

NOMENCLATURE

A TYPIFICATION OF SOME SUBFAMILY, SECTIONAL, AND SUBSECTIONAL NAMES IN THE FAMILY MALPIGHIACEAE

C. V. Morton *

Franz Niedenzu's monograph of the Malpighiaceae in *Das Pflanzenreich*¹ published in 1928 is a monumental and masterful piece of work, the result of a lifetime of study. It was preceded by a treatment of the genera in Engler and Prantl's *Die Natürlichen Pflanzenfamilien* in 1890 and by monographs of individual genera subsequently in rather rare publications of the *Königliches Lyceum Hosianum zu Braunsberg*, sometimes given its Latin name *Lyceum Regium Hosianum Brunsbergense*.

Although Niedenzu's taxonomic work is detailed and careful, he apparently made up his rules of nomenclature as he went along. He started work before there were any really definite rules and even after the publication of the Vienna Code of Botanical Nomenclature in 1905 he refused to abide by these rules. He changed the names of species that he did not like, proposed homonyms, assigned different ranks to entities without a change of authority, and so on. In particular, he ignored many of the subfamily, sectional, and subsectional names that had been proposed by his illustrious predecessors de Candolle, Ad. de Jussieu, and Grisebach and substituted new names of his own coining. In fact, he replaced many of his own names as he went along, because with changing concepts of the contents of groups the former names were not particularly or universally applicable.

A prime difficulty with Niedenzu's work is that he did not work at all under a type concept. His new species were often based on many specimens, all technically syntypes, and no lectotypes have ever been designated for most of them. This is true also for his names

of higher categories, which sometimes included many species, and no lectotype has ever been designated.

The result of this individual approach is that it is impossible to determine the correct name for many of the groups under our current Code of Botanical Nomenclature, which goes primarily by priority, and under which names may not be rejected merely because they are considered inappropriate. Perhaps more than any other taxonomist, Niedenzu found it necessary to subdivide groups, and so in the larger genera there are numerous subgenera, each with sections, subsections, and series and subseries. It is doubtful that this plethora of names is really necessary. In any case, the lectotypification of all of them would be a major job not to be lightly undertaken. The same is even truer with the typification of the species, subspecies, varieties, subvarieties, forms, and subforms that the work abounds in, because the originals of most of these were destroyed in Berlin during the late war, and it does no good now to designate as lectotype a specimen no longer existing. Many of these names can be typified, if that is possible at all, by locating duplicate specimens in other herbaria and correctly identifying these with Niedenzu's names. Very few will be found with annotations by Niedenzu himself, because he did not borrow material extensively. This is a work that should be undertaken but is not likely to be, because it is a thankless and unrewarding job.

I have attempted to go back and locate the subfamily, tribal, subgeneric, and sectional names that were supplied by the authors prior to Niedenzu which he ignored or misapplied. In some cases, these names are based on single species and so there is no problem of typification. Other groups however contained several or many species and

* Department of Botany, Smithsonian Institution, Washington, D.C. 20560 U.S.A.

¹ Vol. IV, 141: 1–870. 1928.

for these it has been necessary to select a lectotype, which I have attempted to do with great care in order to avoid the least change in Niedenzu's group names, in all cases however choosing a species that agrees with the original characterization and which was known to the author of the group name concerned. It turns out that relatively few of these older names need to be taken up, which is fortunate both for stability of nomenclature and because many of these older names referred to characters which are not universally true in the groups as now delimited which can cause a little confusion. The most extensive changes are due to another factor altogether — the relatively new requirements in the Code that subfamily names must be formed by the addition of the ending “-oideae” to the stem of a legitimate name of an included genus, that similarly the names of tribes and subtribes must be based on the same stem as the next higher taxon, that subgeneric names must repeat the generic names, and that sectional names similarly repeat the subgeneric names. I am not wholly sure that these arbitrary rules should have been added to the Code for they result in the rejection of many well-known and appropriate names. In particular, I dislike the rejection of such subgeneric names as *Eubanisteria*, the meaning of which is selfevident, whereas if the name is merely *Banisteria* it is always necessary for clarity to prefix subg. *Banisteria*. However, doubtless these rules are here to stay and have to be lived with. In any case, subgeneric and sectional names are chiefly used by specialists and not by the general botanist. The changes proposed in this paper of some names are therefore not going to be of great general interest.

☆

ACRIDOCARPUS Guill. & Perr. subg. ACRIDOCARPUS

Acridocarpus subg. *Catophyllaris* Nied. Arb. Bot. Inst. Braunsberg 7: 17. 1921. Lectotype: *Acridocarpus plagiopterus* Guill. & Perr.

Acridocarpus Guill. & Perr. originally contained two species, *A. plagiopterus* Guill. & Perr. and *A. smeathmannii* (DC.) Guill. & Perr. The first one, *A. plagiopterus*, is here chosen as lectotype, since it was the one illustrated in the original publication as representative of the genus. Thus subg. *Catho-*

phyllaris Nied. becomes a straight synonym of subg. *Acridocarpus*.

ACRIDOCARPUS Guill. & Perr. sect. ACRIDOCARPUS

Acridocarpus sect. *Monacra* Nied. Arb. Bot. Inst. Braunsberg 7: 17. 1921. Lectotype: *Acridocarpus plagiopterus* Guill. & Perr.

ACRIDOCARPUS Guill. & Perr. sect. ANOMALOPTERIS (DC.) Morton, comb. nov.

Heteropteris sect. *Anomalopteris* DC. Prodr. 1: 592. 1824. Type: *Heteropteris smeathmannii* DC. [= *Acridocarpus smeathmannii* (DC.) Guill. & Perr.], the only original species of the section.

Acridocarpus sect. *Macranthera* Nied. Arb. Bot. Inst. Braunsberg 6: 51. 1915. This section included the type of sect. *Anomalopteris* DC., and *Macranthera* was therefore a superfluous, illegitimate name.

