

NOTES ON THE LECTOTYPIFICATION OF *NECTANDRA SANGUINEA* (LAURACEAE)

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Abstract. Notes on the lectotypification of *Nectandra sanguinea*, the type of *Nectandra*, are presented, complementing the prior one proposed by Luciano Bernardi. This is necessary in order to clarify the confusion that arose after his analysis whereby the sheet designated by him as “holotypus” was subsequently altered, and because he mixed elements of two different sheets in the photographic plate indicated as being a single sheet of the “holotypus.” Corrections of authorship and the place and date of publication of the species name are also discussed, having been overlooked by most authors who were seemingly unaware of the existence of the original dissertation published by Rottbøll in 1776.

Resumo. Apresentam-se notas sobre a lectotipificação de *Nectandra sanguinea*, o tipo de *Nectandra*, complementando a prévia proposta por Luciano Bernardi. Isto se faz necessário para o esclarecimento da confusão surgida após sua análise, uma vez que a exsicata designada por ele como “holótipo” foi subsequentemente alterada, e porque ele misturou elementos de duas exsicatas diferentes na prancha fotográfica indicada como sendo uma única exsicata do “holótipo.” Correções da autoria e do local e data de publicação do nome da espécie também são discutidas, que foram negligenciadas pela maioria dos autores, que aparentemente desconheciam a existência da dissertação original publicada por Rottbøll em 1776.

Keywords: Lauraceae, *Nectandra sanguinea*, generitype, Daniel Rolander, Suriname

Nectandra Rottb. was first published by Rottbøll (1776: 11) in the dissertation “*Descriptionis rariorum plantarum, nec non materiae medicae atque oeconomicae e terra Surinamensi fragmentum placido ampliss. professorum examini, pro loco in consistorio rite tenendo disputaturus, subjicit Christianus Friis Rottbøll, S.R.M. a consiliis justitiae, in Universitate Havniensi medicinae professor p.o. spartam defendentis ornante clarissimo medicinae candidato, Arnoldo Nicolao Aasheim, AD D. maji A. MDCCLXXVI,*” (copies in the university libraries of Copenhagen, Darmstadt, Halle, Jena,

Kiel, Leipzig, Lund, British Library, among others). It predates the almost verbatim version published in the journal *Acta Literaria Universitatis Hafniensis* 1: 279 (Rottbøll, 1778), which was undoubtedly intended to be a serial, but expired after only one volume (Rickett and Stafleu, 1961). The latter publication has been repeatedly cited by authors (e.g., Nees von Esenbeck, 1836; Meisner, 1864; Mansfeld, 1935; Kostermans, 1936, 1952; Green and Sprague, 1940; Allen, 1945; Camp et al., 1947; Rickett and Stafleu, 1959; Bernardi, 1962; Rohwer, 1986, 1993), as the place of valid publication of the generic

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name, hence overlooking the former (but see Mez, 1889; Bernardi, 1967; Howard, 1981). Rottbøll's dissertation was based on specimens and original descriptions by Rolander, from his unpublished "*Diarium Surinamicum*" (Rolander, 1754–1756, unpubl. manuscript; hereafter referred to as Mss.). The English translation was recently published (Rolander, 2008), and the first edition of the original Latin text of that manuscript is scheduled for publication in 2009 (J. Dobreff, in prep.).

Rolander originally described the genus based on *Nectandra foetida* Rol. (Mss.: 307–308): "*Nomen arboris ab insertione staminum in laciniis Nectarii commode derivari putabam, adeoque Nectandra dicta est, et quidem haec species Nectandra foetida, quia folia, lignum, fructus et tota planta nauseoso-olidissima est, ut admota naribus lapidem suillum intense spiret.*" Although Rolander had already described *N. foetida* (Mss.), and Rottbøll later commissioned a drawing, the second part of Rottbøll's dissertation, *Fragmentum materiae medicae et oeconomicae Surinamensis*, only cited that its fruits stink and are eaten by toucans, giving no description nor diagnosis (Rottbøll, 1776: 26; 1778: 294; 1798: 17). Bernardi (1967), however, transcribed Rolander's description of the species and reproduced the original drawing in his fig. 1, also discussing its identity. In the Bergius Herbarium, Bernardi did not find the specimen that served as a model for the *Diarium* (Mss.) illustration of *N. foetida*.

