ON SOME BRAZILIAN PLANTS DISTRIBUTED BY MARTIUS IN 1827 AND PUBLISHED BY COLLA IN 1833

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Abstract. The name of Carl Friedrich Philipp von Martius is closely associated with the Brazilian flora. Martius collected thousands of specimens during his exploration of Brazil from 1817 to 1820, and subsequently was the founder, mentor and promoter of the monumental *Flora Brasiliensis*. Little known, or simply overlooked, however, is the fact that many of the Brazilian specimens that Martius had distributed to other herbaria, or to his web of collaborators, are not his own collections, but those of other naturalists. The present study concerns the specimens that Martius sent to Luigi Colla in 1827. In volume I of *Herbarium Pedemontanum*, Colla cited 36 species received from Martius, treating 23 of them as new species. Original material examined by Colla (now held at TO), was found, verified and compared with duplicates held elsewhere. The majority of specimens attributed to Martius were, in fact, collected by Prince Maximilian of Wied. Except for five names whose specimens have not been located at Turin, all the others are here discussed and updated. Three new combinations, 14 new synonymies, 16 lectotypifications and one neotypification are proposed.

Resumo. O nome de Carl Friedrich Philipp von Martius está estreitamente associado à flora brasileira. Martius coletou milhares de espécimes durante sua expedição ao Brasil de 1817 a 1820 e, subsequentemente, foi o fundador, mentor e promotor da monumental *Flora Brasiliensis*. Pouco conhecido, ou simplesmente ignorado, contudo, é o fato de que muitos dos espécimes brasileiros que Martius distribuiu para outros herbários, ou para sua rede de colaboradores, não são de suas próprias coletas, mas sim da de outros naturalistas. O presente estudo refere-se aos espécimes que Martius enviou a Luigi Colla em 1827. No volume I do *Herbarium Pedemontanum*, Colla citou 36 espécies recebidas de Martius, tratando 23 das quais como espécies novas. O material original examinado por Colla (correntemente em TO), foi localizado, verificado e comparado com duplicatas depositadas em outros herbários. Na realidade, a maioria dos espécimes atribuídos a Martius foram coletados pelo Príncipe Maximiliano de Wied. Excetuando-se cinco dos nomes cujos espécimes não foram localizados em Turim, todos os demais são aqui discutidos e atualizados. São propostas três novas combinações, 14 novas sinonímias, 16 lectotipificações e uma neotipificação.

Keywords: Brazil, *Herbarium Pedemontanum*, historical collections, Maximilian, Prince of Wied, nomenclature, taxonomy

In 1827 Carl Friedrich Philipp von Martius (1794–1868) distributed sets of Brazilian plants to several European herbaria and correspondents. As correctly pointed out by Miers (1878: 85), these specimens were communicated by Martius, but collected by others. These specimens have *Herbarium Martii* labels, typically printed with "*Communic ……182…*," and handwritten with "*Martius*" and "*7*" (i.e. "*Communicavit Martius 1827*"). Despite the labels, most of the authors who worked with these collections not only attributed them to Martius, but cited them as collected in 1827. Even Miers (1878: 81), for instance, wrongly attributed to Martius the specimen of "*Tabernaemontana glabrata* Mart.," the type of his *Anartia glabrata* Miers.

Martius collected in Brazil from 1817 to 1820; information about his itineraries and the places visited is detailed in Spix and Martius

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(1823, 1828, 1831), and in Urban (1906). Martius's own collections from Brazil are held in the Botanische Staatssammlung München (M), with duplicates at BR, K, LE, P, and W (see Förther, 1994). Martius's private herbarium, estimated to comprise about 300,000 numbers (representing 60,000 species), was purchased by the Belgian government in 1870, and is now at Meise (BR) (see Eichler, 1869; Förther, 1994).

One of the recipients of Martius's Brazilian sets was Luigi Colla (1766–1848), the author of *Herbarium Pedemontanum* (published in eight volumes from 1833 to 1837). Colla's herbarium was acquired by the University of Turin in 1849 and remains at TO. This collection comprises about 10,000 specimens and includes *exsiccatae* from a number of Italian and European botanists. Of particular scientific and historical significance are the Brazilian specimens from Martius and specimens from Bertero's expeditions to the Antilles, the Caribbean coast of Colombia and Chile (for more detailed information about Colla and his herbarium see: Parlatore, 1850; Delponte, 1852; Forneris and Pistarino, 2011).

Colla was one of the first botanists to describe Brazilian plants from the sets sent by Martius. Like what was reported by Fryxell (1976) for the Malvaceae published by Colla in volume I of *Herbarium Pedemontanum* (Colla, 1833), most of the Brazilian species described by him still remain either ignored or treated as "insufficiently known" or "unresolved" in the literature of the families concerned. In volume I, Colla acknowledged the material received from Martius for 36 species names, attributing their specimens to Martius. Along with the six Malvaceae whose identities were recognized by Fryxell (1976), but were also wrongly attributed by him to Martius, we are here contextualizing and ascertaining the identity of other 17 species names.

The majority of the Brazilian specimens that Martius sent to Colla were almost certainly collected by Maximilian Alexander Philipp, Prinz zu Wied-Neuwied (1782–1867) (since 1824: zu Wied; Roth, 2001: 139; Hannibal et al., 2009: 5; hereafter referred to as Wied) during his visit to Brazil, from 1815 to 1817. This is based on the localities on the labels as well as comparison with both Wied's original material at BR and duplicates in other herbaria. Detailed information about the itineraries undertaken by Wied can be found in Wied-Neuwied (1820a,b, 1821), Bokermann (1957), and Moraes (2009, 2011). Wied was the first European naturalist to explore the coastal regions of Rio de Janeiro, Espírito Santo and Bahia. Together with Friedrich Sellow (1789–1831) and Georg Wilhelm Freyreiss (1789–1825), who accompanied Wied for parts of his itinerary (Moraes, 2011), Wied amassed a wealth of botanical specimens. Several of the localities visited by them, reported by Wied in his travelogue (Wied-Neuwied, 1820a,b, 1821), and noted on specimen labels, can be taken as exclusive toponyms, i.e. they were visited by nobody else by the time Martius had distributed the specimens, in 1827, viz. "*Rio Doce*," "*Barra de Jucu*," "*Campos Novos*," "*Moribeca*," "*Regência*," "*Tamburil* and *Valo*." "*Aldea Velha*," "*Itapemirim*," "*Rio Belmonte*," "Minasstrasse," "*Mucuri*," and others. Up to the present, 2,736 specimens collected by Wied in Brazil have been located mainly in BR, GOET, GZU, and MEL; they represent 1,197 species of vascular plants, and 52 species of cryptogams (Moraes et al., in press).

As part of the present study, Herbarium Colla at TO was searched for original specimens of species that Colla described from Brazilian material. Specimens located at TO were then compared with material at BR, GOET, and MEL. Since Colla only mentions that the specimens were received from Martius, and since his indications are rather incomplete (and sometimes include misleading information), one cannot be certain that Colla examined only the specimens that are still at TO. He might have examined other specimens, which have since been lost or exchanged with other herbaria. For this reason, such specimens are designated as lectotypes. Accepted names appear in boldface italics, synonyms in italics. Synonyms are omitted (or only partially presented) as they can be found elsewhere. Homotypic synonyms are indicated by the symbol "≡."

Brazilian species in Volume I of *Herbarium Pedemontanum*

Canellaceae

Cinnamodendron axillare (Nees) Endl. ex Walp., Repert. Bot. Syst. 1: 398. 1842.

