base of the lamina, and from subsp. *essequiboensis* in the yellow-hirsute leafy twigs and petioles.

Typus: Bolivia. La Paz: prov. Larecaja, Copacabana, 10 km S of Mapiri, 8 Oct–15 Nov 1939 (♀), *Krukoff 11062* (holotype U; isotypes A, F, G, MO, NY, S, UC, US).

Additional collections. Ecuador. Napo: Añangu, 30 May–21 Jun 1982 (st), *SEF 8823* (U). Peru, Loreto: prov. Alto Amazonas, Río Pastaza, Andoas, 21 Nov 1980 (♀), *Vásquez et al. 809* (BG). Brazil. Amazonas: São Paulo de Olivença, 11 Sep–26 Oct 1936 (♀), *Krukoff 8325* (A, BR, G, LE, NY, P, S, U). Bolivia. Cochabamba: Totora, Jungas de Jane Maya, 21 Jun 1947 (♀), *Cardenas 3973* (US); La Paz: prov. Larecaja, Copacabana, 10 km S of Mapiri, 8 Oct–15 Nov 1939 (♂), *Krukoff 10861* (A, F, MO, NY, S, U).

13d. *Pourouma tomentosa* Miquel subsp. *essequiboensis* (Standley) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. essequiboensis* Standley, *Lloydia* 2: 175. 1939.

Distribution: Guyana and Amazon Basin (Amazonas, Pará).

13e. *Pourouma tomentosa* Miquel subsp. *maroniensis* (Benoist) C.C. Berg & van Heusden, stat. et comb. nov.

Basionym: *P. maroniensis* Benoist, *Bull. Mus. Hist. Nat. (Paris)* 28: 318. 1922.

Distribution: Suriname, French Guiana, and Brazil (Amapá and Pará).

14. *Pourouma stipulacea* C.C. Berg, *Brittonia* 34(1): 37, t. 2. 1982.

Distribution: Guyana.

15. *Pourouma acuminata* Miquel in Martius, *Fl. Bras.* 4(1): 130, t. 40. 1853.

Synonym: *P. populifolia* Standley.

Distribution: Upper Amazon Basin.

16. *Pourouma ferruginea* Standley, *Publ. Field Mus. Nat. Hist., Bot. Ser.*, 17: 181. 1937.

Distribution: Upper Amazon Basin.

17. *Pourouma villosa* Trécul, *Ann. Sci. Nat. Bot., Sér. 3*, 8: 103. 1847.

Synonym: *P. laevis* Benoist.

Distribution: Suriname, French Guiana, and the (Lower) Amazon Basin.

18. *Pourouma oraria* Standley & Cuatrecasas, *Caldasia* 7: 301. 1956.

Distribution: Colombia (Pacific Coastal region).

19. *Pourouma saulensis* C.C. Berg & Kooy, *Brittonia* 34(1): 36, t. 1. 1982.

Distribution: French Guiana and Brazil (Amapá).

20. **Pourouma ovata** Trécul, Ann. Sci. Nat. Bot., Sér. 3, 8: 101. 1847.
 Synonym: *P. longipendula* Ducke.
 Distribution: Upper Amazon Basin.
21. **Pourouma elliptica** Standley, Publ. Field Mus. Nat. Hist., Bot. Ser., 17: 181. 1937.
 Distribution: Upper Amazon Basin.
22. **Pourouma bolivarensis** C.C. Berg, Brittonia 34(1): 39, t. 3. 1982.
 Distribution: Venezuela (Bolívar).
23. **Pourouma minor** Benoist, Bull. Mus. Hist. Nat. (Paris) 30: 103. 1924.
 Synonyms: *P. aurea* Mildbraed, *P. cuatrecasasii* Standley, *P. emarginata* Macbride, *P. folleata* Macbride, *P. isophlebia* Standley, *P. subplicata* Standley, *P. umbellata* Standley, *P. umbellifera* W. Burger.
 Distribution: Northern South America to Central America (Nicaragua).

