

LECTOTYPIIFICATION OF NAMES OF MALPIGHIACEAE—I

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ABSTRACT. Lectotypes are designated for the following names of Malpighiaceae: *Alcoceratothrix* Nied., *Alcoceratothrix rugosa* var. *minor* Nied., *Aspicarpa lanata* Rose, *Bunchosia costaricensis* Rose, *Bunchosia gaudichaudiana* Adr. Juss., *Bunchosia pallescens* Skottsb., *Bunchosia swartziana* Griseb., *Burdachia atractoides* Nied., *Byrsonima aerugo* Sagot, *Byrsonima altissima* var. *occidentalis* Nied., *Byrsonima basiloba* Adr. Juss., *Byrsonima biacuminata* Rusby, *Byrsonima clauseniana* Adr. Juss., *Byrsonima ferruginea* var. *macrophylla* Benth., *Byrsonima grisebachiana* Nied., *Byrsonima lyoniifolia* Nied., *Byrsonima oaxacana* Adr. Juss., *Byrsonima peruviana* Adr. Juss., *Camarea* sect. *Cryptolappa* Adr. Juss., *Caucanthus* sect. *Eriocaucanthus* Nied., *Clonodia mollis* Nied., *Diplopterys involuta* var. *ovata* Nied., *Fimbriaria elegans* Adr. Juss., *Gaudichaudia filipendula* Adr. Juss., *Heteropterys amplexicaulis* Morong, *Heteropterys angustifolia* f. *lanceolata* Nied., *Heteropterys beecheyana* var. *andina* Nied., *Heteropterys beecheyana* var. *guatemalensis* Nied., *Heteropterys chodatiana* Skottsb., *Heteropterys dusenii* Nied., *Heteropterys glazioviana* Nied., *Heteropterys hassleriana* Nied., *Heteropterys lonicerifolia* Triana & Planch., *Heteropterys metallochroa* Adr. Juss., *Heteropterys nudicaulis* S. Moore, *Heteropterys palmeri* Rose, *Heteropterys pteropetala* Adr. Juss., *Heteropterys subhelicina* Nied., *Heteropterys tomentosa* var. *minor* Nied., *Heteropterys trigonifolia* Adr. Juss., *Heteropterys umbellata* Adr. Juss., *Heteropterys venezolensis* Nied., *Hiraea chrysophylla* Adr. Juss., *Hiraea fagifolia* f. *latifolia* Nied., *Hiraea fagifolia* var. *candolleana* Nied., *Hiraea faginea* f. *glandulifera* Nied., *Hiraea multiflora* Miq., *Hiraea pauciflora* Adr. Juss., *Hiraea platytriphylloides* Hochr., *Hiraea polybotrya* Adr. Juss., *Hiraea salicifolia* Adr. Juss., *Hiraea salzmänniana* Adr. Juss., *Hiraea sepium* Adr. Juss., *Hiraea sericifolia* Adr. Juss., *Hiraea strigulosa* Rusby, *Hiraea transiens* Nied., *Jubelina riparia* Adr. Juss., *Mascagnia brevifolia* Griseb., *Mascagnia cordifolia* var. *cinerascens* Skottsb., *Mascagnia malmeana* Skottsb., *Mascagnia sepium* var. *glabrata* Nied., *Mascagnia sepium* var. *salzmänniana* Nied., *Mascagnia tenuifolia* Nied., *Mascagnia vacciniifolia* Nied., *Mascagnia vacciniifolia* var. *glabrata* Nied., *Mascagnia vacciniifolia* var. *hispidula* Nied., *Mezia araujoi* Nied., *Ptilochaeta elegans* Nied., *Ptilochaeta glabra* Nied., *Schwannia crassistipula* Adr. Juss., *Tetrapteryx alternifolia* Cuatrec., *Tetrapteryx crebriflora* Adr. Juss., *Tetrapteryx crispa* var. *ovata* Nied., *Tetrapteryx glaberrima* Benth., *Tetrapteryx guilleminiana* f. *martiana* Nied., *Tetrapteryx guilleminiana* f. *oblonga* Nied., *Tetrapteryx jamesonii* var. *aequatorialis* Nied., *Tetrapteryx jamesonii* var. *granatensis* Nied., *Tetrapteryx longibracteata* Adr. Juss., *Tetrapteryx lucida* f. *eglandulosa* Nied., *Tetrapteryx mogoriifolia* var. *platyptera* Adr. Juss., *Tetrapteryx mucronata* f. *oblonga* Nied., *Tetrapteryx mucronata* f. *ovalis* Nied., *Tetrapteryx schiedeana* f. *primaeva* Nied., *Tetrapteryx squarrosa* f. *lanceolata* Nied., *Tetrapteryx squarrosa* f. *ovata* Nied., and *Tetrapteryx styloptera* Adr. Juss.

