

CURRENT TAXONOMIC STATUS OF DANIEL ROLANDER'S SPECIES PUBLISHED BY ROTTBØLL IN 1776

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Abstract. In 1776, Rottbøll published 12 species from Rolander's collection of plants of Suriname. Here, we update the taxonomic identity of those species, discussing, whenever pertinent, their nomenclatural status. Six of the 12 names and also two of their synonyms, one the name of a species described by Linné *filius* and another described by Kunth, are lectotypified. Type localities and dates are provided, whenever possible.

Resumo. Em 1776, Rottbøll publicou 12 espécies das coleções de plantas do Suriname de Rolander. Faz-se aqui a atualização da identidade taxonômica dessas espécies, discutindo quando pertinente seu estado nomenclatural. Seis dos 12 nomes e também duas de suas sinonímias, uma espécie descrita por Linné *filius* e outra descrita por Kunth, são lectotipificados. As localidades-tipo e datas são informadas sempre que possível.

Keywords: Daniel Rolander, Suriname, Rottbøll, *Diarium Surinamicum*, lectotypification

Christen Friis Rottbøll (1776) in his dissertation "*Descriptionis rariorum plantarum, nec non materiae medicae atque oeconomicae e terra Surinamensi fragmentum*" (copies in the university libraries of Copenhagen, Darmstadt, Halle, Jena, Kiel, Leipzig, Lund, British Library, among others) described 12 species based on specimens and the original descriptions given by Daniel Rolander in "*Diarium Surinamicum, quod sub itinere exotico conscripsit Daniel Rolander*" (Rolander, 1754–1765, unpubl. manuscripts; hereafter referred to as Mss.), currently in the library of the herbarium in Copenhagen (Botanisk Centralbibliotek), obtained during his stay in Suriname from 20 June 1755 to 20 January 1756. Rottbøll's dissertation had an almost verbatim version published in *Acta Literaria Universitatis Hafniensis* 1: 267–304 (1778),

which has been repeatedly indicated by several authors as the place of its effective publication, hence overlooking the former. Likewise, a second edition (Rottbøll, 1798) has also been mistakenly considered as the place of publication of those species by other authors that were likely unaware of the original source. This situation has caused several Rottbøll's species to be misleadingly placed under synonymy, instead of being taken as basionyms of species names.

Rolander's species published by Rottbøll have been assumed to have specimens housed at the Copenhagen Herbarium (C), although only a few specimens attributable to Rolander have been located there. In fact, Rolander lived in Copenhagen for four or five years from 1760/1–1764/5 (J. Dobreff, unpubl. data, is the first to establish these dates from the originals

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of Kratzenstein's correspondence with Lund professor Eric Gustaf Lidbeck—originals in University Library, Lund University). There is no evidence to support claims that Rolander sold his Suriname expedition report (*Diarium Surinamicum*, manuscript, 699 pages in Latin) or any herbarium specimens (see Hornemann, 1811; Dobreff, 2008). It is not clear whether Rolander gave or sold herbarium specimens to Rottbøll. The personal correspondence of Christian Gottlieb Kratzenstein makes it quite clear that Kratzenstein gave Rolander room and board in his home from 1763 to 1765 on the condition that Rolander use the time to complete the expedition report. He completed it in 1765, leaving it with Kratzenstein who promised to find a publisher for it and to see that the profits would go to Rolander. The diary was never published. It passed eventually to Rottbøll and finally in 1811 into the collections of Museum Botanicum in Copenhagen. However, until now, the major collections made by Rolander were thought to be kept at the Bergius Foundation in Stockholm (SBT), being specimens P. J. Bergius received as gift from Rolander. Nevertheless, it is worthwhile to mention that Rolander brought multiple specimens to Copenhagen of, at least, some plants, as indicated by Rottbøll (1776: 7): "*Tantum specimen copiam secum advexit Dominus Rolander, ut cunctis Europæ Botanicis sufficerent.*" (i.e., "Mr. Rolander brought back such a large supply of specimens, that they would suffice for all the Botanists of Europe"; translation, J. Dobreff), when referring to *Triplaris americana*.

After reviewing Rottbøll's publications, the contents of his files at the Botanical Museum and Library in Copenhagen, and a comment he

wrote on the first page of Rolander's manuscript of *Diarium Surinamicum*, Dobreff (in Rolander, 2008) became convinced that over 30 drawings in a Rottbøll file were based directly on specimens from Rolander's herbarium. Dobreff noted that Rottbøll had stated explicitly in his preface that these were all made from Rolander's herbarium. In mid August, 2007, Dobreff and Lars Hansen, director of IK Foundation & Co., travelled to Copenhagen to see if Dobreff's contention could be confirmed by comparing the drawings to specimens in the herbarium. With the aid of Olof Ryding, Peter Wagner and Karina Bekhøi, several Rolander specimens were found to have been the models for the drawings and later engravings commissioned by Rottbøll. In his dissertation (Rottbøll, 1776), seven engravings were published, with two of them having their corresponding specimens found at C.