KEY TO THE SPECIES AND SUBSPECIES OF *POUROUMA*

1. Base of the petiole swollen.
2. Petiole 1–1.5 cm long. 8. *P. formicarum*.
2. Petiole 8–27 cm long. 7. *P. myrmecophila*.
1. Base of the petiole not swollen.
3. Stipules (sub)persistent.
4. Lamina smooth above.
5. Stipules with dense, white, arachnoid hairs; Guyana. 14. *P. stipulacea*.
5. Stipules without white, arachnoid hairs; Colombia. 18. *P. oraria*.
4. Lamina scabrous above. 3e. *P. bicolor* subsp. *chocoana*.
3. Stipules caducous.
6. Lamina more or less scabrous above.
7. Lamina entire.
8. Lateral veins 2 × 7–10 (in large leaves up to 13), the basal pair unbranched (or faintly branched); lamina mostly elliptic to oblong or to subobovate.
9. Pluricellular hairs on the leafy twigs dense; staminate flowers in globose heads; pistillate inflorescence with 11–15 flowers. 9. *P. phaeotricha*.
9. Pluricellular hairs on the leafy twigs sparse or lacking; staminate flowers not in globose heads; pistillate inflorescence with 2–8 flowers. 2. *P. velutina*.
8. Lateral veins 2 × 10–25, the basal pair branched; lamina mostly ovate.
10. Lamina above yellowish-hirsute to -hirtellous over the whole surface. 5. *P. cucura*.
10. Lamina above yellowish- to whitish-hirtellous only on the main veins.
11. White, arachnoid hairs on the main veins of the lamina beneath and/or also on the stipules, petioles, leafy twigs, and peduncles. 13b. *P. tomentosa* subsp. *apiculata*.
11. White, arachnoid hairs only in the areoles or also on the smaller veins of the lamina beneath.
12. Hairs on the lamina beneath (more or less) appressed. ... 3. *P. bicolor*.
13. Stipules hairy inside. 3a. subsp. *bicolor*.
13. Stipules glabrous inside. 3b. subsp. *tessmannii*.
12. Hairs on the lamina beneath at least partly patent.

14. Stipules inside densely hairy; pluricellular hairs on the leafy twigs sparse or lacking; pistillate inflorescences with 2-8 flowers.
 2. *P. velutina*.
14. Stipules inside glabrous, or if with sparse hairs, then pluricellular hairs on the leafy twigs usually (rather) dense; pistillate inflorescences usually with at least 10 flowers.
15. Pluricellular (brown) hairs sparse or lacking on the leafy twigs and petioles. 5. *P. cucura*.
15. Pluricellular (brown) hairs (rather) dense on the leafy twigs and the petioles.
16. Arachnoid hairs on the lamina beneath confined to the areoles; tepals of the staminate flowers (almost) free; apex of the pedicels of the pistillate flowers (in fruit) not widened.
 1a. *P. guianensis* subsp. *guianensis*.
16. Arachnoid hairs on the lamina beneath also on the smaller veins; tepals of the staminate flowers connate; apex of the pedicels of the pistillate flowers (in fruit) widened.
 10. *P. mollis*.
 (Aberrant form from Peru).
 See also 44-44.
7. Lamina lobed to parted.
17. Stipules hairy inside.
18. Lamina beneath with the hairs on the veins more or less appressed; smaller veins plane or slightly prominent. 3. *P. bicolor*.
19. Lamina (usually) 5-7(-9)-fid to -parted.
20. Lamina beneath with arachnoid indument covering also the almost plane, smaller veins.
21. Stipules subsistent; midsegment of the lamina oblong to elliptic; leafy twigs often hirsute; Panama and western Colombia.
 3e. subsp. *chocoana*.
21. Stipules caducous; midsegment of the lamina lanceolate; leafy twigs never hirsute; Guianas and Lower Amazon Basin (to southern Venezuela?). 3c. subsp. *digitata*.
20. Lamina beneath with arachnoid indument (almost) confined to the areoles; smaller veins more or less prominent; Central America and the Pacific Coastal region of Colombia, Ecuador, and northwest Venezuela (also Amazonian Peru?). 3d. subsp. *scobina*.
19. Lamina (usually) 3-lobed to -fid.
22. Lamina beneath with arachnoid indument covering also the almost plane smaller veins or with arachnoid indument confined to the areoles, but then the spots of white indument distinctly separated by the thick smaller veins; pistillate inflorescences mostly with up to 25(-35) flowers; Guianas, Amazon Basin, to northern Colombia. . . . 3a. subsp. *bicolor*.
22. Lamina beneath with arachnoid indument (almost) confined to the areoles and the smaller veins more or less prominent and thin; pistillate inflorescences with up to 50 flowers; Central America, the Pacific Coastal region of Colombia, Ecuador, and to northwestern Venezuela (also Amazonian Peru?). 3d. subsp. *scobina*.
18. Lamina beneath with the hairs on the veins (partly) patent; smaller veins prominent.
23. Leafy twigs yellow-hirsute and/or the whole upper surface of the lamina hirtellous; fruiting perianth rarely scabrous; Upper Amazon Basin and northern Venezuela. 1. *P. guianensis*.