INTRODUCTION

Hundreds of names of Malpighiaceae were published before the Code of Nomenclature required the consistent designation of a single type, and many of those names require lectotypification. Designating lectotypes is not to be done mechanically, because one wants to be as sure as possible that the lectotype selected is the most appropriate one available. In the case of the Malpighiaceae, the process is complicated by the fact that many of Franz Niedenzu's types were lost when the Berlin herbarium burned. This paper is a first step toward the goal of stabilizing the nomenclature of the Malpighiaceae by designating lectotypes where necessary.

In some past publications, I and others have cited collections as "type" in what was then an effective lectotypification, but without designating a specific specimen as "type" or lectotype. This situation is now covered by article 9.15 of the Code of Nomenclature (McNeill et al. 2006), which provides for the narrowing of a lectotypification

from such a "first-step" designation of a gathering to a "second-step" designation of a single specimen. A number of such cases appear below. Such a narrowing is especially important for the types in the Muséum National d'Histoire Naturelle in Paris, because Adrien de Jussieu often had two or more sheets of the same gathering available for study, and simply saying that the type is a particular gathering by, for example, Saint-Hilaire in P is not adequate for narrowing the lectotype to a single specimen.

Alcoceratothrix Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 1: 45. 1901.—LECTOTYPE, designated here: *Alcoceratothrix rugosa* (Benth.) Nied.

Alcoceratothrix rugosa var. *minor* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 1: 45. 1901.—LECTOTYPE, designated here: FRENCH GUIANA. *Sagot 1029* (lectotype: G!; isolectotypes: BM! K!).

Aspicarpa lanata Rose, Contr. U.S. Natl. Herb. 8: 49. 1903.—LECTOTYPE, designated here: MEXICO. Jalisco: near Guadalajara, 13 Jul 1893, *Pringle 4422* (lectotype: US!; isolectotypes: BR! F! G! GH! MEL! MEXU! MO! MSC! NY! UC!).

The type collection was cited in the protologue as *Pringle 4222*, but that was a typographical error for *Pringle 4422*. That was a mixed collection; each sheet contains flowering material collected on 13 July and fruiting material collected on 18 August. The flowering material is here designated lectotype.

Bunchosia costaricensis Rose in Pittier, Anales Inst. Fís.-Geogr. Nac. Costa Rica 9: 100. 1896.—LECTOTYPE, designated here: COSTA RICA. San José: San Francisco de Guadalupe, *Tonduz 8944* (lectotype: US 212775!; isolectotype: CR!).

Bunchosia gaudichaudiana Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 324. 1840.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: near Sebastianópolis [Rio de Janeiro], *Gaudichaud 145* (lectotype: P!, F neg. 35569; isolectotype: P-JU 11519!).

Bunchosia pallescens Skottsbl., Kongl. Svenska Vetenskapsakad. Handl. 35(6): 32, pl. 8 fig. 2. 1901.—LECTOTYPE, designated here: BRAZIL. São Paulo: Serra de Caracol, *Mosén 4044* (lectotype: S!).

Bunchosia swartziana Griseb., Fl. Brit. W.I. 115. 1860.—LECTOTYPE, designated here: JAMAICA. *March 1646* in 1858 (lectotype: K!).

Burdachia atractoides Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 5: 59. 1914.—LECTOTYPE, designated here: BRAZIL. "Environs of Rio Janeiro, 1882" [probably actually from Amazonas], *Glaziou 13592* (lectotype: K!).