With 234 years having passed since Rottbøll's publication, these species still deserve special attention, since seven of them are basionyms for currently accepted species names; another has never had its status changed and is the type species of *Nectandra* (*Nectandra sanguinea* Rol.; see Moraes et al., 2009). Although several of them are important elements of the Flora of Suriname, they still require lectotypification.

This study is based on herbarium material from the herbaria C, H, LINN, S, SBT, and UPS (herbarium acronyms according to Holmgren and Holmgren, 1998; herbaria AAU, B, BM, F, G, GB, GH, K, L, LD, M, MEL, MO, NY, O, P, PH, U, and US were also consulted). For convenience, the species are presented following the sequence in Rottbøll's dissertation. Accepted names appear in **boldface italics**, synonyms in *italics*.

TAXONOMIC TREATMENT

Panicum lanatum Rottb., Descr. Rar. Pl. Surin.: 1, tab. I, fig. 2. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 269. 1778; Ed. 2: 5. 1798, *nom. illegit. superfl.* for *Andropogon insularis* L. (ICBN: Art. 52; automatically typified under Art. 7.5). Synonyms: *Andropogon insularis* L., Syst. Nat. (ed. 10) 2: 1304. 1759, as "*insulare*". Lectotype: JAMAICA. *P. Browne s.n.* (LINN 1211.20). Designated by Hitchcock, 1908: 126 (see also Veldkamp, 1984: 96).

Digitaria insularis (L.) Fedde in Just's Bot. Jahresber. 31(1, 5): 778. 1904.

"*Nardus dactyloides* Rol." (Mss. p. 345–346), *nom. invalid.* Specimens: Suriname, (fl., fr.), *D. Rolander s.n.* (SBT 1.2.8.20, SBT 1.2.8.21).

For a complete list of synonyms, see Veldkamp (1973) and Vega and Rúgolo de Agrasar (2003).

Panicum lanatum Rottb. (1776) is illegitimate, being a superfluous name for *Andropogon insularis* L. (1759), which Rottbøll cited as a synonym. Both of Rolander's specimens at SBT were identified by J. E. Wikström as *Trichachne insularis* (L.) Nees, in Fl. Bras. Enum. Pl. 2(1): 86. 1829, which is a combination based on

Andropogon insularis L., and as *Trichachne sacchariflora* Nees, in Fl. Bras. Enum. Pl. 2(1): 87. 1829, on the reverse of the sheets. Also, they were identified as *Andropogon* sp. by P. J. Bergius. Veldkamp (1973) cited *D. Rolander s.n.* as the holotype of *Panicum lanatum*, kept at C, although he had not seen it. To date, no such specimen has been found in C. From Rolander's *Diarium Surinamicum*, the specimens were collected "in a grove with extremely thick undergrowth, in the wilds, ca. 2–3 hour walk from Dahlberg's plantation Capoerica (Capoeria)" (Mss.: p. 336), on "11 Oct 1755" (Mss.: p. 345).

Milium capillare Rottb., Descr. Rar. Pl. Surin.: 3. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 271. 1778; Ed. 2: 6. 1798. LECTOTYPE (designated here): SURINAME, (fl.), *D. Rolander s.n.* (SBT 1.2.7.75).

Synonyms: *Panicum capillare* L., Sp. Pl. 1: 58. 1753.

"*Panicum capillare* Rol." (Mss.: p. 194), *nom. invalid.*

For a complete list of synonyms, see Zuloaga and Morrone (2003).

On the reverse of the sheet, P. J. Bergius annotated among other things: "Miliun (capillare) ... Friis Rottboll in act. litter. Hafn. 1778. p. 271. *. ♀", "Panicum capillare. Rolandr. mscr.", "Panicum miliaceum viride, ... Sloan. hist. 1. p. 115. tab. 72. f. 3." (i.e., Sloane 1707, Voy. Jamaica), "Panicum Linn. capillare. mihi glaberrimum" (crossed out), "Miliun Friis capillare", whereas O. Swartz wrote "Panicum trichoideum Sw" and "brevifol. Linn." On the front of the sheet, J. E. Wikström annotated "Panicum trichoideum Swartz". According to Hitchcock (1908), Sloane's (1696, 1707) plant and illustration is *Panicum trichoides* Sw., Prodr.: 24. 1788. In Rolander's *Diarium*, the specimen was collected "in a meadow near an unnamed plantation located on the banks of the Cottica river not far upriver from the confluence of the rivers Comowina [Commewijne] and Cottia" (Mss.: p. 194), on "21 Jul 1755" (Mss.: p. 194).

Eriocaulon fasciculatum Rottb., Descr. Rar. Pl. Surin.: 3, tab. II, fig. 1. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 271. 1778; Ed. 2: 6. 1798. LECTOTYPE (designated here): SURINAME,

(fl.), *D. Rolander s.n.* (C ex Hb. Rottböll: F neg. 22281); Syntypes, C ex Hb. M. Vahl, C ex Hb. Schumacher, SBT 1.3.4.47; Possible original material, UPS-THUNB 2825.