Basionym: *Canella axillaris* Nees in Flora 4: 298. 1821; idem in Wied-Neuwied (1821: 336); Eichler in Martius, Fl. Bras. 13(1): 523. 1871; Wied-Neuwied (1820a: 83, "Herva Moëira do Sertam"); Colla in Herb. Pedem. 1: 470. 1833 ≡ *Canella axillaris* Nees & Mart. in Wied-Neuwied, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 12: 18. 1824, *hom. post*. ≡ *Drimys vascularis* P. Parm., Bull. Sci. France Belgique 27: 229, 306, t. 11, fig. 39, 40. 1896. Lectotype (designated by Moraes, 2011: 497): BRAZIL. Rio de Janeiro, Cabo Frio, September 1815, *Wied s.n*. [Nees von Esenbeck nr. 34] (BR 0000005199198; Isolectotypes, BM 000638957, BR 0000005197965, BR 0000005197637, BR 0000005198597, GOET 000532, MEL 2130140, P 00752350 ex MEL).

Wied-Neuwied (1820a: 83) referred to the species as "Herva moeira do Sertam" ("erva-moura-do-sertão"), which is also stated on the original label handwritten by Wied from the sheet at BR 0000005197965: "Ast von *Myrthus*. Der Baum mit sehr aromatischer Rinde wird Herva moira do certão genannt. Das Holz befindet sich in meiner Holzsammlung. C.[abo] Frio. Sept. 1815" ("Branch of *Myrthus*. The tree with very aromatic bark is called Herva moira do certão. The timber is in my wood collection. Cabo Frio. September 1815") (Moraes, 2011). The specimen received by Colla from Martius has not been located at TO. However, Colla's indication that it was collected in "cap: Frio" (Cabo Frio) excludes Martius as the collector, since he did not collect there. Wied is known to have collected over 100 species in the region of Cabo Frio (Moraes et al., in press). Other collectors documented as having visited Cabo Frio prior to 1827 are Georg Heinrich von Langsdorff (1774–1852), Auguste François César Prouvençal de Saint-Hilaire (1779–1853), Johann Christian Mikan (1769–1844), and Heinrich Wilhelm Schott (1794–1865) (see Urban, 1906). However, apart from Wied, none of them has a significant number of specimens represented in the Herbarium Martii at BR, nor they have been cited in *Flora Brasiliensis* as collectors in Cabo Frio, particularly for the taxa received by Colla. The specimen at P 00752350 is the holotype of *Drimys vascularis* P. Parm., which was communicated by Ferdinand von Mueller, and annotated as "Drymis Nov. Cortex aromaticus, Herva moira do certão … Cap. Frio Brasilia Martius," for which Parmentier transcribed in a footnote: "Etiquette: 'Drymis. – Brésil; Martins [sic]; cortex aromaticus.' (Unicum)." This correlates with Wied's annotation of BR 0000005197965.

Capparaceae

Colicodendron yco (Mart.) Mart. in Flora 22(1, Beibl.): 25. 1839; idem in Syst. Mat. Med. Bras. 72. 1843.

Basionym: *Capparis yco* Mart. in Spix and Martius, Reise Bras. 2: 599. 1828; idem, Eichler in Martius, Fl. Bras. 13(1): 272, t. 60. 1865, as '*Capparis yco* Mart. et Eichl.'; Colla in Herb. Pedem. 1: 234. 1833, as '*Capparis Goo*'. Lectotype (designated by Cornejo and Iltis, 2008: 89): BRAZIL. Bahia, [label] "Habitat in sylvis Catingas ad Caitete, Rio de Contas etc. Provinciae Bah.[ia] et ad Mallhada ad Salgado usque in P. Min.[as] Ger.[ais]," September–October 1818, *Martius s.n*. (M; Isolectotype, M); Other syntypes: BM 000629677 ["Rio Grande"], K 000220524 ["Rio Grande"], MEL ["in sylvis Catingas ad Joazairo"], MEL ["folia, fructus venenosa"]). Specimens: BRAZIL. Bahia: loco haud indicato, March 1817, *Wied s.n*. (BR 6986186, TO ["in sylvis primaevis"]).

Martius first described the species in his travelogue (Spix and Martius, 1828), informing: [p. 598] "Zwischen *Cayteté* und dem nächsten grösseren Orte, der *Villa do Rio de Contas* hatten wir drei Tagereisen über ein sehr gebirgiges Land zurückzulegen. … [p 599] Von der Höhe der aus Granit und Granitgneis bestehenden Berge, bei der *Fazenda Joazeiro*, erblickten wir in Osten die höheren Gebirgsketten, zwischen denen der *Rio de Contas* hinabströmt; auch sie sind grösstentheils mit Catingaswaldung bedeckt. Da diese, jetzt fast von allem Grün entblösste Vegetation den Lastthieren nur wenig Nahrung darbot, so mussten wir mit Furcht bemerken, dass der mitgenommene Vorrath an Mais nicht genügte. Die Thiere verliefen sich während der

Nacht, selbst, wenn sie an den Vorderfüssen mit Schlingen gefesselt waren, so weit, dass wir die Hälfte des Tages damit verloren, sie wieder zusammen zu bringen. Einige hatten das Kraut des *Ycó*, eines Capperstrauches*), der seine harten Blätter auch in der Dürre erhält, gefressen und erkrankten; wir suchten sie durch grosse Gaben von Salz und Ricinusöl herzustellen…," and in a footnote: "*) *Capparis Ycó: caule arboreo, foliis coriaceis oblongis ramulisque flavescenti-pulverulento-tomentosis, supra tandem glabrescentibus, pedunculis terminalibus subtetragonis corymbiferis, floribus polyandria monadelphis, bacca subglobosa longe pedicellata pulverulento-tomentosa*. Mart. Die Maulthiertreiber halten ein starkes Futter von Mais für ein Gegengift."

The annotation "in sylvis primaevis" on the label of the specimen at TO agrees with several specimens at BR. Martius annotated Wied collections from Bahia, March 1817, with the same information; Wied's original labels indicate that the material came from "Walde." The specimen at TO also matches BR 0000006986186.

Crateva tapia L., Sp. Pl. 1: 444. 1753; Colla in Herb. Pedem. 1: 232. 1833. Lectotype (designated by Al-Shehbaz in Jarvis et al., 1993: 39): "*Apioscorodon sive Arbor americana triphyllos, alii odore, poma ferens*" in Plukenet, Phytographia, t. 137, f. 7. 1692. Specimen: BRAZIL. Espírito Santo, Rio Doce, s.d., *Anonymous* [Wied] *s.n*. (TO).

Synonym: *Cleome arborea* Schrad., Gött. Gel. Anz. 1821(2): 707. 1821; Wied-Neuwied (1820: 125, 1821: 338); Eichler in Martius, Fl. Bras. 13(1): 264–265. 1865. Lectotype (designated by Cornejo and Iltis, 2008: 123): BRAZIL. Rio de Janeiro, Rio Paraíba, September–October 1815, *Wied s.n*. [5; Schrader nr. 5] (LE ex Herb. Schrader; Isolectotypes, BR 0000006570064 [Nees von Esenbeck nr. 39.39], BR 00000006570033 [idem], BR 0000006570422, BR 0000006570095).

Cleome arborea Kunth was published by the end of September 1821 (Stafleu and Cowan, 1979: 371), whereas Schrader's homonym was published on 5 May 1821 (date indicated in the article), and cited by Nees von Esenbeck (1821a,b) on 7 June 1821. *Cleome arborea* Kunth is thus illegitimate.