Burdachia does not grow anywhere near Rio de Janeiro, so this is undoubtedly one of the many collections from elsewhere in Brazil that Glaziou labeled as coming from near Rio (Wurdack 1970).

Byrsonima aerugo Sagot, Ann. Sci. Nat. Bot., Sér. 6, 12: 178. 1881.—LECTOTYPE: FRENCH GUIANA. Karouany, *Sagot 102* (lectotype, designated here: P!; isolecotypes: BM! G! K! MEL! MICH! NY!).

Anderson (1981, p. 89) designated *Sagot 102* the lectotype collection of this name, but failed to designate a specific sheet as lectotype; that is done here.

Byrsonima altissima var. *occidentalis* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 1: 15. 1901.—LECTOTYPE, designated here: VENEZUELA ["BRITISH GUIANA"]. Mt. Roraima, *Robert Schomburgk II 811* (lectotype: K!, the sheet from Bentham's herbarium; isolecotypes: NY! P! US!).

The same specimen is lectotype of *Byrsonima ferruginea* var. *macrophylla* Benth.

Byrsonima basiloba Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 331. 1840.—LECTOTYPE, designated here: BRAZIL. Goiás: *Gardner 3617* (lectotype: G!, the sheet from Delessert's herbarium that was annotated by Jussieu; isolecotypes: G! K! P!).

Byrsonima biacuminata Rusby, Mem. Torrey Bot. Club 6: 13. 1896.—LECTOTYPE, designated here: BOLIVIA. Tipuani, *Bang 1643* (lectotype: NY 55549!; isolecotypes: G! GH! K! MO! NY! US!).

Byrsonima clausseniana Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 332. 1840.—LECTOTYPE, designated here: BRAZIL. Minas Gerais: *Claussen s.n.* (lectotype: P!, the flowering specimen in the general herbarium annotated by Jussieu; isolecotypes: G! K!).

There are Claussen sheets in P and P-JU that are in fruit; they were probably not part of the lectotype collection and should be considered syntypes, not isolecotypes. The isolecotype in G has one piece with flowers and one with immature fruits.

Byrsonima ferruginea var. *macrophylla* Benth., London J. Bot. 7: 119. 1848.—LECTOTYPE, designated here: VENEZUELA ["BRITISH GUIANA"]. Mt. Roraima, *Robert Schomburgk II 811* (lectotype: K!, the sheet from Bentham's herbarium; isolecotypes: NY! P! US!).

The same specimen is lectotype of *Byrsonima altissima* var. *occidentalis* Nied.

Byrsonima grisebachiana Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 1: 23. 1901.—LECTOTYPE, designated here: BRAZIL. Minas Gerais: Franca, *Lund. s.n.* [VII 1834] (lectotype: K!).

Byrsonima lyoniifolia Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 1: 38. 1901.—LECTOTYPE, designated here: BRAZIL. Minas Gerais: Serra do Lenheiro, *Glaziou 12480* (lectotype: G!; isolecotypes: K! NY! P!).

Byrsonima oaxacana Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 332. 1840.—LECTOTYPE, designated here: MEXICO. Oaxaca: Guichilona, between Tehuantepec and Río Guazacualcos, *Andrieux 491* (lectotype: P!, F neg. 35551; islectotypes: G! K! NY!).

Byrsonima peruviana Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 333. 1840.—LECTOTYPE: PERU. Mozobamba, *Mathews 1460* (lectotype, designated here: G!, the sheet annotated by Jussieu; isotypes: CGE! G! P!).

Jussieu cited only one collection, but he cited specimens of it at both G and P; therefore, while it is not necessary to designate a lectotype collection, it is necessary to designate a lectotype sheet; the other sheets of *Mathews 1460* are all isotypes.

Camarea sect. *Cryptolappa* Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 254. 1840.—LECTOTYPE, designated here: *Camarea affinis* A. St.-Hil.

Caucanthus sect. *Eriocaucanthus* Nied., Bull. Herb. Boissier, Sér. 2, 4: 1010. 1904.—LECTOTYPE, designated here: *Caucanthus argenteus* Nied.