ASPICARPA L. C. Rich. sect. CHAMAEA (Griseb.) Nied. Verz. Vorles. Akad. Braunsberg W.-S. 1912–13: 56. 1912 (wrongly attributed to Griseb.)

Camarea St. Hil. sect. *Chamaea* Griseb. in Mart. Fl. Bras. 12 (1): 105. 1858. Lectotype: *Camarea pulchella* Griseb. There were two original species — *C. discolor* (Griseb.) Griseb. and *C. pulchella*. By removing the first and placing it as a synonym of *Janusia guaranitica* (St. Hil.) Ad. Juss. and leaving the second in a section entitled *Chamaea*, Niedenzu effectively selected *C. pulchella* as lectotype.

ASPIDOPTERYS Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 266. 1840 sect. ASPIDOPTERYS.

Aspidopterys sect. *Dolichopterys* Nied. Arb. Bot. Inst. Braunsberg 6: 12. 1915.

Aspidopterys sect. *Oblongae* Hutchinson, Kew Bull. 1917: 92. 1917.

The genus *Aspidopterys*, originally containing 11 species, has never been typified. Jussieu chose *A. hirsuta* (Wall.) Ad. Juss. to illustrate the characters of the genus (Arch. Mus. Paris 3: t. 17. 1843), and thus this species is chosen as lectotype. Since this species was included within sect. *Dolichopterys* and sect. *Oblongae*, these sectional names become synonyms of sect. *Aspidopterys*.

BANISTERIA H. B. K. sect. BANISTERIA

Banisteria sect. *Trichanthera* Griseb. Linnaea 13: 197. 1839. Lectotype: Of the

four species referred to the section, three are closely allied and agree with the characterization. The first of these, *Banisteria adenopoda* Ad. Juss. in St. Hil. Fl. Bras. Merid. 3: 40. 1832, is here designated lectotype.

Banisteria sect. *Camptostylis* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsb. p. hiem. 1900–01: 19. 1900. Since this section included the lectotype for *Banisteria*, namely *B. pauciflora* H. B. K., it must be considered a synonym of sect. *Banisteria*.

BANISTERIA H. B. K. subg. HEMIRAMMA (Griseb.) Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. hiem. 1900–01: 4. 1900.²
Banisteria sect. *Hemiramma* Griseb. Linnaea 13: 199. 1839. Type: *Banisteria anisandra* Ad. Juss., the only original species.

BANISTERIA sect. HEMIRAMMA Griseb. Linnaea 13: 199. 1839.

Banisteria sect. *Leiococca* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. hiem. 1900–01: 7. 1900. Since this section includes *B. anisandra* Ad. Juss., sect. *Leiococca* was a superfluous change of name for *Hemiramma* Griseb.

BANISTERIA H. B. K. sect. LEIANTHERA Griseb. Linnaea 13: 191. 1839.

Banisteria sect. *Orthostylis* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsb. p. hiem. 1900–01: 12. 1900. Lectotype: Of the several species referred to the section by Niedenzu, the first named agrees with the characterization as well as the others and is here designated lectotype: *Banisteria laevifolia* Ad. Juss. in St. Hil. Fl. Bras. Merid. 3: 38. 1832.

Lectotype: Grisebach referred seven species to his section *Leianthera*, which was supposed to be characterized by having glabrous anthers. Evidently he did not know some of the species firsthand, for some of them have pilose anthers. One of the species which does have glabrous anthers and which agrees otherwise with the characterization as well as any other, especially in having the filaments alternately unequal, is *Banisteria laevifolia* Ad. Juss. in St. Hil. Fl. Bras. Merid. 3: 38. 1832, which is here designated lectotype. Thus Niedenzu's section *Orthostylis* becomes a nomenclatural synonym of sect. *Leianthera*.

² Wrongly attributed to Grisebach in Das Pflanzenreich.

The name *Leianthera* is not really appropriate, for it means "glabrous anthers," and some of the species closely allied to *B. laevifolia* have pilose anthers, at least according to Niedenzu's grouping. However, according to the Code, a name may not be rejected because it is inappropriate.

BANISTERIA H. B. K. sect. MONOCCTENIA Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. hiem. 1900–01: 4. 1900.

Lectotype: *Banisteria cinerascens* (Benth.) Griseb.

Banisteria sect. *Eubanisteria* [subsect.] *Glabripetalae* Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 62. 1890. Lectotype: *Heteropteris cinerascens* Benth. = *Banisteria cinerascens* (Benth.) Griseb. Since this group can be typified only arbitrarily, the first mentioned species may as well serve as lectotype. If a subsectional name is needed, this one will be available.

BANISTERIA H. B. K. sect. ANISOPTERIS Griseb. Linnaea 13: 201. 1839.

Niedenzu undoubtedly knew of the publication of sect. *Anisopteris* Griseb. and adopted the name but by an oversight attributed the name to himself in Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. aest. 1901: 18. 1901, and in Das Pflanzenreich IV, 141: 445. 1928. The type, the only original species of sect. *Anisopteris*, is *Banisteria pubipetala* Ad. Juss.

BANISTERIA subsect. PUBIPETALAE Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 61. 1890.

Banisteria subsect. *Octadenia* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. aest. 1901: 18. 1901. Lectotype: *Banisteria pubipetala* Ad. Juss.

The section *Pubipetalae* is to be lectotyped on the basis of *Banisteria pubipetala* Ad. Juss., both on the basis of the characterization and the name chosen. Later, Niedenzu arbitrarily changed this name to *Octadenia*, probably because in his later work he preferred to use substantives for sectional and subsectional names rather than descriptive adjectives in the plural. There is much to be said for this philosophy in proposing names in the future, but already published adjectival names have their priority, of course.

MALPIGHIACEAE tribe BANISTERIEAE DC. Prodr. 1: 584. 1824.

Malpighiaceae tribe *Notopterygieae* Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 270.

1840. An alternative name for tribe Banisterieae.

In Das Pflanzenreich, the authority for the tribal name Banisterieae is wrongly given as Ad. Juss. (1840).