24. Lamina 3-5-fid to -parted; leafy twigs and petioles with long yellow hairs; stipules always hairy inside; fruiting perianth 2-2.5 cm long; northern Venezuela. 1b. subsp. *venezuelensis*.
24. Lamina entire, 5-7-fid to -parted, or if 3-5-fid to -parted, then the leafy twigs and the petioles without long yellow hairs; stipules glabrous inside and/or the fruiting perianth 1.2-2 cm long; Guiana region, eastern Brazil, Amazon Basin to eastern Colombia. 1a. subsp. *guianensis*.
23. Leafy twigs pale yellow-hirtellous (to subtomentose); upper surface of the lamina only hirtellous on the main veins; fruiting perianth usually scabrous; Central America, the Pacific Coastal region of Colombia and Ecuador (also Amazonian Peru?). 3d. *P. bicolor* subsp. *scobina*.
17. Stipules glabrous inside.
25. Lamina above yellow-hirsute to -hirtellous on the whole surface.
26. Brown, pluricellular hairs on the leafy twigs and petioles sparse or lacking; arachnoid hairs on the lamina beneath also on the smaller veins. 5. *P. cucura*.
26. Brown, pluricellular hairs on the leafy twigs and petioles (rather) dense and/or the arachnoid hairs on the lamina beneath (almost) confined to the areoles. 1a. *P. guianensis* subsp. *guianensis*.
25. Lamina above yellow-hirsute to -hirtellous or whitish strigose only on the main veins.
27. Pluricellular (brown) hairs sparse or lacking on the leafy twigs and petioles. 5. *P. cucura*.
27. Pluricellular (brown) hairs (rather) dense on the leafy twigs and petioles.
28. Lamina beneath with more or less appressed hairs on the veins. 3b. *P. bicolor* subsp. *tessmannii*.
28. Lamina beneath with (partly) patent hairs on the veins. 1a. *P. guianensis* subsp. *guianensis*.
6. Lamina smooth above.
29. Lamina scabrous beneath.
30. Stipules glabrous inside. 6. *P. cuspidata*.
30. Stipules hairy inside. 3a. *P. bicolor* subsp. *bicolor*.
29. Lamina smooth beneath.
31. Lamina 7-11-parted (to -fid).
32. Leafy twigs hirsute, or if glabrous or puberulous, then the incisions down to the petiole and the segments often petiolate. 13c. *P. tomentosa* subsp. *persecta*.
32. Leafy twigs puberulous (or hirtellous to subvelutinous); incisions usually not entirely down to the petiole and leaf segments with a broader base.
33. Base of the lamina usually deeply cordate; fruiting perianth 1.5-3.5 cm long; Upper Amazon Basin to eastern Colombia. 4. *P. cecropiifolia*.
33. Base of the lamina often truncate to shallowly cordate; fruiting perianth to ca. 1.5 cm long; Guianas and Lower Amazon Basin (to southern Venezuela?) 3c. *P. bicolor* subsp. *digitata*.
31. Lamina entire or at most 5-parted.
34. Petiole with a mixture of minute whitish hairs, long yellowish hairs, and pluricellular (brown) hairs. 5. *P. cucura*.
34. Petiole with indument otherwise.
35. Lamina 3-lobed to 5-parted.
36. Arachnoid hairs of indument confined to the lamina beneath in the areoles or also on the smaller veins.
37. Lamina beneath with the hairs on the veins appressed.
38. Stipules hairy inside; tepals of the staminate flowers almost free.