Clonodia mollis Nied., Meded. Rijks-Herb. 19: 74. 1913.—LECTOTYPE, designated here: BOLIVIA. Sierra de Caipipendi, *Herzog 1231* (lectotype: L!).

Diplopterys involuta var. *ovata* Nied. in Engl., Pflanzenr. IV, 141: 227. 1928.—LECTOTYPE, designated here: PERU. Amazonas: Río Marañón, mouth of Río Santiago, Pongo de Manseriche [4°ca. 30'S, 77°ca. 35'W], *Tessmann 4564* (lectotype: G!),,,

Fimbriaria elegans Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 63, pl. 173. 1833 ["1832"].—LECTOTYPE, designated here: BRAZIL. Minas Gerais: S. João del Rei, *Saint-Hilaire Catal. D no. 411* (lectotype: P!, the sheet that has both Jussieu's annotation with his † symbol and also the printed label; islectotype: P!).

Gaudichaudia filipendula Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 252. 1840.—LECTOTYPE, designated here: MEXICO. Hidalgo: near Zimapán, *Galeotti 4349* (lectotype: P!).

Heteropterys amplexicaulis Morong, Ann. New York Acad. Sci. 7: 66. 1892.—LECTOTYPE, designated here: PARAGUAY. "Central Paraguay," *Morong 199* (lectotype: NY 00071261!; islectotypes: GH! MICH! MO! US!).

Heteropterys angustifolia f. *lanceolata* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 21. 1903.—LECTOTYPE, designated here: PARAGUAY. Cordillera: valley of Río [Arroyo] Y-acá near Valenzuela, *Hassler 7000* (lectotype: G!).

Heteropterys beecheyana var. *andina* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 55. 1903.—LECTOTYPE, designated here: BOLIVIA. Yungas, *Bang 2192* (lectotype: K!; islectotypes: MICH! MO! NY! US!).

Bang 2192 is also the type of *Banisteria sanguinea* Rusby.

Heteropterys beecheyana var. *guatemalensis* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 5. 1903.—LECTOTYPE, designated here: GUATEMALA. Huehuetenango, *Seler & Seler 3092* (lectotype: GH!).

Heteropterys chodatiana Skottsbl., Kongl. Svenska Vetenskapsakad. Handl. 35(6): 21, pl. 4 fig. 2. 1901.—LECTOTYPE, designated here: BRAZIL. Mato Grosso: Cuiabá, 7 Feb 1894 fl, *Malme 1370* (lectotype: S!).

Malme assigned the number 1370 to two different gatherings, one with flowers made on 7 Feb 1894 and a second with immature fruits made on 20 Apr 1894; the flowering collection is here designated lectotype.

Heteropterys dusenii Nied. in Engl., Pflanzenr. IV, 141: 321. 1928.—LECTOTYPE, designated here: BRAZIL. Paraná: Serrinha, *Dusén 16271* (lectotype: G!).

Heteropterys glazioviana Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 27. 1903.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: Petrópolis, *Glaziou 16730* (lectotype: G!; isolectotypes: K! P!).

Heteropterys hassleriana Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 25. 1903.—LECTOTYPE, designated here: PARAGUAY. *Hassler 8025* (lectotype: G!, the sheet in the Barbey-Boissier herbarium annotated by Niedenzu; isolectotypes: G!).

Heteropterys lonicerifolia Triana & Planch., Ann. Sci. Nat. Bot., Sér. 4, 18: 324. 1862.—LECTOTYPE, designated here: COLOMBIA. Cagueza, prov. Bogotá, 1790 m, *Triana [5575]* (lectotype: P!, F neg. 35588; isolectotypes: BM! G! K!).

Heteropterys metallochroa Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 275. 1840.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: Sebastianópolis [Rio de Janeiro], *Martius 569* (lectotype: P!; isolectotypes: K!).

Heteropterys nudicaulis S. Moore, Trans. Linn. Soc. London, Ser. 2 Bot., 4: 325. 1895.—LECTOTYPE, designated here: BRAZIL. Mato Grosso: Cuiabá, *Moore 16* (lectotype: BM!).