Paepalanthus fasciculatus (Rottb.) Kunth, Enum. Pl. 3: 506. 1841.

"*Paepalanthus fasciculatus* (Rottb.) Körn.", Fl. Bras. (Martius) 3(1): 357. 1863, isonym.

Synonyms: *Eriocaulon congestum* Kunth, Nov.

Gen. Sp. (quartoed.) 1: 252. 1816. LECTOTYPE (designated here): VENEZUELA. Cumaná, "crescit in sylvis Orinocensibus prope ostia fluminis Yao," May (fl.), F. W. H. A. von Humboldt et A. J. A. Bonpland *s.n.* (B-W 02374 -00 0 and B-W 02374 -01 0; Isolectotype, P 00594648).

Paepalanthus congestus (Kunth) Kunth, Enum. Pl. 3: 505. 1841 (see Uittien and Heyn, 1938).

The specimen at C ex Hb. Rottböll is mounted with two other specimens from Hb. M. Vahl and Hb. Schumacher on the same sheet. The three have labels by Körnicke as "*Paepalanthus* (Eupaepalanthus) *fasciculatus* Körnicke nec Kth. (*P. congestus* Kth.) teste F Körnicke." None of these exactly resemble the specimen drawn in Rottböll's plate II, fig. 1. Since the specimen from Hb. Rottböll bears the closest resemblance, it is selected as the lectotype. Specimen SBT 1.3.4.47 was identified by P. J. Bergius and J. E. Wikström as *Eriocaulon fasciculatum* Rottb., and as *Paepalanthus fasciculatus* (Rottb.) Kunth by J. E. Wikström on the reverse side of the sheet. Specimen SBT 1.3.4.47 is not the one represented in the drawing commissioned by Rottböll. Another specimen, UPS-THUNB 2825, has no attribution to locality or collector, its only annotation is "Rottb. *Eriocaulon fasciculatum*" by C. P. Thunberg. Ruhland (1903: 153) considered "*P. fasciculatus* Kunth" as a synonym of "*P. bifidus* (Schrad.) Kunth," Enum. Pl. 3: 512. 1841, indicating the specimen by Rolander (as "Roland") from Suriname in his list of specimens examined. This assignment is an error since the former is based on *E. fasciculatum* Rottb., which has priority over *E. bifidum* Schrad., in Mant. 2 (Schultes): 468. 1824. On the other hand, Ruhland's (1903: 160) treatment of "*P. fasciculatum* (Rottb.) Koern." did not include any specimen by Rolander, which was another mistake.

Eriocaulon amplexicaule Rottb., Descr. Rar. Pl. Surin.: 4, tab. I, fig. 1. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 272. 1778; Ed. 2: 7. 1798. LECTOTYPE (designated here): SURINAME. (fl.), *D. Rolander s.n.* (SBT 1.3.4.49); Possible syntype, C ex Hb. M. Vahl; Original material, LINN 105.9; Possible original material, S (S07-14415), UPS-THUNB 2817.

Hyphydra amplexicaulis (Rottb.) Vahl, Symb. Bot. 3: 99. 1794, *superfl.*

Synonym: *Tonina fluviatilis* Aubl., Hist. Pl. Guiane 2: 857; 4: tab. 330. 1775.

Specimen SBT 1.3.4.49 was identified by O. Swartz and J. E. Wikström as *Tonina fluviatilis* Aubl., and as *Hyphydra amplexicaulis* Vahl by J. E. Wikström on the reverse of the sheet. This specimen differs from the one engraved by Rottbøll, but it has been chosen as lectotype because it is the best preserved. The specimen at C ex Hb. M. Vahl is mounted with other three specimens on the same sheet. Its label is annotated with “*Hyphydra amplexicaulis*” and “*Eriocaulon amplexicaule* Rottbøll dissert. Pag 4. tab. 1. fig. 1.” thus indicating its probable origin from Hb. Rottbøll, since Vahl and Schumacher were entrusted by Rottbøll to set the mismanaged herbaria collections at C in order. They were allowed to select duplicates for themselves (Loudon, 1860: 183), which explains how Vahl got the Rolander specimen. Specimen LINN 105.9 was annotated by James Edward Smith as “*Eriocaulon amplexicaule* Rottb. Diss. T. 1. f. 1.” In S, there is a specimen (fragment) from Herb. Alströmer without attribution to location or collector, which was identified by J. E. Wikström as “*Hyphydra amplexicaulis* Vahl” and “*Tonina fluviatilis* Aubl.,” and as “*Eriocaulon amplexicaule*” (probably written by A. Dahl) with “Rottb.” added by Wikström. Specimen UPS-THUNB 2817 has no given country or collector, and has an annotation of “*Eriocaulon amplexicaule*” by C. P. Thunberg.

“*Triplaris americana*” auct. non L.: Rottb., Descr. Rar. Pl. Surin.: 5, tab. III. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 274. 1778; Ed. 2: 7. 1798.