BUNCHOSIA L. C. Rich. subg. BUNCHOSIA

Bunchosia subg. *Ciruela* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg, p. hiem. 1898–1899: 4. 1898. Lectotype: *B. swartziana* Griseb.

Bunchosia sect. *Metriozeugma* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg, 1898–99: 13. 1898. Lectotype: *B. fluminensis* (Griseb.) Griseb.

Bunchosia subg. *Metriozeugma* Nied. Arb. Bot. Inst. Akad. Braunsberg 5: 37. 1914. Illegitimate renaming of subg. *Ciruela* Nied.

The genus *Bunchosia* was proposed in a very casual way by A. L. Jussieu, who indicated that *Malpighia odorata* Jacq., *M. nitida* Jacq., *M. armeniaca* Cav., and *M. glandulosa* Cav. had been separated out by Richard as a genus *Bunchosia* characterized by a two-celled ovary and connate styles. No new combinations were made although three of them are cited by Niedenzu as though they had been made at this time. Small (No. Amer. Flora 25: 160. 1910) chose *M. odorata* Jacq. as lectotype, doubtless because it was the first species mentioned, and he has been followed by Cuatrecasas (Webbia 13: 565. 1958), but this is not an adequate reason in the absence of other evidence. Niedenzu left *M. odorata* among the unidentifiable species, but Cuatrecasas has identified it, from the illustration and description, with *Bunchosia pilosa* H. B. K. However, Cuatrecasas remarks that Jacquin's description is partly incorrect and shows a confusion with some other plant. Furthermore, if Cuatrecasas is correct in his identification, then *M. odorata* has a three-celled ovary like *B. pilosa* H. B. K. Therefore, Small's choice of *M. odorata* as lectotype can not be maintained, both because the original description is equivocal and because if Cuatrecasas' identification is correct the species disagrees with the characterization of *Bunchosia*. The third species *M. armeniaca* Cav. disagrees with the characterization, since it has free styles. Two species do agree, namely *M. nitida* Jacq. and *M. glandulosa* Cav.; of these I choose *M. glandulosa* Cav. (= *Bunchosia glandulosa* (Cav.) L. C. Rich. ex H. B. K.) as lectotype; it is a common and well-known species in the West Indies. Since this

species belongs in subg. *Ciruela* Nied. and *Metriozeugma* Nied., these names will become synonyms of subg. *Bunchosia*.

BUNCHOSIA L. C. Rich. sect. BUNCHOSIA

Malacmaea Griseb. Linnaea 13: 248. 1839.

Type: *Malacmaea fluminensis* Griseb.

Bunchosia sect. *Malacmaea* (Griseb.) Griseb. in Mart. Fl. Bras. 12 (1): 31. 1858.

Bunchosia subg. *Malacmaea* (Griseb.) Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg, p. hiem 1898–1899: 13. 1898.

Bunchosia sect. *Sericothrix* Nied. Arb. Bot. Inst. Akad. Braunsberg 5: 37. 1914. Lectotype: *Bunchosia cornifolia* H. B. K. (chosen by Cuatrecasas, Webbia 13: 566. 1958). However, since this section contains the lectotype of *Bunchosia*, namely *B. glandulosa* (Cav.) L. C. Rich. ex H. B. K., it must be abandoned as a sectional name in favor of sect. *Bunchosia*.

BURDACHIA Mart. ex Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 329. 1840.

Burdachia sect. *Carusia* Mart. in Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 330. 1840.

Type: *Burdachia sphaerocarpa* Ad. Juss.

A reference to this sectional name was omitted by Niedenzu in Das Pflanzenreich. Niedenzu attributes the generic name to Jussieu, but Jussieu himself credits it to Martius.

BYRSONIMA L. C. Rich. ex A. L. Juss. subg. BYRSONIMA

Byrsonima subg. *Brachyzeugma* Nied. Ind. Lect. Lyc. Braunsberg, p. aest. 1897: 4. 1897.

Four species of *Malpighia* were mentioned in the brief original description of *Byrsonima* as belonging to the genus, namely *M. spicata* Cav., *M. lucida* Mill., *M. crassifolia* L., and *M. verbascifolia* L. No new combinations were made although Niedenzu so cites them. Small (No. Amer. Flora 25: 166. 1910) chose *M. spicata* Cav. as lectotype, and no fault can be found with this choice, since the species agrees with the original characterization. Thus, since this species falls within subg. *Brachyzeugma* Nied., this name will become a superfluous and illegitimate synonym of subg. *Byrsonima*.

BYRSONIMA L. C. Rich. sect. BYRSONIMA

Byrsonima sect. *Hypophyllarion* Griseb. Linnaea 13: 250. 1839. Lectotype: *Malpighia spicata* Cav. The twelve species referred to this section were diverse and not at all closely allied, and therefore the section can be lectotypified only ar-

bitrarily. I choose *M. spicata*, for in this way the section becomes a straight synonym of *Byrsonima*.

Byrsonima sect. *Epiphyllarion* Griseb. op. cit. 256. Lectotype: *Malpighia lucida* Mill. = *Byrsonima lucida* (Mill.) L. C. Rich. ex H. B. K. The first two of the three species referred to this section belong in typical sect. *Byrsonima*.

Byrsonima sect. *Sericolepis* Nied. in Engl. & Prantl, Nat. Pflanzenfam. Nachtr. & Reg. Teil II–IV: 206. 1897. Lectotype: *Malpighia spicata* Cav.

GALPHIMIA Cav. sect. GALPHIMIA

Galphimia sect. *Cosmogalphimia* Nied. Arb. Bot. Inst. Akad. Braunschweig 5: 23. 1914.

Cuatrecasas (Webbia 13: 550. 1958) has selected *Galphimia glauca* Cav. as lectotype of the genus, and therefore sect. *Cosmogalphimia*, which includes this species, must now be known as sect. *Galphimia*.