Heteropterys palmeri Rose, Contr. U.S. Natl. Herb. 1: 311. 1895.—LECTOTYPE, designated here: MEXICO. Sonora: Alamos, *Palmer 656* in 1890 (lectotype: US 41051!; isolectotypes: G! GH! K! MEXU! NY! US!).

Heteropterys pteropetala Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 31, pl. 167. 1833 [“1832”].—LECTOTYPE, designated here: BRAZIL. Minas Gerais: near Penha (Minas Novas), *Laruotte s.n.* (lectotype: P!).

Heteropterys subhelicina Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 8: 60. 1926.—TYPE: BRAZIL. Roraima [“Rio Branco”]: S. Marcos, *Ule 7808* (holotype: B†; lectotype, designated here: G!; isotype: K!).

Heteropterys tomentosa var. *minor* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 2: 17. 1903.—LECTOTYPE, designated here: BRAZIL. Mato Grosso: Corumbá, *Kuntze* in Aug 1892 (lectotype: F!).

The lectotype of this name is an isotype of *Heteropterys corumbensis* Kuntze.

Heteropterys trigoniifolia Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 33. 1833 ["1832"].—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: *Saint-Hilaire Catal. C¹ no. 7* (lectotype: P!, WRA negs. 81-27-18 & 19, MICH; isoelectotype: P!).

Heteropterys umbellata Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 25, pl. 166. 1833 ["1832"].—LECTOTYPE, designated here: BRAZIL. Minas Gerais: Santa Maria, *Saint-Hilaire s.n.* (lectotype: P!, the sheet annotated "holotype"; isoelectotype: P!).

Heteropterys venezolensis Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 8: 60. 1926.—TYPE: VENEZUELA. Sierra de la Guaira, *Fendler 186* (holotype: B†?; lectotype, designated here: GOET).

Hiraea chrysophylla Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 258. 1840.—LECTOTYPE, designated here: BRAZIL. "Brésil (herb. Lusitan.)" in Jussieu's hand, "Leg. Ferreira Ex Herb. Lusit." in A. Lourteig's hand (lectotype: P!; isoelectotype: P-JU 11734 p.p.!).

Hiraea fagifolia f. *latifolia* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1906/07: 14. 1906.—LECTOTYPE, designated here: SURINAME. *Hostmann 993* (lectotype: BM!; isoelectotypes: K!).

Hiraea fagifolia var. *candolleana* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1906/07: 14. 1906.—LECTOTYPE, designated here: SURINAME. *Hostmann 494* (lectotype: U!; isoelectotypes: K!).

Hiraea faginea f. *glandulifera* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1906/07: 16. 1906.—LECTOTYPE, designated here: VENEZUELA. Lower Orinoco, *Rusby [& Squires] 165* (lectotype: NY!; isoelectotype: US!).

Hiraea multiflora Miq., Stirp. Surinam. Select. 83. 1851.—TYPE: SURINAME. Near Paramaribo, *Focke [1104]* (lectotype, designated here: K!, the sheet from Bentham's herbarium; isotype: K!, the sheet from Hooker's herbarium).

The holotype should be in U, but no such specimen was to be found there, or in L, in 1999, so it is necessary to designate a lectotype.

Hiraea pauciflora Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 22. 1833 ["1832"].—TYPE: BRAZIL. Rio de Janeiro: Tijuca, near Sebastianópolis [Rio de Janeiro], *Saint-Hilaire Catal. A² 2^o partie no. 1153* (lectotype, designated here: P!, WRA negs. 81-26-24 & 25, MICH; isotypes: P!).

There was only one type collection, but there are three sheets in P, all annotated by Jussieu, so it is necessary to designate one of them the lectotype.

Hiraea platytriphylla Hochr., Bull. New York Bot. Gard. 6: 276. 1910.—TYPE: COLOMBIA. Magdalena, *Holton 802* (lectotype, designated here: NY!; isotype: K!).

There was only one type collection, but sheets were cited at both K and NY, so one of those needs to be designated the lectotype, which is done here.