Synonyms: *Blochmannia weigeltiana* Rchb., in sched. in Weigelt, Surinam. Exsic. 1827. Lectotype (designated by Brandbyge, 1986: 563): SURINAME. 1827 (fr.), “leg. et exsicc. WEIGELT. 1827”, *C. Weigelt s.n.* (B 10 0250409—Mus. Bot. Berol. Film Nr. 4450_C); Isotypes, B 10 0250408 (ex Herb.

Link—Mus. Bot. Berol. Film Nr. 4450_B), B 10 0250410 (Mus. Bot. Berol. Film Nr. 4450_C), MO 1959644, MO 1959645, NY 00324213 (fragment ex Hb. Weigelt ex Hb. Meisner), US 00050711, W.

Triplaris weigeltiana (Rchb.) Kuntze, Revis. Gen. Pl. 3(2): 270. 1898 = *Triplaris surinamensis* Cham., Linnaea 8: 138. 1833, *nom. superfl. & illegit.*

“*Clinama prognostica* Rol.” (Mss.: p. 331), *nom. invalid.* Specimens: Suriname, (fr.), *D. Rolander s.n.* (C ex Hb. Rottbøll, C [inflorescence of fl. ♂ mounted together with fr. from fl. ♀], SBT 1.4.12.100); Possible original material, UPS-THUNB 23617.

“*Polygonum triandrum* Rol.” (Mss.: p. 291, 598, 607, 615, 617–618), *nom. invalid.*, as “*Polygonum*”

For a complete list of synonyms, see Brandbyge (1986).

Although the specimen at C ex Herbarium Rottbøll does not specify it as a Rolander collection, the specimen almost exactly resembles plate III of Rottbøll’s dissertation, which is female with fruits. Moreover, Rottbøll clearly states in his introduction that the engravings used in his publication are based on Rolander’s plants. Indeed, according to Dobreff (in Rolander, 2008), he repeated that assertion in an explanatory note he penned on the title page of the Mss. to *Diarium Surinamicum*, adding that he had used Theodus Holmskjöld’s engraver (later identified as Hekelius by Peter Wagner). These statements would be sufficient for an attribution. It is problematic that Rottbøll has written “ex India orientali” on the reverse of the sheet. However, as the species is not known from Asia, the plant can hardly have been collected on that continent. Hence, this note must be incorrect and can probably be disregarded as a slip of the pen. The collector of the other specimens at C is given as Rolander. The sheet holds a fruiting branch and a detached male inflorescence, there is no evidence that they belong to a single specimen collected at one time. The specimen at SBT was annotated by P. J. Bergius on the reverse side of the sheet as “*Triplaris americana* ... Friis Rottboll in act. litt. Hafn. 1778, p. 274. *. t. 3”, “*Clinama prognostica* Rolandr. Mscr.”, “*Polygonum triandrum* Rolandr. mscr.”, and “*Triplaris* Linn. americana.” It is currently “sterile,” although remnants of fruiting

perianths appear where another part of the specimen (probably a leaf with an infructescence branch) has been removed, as glue marks on the sheet indicate. The specimen UPS-THUNB 23617 is a fragment composed of one leaf and an infructescence branch, without attribution to location and collector, annotated by Thunberg as "*Triplaris americana*." However, coincidentally enough, it has the same leaf pattern found in the specimens at C and SBT. Brandbyge (1986) quoted "*Triplaris prognostica* Rottbøll 1776: 16. Nom. nud. Rottbøll published this name without description or diagnosis," in his list of excluded and dubious names. In fact, Rottbøll (1776: 17) published "*Triplaris. Clinama Prognostica* R. ideo dicta," referring to the uses of *Triplaris americana* Rottb., since he cited "*C. prognostica* Rol." in synonymy of that species. Thus, the name *Triplaris prognostica* Rottb. ex Brandbyge is a not validly published name. In *Diarium Surinamicum*, Rolander cited the species "in the vicinity of the plantation 'Capoerica,' which belongs to Dahlberg," on "6 Sept 1756" (Mss.: p. 291, for "*P. triandrum*"), and "near a river in the vicinity of the Capoerica plantation" (Mss.: p. 325, for "*C. prognostica*"), on "29 Sept 1755" (Mss.: p. 328, for "*C. prognostica*"), and "from a tree next to the plantation of Mr. Bley, which was not far from Capoerica," (Mss.: p. 330, for "*C. prognostica*").

Rondeletia biflora Rottb., Descr. Rar. Pl. Surin.: 7, tab. II, fig. 2. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 276. 1778; Ed. 2: 8. 1798. LECTOTYPE (designated here): SURINAME. Loco non indicato, (fl.), *D. Rolander s.n.* (SBT 4.2.6.60).

Sipanea biflora (Rottb.) Cham. & Schldl., Linnaea 4: 168. 1829.

Synonym: *Virecta biflora* L. f., Suppl. Pl.: 134. 1782 [1781] (see Manitz, 1976). LECTOTYPE (designated here): SURINAME. Loco non indicato, (fl.), *C. G. Dahlberg s.n.* (SBT 4.2.7.83).