Whilst Martius never visited Rio Doce, it is a well-documented locality for Wied, with verified specimens for 37 species (Moraes e al., in press).

Celastraceae

Pristimera celastroides (Kunth) A.C. Sm., Brittonia 3(3): 371. 1940.

Basionym: *Hippocratea celastroides* Kunth, Nov. Gen. Sp. (quarto ed.) 5: 136. 1821 [1822]. TYPE: MEXICO. Guerrero, "prope Venta del Estola," April, *Humboldt & Bonpland 3944* (holotype: P 00679967; Isotypes, B-W 00857 -01 0, B-W 00857 -00 0, B destroyed [F negative 13334]).

Synonym: *Hippocratea divaricata* Mart. ex Colla in Herb. Pedem. 1: 473. 1833, *nom. nud.*, ***syn. nov.*** fide J.A. Lombardi (pers. comm.). Specimen: BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous s.n*. (TO).

Smith (1940) listed *Hippocratea divaricata* Colla as synonym of ***Hippocratea volubilis*** L., by assuming its synonymy with *Hippocratea ovata* Lam. as indicated by Colla.

Malpighiaceae

Byrsonima sericea DC., Prodr. 1: 580. 1824; idem, Grisebach in Martius, Fl. Bras. 12(1): 11. 1858. TYPE: BRAZIL. Loco haud indicato, 1819, *Theremin s.n*. (Holotype: G-DC 00211302). Specimens: BRAZIL. Espírito Santo, Vila Velha, "Barra de Jucu," s.d., *Anonymous* [Wied] *s.n*. (TO); BRAZIL. Rio de Janeiro, "in arenosis prope Cabo Frio," September 1815, *Wied s.n*. [314; Klaenze nr. 43] (BR 0000006586805, BR 0000006586478, BR 0000006586140, MEL 2065218, and possibly MEL 2065213).

non *Galphimia chrysophylla* (Kunth) Spreng., Syst. Veg. 2: 385. 1825, fide Colla in Herb. Pedem. 1: 477. 1833.

The locality annotated on the label of the specimen in Herbarium Colla (TO) is "Barra de Jucu" (bar of River Jucu). Wied collected approximately 56 species from this locality, from the known specimens located up until the present mainly at BR (Moraes et al., in press). For many of Wied's collections, particularly those from Espírito Santo and southern Bahia, there are discrepancies between the dates on the labels and those documented in Wied's travelogue (Wied-Neuwied 1820a,b, 1821).

This is likely because some of the specimens were collected by Wied's companions Georg Wilhelm Freyreiss and Friedrich Sellow. Wied, Sellow and Freyreiss reached Vitória in November 1815. Sellow decided to stay there for some six months, while Wied and Freyreiss proceeded northwards to Caravelas, leaving Barra do Jucu on 19 December. They stayed together until they reached the farm of Morro d'Arara (Mucuri region, Bahia), where Freyreiss decided to return to the Province (Espírito Santo). Freyreiss crossed the Rio Mucuri on 3 February 1816, while Wied went down the Mucuri. Freyreiss rejoined Sellow in the region of Vitória, who stayed there up to June 1816; they met up with Wied again near the Rio Mucuri in September 1816 (Urban, 1906; Papavero, 1971; Moraes, 2008, 2009). It is common to find gatherings by Wied, Sellow, and/or Freyreiss for the same species in Herbarium Martii at BR. For the most part, however, only those distributed by Wied include a date (month and year) and specific locality. On the other hand, the collections by Sellow during the expedition with Wied are related to his journey II (1815–1818), when ca. 1,800 gatherings were collected from states of Rio de Janeiro, Espírito Santo and Bahia (see Urban, 1906; Moraes, 2008). The numeration is simple without any special observation, e.g. *Sellow 371* (*Evolvulus filipes* Mart., B ex Herb. Kunth, F negative 13733, NY 00319037, "inter Campos et Vittoria," 1815), *Sellow 1011* (*Schinus terebinthifolia* Raddi, US 00095720 [616835], "Victoria," Espírito Santo, 1816). However, the provenance and date may be picked up from the labels of the parcels where one can read: "Inter Rio de Janeiro et Campos," "Inter Campos et Victoria" and "Inter Victoria et Bahia," or still "Nazareth," etc. (see Moraes, 2008, for further information on Sellow's itineraries and collections).

Hiraea macrophylla (Colla) P.L.R. Moraes & Guglielmone, *comb. nov.*

Basionym: *Banisteria macrophylla* Colla in Herb. Pedem. 1: 479. 1833 [non *Banisteria macrophylla* A. Juss., Arch. Mus. Hist. Nat. 3: 418. 1843]. LECTOTYPE (designated here): BRAZIL. "Estrada de Minas," s.d., *Anonymous s.n.* (TO).

Synonyms: *Hiraea wiedeana* A. Juss., Ann. Sci. Nat., Bot., Sér. 2, 13: 257. 1840; Grisebach in Martius, Fl. Bras. 12(1): 100. 1858 ≡ *Hiraea ternifolia* (Kunth) A. Juss. var. *wiedeana* Nied., Verz. Vorles. Königl. Lyceum Hosianum Braunsberg 1906/07: 10. 1906, ***syn. nov.*** TYPE: BRAZIL. Rio de Janeiro, Batalha, "Moribeca," November 1815, *Wied s.n.* (Holotype: BR 0000006586157; Isotypes: BR 0000006587130, LD 1221554).

The locality indicated on the label of the specimen at TO, "Estrada de Minas," could relate to the Spix and Martius expedition, who used the "Estrada Real de Minas" in their itineraries. On one of their excursions, for instance, they visited the "Fazenda da Mandioca," in Macaé, owned by the Russian consul-general in Rio de Janeiro Georg Heinrich Langsdorff. One of the reasons that led Langsdorff to buy a farm in that region was the fact that it was regularly inhabited due to the existence of a good road connecting the capital of the Kingdom with the province of Minas Gerais. The "Estrada dos Mineiros" was in operation for almost a century, having a heavy traffic of troops of mules coming and going from the Minas Gerais. At that time, Minas Gerais was still living in luxury, because of the gold mined in the last 120 years of its rich mines. The trip began in the "Caes dos Mineiros," in front of the old building of the "Ministério da Marinha" in Rio. After about six hours of sailing in a boat, the traveler landed in the harbor of "Porto da Estrela," located at the bottom of "Baía de Guanabara." After four or five more hours on horseback, he reached the Fazenda da Mandioca (see Spix and Martius, 1823: 150–175; Taulois, 1990; Moraes, 2012a). Spix and Martius also traveled by Minas Gerais through other parts of the "Estrada Real de Minas" (Spix and Martius, 1828). However, "Minas Strasse" ("Estrada de Minas") or "via Felisbertia" in Bahia, is a region explored by Wied and his party, and commonly included on specimens' labels (see Moraes, 2011). As far as can be verified, no other collector has recorded "Estrada de Minas" as the locality of sampling prior to 1827. If the information on the label is correct, and assuming that it was collected by Wied, it would be the first record of *Hiraea wiedeana* A. Juss. for the state of Bahia (the species is known only from Rio de Janeiro). Regardless of the provenance of the specimen, it is identifiable as *H. wiedeana*; Colla's name therefore takes precedence over Jussieu's name.

MALVACEAE

Corchorus argutus Kunth, Nov. Gen. Sp. (quarto ed.) 5: 337. 1822. TYPE: COLOMBIA. "prope Ibague," s.d., *Humboldt & Bonpland s.n.* (Holotype: P 00679623; Isotype, B destroyed [F negative 9252]).