MALPIGHIACEAE subfam. GAUDICHAUDIOIDEAE Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 249. 1840 (as “Gaudichaudieae”).³

Malpighiaceae subfam. *Meiostemones* Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 249. 1840. Lectotype: *Gaudichaudia* H. B. K. Published as an alternative name for *Gaudichaudieae*.

Malpighiaceae subfam. *Pyramidotorae* Nied. Ber. Deutsch. Bot. Ges. 8: 190. 1890; Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 41. 1890; Pflanzenreich IV, 141: 17. 1928. Lectotype: *Hiraea* Jacq.

Malpighiaceae subfam. *Pterygophorae* Nied. 11. cc. Alternative name.

The present International Code of Botanical Nomenclature, 1966 ed., Art. 19, provides that subfamily names be based on the name of an included genus with the termination *-oideae*. Therefore, Jussieu's and Niedenzu's names based on characters will have to be abandoned.

GAUDICHAUDIA H. B. K. subg. TRITOMOPTERYS (Ad. Juss.) Nied. in Engl. Pflanzenreich IV, 141: 241. 1928 (wrongly attributed to de Jussieu).

Gaudichaudia sect. *Tritomopterys* Ad. Juss.

Ann. Sci. Nat. [Paris] II, 13: 252. 1840. Lectotype: *Gaudichaudia congestiflora* Ad. Juss. (originally published as “*confertiflora*” in error). This, the first species mentioned, agrees well with the characterization.

GAUDICHAUDIA H. B. K. sect. TRITOMOPTERYS Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 252. 1840. Lectotype: *Gaudichaudia congestiflora* Ad. Juss.

Tritomopterys (Ad. Juss.) Nied. sect. *Anomoiopterys* Nied. Arb. Bot. Inst. Braunschweig 4: 29. 1912. An illegitimate name (superfluous) for the type section, based on *G. congestiflora* Ad. Juss.

Gaudichaudia sect. *Anomoiopterys* (Nied.) Nied. Pflanzenreich IV, 141: 241. 1928. Illegitimate.

HETEROPTERIS H. B. K. subg. HETEROPTERIS *Heteropteris* subg. *Anosepalis* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunschweig 2: 3. 1903. Since this subgenus includes the type of *Heteropteris*, namely *H. purpurea* (L.) H. B. K., *Anosepalis* becomes a synonym of subg. *Heteropteris*.

HETEROPTERIS H. B. K. sect. HETEROPTERIS *Heteropteris* sect. *Peixotopteris* Griseb. Linnaea 13: 217. 1839. Type: *Heteropteris aenea* Griseb., the only original species. *Heteropteris* sect. *Chrysoheteropteris* Griseb. op. cit. 218. Lectotype: *Heteropteris chrysophylla* (Lam.) H. B. K. ex DC., the first species listed by Grisebach and the obvious choice of lectotype from the description and the sectional name proposed.

Heteropteris sect. *Stenotorus* Griseb. op. cit. 222. Lectotype: *Heteropteris discolor* Ad. Juss., the first species listed by Grisebach, and which agrees with the description.

Heteropteris sect. *Ptychheteropteris* Griseb. in Mart. Fl. Bras. 12 (1): 60. 1858. Since this section contained species, including *H. discolor* Ad. Juss., that had already been described as sect. *Stenotorus* Griseb., it must be considered as superfluous, a renaming of *Stenotorus*, which Grisebach abandoned, probably considering its meaning unsuitable in view of his regrouping of the species.

Heteropteris sect. *Microprosopsis* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunschweig 2: 3. 1903. A superfluous name, since it included the types of the sections *Peixotopteris*, *Chrysoheteropteris*, and *Steno-*

³ The International Code for Botanical Nomenclature (1966 ed., Art. 19, Note) provides that subfamily names originally published with the improper termination “-eae” shall be corrected to “-oideae,” without change of the author's name.

torus, all of which were prior and available.

HETEROPTERIS H. B. K. sect. HOLOPETALON (Griseb.) Griseb. in Mart. Fl. Bras. 12 (1): 58. 1858.

Banisteria sect. *Holopetalon* Griseb. Linnaea 13: 199. 1839. Lectotype: *Banisteria patens* Griseb. loc. cit. This, the second species listed, agrees well with the description and still retains its specific epithet in the genus, i.e. as *Heteropteris patens* (Griseb.) Ad. Juss.

Heteropteris sect. *Stenophyllarion* Griseb. op. cit. 227. Lectotype: *Heteropteris leschenaultiana* Ad. Juss., the first species listed by Grisebach, and which agrees with the characterization.

Heteropteris sect. *Macroprosopis* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 2: 33. 1903. Since this section as originally proposed included both of the original species of sect. *Holopetalon* (*Banisteria thyrsoides* Griseb. and *B. patens* Griseb.) it was superfluous and illegitimate.

Niedenau recognized *Holopetalon* and *Stenophyllarion*, but only as subsections or series under his illegitimate sectional name *Macroprosopis*. The correct citation of these subsections will be:

HETEROPTERIS subsect. STENOPHYLLARION (Griseb.) Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 2: 34. 1903 (wrongly attributed to Griseb.)

HETEROPTERIS subsect. APTYCHIA Nied. ser. HOLOPETALON (Griseb.) Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 2: 40. 1903 (wrongly attributed to Griseb.)

HETEROPTERIS H. B. K. subg. PARABANISTERIA (Morton) Morton, comb. nov.

Heteropteris subg. *Euheteropteris* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 2: 42. 1903. An invalid name, because of its form with "Eu-," which is contrary to Art. 21 of the Code (1966 ed.), and also because the officially conserved type of *Heteropteris*, *H. purpurea* (L.) H. B. K., does not belong in Niedenau's subgenus *Euheteropteris*, as is implied by the name. (Of course, in Niedenau's time *H. purpurea* had not been conserved as the type, and Niedenau undoubtedly considered some other species as typical, so far as he recognized any types at all, such as *H. floribunda*

H. B. K., which he referred to his subg. *Euheteropteris*.)

Banisteria subg. *Parabanisteria* Morton, Proc. Biol. Soc. Washington 43: 157. 1930. Type: *Banisteria laurifolia* L. = *Heteropteris laurifolia* (L.) Ad. Juss.