Hiraea polybotrya Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 260. 1840.—LECTOTYPE, designated here: MEXICO. *Andrieux* (lectotype: P!, the sheet with the number 495 and both flowers and fruits; isotypes: G! K! P!).

In G, K, and P there are *Andrieux* specimens with the numbers 168 or 495 or both. It is not clear to me whether those represent one gathering or two, but it seems best to designate one specimen as lectotype and to consider all the others probable isotypes.

Hiraea salicifolia Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 18. 1833 ["1832"].—TYPE: BRAZIL. São Paulo: Rio Yapó, *Saint-Hilaire Catal. C² no. 14905* (lectotype, designated here: P!, F neg. 35634; isotype: P!).

Hiraea salzmänniana Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 258. 1840.—TYPE: BRAZIL. Bahia: near Bahia [Salvador], *Salzmann s.n.* (lectotype, designated here: G!, F neg. 24272; isotypes: CGE! G! K! P!).

Hiraea sepium Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 19, pl. 165. 1833 ["1832"].—TYPE: BRAZIL. Rio de Janeiro, *Saint-Hilaire Catal. C² 2° Partie no. 32* (lectotype, designated here: P!, F neg. 35635; isotypes: P!).

Hiraea sericifolia Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 258. 1840.—LECTOTYPE, designated here: BRAZIL. Mato Grosso: near Cuiabá, *Martius 652* (lectotype: P!; isoelectotypes: BM! BR? G! K! L! MO!).

Hiraea strigulosa Rusby, Bull. New York Bot. Gard. 8: 95. 1912.—LECTOTYPE, designated here: BOLIVIA. La Paz: Charopampa, *Williams 799* (lectotype: NY 71323!; isoelectotypes: BM! K! NY! US!).

Hiraea transiens Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1906/07: 8. 1906.—LECTOTYPE collection, designated by Cuatrecasas (1958, p. 406): COLOMBIA. Chocó: Isthmus de San Pablo, *Triana 3393/5579* (lectotype specimen, designated here: G!; isoelectotypes: BM! COL! K! NY!).

Jubelina riparia Adr. Juss. in Deless., Icon. Sel. Pl. 3: 19, pl. 32. 1838 ["1837"].—TYPE: FRENCH GUIANA. Oyapok and Oyes Rivers, *Leprieur s.n.* (lectotype, designated here: P-JU 11739; isotypes: F! G! L! MICH! P!).

Mascagnia brevifolia Griseb., Abh. Königl. Ges. Wiss. Göttingen 24: 67. 1879.—LECTOTYPE collection, designated by O'Donnell & Lourteig (1943, p. 228): ARGENTINA. Salta: Orán, Oct 1870, *Lorentz & Hieronymus 424* (lectotype specimen, designated here: GOET; isoelectotype: CORD).

O'Donnell and Lourteig (1943, pl. 1) showed a print of F neg. 12686, which was a photograph of the B sheet of *Lorentz & Hieronymus 424*, and called it "Tipo" in their caption, which effectively made that specimen the lectotype; because that sheet no longer exists it is necessary to designate a new lectotype.

Mascagnia cordifolia var. *cinerascens* Skottsbl., Kongl. Svenska Vetenskapsakad. Handl. 35(6): 4. 1901.—LECTOTYPE, designated here: BRAZIL. Mato Grosso: Cuiabá, 7/2/1894, *Malme 1364 p.p.* (lectotype: S!, the sheet with both flowers and fruits; isoelectotypes: S!).

Mascagnia malmeana Skottsbl., Kongl. Svenska Vetenskapsakad. Handl. 35(6): 6, pl. 1 fig. 2. 1901.—LECTOTYPE, designated here: PARAGUAY. Colonia Risso near Río Apa, *Malme 980* (lectotype: S; isolectotypes: G! US!).

Mascagnia sepium var. *glabrata* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 7. 1908.—LECTOTYPE, designated here: BRAZIL. Bahia: *Blanchet s.n.* (lectotype: G!).

The lectotype of this name is the holotype of *Hiraea bierosa* Adr. Juss.