Synonyms: *Corchorus brasiliensis* Mart. ex Colla in Herb. Pedem. 1: 440. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, "Campos Novos" [Fazenda de Campos Novos or Fazenda do Rei, current town of Tamoios], s.d. [September 1815], *Anonymous* [Wied] *s.n.* (TO).

Corchorus argutus Kunth var. *prismatocarpa* K. Schum. in Martius, Fl. Bras. 12(3): 130. 1886. TYPE: BRAZIL. Loco haud indicato, "Brasilia orientalis," s.d., *Wied s.n.* [366; Klaenze nr. 120] (Syntypes: BM 001053850 [*Anonymous s.n.*], BR 0000005575367, BR 0000005576029, BR 0000005575695).

"Campos Novos" is another locality visited by the Wied expedition, with about 24 species located till the present (Moraes et al., in press).

Helicteres ovata Lam., Encycl. 3: 88. 1789. TYPE: PERU. Loco haud indicato, *Dombey s.n.* (Holotype: P-LA 00287644). Specimens: BRAZIL. Rio de Janeiro, Batalha, "Moribeca" [Fazenda de Muribeca], November 1815, *Wied s.n.* [356] (BR 0000005794317, MEL 2341126).

Synonym: *Helicteres martiana* Colla in Herb. Pedem. 1: 421. 1833. Lectotype (designated by Cristóbal, 2001: 77, as "holotype"): BRAZIL. Rio de Janeiro, "Campos," s.d., *Anonymous s.n.* (TO).

"Campos" on the label of the specimen at TO most likely refers to "Campos dos Goytacazes," or simply "Campos," in the north of Rio de Janeiro state, which is the same region of the current populated place of Batalha ("Moribeca"), visited by the Wied expedition, but never by Martius. Although Mikan also visited that region (Spix and Martius, 1823: 175), Wied is known to have collected about 40 species that were clearly recorded as from "Campos."

Melochia pyramidata L., Sp. Pl. 2: 674. 1753; Colla in Herb. Pedem. 1: 429. 1833. Lectotype (designated by Goldberg, 1967: 338): BRAZIL. Loco haud indicato, *Anonymous s.n.* (LINN 855.1). Specimen: BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous* [Wied] *s.n.* (TO).

Melochia tomentosa L. var. ***tomentosa*** in Goldberg, Contr. U.S. Natl. Herb. 34: 329. 1967; Colla in Herb. Pedem. 1: 429. 1833. LECTOTYPE (designated here): JAMAICA. Loco haud indicato, *Anonymous s.n.* (LINN 855.2). Specimens: BRAZIL. Loco haud indicato, s.d., *Anonymous s.n.* (TO); BRAZIL. Bahia, "in der Catinga," March 1817, *Wied s.n.* (BR 0000006589011, MEL 2341130, MEL 2341131).

Pavonia cancellata (L.) Cav., Diss. 3: 135. 1787.

Basionym: *Hibiscus cancellatus* L., Pl. Surin.: 12. 1775. Lectotype (designated by Fryxell, 1988: 319): SURINAME. Loco haud indicato, *Anonymous* [C.G. Dahlberg] *140* (LINN 875.8). Possible original material: Patria haud indicata. Loco haud indicato, *Anonymous s.n.* (S-LINN 09-24421 [IDC 290.9]) (see Moraes, 2012b: 45).

Synonyms: *Hibiscus anonimus* Mart. ex Colla in Herb. Pedem. 1: 405. 1833. Lectotype (designated by Fryxell, 1976: 590, as "holotype"): BRAZIL. Rio de Janeiro, Cabo Frio, "Serra do Cap Frio," s.d., *Anonymous s.n.* (TO); Syntypes: BRAZIL. Espírito Santo, Linhares, Vila de Regência, "ad Rio Doce prope Regencia," April 1816, *Wied s.n.* (BR 0000006586515, TO).

Pavonia cancellata (L.) Cav. var. *crassivenosa* Gürke in Martius, Fl. Bras. 12(3): 516. 1892. TYPE: BRAZIL. Espírito Santo, Linhares, Vila de Regência, "ad Rio Doce prope Regencia," April 1816, *Wied s.n.* (Syntypes: BR 0000006586515, TO).

Colla (1833) and Fryxell (1976, 1999) attributed the collections of *Hibiscus anonimus* to Martius, but Martius did not collect in Cabo Frio or Rio Doce. The date "April 1816" on the original label by Wied at BR 0000006586515 is one of the discrepancies detailed earlier, since in Wied-Neuwied (1820), Wied reported the passage by Rio Doce and Regência in late December 1815. Five Wied collections have so far been located from "Regência" (Moraes et al., in press).

Pavonia martii Colla in Herb. Pedem. 1: 397. 1833. Lectotype (designated by Fryxell, 1976: 591, as "holotype"): BRAZIL. Bahia, Condeúba, "zu Tamburil und Valo im campo" [Fazenda de Tamburil and Quartel Geral do Valo], February 1817, *Wied s.n.* (TO; Isolectotype, BR 0000005853052, specimen on the left).

Colla (1833) and Fryxell (1976, 1999) attributed the collection to Martius, who never collected in that part of Bahia. Wied collected about 57 species in the region of "Tamburil and Valo" (Moraes et al., in press), being the only collector for those particular localities.

Pavonia multiflora A. St.-Hil., Fl. Bras. Merid. 1: 239. 1827; Gürke in Martius, Fl. Bras. 12(3): 528. 1892. TYPE: BRAZIL. Espírito Santo, Serra, "in sylvis primaevis et caeduis prope pagulum Fregesia [sic] [Freguesia] da Serra," October 1818, *A. Saint-Hilaire B2-23*^{s} (Holotype: P 032666; Isotypes, CTES [fragment] n.v., F 940576 [0063016]).

Synonym: *Pavonia lanceolata* Colla, Herb. Pedem. 1: 398. 1833. Lectotype (designated by Fryxell, 1976: 590, as "holotype"): BRAZIL. Espírito Santo, Vila Velha, "Barra de Jucu," December 1815, *Wied s.n.* [98] (TO; Isolectotypes, BR 0000006586522, BR 0000005849635).

Both Colla (1833) and Fryxell (1976, 1999) attributed the specimen of *Pavonia lanceolata* to Martius, and referred to it as collected in "Barra do Tuna," a misinterpretation of "Barra do Jucu," which is clearly written on the label at TO.

Peltaea obsita (Mart. ex Colla) P.L.R. Moraes & Guglielmone, *comb. nov.*

Basionym: *Sida obsita* Mart. ex Colla in Herb. Pedem. 1: 416. 1833. LECTOTYPE (designated here): BRAZIL. Espírito Santo, Aracruz, "prope Aldea Velha," March 1816, *Wied s.n.* (TO [Fig. 1]; Isolectotypes, BR 0000006586867 [Fig. 2], BR 0000005849963, also syntypes of *Pavonia sessiliflora* Kunth var. *obtusifolia* Gürke in Martius, Fl. Bras. 12(3): 493. 1892).

Synonyms: *Waltheria urticifolia* Mart. ex Colla in Herb. Pedem. 1: 433. 1833, as '*urticaefolia*', ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous s.n.* (TO). Specimens: BRAZIL. Bahia, "Cruz de Casma," s.d., *Luschnath 4 = Martii Herbar Florae Brasil. 1003* (BM 001053852, BR 0000005905782, M 0153265, P 06606826; also syntype of *Pavonia sessiliflora* Kunth var. *obtusifolia* Gürke).