As Chamisso and Schlechtendal (1829) cited both *Rondeletia biflora* Rottb. and *Virecta biflora* L. f. in the synonymy of *Sipanea biflora*, the combination *Sipanea biflora* (L. f.) Cham. & Schldl., as indicated by several authors, as well as the TROPICOS database, is not correct. The valid publication of *Rondeletia biflora* Rottb. was in 1776, as indicated above, not in 1798, the second edition of his dissertation. Specimen SBT 4.2.6.60 was attributed to Rolander by

P. J. Bergius, who also annotated "*Rondeletia* (biflora), ... Friis Rottb. in act. litt. Hafn. 1778. p. 276. *. t. 2. f. 2." Further, on the reverse side of the sheet, there is an annotation of "*Geophila reniformis* Cham. & Schlechtend." by J. E. Wikström. Specimen SBT 4.2.7.83 that has the following handwritten text on it: "e Surinamo. Dahlb." (written by C. P. Thunberg), followed by "Thunberg." (probably written by P. J. Bergius) and "scripsit" (by J. E. Wikström); just below "*Sipanea biflora* Linn. fil., si vera *Virecta virens* Vahl." written by Wikström, and on the bottom right, "*Virecta*" (by J. E. Wikström), "*virens*." (by C. P. Thunberg), and "Vahl." and "Thunberg scripsit" (by J. E. Wikström); the writing in the lowermost right-hand corner is a note probably written by Bergius about the number of male and female parts, viz. "5 andria. 1gynia." This specimen is not the same as the one represented in the drawing by Rottbøll. In *Index Kewensis*, there is an entry for *Virecta virens* Vahl, Symb. Bot. 2: 38. 1791, indicating it is a synonym of *Sipanea biflora* (Rottb.) Cham. & Schldl.. In fact, Vahl (1791) mistakenly quoted "*virens*. VIRECTA. Lin. S. V. pag. 197.," and cited *Rondeletia biflora* Rottb. as a synonym, while Vahl (1798) referred it to "*Virecta biflora*. Lin. Syst. Veget. pag. 197," thus correctly citing the information in Murray, Syst. Veg. (ed. 14): 197. 1784. Nevertheless, *Virecta virens* L. [Pl. Surin.: 7. 1775. Specimen: SURINAME. Loco non indicato, (fl.), *C. G. Dahlberg* 77 (LINN 212.1)] is not a validly published name, since in *Plantae Surinamenses*, *Virecta* was not given a separate generic description, being validly published only in Suppl. Pl.: 17. 1782. The reprint in Amoen. Acad., Schreber ed. 8(166): 254. 1785, amended *V. virens* L. as a synonym of *V. biflora* L. f.. However, by comparing the two collections by Dahlberg and that by Rolander, it is clear that *V. virens* L. is a different species. According to Rottbøll (1776), *Rondeletia biflora* is not in Rolander's manuscript, thus one cannot assume it is the same species as "*Rondeletia repens* Rol." (Mss.: p. 395), *nom. invalid.*, non *R. repens* L., Syst. Nat. (ed. 10) 2: 928. 1759.

Rhexia glomerata Rottb., Descr. Rar. Pl. Surin.: 8, tab. IV. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 276. 1778; Ed. 2: 8. 1798. Lectotype [step 1] (designated by Renner, 1994: 91, as 'C, holotype', Art. 9.8): Surinam, *D. Rolander s.n.*, LECTOTYPE [step 2, Art. 9.15]: SURINAME.

(fl.), *D. Rolander s.n.* (C ex Hb. Rottböll, designated here); Syntype, C ex Hb. Schum.; Original material, SBT 3.2.10.15.

Pterolepis glomerata (Rottb.) Miq., Comm. Phytogr. 2: 78. [Feb 1839] 1840.

Osbeckia glomerata (Rottb.) DC., Prodr. 3: 141. 1828.

Arthrostemma glomeratum (Rottb.) Cham., Linnaea 9: 454. [1834] 1835.

Chaetogastra glomerata (Rottb.) Benth., Hooker's J. Bot. Kew Gard. Misc. 2: 290: 1840. Synonym: "*Rhexia pratensis* Rol." (Mss.: p. 280–281, 285, 611), *nom. invalid.*

For a complete list of synonyms, see Renner (1994).

Renner (1994) only quoted "Type: Surinam. Rolander s.n. (C, holotype)." The term was incorrectly used since there are two specimens by *Rolander s.n.* at C, thus none could be designated as a holotype. Although the specimen at C ex Herb. Rottb. has no annotation indicating it is a Rolander gathering, it highly resembles the drawing in Rottböll's plate 4, which can be considered as good evidence for attribution. On the other hand, the specimen in Herb. Schum. has been annotated as collected by Rolander. Thus, according to Art. 9.8 of ICBN (McNeill et al., 2006), Renner's use of "holotype" is an error to be corrected to "lectotype." The choice of specimen ex Herb. Rottb. as the lectotype designated herein was made because it is the best preserved. Specimen SBT 3.2.10.15 was studied by J. J. Wurdack in 1969, and has three handwritten identifications on the reverse side of the sheet, being determined as *Rhexia glomerata* Rottb. by Swartz and Wikström, and as *Osbeckia glomerata* (Rottb.) DC. by Wikström. From Rolander's *Diarium*, the species was collected when "Rolander was botanizing in the forests, meadows and groves within walking distance of Capoerica; *R. pratensis* was seen in a low-lying meadow" (Mss.: p. 280–281, 30 Aug 1755).