In 1930, at the time I proposed *Parabanisteria*, I was following Robinson and Small (in North American Flora) in recognizing *Banisteria* L. as the correct name for *Heteropteris* H. B. K. Inasmuch as the type of *Heteropteris*, namely *H. purpurea*, did not fall within the subgenus *Euheteropteris* as delimited by Niedenau a new name was needed for this subgenus, which I provided with *Banisteria* subg. *Parabanisteria*. At the time that this name was proposed *Heteropteris* had not as yet been officially published as a conserved name, and besides at that time the U.S. National Museum, according to decisions of Coville and Maxon, was following the American Code, which did not recognize any list of conserved names. Now that *Heteropteris* is conserved the subgeneric name may be transferred and used, since this subgenus is still without any usable name.

Tribe HIPTACEAE DC. Prodr. 1: 583. 1824.

Tribe *Hireae* Ad. Juss. Ann. Sci. Nat. [Paris], 13: 255. 1840.

Tribe *Pleuropterygiae* Ad. Juss. loc. cit. Alternative name.

Tribe *Hireaeaceae* Griseb. in Mart. Fl. Bras. 12(1): 75. 1858.

The tribal name *Hireae*, with the spelling corrected to *Hireaeae*, was adopted by Niedenau but DeCandolle's tribe *Hiptageae*, with the same circumscription, has priority.

HIPTAGE Gaertn. Fruct. Sem. Pl. 2: 169, t. 116. 1791, subg. HIPTAGE

Hiptage subg. *Euhiptage* Nied. Arb. Bot. Inst. Akad. Braunsberg 6: 36. 1915.

HIPTAGE Gaertn. sect. HIPTAGE

Hiptage sect. *Idiopterys* Nied. Arb. Bot. Inst. Braunsberg 6: 38. 1915. Since this section included the sole original species of *Hiptage*, and therefore automatically the type, namely *H. madablota* Gaertn. = *H. benghalensis* (L.) Kurz, it was a superfluous name and therefore illegitimate.

HIRAEA Jacq. subg. HIRAEA, sect. HIRAEA.

Hiraea sect. *Glabratae* Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 56. 1890. Lectotype: *Hiraea fragifolia* (DC.) Ad. Juss.

Hiraea sect. *Comatae* Nied. loc. cit. Lectotype: *Hiraea chrysophylla* Ad. Juss. In his later work Niedenzu ignored his sections *Glabratae* and *Comatae*, evidently considering the pubescence character on which they were founded as unimportant. All the species referred to both sections fall into sect. *Hiraea*.

Hiraea subg. *Euhiraea*, sect. *Tetractinia* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunsberg. W—S 1906—7: 5. 1906.

The type of *Hiraea* Jacq. is *H. reclinata* Jacq., the only original species. Since this is included within sect. *Tetractinia* Nied. that section must bear the generic name unaltered (Code Art. 22); similarly, the subgenus *Euhiraea* Nied. must become subg. *Hiraea*.

MALPIGHIA subg. MALPIGHIA

Malpighia subg. *Homoistylis* Nied. Ind. Lect. Lyc. Brunsberg. p. aest. 1899: 4. 1899. Lectotype: *Malpighia glabra* L.

The lectotype of *Malpighia* is *M. glabra* L. (Small, No. Amer. Flora 25: 152. 1910). Consequently, subg. *Homoistylis*, which contains this species, must now be called subg. *Malpighia*.

MALPIGHIA sect. MALPIGHIA

Malpighia sect. *Apyrae* DC. Prodr. 1: 578. 1824. Lectotype: *Malpighia glabra* L. This sectional name was omitted from consideration by Niedenzu.

Malpighia sect. *Paliurothrix* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. aest. 1899: 4. 1899. Lectotype: *Malpighia glabra* L.

MALPIGHIA L. sect. URENTES DC. Prodr. 1: 577. 1824.

Malpighia sect. *Homoistema* Nied. Ind. Lect. Lyc. Reg. Hos. Brunsberg. p. aest. 1899: 7. 1899. Lectotype: *Malpighia urens* L.

Type: *Malpighia urens* L.

The sectional name *Urentes*, which has long priority over *Homoistema*, was disregarded by Niedenzu, probably because he did not employ plural adjectives as sectional names and also because not all the species that are allied to *M. urens* L. have stinging hairs, as is implied by the name *Urentes*, but neither is a valid reason for discarding this name.

MALPIGHIACEAE tribe MALPIGHIÆ DC. Prodr. 1: 577. 1824.

In Niedenzu's treatments the author of the tribal name Malpighiæ is not indicated.

MALPIGHIACEAE subfam. MALPIGHIODEAE Morton, nom. nov.

Malpighiaceae subfam. *Diplostemones* Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 255. 1840. Lectotype: *Malpighia* L. This subfamily included originally, as well as the tribe Malpighiæ, also the tribes *Hirææ* and *Banisteriæ*, and so it can be typified only arbitrarily. The number of stamens stressed by Jussieu in suggesting the subfamily names *Diplostemones* and *Meiostemones* is not a sufficiently important character for the recognition of subfamilies.

Malpighiaceae subfam. *Planitorae* Nied. Ber. Deutsch. Bot. Ges. 8: 192. 1890; in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 67. 1890.

Malpighiaceae subfam. *Apterygiæ* Nied. loc. cit. Alternative name.

The subfamily names provided by Niedenzu although descriptive and appropriate do not agree with the form specified in the Code of Nomenclature.

MASCAGNIA Bertero subg. MASCAGNIA

Mascagnia subg. *Mesogynixa* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 3: 3. 1908.