Mascagnia sepium var. *salzmanniana* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 6. 1908.—LECTOTYPE, designated here: BRAZIL. Bahia: *Salzmann 99* (lectotype: G!, the sheet annotated by Niedenzu and bearing the number 99; isolectotypes: G! P! W).

Mascagnia tenuifolia Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 10. 1908.—LECTOTYPE collection, designated by W. R. Anderson (1981, p. 225): PERU. San Martín: Tarapoto, *Spruce 4958* (lectotype specimen, designated here: NY!, the fragments from Niedenzu's Herbarium; isolectotypes: CGE! G! K! MG! NY!).

Mascagnia vacciniifolia Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 11. 1908.—LECTOTYPE, designated here: MEXICO. *Liebmann 39* [Mar 1842] (lectotype: C).

Mascagnia vacciniifolia var. *glabrata* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 11. 1908.—LECTOTYPE, designated here: MEXICO. *Liebmann 39* [Mar 1842] (lectotype: C).

The same specimen is designated lectotype of *M. vacciniifolia* and *M. vacciniifolia* var. *glabrata*.

Mascagnia vacciniifolia var. *hispidula* Nied., Arbeiten Bot. Inst. Königl. Lyceum Hosianum Braunsberg 3: 11. 1908.—TYPE: COSTA RICA. San Miguel, *Wendland [C. Hoffmann] 788* (holotype: B†; lectotype, designated here: NY!, fragment from Niedenzu's herbarium).

Mezia araujoi Nied. in Engl. & Prantl, Nat. Pflanzenfam. III, 4: 58. 1890.—TYPE: BRAZIL. Minas Gerais: Rio Novo, *Araujo s.n.* (holotype: B†; lectotype, designated here: P!; isotypes: F! P!).

Ptilochaeta elegans Nied. in Chodat & Hassl., Bull. Herb. Boissier, Sér. 2, 7: 293. 1907.—TYPE: PARAGUAY. Near Concepción, *Hassler 7278a* (holotype: B†?; lectotype, designated here: G!, the sheet annotated by Niedenzu; isotypes: BM! G! K! MICH! MO! NY! P! US!).

Ptilochaeta glabra Nied., Bot. Jahrb. Syst. 14, Beibl. 30: 4. 1891.—LECTOTYPE, designated here: BRAZIL. Minas Gerais: "Environs de Rio Janeiro et d'Ouro Preto" [Caraça, ou Bom Jardim, Minas], 1883–84, *Glaziou 15446* (B†, F neg. 12847; lectotype: K!, K000253670; isolectotypes: P!).

Schwannia crassistipula Adr. Juss., Arch. Mus. Hist. Nat. 3: 610. 1843.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro, *Claussen* 32 (lectotype: P!, the sheet annotated "Type"; isolectotypes: BR! L! P! P-JU 11755!).

Tetrapteryx alternifolia Cuatrec., Webbia 13: 435. 1958.—TYPE: COLOMBIA. Bolívar: between Cartagena and Turbaco, *Dugand & Jaramillo* 2850 (lectotype, designated here: US!, the stem with flowers; isotype: COL).

The holotype is a mixed collection. The stem with alternate leaves, to which the epithet refers, is not Malpighiaceae; the flowering stem, which is designated here as lectotype, represents a species of *Tetrapteryx*.

Tetrapteryx crebriflora Adr. Juss. in A. St.-Hil., Fl. Bras. Merid. 3: 9. 1833 ["1832"].—LECTOTYPE, designated here: BRAZIL. Minas Gerais: Castas Altas, *Saint-Hilaire* s.n. (lectotype: P!, F neg. 35596; isolectotype: P!).

Tetrapteryx crispera var. *ovata* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunschweig 1909/10: 52. 1909.—LECTOTYPE, designated here: GUYANA. *Richard Schomburgk* 1511 (lectotype: K!, the sheet from Hooker's herbarium; isolectotype: K!, the sheet from Bentham's herbarium).

Tetrapteryx glaberrima Benth., London J. Bot. 7: 134. 1848.—LECTOTYPE, designated here: GUYANA. Demerara, *Richard Schomburgk* 1705 (lectotype: K!, the sheet from Bentham's herbarium, K000253668; isolectotype: K!, the sheet from Hooker's herbarium, K000253669).