Rhexia trichotoma Rottb., Descr. Rar. Pl. Surin.: 9, tab. V. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 277. 1778; Ed. 2: 9. 1798 = *Pterolepis trichotoma* (Rottb.) Cogn., Fl. Bras. (Martius) 14(3): 261. 1885. Lectotype: [icon.] Rottb., Descr. Rar. Pl. Surin.: tab. V. 1776, designated by Renner (1994: 97); Original material: SURINAME. (fl.), *D. Rolander s.n.* (SBT 3.2.10.20); Possible original material, C ex Hb. Vahl.

Synonym: "*Rhexia regalis* Rol." (Mss. p. 285, 611), *nom. invalid.*

For a complete list of synonyms, see Renner (1994).

Renner (1994: 97) was unable to locate a Rolander specimen of *Pterolepis trichotoma*, although she had examined a specimen (fragment) from Hb. Vahl that could be attributed to Rolander since it was originally labeled as "*Rhexia trichotoma*, Surin." This specimen was also analyzed by Cogniaux, who annotated it as *Pterolepis trichotoma* Cogn., but Cogniaux did not cite it in his treatment for *Flora Brasiliensis*. Specimen SBT 3.2.10.20 was determined by J. J. Wurdack as *Pterolepis trichotoma* (Rottb.) Cogn., in 1969, on the front of the sheet, and has several handwritten items on the back, i.e., "Rhexia (trichotoma) ... Friis Rottboell in act. litterar. Hafniens. ann. 1778. p. 277.*/Tab. 5.", "Rhexia regalis. Rolandr. mscr.", "e Surinamo.", and "Rhexia mihi paniculata" by P. J. Bergius, "Rhexia trichotoma Rottb." by J. E. Wikström, and "Trichotoma" (faint, in red) probably by O. Swartz. The species was collected "on sandy hills in the vicinity of Capoerica," (Mss.: p. 285, 2 Sept 1755).

Rhexia bicornis Rol. (Mss.: p. 546–547) in Rottb., Descr. Rar. Pl. Surin.: 10. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 278. 1778; Ed. 2: 9. 1798. TYPE: SURINAME. "in unico loco udiusculo extra urbem, e regione templi Lutherani" (ex Mss.: p. 546), (fl.), *D. Rolander s.n.* (not located, presumably at C).

The species name was not accounted for by D. Don (1823), de Candolle (1828a, b), and subsequent authors (e.g., Chamisso, 1835; Naudin, 1845, 1849; Triana, 1867) until Triana (1871) and Cogniaux (1885) quoted "*Rhexia bicornis* Rottb. Plant. Surin. 9" (thus Rottböll's second edition) in the synonymy of "*Rhexia recurva* Triana" (sic). The entry in *Index Kewensis* indicates "*Rhexia bicornis* Roland. ex Rottb., in Act. Lit. Univ. Hafn. i. (1778) 278 = *Acisanthera recurva*." However, Rottböll clearly ascribed the name and the description of the species to Rolander. As indicated by Wurdack (1993), if the Rolander material of *Rhexia bicornis* Rol. is located and verified as the same species as *Acisanthera uniflora* (Vahl) Gleason, a new combination will be needed. The species was collected on "13 Jan 1756" (Mss.: p. 543).

Nectandra sanguinea Rol. in Rottb., Descr. Rar. Pl. Surin.: 11. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 279. 1778; Ed. 2: 10. 1798. Lectotype: SURINAME. "Loco non indicato," s.d., *D. Rolander s.n.* (SBT). Designated by Bernardi, *Candollea* 22: 56. 1967 (as "Holotypus"): SURINAME. "In an ancient forest some distance from the sugar plantation called Capoerica" (*conscensis equis sylvam antiquam petimus, quam pluvia irrigaverat...*; ex Mss.: p. 387–389), "8 Nov. 1755" (ex Mss.: p. 389) (fl., fr.), *D. Rolander s.n.* (SBT 2.2.1.23; Isotypes: SBT 2.2.1.19 (fl.), S (R-7232 ex Herb. Swartz, NY neg. 8535; fl., annotated by Mez as "*Nectandra salicifolia* Nees e.p. = *N. guianensis* Msn.")). Synonyms: *Laurus sanguinea* (Rol.) Sw., Fl. Ind. Occid. 2(1): 707. 1798.

Ocotea sanguinea (Rol.) J. Presl, Pfl. Rostlin 2: 60. 1825.