Malachra trinervis C. Presl, Reliq. Haenk. 2(2): 126. 1835 ≡ *Peltaea trinervis* (C. Presl) Krapov. & Cristóbal, Kurtziana 2: 168. 1965, ***syn. nov.*** TYPE: BRAZIL. Bahia, loco haud indicato, 1830–1831, *Lhotzky s.n.* (Holotype: PR 181892).

Pavonia involucrata Klotzsch, Linnaea 14: 301. 1840, ***syn. nov.*** Lectotype (designated by Fryxell, 1999: 254): BRAZIL. Bahia, "Cruz de Casma," July 1835, *Luschnath 166* (MO 309139 [123850]; Isolectotype, BR 0000005178056).

Pavonia bracteosa Benth. in J. Bot. 4: 118. 1842, ***syn. nov.*** Lectotype (designated by Fryxell, 1999: 253): BRAZIL. Ceará, "in moist shady places near Crato," October 1838, *Gardner 1458* (F 0044775 [638632] – F negative 56158; Isolectotypes, G, GH 00015017, K 000380025, NY 7240, NY 7241, OXF 00054963, P 06606821, US 00098012 [1066589], W [Rchb. 1889-0011940]).

The label of the lectotype of *Sida obsita* was mistakenly annotated with "Almeida [sic] Velha." This is one of the mistakes made by amanuenses in the transcription of the localities of Wied's original labels. The specimen at BR 0000005849963 bears an original label by Wied annotated with "… März 1816 ... Aldea Velha ...," which refers to the current municipality of Aracruz (see Bokermann, 1957; Moraes, 2009). Wied is known to have collected at least 15 species at Aracruz (Moraes et al., in press).

Sida capituliflora Colla in Herb. Pedem. 1: 417. 1833. LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous s.n.* (TO).

Current status unresolved.

Sida cordifolia L., Sp. Pl. 2: 684. 1753; K. Schumann in Martius, Fl. Bras. 12(3): 329, t. 72. 1891. Lectotype (designated by Borssum

FIGURE 1. Lectotype of *Peltaea obsita* (Mart. ex Colla) P.L.R. Moraes & Guglielmone, collected by Wied (specimen TO). Picture: Università degli Studi di Torino, Dipartimento di Scienza della Vitta e Biologia dei Sistemi.

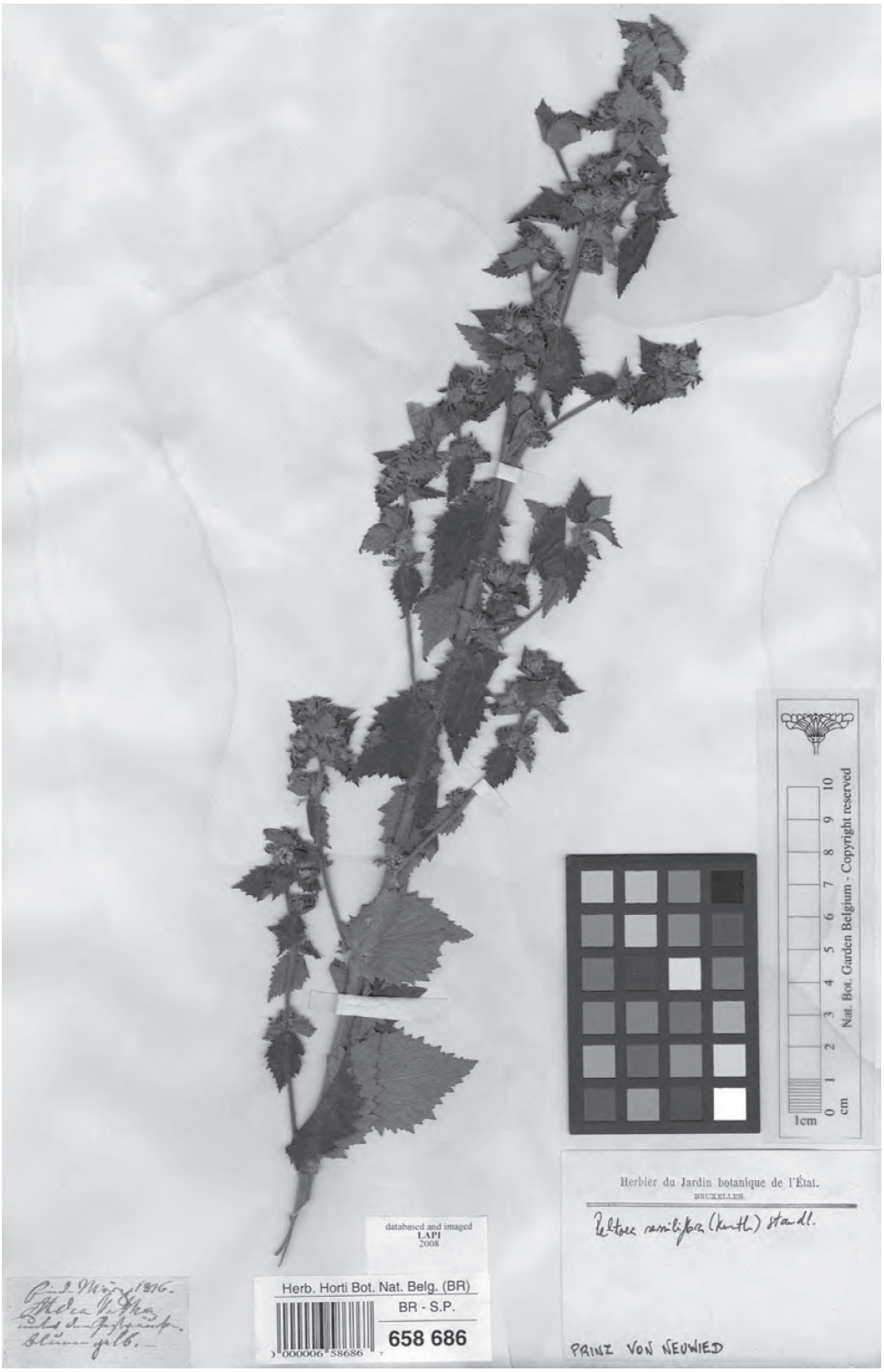

FIGURE 2. Isolectotype of *Peltaea obsita* (Mart. ex Colla) P.L.R. Moraes & Guglielmone (specimen BR). Picture: National Botanic Garden of Belgium, Dept. Spermatophyta-Pteridophyta.

Waalkes, 1966: 200): INDIA. "cordifolia 4" (LINN 866.12).

Synonym: *Sida subspicata* Colla in Herb. Pedem. 1: 418. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Espírito Santo, Cachoeiro de Itapemirim, "ad Itapemirim," 1816, *Anonymous* [Wied] *s.n.* (Klaenze nr. 119) (TO; Isolectotype, GOET).

Wied collected at least 16 species in "Itapemirim" (Moraes et al., in press), which is another place never visited by Martius.

Sida nemorensis Mart. ex Colla in Herb. Pedem. 1: 416. 1833. Lectotype (designated by Fryxell, 1976: 591, as "holotype"): BRAZIL. Bahia: "Rio Belmonte" [Rio Jequitinhonha], 1816, *Anonymous* [Wied] *s.n.* (TO).

Colla (1833) and Fryxell (1976) attributed the collection to Martius, who never collected at Rio Jequitinhonha. Wied collected over 100 species at "Rio Belmonte" (Moraes et al., in press).