39. Leafy twigs with appressed hairs.3. *P. bicolor*.
Repeat 19-19.
39. Leafy twigs with patent hairs.17. *P. villosa*.
38. Stipules glabrous inside; tepals of the staminate flowers connate.
40. Leafy twigs sparsely appressed-puberulous to strigose. ...
.....11. *P. melinonii*.
41. Base of the lamina truncate to subcordate (occasionally deeply cordate); fruiting perianth usually densely puberulous to subvelutinous; stamens with the filaments (almost) free; Guianas and Amazon Basin.....
.....11a. subsp. *melinonii*.
41. Base of the lamina deeply cordate; fruiting perianth almost glabrous; stamens with the filaments mostly connate; Panama, northern and western Colombia.
.....11b. subsp. *glabrata*.
40. Leafy twigs hirsute.
.....12b. *P. hirsutipetiolata* subsp. *hispida*.
37. Lamina beneath with the hairs on the veins patent.
42. Leafy twigs with appressed hairs.....
.....11a. *P. melinonii* subsp. *melinonii*.
42. Leafy twigs with patent hairs.
43. Basal part of the margin of the lamina formed by the basal lateral veins; tepals of the staminate flowers for the greater part connate; fruiting perianth velutinous...10. *P. mollis*.
44. Pistillate inflorescences with the flowers in two more or less distinct clusters; Guianas, eastern Brazil, Lower Amazon Basin.10a. subsp. *mollis*.
44. Pistillate inflorescences with the flowers usually more or less diffusely distributed; Upper Amazon Basin and eastern Colombia.10b. subsp. *triloba*.
43. Basal part of the margin of the lamina separated from the basal lateral veins by mesophyll; tepals of the staminate flowers free or up to halfway connate; fruiting perianth sparsely puberulous.....17. *P. villosa*.
36. Arachnoid hairs also on the petiole, the main veins of the lamina beneath, the leafy twigs, the stipules, the peduncles, and/or the perianth of the pistillate flower.
45. Peduncle of the pistillate inflorescence 32-48 cm long; tepals of the staminate flowers almost free.16. *P. ferruginea*.
45. Peduncle of the pistillate inflorescence 2-13 cm long; tepals of the staminate flowers connate.
46. Lower leaf surface tomentose to subvelutinous.
.....10a. *P. mollis* subsp. *mollis*.
46. Lower leaf surface appressed-puberulous to strigose on the main veins.13. *P. tomentosa*.
47. Stipules hairy inside.13b. subsp. *apiculata*.
47. Stipules glabrous inside.
48. Leafy twigs yellow-hirsute (or glabrous).....
.....13c. subsp. *persecta*.
48. Leafy twigs puberulous to hirtellous.
49. Base of the lamina deeply cordate.
.....13d. subsp. *essequiboensis*.