Persea sanguinea (Rol.) Spreng., Syst. Veg. (ed. 16) 2: 268. 1825.

Nectandra guianensis Meisn. in Prodr. (DC.) 15(1): 160. 1864. Lectotype: SURINAME. "Loco haud indicato," 1843 (fl.), *F.W.R. Hostmann & A. Kappler* 973 (B 10 0185147); Isotypes: designated by Rohwer, *Fl. Neotrop. Monogr.* 60: 179. 1993: BM, F 876056-neg. 58073, G 00020759, G 00020760, G 00020761, GH 00041943, K 000512730, K 000512731, K 000512732, L 0037126, M 0111054, MEL 2324409, NY 00355454, P 00711003, P 00711004, S (R-7211).

The description of *Nectandra sanguinea* provided by Rolander and the diagnosis by Rottbøll accurately fit the lectotype and the other two original specimens collected by Rolander. Specimen SBT 2.2.1.23 has the following handwritten text on the reverse of the sheet: "e Surinamo. Rolander." by P. J. Bergius, "*Nectandra* Rolander." by P. J. Bergius, "*Laurus* Linn. cassius" (crossed out) possibly written by P. J. Bergius, "*Nectandra sanguinea* Rotboell." written by O. Swartz, and "*Ocotea* Aubl." written by O. Swartz, whereas specimen SBT 2.2.1.19 bears "*Nectandra sanguinea* Rottb." by J. E. Wikström, "Surinam. Rolander." by J. E. Wikström, "*Nectandra*. Rolander." by P. J. Bergius, "*Laurus*" by O. Swartz, "*N. sanguinea* Rottb." by O. Swartz, and "*Ocotea* Aubl." by O. Swartz.

The presence of Rolander's *Nectandra* in Stockholm rather than Copenhagen has at least two potential explanations. Rolander sold part of his herbarium to Rottbøll (Hornemann, 1811; Dobreff, 2008). Since Rottbøll described *Nectandra sanguinea*, one expects the Rolander specimen to be in the Copenhagen Herbarium (C). It has not, however, been found there (Kostermans, 1936; O. Ryding, pers. observ.). One possibility is that Rolander had collected two specimens, selling (?) one to Rottbøll and giving the other to Bergius. Although this possibility seems rather unlikely, the Rolander collection in Copenhagen may be largely incomplete (i.e., the Copenhagen specimen may simply be missing or lacking an attribution). However, three of the species described by Rottbøll in his dissertation corroborate this possibility: *Triplaris americana* Rottb. (C, 2 sheets, SBT 1.4.12.100), *Rhexia glomerata* Rottb. (C, 2 sheets, SBT 3.2.10.15), and *Myristica surinamensis* Rottb. (C [IDC 132 II, 1-2], SBT 2.2.1.45).

The second possibility is that Rolander allowed Rottbøll to inspect his specimen of *Nectandra sanguinea* in Copenhagen, when he lived there from circa 1761 to circa 1764. Rolander then took that specimen back to Sweden, where he gave it and the remainder of his herbarium to his friend and benefactor P. J. Bergius and to the Swedish queen (A. P. Stobaeus to P. J. Bergius, 8 May 1766: XI p. 269, P. J. Bergius Correspondence Collection at The Royal Swedish Academy of Sciences in Stockholm, Sweden). In fact, Stockholm (SBT) possesses eight other specimens of Rolander species described by Rottbøll: *Panicum lanatum* Rottb. (SBT 1.2.8.20, SBT 1.2.8.21), *Milium capillare* Rottb. (SBT 1.2.7.75), *Eriocaulon fasciculatum* Rottb. (SBT 1.3.4.47), *Eriocaulon amplexicaule* Rottb. (SBT 1.3.4.49), *Rondeletia biflora* Rottb. (SBT 4.2.6.60), *Rhexia trichotoma* Rottb. (SBT 3.2.10.20), and *Nectandra bijuga* Rottb. (SBT 2.2.1.18).

Although almost twenty years after the fact, Bergius wrote in his autobiographical notes (dated 29 March 1785), "Daniel Rolander gaf, vid sin hemkomst från Suriname, en vacker samling örter," i.e., "Upon his arrival home from Suriname, Daniel Rolander gave [me] a beautiful collection of herbs" (Holmberg, 1945; translation, J. Dobreff). Nevertheless, Bergius

waited until 1765 to publish his description of *Scleria* (Bergius, 1765), praising Rolander's collection and his diary (*Diarium Surinamicum*). Bergius noted that he obtained two grasses "whose fine flowers differ distinctly from all previously known types of grass, though the flowers from the two grasses are so similar that they should probably be assigned to the same grass type or genus," (translation, J. Dobreff). The coincidence of Rolander returning from Denmark to Sweden in 1764–65 and Bergius's publication of *Scleria*, suggest that Rolander brought the specimen of *Nectandra sanguinea* along with other specimens back from Copenhagen to Sweden after Rottbøll had examined and described them.