Sida setosa Mart. ex Colla in Herb. Pedem. 1: 416. 1833. Lectotype (designated by Fryxell, 1976: 591, as "holotype"): BRAZIL. Bahia, "Rio Belmonte" [Rio Jequitinhonha], 1816, *Anonymous* [Wied] *s.n.* (TO; Isolectotype, BR 0000005849420).

Synonym: *Sida rhombifolia* L. var. *surinamensis* K. Schum. in Martius, Fl. Bras. 12(3): 339. 1891. Type: several syntypes including the Wied material.

Sida tomentosa Mart. ex Colla in Herb. Pedem. 1: 416. 1833 [non ***Sida tomentosa*** Cav., Descr. Pl. 164. 1802]. Lectotype (designated by Fryxell, 1976: 591): BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous s.n.* (TO).

According to Fryxell (1976), it belongs to *Abutilon*.

Visenia spicata Colla in Herb. Pedem. 1: 431. 1833. LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, "Campos," s.d., *Anonymous* [Wied] *s.n.* (TO). Specimen: BRAZIL. Bahia, "Rio Belmonte" [Rio Jequitinhonha], 1816, *Wied s.n.* (BR 0000013306403).

As pointed out by Goldberg (1967: 354), *Visenia spicata* Colla belongs to the Malvaceae. Its status is still unresolved.

Waltheria cinerascens A. St.-Hil., Fl. Bras. Merid. (quarto ed.) 1: 152. 1825 [1827]; K. Schumann in Martius, Fl. Bras. 12(3): 54. 1886. TYPE: BRAZIL. Minas Gerais, "in sabuletis prope pagum Nossa Senhora da Penha in Minas Novas," 1817, *A. Saint-Hilaire s.n.* (Isotypes, MPU 016437, F 935619 [0073614], fragment). Specimens: BRAZIL. Loco haud indicato, "im Sande," s.d., *Wied s.n.* [Klaenze nr. 124] (BR 0000006588359, BR 0000006587697, GOET, MEL 2341128); BRAZIL. Bahia, "Minasstrasse" [via Felisbertia], s.d., *Anonymous* [Wied] *s.n.* (TO).

non *Melochia lilacina* A. St.-Hil., Fl. Bras. Merid. (quarto ed.) 1: 162. 1825 [1827], fide Colla in Herb. Pedem. 1: 430. 1833.

As detailed earlier, "Minasstrasse" is a typical reference to the Wied expedition, which eliminates any other collector.

Waltheria indica L., Sp. Pl. 2: 673. 1753. Lectotype (designated by Verdcourt, 1995: 418): INDIA. Herb. Hermann 3: 5, no. 244 (BM 000621807).

Synonym: *Waltheria martii* Colla in Herb. Pedem. 1: 433. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Espírito Santo, Cachoeiro de Itapemirim, December 1815, *Wied s.n.* [Klaenze nr. 118] (TO; Isolectotypes, BR 0000005850082, MEL 2341129).

Waltheria scabra (Colla) P.L.R. Moraes & Guglielmone, *comb. nov.*

Basionym: *Visenia scabra* Colla in Herb. Pedem. 1: 431. 1833. LECTOTYPE (designated here). BRAZIL. Bahia, Mucuri, s.d., *Anonymous* [Wied] *s.n.* (TO).

Synonym: *Waltheria aspera* K. Schum. in Martius, Fl. Bras. 12(3): 55. 1886, ***syn. nov.*** TYPE: BRAZIL. Bahia, Mucuri, "ad pagum Macusi [sic]," 1816, *Wied s.n.* [455] (Syntype: TO); BRAZIL. "Brasilia meridionalis," s.d., *Sellow 1127* (Syntype: B destroyed [F negative 9564]); BRAZIL. Rio de Janeiro, "restinga da Tijuca," September–October, *Glaziou 6097* (Syntype: unlocated).

Mucuri is a locality visited by the Wied expedition. Mucuri is designated as the locality on Wied specimens of at least 37 species (Moraes et al., in press). Martius never visited that region.

Wissadula hernandioides (L'Hér.) Garcke, Z. Naturwiss. 63: 122. 1890; K. Schumann in Martius, Fl. Bras. 12(3): 439. 1891.

Basionym: *Sida hernandioides* L'Hér., Stirp. Nov. 5: 121, t. LVIII. 1789 ≡ *Abutilon hernandioides* (L'Hér.) Sweet, Hort. Brit. 1: 53. 1826 ≡ *Wissadula periplocifolia* var. *hernandioides* (L'Hér.) Griseb., Cat. Pl. Cub. 25. 1866 ≡ *Wissadula rostrata* var. *hernandioides* (L'Hér.) M. Gómez, Dicc. Bot. Nombres Vulg. Cub. Puerto-Riq. 89. 1889; idem in Anales Soc. Esp. Hist. Nat. 19: 219. 1890. Lectotype (designated by Areces Berazaín and Fryxell, 2007: 145): L'Héritier, Stirp. Nov. t. LVIII. 1789.

Synonym: *Sida subsessilis* Colla in Herb. Pedem. 1: 417–418. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Bahia, "ad Porto Seguro," 1816, *Wied s.n.* (TO; Isolectotypes, BR 00000006586850, BR 0000006587161).

We are here not following the circumscription of *Wissadula amplissima* (L.) R.E. Fr. given by Fries (1908) and recent followers, where *W. hernandioides* is taken as a synonym (see Krapovickas, 1996; Fryxell, 2007). Martius did not visit the region of Porto Seguro, whereas Wied collected at least 25 species of vascular plants and 34 species of algae from this area (Moraes et al., in press).

Passifloraceae

Visenia ferruginea Colla in Herb. Pedem. 1: 432. 1833. LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, Cabo Frio, s.d., *Anonymous* [Wied] *s.n.* (TO).

As pointed out by Goldberg (1967: 354), *Visenia ferruginea* Colla belongs to the former family Turneraceae. Its current status is unresolved.

Simaroubaceae

Simaba floribunda A. St.-Hil., Mém. Mus. Hist. Nat. 10: 277. 1823; idem in Bull. Sci. Soc. Philom. Paris 1823: 129. 1823; idem in Pl. Rem. Bres. 1: 126, t. 10. 1824 ≡ *Zwingera floribunda* (A. St.-Hil.) Spreng., Syst. Veg. (ed. 16) 2: 319. 1825 ≡ *Quassia floribunda* (A. St. Hil.) D. Dietr., Syn. Pl. 2: 1416. 1840 ≡ *Aruba floribunda* (A. St.-Hil.) Kuntze, Revis. Gen. Pl. 1: 103. 1891. Lectotype (designated by Cavalcante, 1983: 48): BRAZIL. Minas Gerais, Minas Novas, "in locis siccis propè urbem Villa-do-Fanado in Minas Novas," June, *A. Saint-Hilaire 1630* (P 01817243; Isolectotype, P 01817244 [*A. Saint-Hilaire s.n.*]). Specimen: BRAZIL. Bahia, "pr. Caravellas," 1816, *Wied s.n.* (TO [fragment]; *Zwingera floribunda* Spreng., fide Colla in Herb. Pedem. 1: 556. 1833).

Synonyms: *Zwingera discolor* Colla in Herb. Pedem. 1: 556. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Espírito Santo, Rio Doce, *Anonymous* [Wied] *s.n.* (TO).