Since this subgenus contains the lectotype species of *Mascagnia*, namely *M. americana* Bertero (chosen by Small, No. Amer. Fl. 25: 118. 1910), it must bear the generic name unchanged, and therefore subg. *Mesogynixa* must be reduced to synonymy.

MASCAGNIA Bertero sect. MASCAGNIA

Hiraea sect. *Hiraeostachys* Griseb. Linnaea 13: 242. 1839. Lectotype: *Hiraea anisopetala* Ad. Juss. = *Mascagnia anisopetala* (Ad. Juss.) Griseb. The original concept of sect. *Hiraeostachys* was confused, for of the seven species included three belonged to *Tetrapteris* (as now delimited) and four to *Mascagnia*. Since it can be typified only arbitrarily I choose the first named species, *H. anisopetala*, as lectotype; it agrees with the characterization as well as the others.

Mascagnia sect. *Eumascagnia* Griseb. in Mart. Fl. Bras. 12 (1): 95. 1858. Invalid in form for a subgenus containing the type species of *Mascagnia*.

MASCAGNIA Bertero subg. PLAGIOGYNIXA Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 3: 27. 1908.

Hiraea sect. *Pachyantaeris* Griseb. Linnaea 13: 244. 1839. Lectotype: *Hiraea platy-*

- ptera* Griseb. = *Mascagnia psilophylla* (Ad. Juss.) Griseb., teste Niedenzu. This, the first species listed in the section, was described in detail by Grisebach, the description fitting well the characterization of the section. If a sectional name is needed for this species and its allies under the subg. *Plagiogynixa*, this will be available for transfer.
- PEIXOTCA Ad. Juss. in St. Hil. sect. PEIXOTCA *Peixotoa* sect. *Balantiopsis* Nied. Verz. Vorles. Akad. Braunschweig W.-S. 1912–13: 33. 1912.
- The genus *Peixotoa* has never been typified. It originally contained three species, *P. parviflora* Ad. Juss., *P. tomentosa* Ad. Juss., and *P. glabra* Ad. Juss., all of them still recognized as valid and retained within the genus. A choice of type can be made only arbitrarily. I choose as lectotype *P. tomentosa*, which belongs in the section with the larger number of species *Balantiopsis* Nied., which therefore becomes a synonym of sect. *Peixotoa*.
- RHINOPTERYX Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 352. 1897.
- In Arb. Bot. Inst. Braunschweig 6: 57. 1915 and in Das Pflanzenreich IV, 141: 279. 1928, Niedenzu "corrected" the spelling to *Rhinopterys*, but the original spelling, which is quite a correct transliteration of the Greek root, although unusual, must be restored.
- RHYSOPTERIS Blume ex Ad. Juss. sect. RHYSOPTERIS
- Ryssopterys* sect. *Tilodes* Nied. Arb. Bot. Inst. Braunschweig 6: 57. 1915.
- Since this section included the type of *Rhyssopteris*, it must now be called merely sect. *Rhyssopteris*.
- The original spelling "*Ryssopterys*" has been corrected by the conservation of the spelling *Rhyssopteris*.
- STIGMAPHYLLON sect. BRACHYPTERYS (Ad. Juss.) Nied. Ind. Lect. Lyc. Reg. Hos. Braunschweig, p. east. 1900: 30. 1900 (wrongly attributed to Juss.).
- Brachypterys* Ad. Juss. in Delessert, Icon. Sel. Pl. 3: 20. t. 34. 1837. Type: *Brachypterys australis* Ad. Juss.
- STIGMAPHYLLON Ad. Juss. subg. STIGMAPHYLLON⁴
- Lectotype: *Banisteria auriculata* Cav. = *Stigmaphyllon auriculatum* (Cav.) Ad. Juss., chosen by Small, No. Amer. Fl. 25: 139. 1910.
- STIGMAPHYLLON Ad. Juss. sect. STIGMAPHYLLON *Stigmaphyllon* sect. *Macropterys* Nied. Ind. Lect. Lyc. Reg. Hos. Braunschweig, p. aest. 1900: 3. 1900. Since this section included the lectotype of *Stigmaphyllon*, namely *S. auriculatum* (Cav.) Ad. Juss., it must be replaced by sect. *Stigmaphyllon*.
- STIGMAPHYLLON Ad. Juss. subg. BAEOPTERIS (Griseb.) Nied. Ind. Lect. Lyc. Reg. Hos. Braunschweig, p. hiem. 1899–1900: 4. 1899 (wrongly attributed to Griseb.).
- Stigmaphyllon* sect. *Baeopteris* Griseb. Fl. Brit. West Ind. 118. June, 1860.⁵ Lectotype: *Stigmaphyllon emarginatum* (Cav.) Ad. Juss., the first species listed and quite typical for Grisebach's concept.
- TETRAPTERIS subsect. ISOPTERAE Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 262. 1840.
- Tetrapteris* subsect. *Choriapterys* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunschweig 4: 12. 1912. Lectotype: *Hiraea poeppigiana* Ad. Juss. = *Tetrapteris poeppigiana* (Ad. Juss.) Griseb.
- Tetrapteris* subsect. *Isopterys* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunschweig W.-S. 1909–10: 22. 1909. Lectotype: *Hiraea multiflora* Griseb. = *Tetrapteris multiflora* (Griseb.) Ad. Juss.
- For lectotype of subsect. *Isopterae* I choose *Tetrapteris fraxinifolia* Ad. Juss. [taxonomically = *Tetrapteris multiflora* (Griseb.) Ad. Juss.] The subsect. *Isopterys* of Niedenzu was published independently and was not a correction of the name *Isopterae* of Jussieu.
- TETRAPTERIS ser. PUBIPETALAE Ad. Juss. Ann. Sci. Nat. [Paris] II, 13: 263. 1840.
- Tetrapteris* subsect. *Isopterys* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunschweig W.-S. 1909–10: 22. 1909. Lectotype: *Hiraea multiflora* Griseb.
- Tetrapteris* ser. *Isopterys* (Nied.) Nied. Pflanzenreich IV, 141: 184. 1928.
- TETRAPTERIS subsect. LEPTOCLONA Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunschweig W.-S. 1909–10: 13. 1909.