Nectandra bijuga Rottb., Descr. Rar. Pl. Surin.: 12. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 281. 1778; Ed. 2: 10. 1798 (without synonym). Lectotype (designated by Bernardi, Candollea 22: 59. 1967, as 'Holotypus', cf. Art. 9.8): SURINAME. (fl. ♂), *D. Rolander s.n.* (SBT 2.2.1.18).

Ocotea bijuga (Rottb.) Bernardi, Candollea 22: 59. 1967.

Synonyms: *Laurus surinamensis* Sw., Fl. Ind. Occid. 2: 708. 1798, *nom. illegit.*

Persea surinamensis Spreng., Syst. Veg. (ed. 16) 2: 269. 1825, *nom. illegit.*

Nectandra filiformis Raf., Sylva Tellur.: 134. 1838, *nom. illegit.*

"*Nectandra abortiens* Rol." (Mss.: p. 390), *nom. invalid.*

Bernardi (1967) placed *Ocotea neesiana* (Miq.) Kosterm., Meded. Bot. Mus. Herb. Rijks Univ. Utrecht 25: 16. 1936, in the synonymy of *O. bijuga*. However, Rohwer (1986) did not confirm this synonymy, since he had not seen the type of the latter. Later, Rohwer, in a personal communication to Burger and van der Werff (1990), stated that he believed *O. bijuga* was part of the *Ocotea cernua* complex. Specimen SBT 2.2.1.18 has the handwriting "*Ocotea guianensis* Aubl." written by J. E. Wikström on the front side of sheet, whereas on the reverse side there are: "eSurinamo. Rolander." written by P. J. Bergius, "*Ocotea guianensis* Aubl." written by J. E. Wikström, "*Laurus*" (possibly by O. Swartz), "*Nectandra* Rolander" written by P. J. Bergius, "*bijuga* Rottb.," and "*Ocotea* Aubl." written by O. Swartz. In the

second edition, Rottbøll (1798: 10) indicated *Ocotea guianensis* Aubl. (1775) as a synonym in a footnote. The species was collected "in an ancient forest some distance from the sugar plantation called Capoerica," (*conscensis equis sylvam antiquam petimus, quam pluvia irrigaverat...*; Mss.: p. 387–390), on "8 Nov 1755" (Mss.: p. 389–390).

Myristica surinamensis Rol. ex Rottb., Descr. Rar. Pl. Surin.: 13. 1776; *ibid.*, Acta Lit. Univ. Hafn. 1: 281. 1778; Ed. 2: 11. 1798. LECTOTYPE (designated here): SURINAME, "circa Capoericam crescit" (ex Mss.: p. 401, 15 Nov 1755), (fl. ♂), *D. Rolander s.n.* (C ex Hb. Schum. – IDC microfiche 132 II, 1–2); Original material, SBT 2.2.1.45 (fl. ♂).

Viola surinamensis (Rol. ex Rottb.) Warb., Nova Acta Acad. Caes. Leop.-Carol. German. Nat. Cur. 68: 208, t. 1 and 6. 1897.

Palala surinamensis (Rol. ex Rottb.) Kuntze, Revis. Gen. Pl. 2: 568. 1891.

Synonyms: *Myristica fatua* Sw., Prodr.: 96. 1788, *nom. illegit.*, non *Myristica fatua* Houtt., Handl. Pl.-Kruiddk. 3: 337. s.d. [?1773–1783]. TYPE: TOBAGO. *O. Swartz s.n.* [*Young s.n.* according to Swartz, Fl. Ind. Occid. 2(2): 1126. 1800] (not located in BM, G, and S).

"*Myristica americana* Rol." (Mss.: p. 401) ex Rottb. l.c.: 33. 1776, *nom. invalid.* (*nom. nud.*).

Other synonyms can be found in Warburg (1897) and Smith and Wodehouse (1938).

Although Rottbøll practically reproduces the description given by Rolander, the authorship of the species must be ascribed to the former since he has used the specific name *surinamensis* instead of *americana*. Further evidence that "*M. americana* Rol." is a synonym of *M. surinamensis* Rottb. comes from Rottbøll transcription of part of Rolander's text about "Moschat-Boom" (Mss.: p. 401) at the end of his description, quoting "Mss. Rol. pag. 401," but omitting that Rolander provisionally called it "*Myristica americana*," until the flowers of *Myristica officinalis* were investigated. Since the specimen at C ex Herb. C. F. Schumacher is the best preserved, it was chosen as the lectotype. Specimen SBT 2.2.1.45 has the annotations of "*Myristica*" by Bergius, "*Myristica Swartz fatua*" and "*M. surinamensis* Roland. act. hafn. litt p. 281" probably written by Swartz. The

species is considered endangered under criteria A1ad+2cd ver 2.3 of the IUCN Red List of Threatened Species, which status was assessed in 1998 (IUCN, 2010). Its major threat is due to the timber that is important in international

trade. However, its current status needs updating since it is widely distributed and is one of the most common trees in lowland Suriname, for instance, as communicated personally by Petrus (Pieter) Albert Teunissen in 2006 (IUCN, 2010).

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