Simaba cuneata A. St.-Hil. & Tul., Ann. Sci. Nat., Sér. 2, 17: 138. 1842; Engler in Martius, Fl. Bras. 12(2): 216. 1874 ≡ *Quassia cuneata* (A. St.-Hil.) Noot., Blumea 11: 523. 1963. TYPE: BRAZIL. Rio de Janeiro, "in sylvis maritimis propè Rio de Janeiro," *Riedel s.n.* [*1000*] (B destroyed [F negative 12533], P 01817238).

Engler (1874: 217) cited the specimen of Wied from Caravelas, under *Simaba cuneata* A. St.-Hil. & Tul.

Violaceae

Hybanthus communis (A. St.-Hil.) Taub. in Engler and Prantl, Nat. Pflanzenfam. 6(119): 333. 1895.

Basionym: *Ionidium commune* A. St.-Hil., Ann. Sci. Nat. Paris 2: 252. 1824; idem in Pl. Rem. Bres. 1: 295. 1824; Eichler in Martius, Fl. Bras. 13(1): 369, t. 73. 1871. TYPE: BRAZIL. Minas Gerais, Rio Piracicaba, "Itajuru," [protologue] "in sylvis primævis et cæduis, circà domos," [label] "près de la maison d'Huguon," January 1817, *A. Saint-Hilaire 469* (Cat. C1, Weddellian system) (Holotype: P 00594918; Isotypes, MPU 010794, P 00594919). Specimens: BRAZIL. Bahia, "ad Rio Belmonte" [Rio Jequitinhonha], August 1816, *Wied s.n.* [Klaenze nr. 11] (BR 0000005574278, MEL 2341136).

Synonym: *Solea martii* Colla in Herb. Pedem. 1: 269. 1833, ***syn. nov.*** LECTOTYPE (designated here): BRAZIL. Loco haud indicato, s.d., *Anonymous s.n.* (TO).

Schweiggeria fruticosa Spreng., Neue Entd. 2: 167. 1821. TYPE: BRAZIL. Loco haud indicato, s.d., collector unknown (specimen not located). NEOTYPE (designated here): BRAZIL. Loco haud indicato, s.d., *Sellow s.n.* (M 0112603 ex B).

Synonyms: *Glossarrhen floribundus* Mart., Nov. Gen. Sp. Pl. 1: 22, t. 15. 1823 [1824] ≡ *Glossarrhen floribundus* Mart. ex Ging. in DC., Prodr. 1: 291. 1824 ≡ *Schweiggeria floribunda* (Mart.) A. St.-Hil., Mém. Mus. Hist. Nat. 11: 456, t. 22, fig. B. 1824; idem, Hist. Pl. Remarq.. Brésil 1: 282, t. 26, fig. B. 1826. LECTOTYPE (designated here): BRAZIL. Rio de Janeiro, "in montosis sylvaticis prope Rio de Janeiro," September–October 1817, *Martius s.n.* (G-DC 00208913). Specimens: BRAZIL. Rio de Janeiro, Cabo Frio, September 1815, *Wied s.n.* (BR 0000005576036, BR 0000005574711); BRAZIL. São Paulo: "Bois près Oitapeva, Province de Saint-Paul—Inveni in sylvis prope Oitapeva in Provincae S. Pauli Floribat Octobre," 1816, *A. Saint-Hilaire 1039* [Cat. 1, Weddellian system] (MPU 010786, P 02141051 [F negative 34807], P 02141052).

Glossarrhen pauciflorus Mart., Nov. Gen. Sp. Pl. 1: 23. 1823 [1824]; Nees von Esenbeck and Martius in Wied-Neuwied, Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 12: 46, t. 8. 1824; Eichler in Martius, Fl. Bras. 13(1): 356, t. 69, fig. 2. 1871 (under *Schweiggeria floribunda* A. St.-Hil.); Colla in Herb. Pedem. 1: 257. 1833 ≡ *Schweiggeria pauciflora* (Mart.) Lindl., Edward's Bot. Reg. 27: t. 40 (1841). LECTOTYPE (designated here): BRAZIL. Bahia, "circa viam Felisbertiam," s.d., *Wied s.n.* [Menke nr. 72] (BR 0000005574766; Isolectotypes, BM 001053811 [left-hand specimen, with label of *Glossarrhen parviflorus* Mart.], K 000370050, TO).

Glossarrhen parviflorus Mart. ex Ging. in DC., Prodr. 1: 291. 1824; Colla in Herb. Pedem. 1: 258. 1833, ***syn. nov.*** TYPE: BRAZIL. Rio de Janeiro, loco haud indicato, September 1815, *Wied s.n.* [339] (Holotype: G-DC 00208912; Isotypes, BM 001053812 [right-hand specimen, with label of *Glossarrhen pauciflorus* Nees & Mart.], BR 0000006593087, JE 00004636, K 000370049, TO).

In the protologue of *Glossarrhen floribundus*, Martius recorded "Frutex triad quinquepedalis," and "Floret Septembri, Octobri," which agree with the annotation on an original label by Wied at BR 0000006593087. Regarding the specimens distributed by Martius in 1827, those annotated with "*Glossarrhen pauciflorus* Nees & Mart. / Ad viam Felisberti Brasil.," belong to a Wied collection that matches the original material with original label at BR 0000005574766. On the other hand, those annotated with "*Glossarrhen parviflorus* Mart. / Brasilia," match the morphological pattern of BR 0000006593087, collected by Wied. The specimens in BM are mounted on the same sheet with Herbarium Martii labels wrongly attached to the respective species.

No specimens have been located at TO for the following five names:

Banisteria velutina Mart. ex Colla in Herb. Pedem. 1: 479. 1833;

Cissus brasiliensis Colla in Herb. Pedem. 1: 498. 1833;

Erythrochiton brasiliensis Nees & Mart. fide Colla in Herb. Pedem. 1: 554. 1833;

(Wied is known to have a collection from Vila Velha, Espírito Santo. However, Colla did not quote its locality, therefore it is not possible to know if it would be a collection by Martius (from the syntypes currently at M), or by Wied (with material at BR, G, LE, and MEL));

Malva aspera Mart. ex Colla in Herb. Pedem. 1: 386. 1833;

Malva ononidifolia Mart. ex Colla in Herb. Pedem. 1: 386. 1833.

Literature Cited

Areces Berazaín, F. and P. A. Fryxell. 2007. Malvaceae. Pages 1–228 in W. Greuter and R. Rankin Rodríguez, eds. *Flora de la República de Cuba, Series A: Plantas Vasculares*, Fascículo 13. A. R. Gantner Verlag KG, Ruggell.

Bokermann, W. C. A. 1957. Atualização do itinerário da viagem do Príncipe de Wied ao Brasil. Arq. Zool. Est. S. Paulo 10: 209–251.

Borssum Waalkes, J. van 1966. Malesian Malvaceae revised. Blumea 14: 1–213.

Cavalcante, P. B. 1983. Revisão taxonômica do gênero *Simaba* Aubl. (Simaroubaceae) na América do Sul. Publ. Avulsas Mus. Paraense Emílio Goeldi 37: 1–85.

Colla, L. A. 1833. *Herbarium Pedemontanum*, Vol. 1. Ex Typis Regiis, Torino.

Cornejo, X. and H. H. Iltis 2008. A revision of *Colicodendron* (Capparaceae). J. Bot. Res. Inst. Texas 2: 75–93.

Cristóbal, C. L. 2001. Taxonomía del género *Helicteres* (Sterculiaceae). Revisión de las especies americanas. Bonplandia 11: 1–206.

Delponte, G. B. 1852. Elogio storico di Luigi Colla. Mem. R. Accad. Sci. Torino, ser. II, 12: 1–38.