⁴ Taken up by Niedenzu in the invalid form *Eustigmatophyllum*. Although originally spelled *Stigmaphyllon*, the genus has by subsequent authors been unjustifiably altered to *Stigmaphyllum*, *Stigmatophyllum*, and *Stigmatophyllum*, the last the most frequently because of its adoption by Niedenzu.

⁵ See Stearn, Journ. Arnold Arb. 46: 256. 1965, concerning the date of publication.

Tetrapteris [ser.] *Glabripetalae* Ad. Juss.
Ann. Sci. Nat. [Paris] II, 13: 262. 1840.
Lectotype: *Tetrapteris vacciniifolia* Ad.
Juss.

The subsect. *Leptoclona* Nied. can have as its lectotype *Tetrapteris vacciniifolia* Ad. Juss. If a series name is ever needed the one of Jussieu will be available, although that is unlikely for *Leptoclona* is a small group.

TETRAPTERIS subsect. ANISOPTERAE Ad. Juss.
Ann. Sci. Nat. [Paris] II, 13: 264. 1840.
Tetrapteris [ser.] *Glabrifoliae* Ad. Juss.
Arch. Mus. Paris. 3: 519. 1843. Lecto-
type: *Tetrapteris anisoptera* Ad. Juss.
Tetrapteris subsect. *Pterygocarya* Nied.
Verz. Vorles. Kgl. Lyc. Hos. Braunsberg
W.-S. 1909–10: 40. 1909. Lectotype:
Tetrapteris anisoptera Ad. Juss. Since the
subsectional name *Anisopterae* was a
legitimate name and available, subsect.
Pterygocarya Nied. was a superfluous,
illegitimate name.

The subsect. *Anisopterae* Ad. Juss. origi-
nally contained many species; for lectotype I
choose *Tetrapteris anisoptera* Ad. Juss., the
obvious choice since the subsectional name
is adopted from this species.

TETRAPTERIS Cav. sect. TETRAPTERIS
Tetrapteris sect. *Pachytorus* Griseb. Lin-
naea 13: 231. 1839. Lectotype: *Tetra-
pteris mollis* Griseb. All three of the origi-
nal species of the section *Tetrapteris*
are closely allied and retained within the
type section of *Tetrapteris*, as based on
its lectotype, *T. inaequalis* Cav. The name
Pachytorus is omitted in Niedenzu's
treatments.

Tetrapteris sect. *Platyphyllarion* Griseb.
Linnaea op. cit. 238. Type: *Tetrapteris
bracteolata* Griseb., the only original
species.

Tetrapteris sect. *Lophogynixa* Nied. Verz.
Vorles. Kgl. Lyc. Hos. Braunsberg W.-S.
1909–10: 40. 1909. Type: *Tetrapteris
bracteolata* Griseb. Since this section in-
cluded the type of the previously pub-
lished and legitimate section *Platyphyllarion*
Griseb., it must be considered as
an illegitimate renaming of that and so
have the same type.

TETRAPTERIS Cav. subg. TETRAPTERIS
Tetrapteris subg. *Metatetrapteris* Nied. in
Engl. & Prantl, Nat. Pflanzenfam. 3 (4):
58. 1890. Type: Since this subgenus in-
cludes the lectotype of *Tetrapteris*, *T.
inaequalis* Cav., it must be considered as

an illegitimate name for subg. *Tetra-
pteris*.

Tetrapteris subg. *Caulolepia* Nied. Verz.
Vorles. Kgl. Lyc. Hos. Braunsberg W.-S.
1909–10: 34. 1909. An unexplained and
illegitimate renaming of *Tetrapteris* subg.
Metatetrapteris Nied.

TETRAPTERIS Cav. sect. HIRACANTHELE (Gri-
seb.) Morton, comb. nov.

Hiraea sect. *Hiracanthele* Griseb. Linnaea
13: 239. 1839. Lectotype: *Hiraea multi-
flora* Griseb. There were four original
species of the section *Hiracanthele*, all
now placed in *Tetrapteris* sect. *Micro-
phyllaris*. The first, *H. multiflora*, now
Tetrapteris multiflora (Griseb.) Ad. Juss.,
I choose as lectotype.

Tetrapteris sect. *Stenantaeris* Griseb. op.
cit. 235. Lectotype: *Tetrapteris acutifolia*
Cav. This is the oldest of the several
species referred to the section by Grise-
bach; it agrees with the characterization.
Niedenzu ignored the names *Hiracan-
thele* and *Stenantaeris*. Since these names
are of the same date and no one has
united them, I have chosen to adopt
Hiracanthele, both because it is in the
substantive form approved for sectional
names and because it does not have a
descriptive connotation as the name *Ste-
nantaeris* does.

Hiraea Jacq. sect. *Trilophopteris* Griseb.
Linnaea 22: 24. 1849. Lectotype: *Tetra-
pteria poeppigiana* (Ad. Juss.) Griseb. This
was based on *Hiraea* sect. 2 *Mascagnia*
Ad. Juss., i.e. in Ann. Sci. Nat. [Paris]
II, 13: 259. 1840. Jussieu had two sub-
groups (unnamed) in his section *Mascag-
nia*, the second of which ("**Alae margi-
nales in unum confluentes") contained
the type of *Mascagnia*, *M. americana*
Bertero. Grisebach recognized this as
sect. *Mascagnia* ("Samara ala indivisa
cincta"). He applied the sectional name
Trilophopteris to Jussieu's other unnam-
ed group ("Alae marginales distinctae"),
characterized by Grisebach as "Samara
(bi) trilata, alis marginalibus geminis
distinctis, tertia dorsali saepius subae-
quali." The only species included by Jus-
sieu within his group and also by Grise-
bach are *H. poeppigiana* Ad. Juss. and
H. septentrionalis Ad. Juss. Since the
second of these was known from flower-
ing material only it can not be the type,
and so *H. poeppigiana* is the only pos-
sible lectotype.