In the protologue this collection was cited as 1765; that must have been a typographical error for 1705.

Tetrapteryx guilleminiana f. *martiana* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunschweig 1909/10: 25. 1909.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro, *Martius* 1167 (holotype: B†, F neg. 12729; lectotype: NY!, the sheet stamped as having come from Bentham's herbarium; isolectotype: NY!).

Tetrapteryx guilleminiana f. *oblonga* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunschweig 1909/10: 25. 1909.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro, *Guillemin* 85 (lectotype: P!).

Tetrapteryx jamesonii var. *aequatorialis* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunschweig 1909/10: 55. 1909.—LECTOTYPE, designated here: ECUADOR. Guayas: Guayaquil, *Hartweg* 645 (lectotype: G!, the sheet in the general herbarium annotated by Niedenzu with this name and by Adrien de Jussieu with the name "*Tetrapteryx crotonifolia* Ad. Juss."; isolectotypes: BM! CGE! G! K! P!).

Tetrapteryx jamesonii var. *granatensis* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunschweig 1909/10: 55. 1909.—LECTOTYPE, designated here: COLOMBIA. "Fl. Magdalena et Cauca, prov. Margarita et Cauca," *Triana* s.n. (lectotype: G!; isolectotypes: BM! K! MO! NY! P!).

The collection designated lectotype here is also the type of *Tetrapteryx benthamii* Triana & Planch. (with its holotype in P), which will make this name a homotypic synonym of *T. benthamii*.

Tetrapteryx longibracteata Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 263. 1840.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: near Sebastianópolis [Rio de Janeiro], *Gaudichaud* 970 (lectotype: P!, the sheet annotated by Jussieu; isolectotypes: G! P! P-JU 11713!).

Tetrapteryx lucida f. *eglandulosa* Nied. in Engl., Pflanzenr. IV, 141: 185. 1928.—LECTOTYPE, designated here: BRAZIL. Paraná: Volta Grande, *Dusén* 743a (lectotype: NY!).

Tetrapteryx mogoriifolia var. *platyptera* Adr. Juss., Arch. Mus. Hist. Nat. 3: 533. 1843.—LECTOTYPE, designated here: BRAZIL. Rio de Janeiro: Sebastianópolis [Rio de Janeiro], *Gaudichaud* 966ter (lectotype: P!).

Tetrapteryx mucronata f. *oblonga* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1909/10: 37. 1909.—LECTOTYPE, designated here: GUYANA. Demerara, *Richard Schomburgk* 1705 (lectotype: K!, the sheet from Bentham's herbarium, K000253668; isolectotype: K!, the sheet from Hooker's herbarium, K000253669).

The lectotype of this name is also the lectotype of *Tetrapteryx glaberrima* Benth.

Tetrapteryx mucronata f. *ovalis* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1909/10: 36. 1909.—LECTOTYPE, designated here: SURINAME. *Kappler* 2125 (lectotype: L!).

Tetrapteryx schiedeana f. *primaeva* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1909/10: 38. 1909.—LECTOTYPE, designated here: MEXICO. Oaxaca: Monte Albán, *Pringle* 4885 (lectotype: G!; isolectotypes: A! ENCB! GH! MEL! MEXU! MO! NY! UC! US!).

Tetrapteryx squarrosa f. *lanceolata* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1909/10: 18. 1909.—LECTOTYPE, designated here: PERU. *Ule* 6349 (lectotype: L!).

Tetrapteryx squarrosa f. *ovata* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1909/10: 18. 1909.—LECTOTYPE, designated here: GUYANA. *Jenman* 4973 (lectotype: K!).

Tetrapteryx styloptera Adr. Juss., Ann. Sci. Nat. Bot., Sér. 2, 13: 262. 1840. LECTOTYPE collection, designated by W. R. Anderson (1981, p. 256): PERU. Near Tarapoto, *Mathews* 1464 (lectotype specimen, designated here: K!, the sheet from Hooker's herbarium annotated by Jussieu; isolectotype: K!, the sheet from Bentham's herbarium).

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