Eichler, A. W. 1869. *Das Herbarium Martii*. Kgl. Hofbuchdruckerei von Dr. C. Wolf & Sohn., München.

Engler, A. 1874. Simarubaceae. Pages 197–244 in C. F. P. von Martius and A. W. Eichler, eds. *Flora Brasiliensis*, Vol. 12 (2). Apud Fried. Fleischer in comm., München et Leipzig.

Förther, H. 1994. Die Geschichte des Martius-Herbariums: seine Brasilienkollektion und Empfehlungen zur Typuswahl. Sendtnera 2: 5–24.

Forneris, G. and A. Pistarino. 2011. L'impegno botanico di Luigi Colla. Pages 103–119 in I. Beniamino, ed. *Luigi Colla. Piante dal mondo nell'Orto botanico di primo '800 a Rivoli*. Neos Edizioni Rivoli, Torino.

Fries, R. E. 1908. Entwurf einer Monographie der Gattungen *Wissadula* und *Pseudabutilon*. Kongl. Svenska Vetensk. Acad. Handl., n.s., 43(4): 1–114.

Fryxell, P. A. 1976. On some Brazilian Malvaceae of Martius, published by Colla in 1833. Taxon 25: 589–593.

———. 1988. Malvaceae of Mexico. Syst. Bot. Monogr. 25: 1–522.

———. 1999. *Pavonia* Cavanilles (Malvaceae). Fl. Neotrop. Monogr. 76: 1–284. The New York Botanical Garden Press, New York.

———. 2007. Two new species of Malvaceae from Sonora, Mexico and Texas. Lundellia 10: 1–6.

Goldberg, A. 1967. The genus *Melochia* L. (Sterculiaceae). Contr. U.S. Natl. Herb. 34: 191–363.

Hannibal, J. T., S. F. Thomas, and M. G. Noll. 2009. Maximilian, Prince of Wied's trip along the Ohio & Erie Canal in 1834: An annotated new translation. Ohio History 116: 5–25.

Jarvis, C. E., F. R. Barrie, D. M. Allan, and J. L. Reveal. 1993. A list of Linnaean generic names and their types. Regnum Vegetabile 127: 1–100. Koeltz, Königstein.

Krapovickas, A. 1996. La identidad de *Wissadula amplissima* (Malvaceae). Bonplandia 9: 89–94.

Miers, J. 1878. *On the Apocynaceae of South America*. Williams and Norgate, Edinburgh.

Moraes, P. L. R. de 2008. The lauraceous collections of Friedrich Sellow. Komarovia 6: 1–67.

———. 2009. The Brazilian herbarium of Maximilian, Prince of Wied. Neodiversity 4: 16–51.

———. 2011. Notes and lectotypification of names based on Brazilian collections of Prince Maximilian of Wied. Kew Bull. 66: 493–503.

———. 2012a. The Lauraceae collected in Brazil by Ludwig Riedel—I. Harvard Pap. Bot. 17: 185–216.

———. 2012b. Linnaeus's *Plantæ Surinamenses* revisited. Phytotaxa 41: 1–86.

———, E. Robbrecht, S. De Smedt, S. Dressler, J. Heinrichs, M. H. Reiner-Drehwald, A. Drescher, A. Scharfetter, P. Frödén, H.-J. Esser, C. Gallagher, L. Guglielmone, and H. Rainer. 2013. *Catalogue of Brazilian plants collected by Prince Maximilian of Wied*. Scripta Botanica Belgica, Vol. 49. National Botanic Garden of Belgium, Meise. (in press)

Nees von Esenbeck, C. G. D. 1821a. Reise des Prinzen von Neuwied. Flora 4: 294–304.

———. 1821b. Ueber den botanischen Anhang zu der Reise Sr. Durchlaucht des Prinzen Maximilian von Neuwied. Flora 4: 326–330.

Papavero, N. 1971. *Essays on the history of Neotropical Dipterology, with special reference to collectors (1750–1905)*, Vol. 1. Museu de Zoologia, Universidade de São Paulo, São Paulo.

Parlatore, F. 1850. *Elogio storico di Luigi Colla*. Cecchi, Firenze.

Roth, H. J. 2001. Maximilian Prinz zu Wied (1782–1867). Zum Nachdruck seiner "Reise nach Brasilien" anlässlich der 500-Jahrfeier des Landes. Jahrb. Nassauischen Vereins Naturk. 122: 139–147.

Smith, A. C. 1940. The American species of Hippocrateaceae. Brittonia 3: 341–571.

Spix, J. B. von and C. F. P. von Martius. 1823. *Reise in Brasilien auf Befehl Sr. Majestät Maximilian Joseph I. Königs von Baiern in den Jahren 1817 bis 1820... Erster Theil*. Gedruckt bei M. Lindauer, München.

——— and ———. 1828. *Reise in Brasilien auf Befehl Sr. Majestät Maximilian Joseph I. Königs von Baiern in den Jahren 1817 bis 1820... Zweiter Theil, bearbeitet und herausgegeben von Dr. C. F. P. von Martius. Mit vier Charten und vier und zwanzig Abbildungen*. Gedruckt bei I. J. Lentner, München.

——— and ———.1831. *Reise in Brasilien auf Befehl Sr. Majestät Maximilian Joseph I. Königs von Baiern in den Jahren 1817 bis 1820... Dritter und letzter Theil, bearbeitet und herausgegeben von Dr. C. F. P. von Martius. Mit sieben Blättern Charten und zwei Tafeln Abbildungen*. Bei dem Verfasser, München; in Comm. bei Friedr. Fleischer, Leipzig.

Stafleu, F. A. and R. S. Cowan. 1979. *Taxonomic literature. 2nd ed. Vol. 2: H–Le*. Regnum Vegetabile 98. Dr. W. Junk b.v., The Hague.

Taulois, A. E. 1990. A Fazenda da Mandioca e seus arredores. Pages 61–68 in: M. P. Braga, org., *II Seminário Internacional sobre o Acervo da Expedição Científica de G. I. Langsdorff*. Secretaria da Ciência e Tecnologia, Presidência da República, Brasília.

Urban, I. 1906. Vitae itineraque collectorum botanicorum, Notae collaboratorum biographicae, Flora Brasiliensis ratio edendi chronologica, Systema, Index Familiarum. Pages 1–268 in C. F. P. von Martius, A. W. Eichler, and I. Urban, eds. *Flora Brasiliensis*, Vol. 1 (1). Apud R. Oldenbourg in comm., München et Leipzig.

VERDCOURT, B. 1995. Sterculiaceae. Pages 409–445 in M. D. DASSANAYAKE, F. R. FOSBERG, AND W. D. CLAYTON, EDS. *A Revised Handbook to the Flora of Ceylon*, Vol. 9. Amerind Publishing, New Delhi.

WIED-NEUWIED, M. A. P. ZU 1820a. *Reise nach Brasilien in den Jahren 1815 bis 1817. Erster Band*. (Quarto edition). Gedruckt und verlegt bei Heinrich Ludwig Brönner, Frankfurt am Main.

———. 1820b. *Travels in Brazil, in 1815, 1816, and 1817. By Prince Maximilian, Nuewied* [sic]. *Translated from the German, and illustrated with engravings*. Anonymous translation. Printed by Benjamin Bensley for Sir Richard Phillips, and Co., London.

———. 1821. *Reise nach Brasilien in den Jahren 1815 bis 1817. Zweyter Band*. (Quarto edition). Gedruckt und verlegt bei Heinrich Ludwig Brönner, Frankfurt am Main.