- Tetrapteris* sect. *Schizopteris* Griseb. in Mart. Fl. Bras. 12 (1): 87. 1858. Lectotype: *Tetrapteris poeppigiana* (Ad. Juss.) Griseb. Of the several species referred by Grisebach to sect. *Schizopteris*, the first *T. poeppigiana* agrees well with the characterization and is the one illustrated by Grisebach. By this choice of lectotype, sect. *Schizopteris* becomes an absolute nomenclatural synonym of sect. *Trilophopteris*, which has the same lectotype species.
- Tetrapteris* sect. *Microphyllaris* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunsberg W.-S. 1909–10: 20. 1909. Lectotype: No type indicated by Niedenzu; since the section included the type of the section *Trilophopteris*, this is to be considered an illegitimate renaming of that, and therefore the lectotype is *T. poeppigiana* (Ad. Juss.) Griseb.
- Tetrapteris* sect. *Microphyllaris* subsect. *Schizopteris* (Griseb.) Nied. op. cit. 20. Wrongly attributed to Grisebach.
- Tetrapteris* sect. *Microphyllaris* subsect. *Choriopteris* Nied. Arb. Bot. Inst. Kgl. Lyc. Hos. Braunsberg 4: 12. 1912. Illegitimate renaming of subsect. *Schizopteris*.
- TETRAPTERIS** sect. **PENTAPTERYS** Ad. Juss. Ann Sci. Nat. [Paris] II, 13: 262. 1840.
- Tetrapteris* Cav. sect. *Stauropteris* Griseb. in Mart. Fl. Bras. 12 (1): 86. 1858. Lectotype: *Tetrapteris maranhamensis* Ad. Juss. This, the first species mentioned, agrees with the characterization by Grisebach.
- Mascagnia* Bertero sect. *Notopteris* Griseb. op. cit. 90. Lectotype: *Mascagnia ambigua* (Ad. Juss.) Griseb. This, the first species listed by Grisebach, agrees with his characterization.
- Tetrapteris* sect. *Macrophyllaris* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunsberg W.-S. 1909–10: 3. 1909. Lectotype: *Tetrapteris turnerae* Ad. Juss.
- Tetrapteris* sect. *Macrophyllaris* subsect. *Pentapterys* (Ad. Juss.) Nied. op. cit. 5.
- Tetrapteris* Cav. sect. *Macrophyllaris* subsect. *Stauropteris* (Griseb.) Nied. op. cit. 15. Wrongly attributed to Grisebach by Niedenzu in Das Pflanzenreich.
- Tetrapteris* Cav. sect. *Macrophyllaris* ser. *Notopteris* (Griseb.) Nied., Pflanzenreich IV, 141: 167. 1928. Wrongly attributed to Grisebach.
- Lectotype: *Tetrapteris turnerae* Ad. Juss.
- Jussieu placed four species in his section *Pentapterys* — *T. turnerae*, *T. chamaecerasifolia*, *T. humilis*, and *T. ramiflora*, all closely allied. The first is a suitable lectotype.
- Niedenzu arbitrarily proposed a new sectional name *Macrophyllaris* when the earlier name *Pentapterys* was available; the latter he recognized, but only as a subsection. The sectional names *Notopteris* and *Stauropteris* also have priority over *Macrophyllaris*.
- TETRAPTERIS** Cav. subg. **ARCHITETRAPTERIS** Nied. in Engl. & Prantl, Nat. Pflanzenfam. 3 (4): 57. 1890.
- Tetrapterys* subg. *Mischolepis* Nied. Verz. Vorles. Kgl. Lyc. Hos. Braunsberg W.-S. 1909–10: 3. 1909. Lectotype: *Tetrapteris poeppigiana* (Juss.) Griseb.
- Lectotype: *Tetrapteris poeppigiana* (Juss.) Griseb. Niedenzu described his subg. *Architetrapteris* without indication of a type and so a lectotype must be chosen. The subgenus was distinguished from subg. *Metatetrapteris* by having the cotyledons narrowed at base and not auriculate, and the wings of the samaras emarginate or lacerate. In the first section under *Architetrapteris*, namely *Schizopteris*, only two species are mentioned by name — *T. poeppigiana* and *T. heteropetala*. Inasmuch as the second was known to Niedenzu in flower only it can not be considered a lectotype, and so the first is the obvious choice; it has cotyledons non-auriculate and fruit-wings lacerate. Niedenzu later abandoned his name *Architetrapteris* and substituted *Mischolepis*, perhaps because he stressed different characters (not the cotyledons or the fruit-wings) or perhaps because the prefix “archi-” suggests primitiveness and he may have changed his mind about that. In either case the earlier name should be restored.
- TRIASPIS** Burchell, Trav. S. Afr. 2: t. 290. 1824 subg. **TRIASPIS**
- Triaspis* subg. *Thysanopetalis* Nied. Arb. Bot. Inst. Braunsberg 6: 22. 1915. Since this subgenus included the type of *Triaspis*, namely *T. hypericoides* Burch., the only original species, it must be considered illegitimate and replaced by subg. *Triaspis*.
- TRISTELLATEIA** Du Petit Thouars, Gen. Nov. Madagas. 14. 1806, sect. **TRISTELLATEIA**.
- Tristellateia* sect. *Homoiactinia* Nied. Verz. Vorles. Akad. Braunsberg S.-S. 1924: 8. 1924.

Tristellateia was described originally with no named species. The species was described later from the original material of Du Petit Thouars as *T. madagascariensis* Poir. in Lam. Encycl. Méth. Suppl. 5: 367. 1817, which

species is therefore automatically the type species. Since this species was included by Niedenzu in his sect. *Homoiactinia*, that sectional name becomes superfluous, a synonym of sect. *Tristellateia*.