- 49. Base of the lamina truncate to subcordate.
 - 50. Apex of the lamina acuminate; heads of staminate flowers 2–3 mm in diameter; Guianas, Amapá, and near Manaus. 13e. subsp. *maroniensis*.
 - 50. Apex of the lamina usually rounded; heads of staminate flowers 4–6 mm in diameter; Upper Amazon Basin. 13a. subsp. *tomentosa*.
35. Lamina entire.
- 51. Basal lateral veins branched.
 - 52. Lamina broadest above or in the middle.
 - 53. Arachnoid hairs only on the lamina beneath in the areoles or also on the smaller veins.
 - 54. Leafy twigs and lamina beneath on the main veins with appressed hairs. 22. *P. bolivarensis*.
 - 54. Leafy twigs and lamina beneath on the main veins with patent hairs.
 - 55. Basal (most) part of the margin of the lamina formed by the basal lateral veins; tepals of the staminate flower for the greater part connate. 10. *P. mollis*. Repeat 44–44.
 - 55. Basal (most) part of the margin of the lamina separated from the basal lateral veins by mesophyll; tepals of the staminate flower free or up to halfway connate.
 - 56. Stipules hairy inside. 17. *P. villosa*.
 - 56. Stipules glabrous inside. 21. *P. elliptica*.
 - 53. Arachnoid hairs also on the petiole, the main veins of the lamina beneath, the leafy twigs, the stipules, the peduncle and/or the perianth of the pistillate flower. 13a. *P. tomentosa* subsp. *tomentosa*.
 - 52. Lamina broadest below the middle.
 - 57. Lamina beneath with ± patent hairs on the main veins.
 - 58. Basal part of the margin of the lamina formed by the basal lateral veins; tepals of the staminate flower for the greater part connate.
 - 59. Leafy twigs with patent hairs. 10. *P. mollis*. Repeat 44–44.
 - 59. Leafy twigs with appressed hairs. 11a. *P. melinonii* subsp. *melinonii*.
 - 58. Basal part of the margin of the lamina separated from the basal lateral veins by mesophyll; tepals of the staminate flower free or up to halfway connate. 17. *P. villosa*.
57. Lamina beneath with appressed hairs on the main veins.
 - 60. Arachnoid hairs confined to the areoles or also on the smaller veins on the lamina beneath.
 - 61. Stipules hairy inside. . . . 3a. *P. bicolor* subsp. *bicolor*.
 - 61. Stipules glabrous inside.
 - 62. Leafy twigs sparsely appressed-puberulous to strigose. 11. *P. melinonii*. Repeat 41–41.
 - 62. Leafy twigs hirsute. 12a. *P. hirsutipetiolata* subsp. *hirsutipetiolata*.

60. Arachnoid hairs also on the petiole, the main veins of the lamina beneath, the leafy twigs, the stipules, the peduncles, and/or the perianth of the pistillate flower.
63. Peduncle of the pistillate inflorescence 32–48 cm long; tepals of the staminate flower almost free. 16. *P. ferruginea*.
63. Peduncle of the pistillate inflorescence 2–13 cm long; tepals of the staminate flower connate. 13. *P. tomentosa*.
64. Stipules hairy inside. 13b. subsp. *apiculata*.
64. Stipules glabrous inside.
65. Apex of the lamina usually rounded to emarginate, sometimes short-acuminate; heads of the staminate inflorescences 4–6 mm in diameter; Upper Amazon Basin. 13a. subsp. *tomentosa*.
65. Apex of the lamina acuminate; heads of the staminate inflorescences 2–3 mm in diameter; Guianas, Amapá, and near Manaus. 13e. subsp. *maroniensis*.
51. Basal lateral veins unbranched.
66. Lamina broadest above or in the middle.
67. Leafy twigs sparsely and minutely puberulous; lamina beneath on the main veins almost glabrous; stipules 1–3 cm long; peduncle of the pistillate inflorescence 15–32 cm long. 20. *P. ovata*.
67. Leafy twigs and lamina beneath on the main veins distinctly hairy; stipules usually longer than 3 cm; peduncle of the pistillate inflorescence up to 18 cm long.
68. Hairs on the leafy twigs and the main veins of the lamina beneath patent; pistillate inflorescence branched.
69. Lateral veins 6–10 pairs.
70. Smaller veins of the lamina prominent beneath. 9. *P. phaeotricha*.
70. Smaller veins of the lamina almost plane beneath. 10. *P. mollis*.
- Repeat 44–44.
69. Lateral veins 10–26(–40) pairs.
71. Smaller veins of the lamina beneath prominent. 21. *P. elliptica*.
71. Smaller veins of the lamina plane. 23. *P. minor*.
66. Lamina broadest below the middle.
72. Stipules 1–3 cm long.
73. Lateral veins 7–12 pairs; peduncle of the pistillate inflorescence 3–5 cm long. 19. *P. saulensis*.
73. Lateral veins 9–21 pairs; peduncle of the pistillate inflorescence 32 cm long. 20. *P. ovata*.
72. Stipules 3–13 cm long.
74. Peduncle of the pistillate inflorescence 32–48 cm long; tepals of the staminate flower almost free. 16. *P. ferruginea*.
74. Peduncle of the pistillate inflorescence 4–8 cm long; tepals of the staminate flower connate. 15. *P. acuminata*.

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