In the Copenhagen Museum, Bernardi located not only Rottbøll's drawing but also another unpublished Rottbøll manuscript, "*Rolander: Tegninger af surinamske Planter henhørende til Rolanders Rejse,*" with summaries and extracts from Rolander's Latin manuscript *Diarium Surinamicum* (*quod sub itinere exotico conscripsit Daniel Rolander*), including Rottbøll's description of *N. foetida*. Based on Rolander's description and Rottbøll's description and illustration, Bernardi concludes that the original specimen and description of the old *Nectandra* have remained unnoticed in the two manuscripts (i.e., *Diarium Surinamicum* and Rottbøll's unpublished manuscript based on *Diarium Surinamicum*). Still, Rottbøll, in his second unpublished manuscript, added that he had not seen the flowers of Rolander's *N. foetida*. Bernardi then interpreted that statement to mean that the specimen that was the basis of *N. foetida* was lost.

According to Bernardi, the lost specimen would explain why Rottbøll did not publish *N. foetida*.

Regarding the identity of *Nectandra foetida*, Bernardi juxtaposed Rolander's description with specimens collected by Ludwig Riedel of "*N. myriantha* Meissn. ex *Brasilia excepta*" (= *N. cissiflora* Nees); he emphasized the stinking odor of the plants noted in both sources. He eventually concluded that *N. surinamensis* Mez (= *N. cissiflora* Nees) was the species to which *N. foetida*, as described in Rolander's *Diarium*, applied; although he warned that he perhaps did not know *N. surinamensis* sufficiently well. In short, *N. foetida* Rol. ex Rottb. is not a validly published name; nor is it clear what species Rolander had described as such in *Diarium Surinamicum*.

Rolander also described two other species, see *N. sanguinea* (Mss.: 389) and *N. abortiens* Rol. (Mss.: 390). Rottbøll, using Rolander's specimens and descriptions, described *Nectandra* and the species *N. sanguinea* and *N. bijuga* Rottb. (the latter based on *N. abortiens*), which was combined as *Ocotea bijuga* (Rottb.) Bernardi (1967).

The lapse of 21 years from Rolander's description in *Diarium* (1755) until the valid publication of the generic name (Rottbøll, 1776), rendered *Nectandra* Rottb. a later homonym of *Nectandra* P. J. Bergius. However, in 1935 the Special Committee for Phanerogamae and Pteridophyta appointed by the 6th International Botanical Congress recommended acceptance (e.g., Green and Sprague, 1940: 101; Camp et al., 1947: 63) of a proposal made by Mansfeld (1935: 438) for the conservation of *Nectandra* Rottb. against the earlier homonym *Nectandra* P. J. Bergius (Bergius, 1767: 131), of which *N. sericea* (L.) P. J. Bergius represents *Passerina sericea* L.—*Gnidia sericea* (L.) L., *Syst. Nat.* (ed. 12) 2: 272. 1767 (Thymelaeaceae; Rogers and Spencer, 2006). *Nectandra* first appeared as a conserved name in the Stockholm Code (Lanjouw et al., 1952).

The author of Nectandra sanguinea

Rottbøll ascribed the new species *Nectandra sanguinea* Rol. (in Rottb., *Descr. Rar. Pl. Surin.*: 11–12. 1776) to Rolander, quoting and citing him: "*Nectandra sanguinea, arbor alta, patula, folia alterna, petiolata, lanceolata, glabra, florum racemi terminales sanguinei, flosculi albidii; drupæ dispermae succulentæ, atro-nitidæ, pericarpis carnosis sanguineis cinctæ.* Mss. Rol.

p. 389.” Thus, according to Article 46.2 of the ICBN (McNeill et al., 2006), the appropriate citation of the specific name is: *Nectandra sanguinea* Rol. in Rottb. (as cited by Benthams, 1880: 150; Schreber, 1791: 517), rather than *ex* Rottb. as proposed by the great majority of authors.

Location of the lectotype and notes on the lectotypification

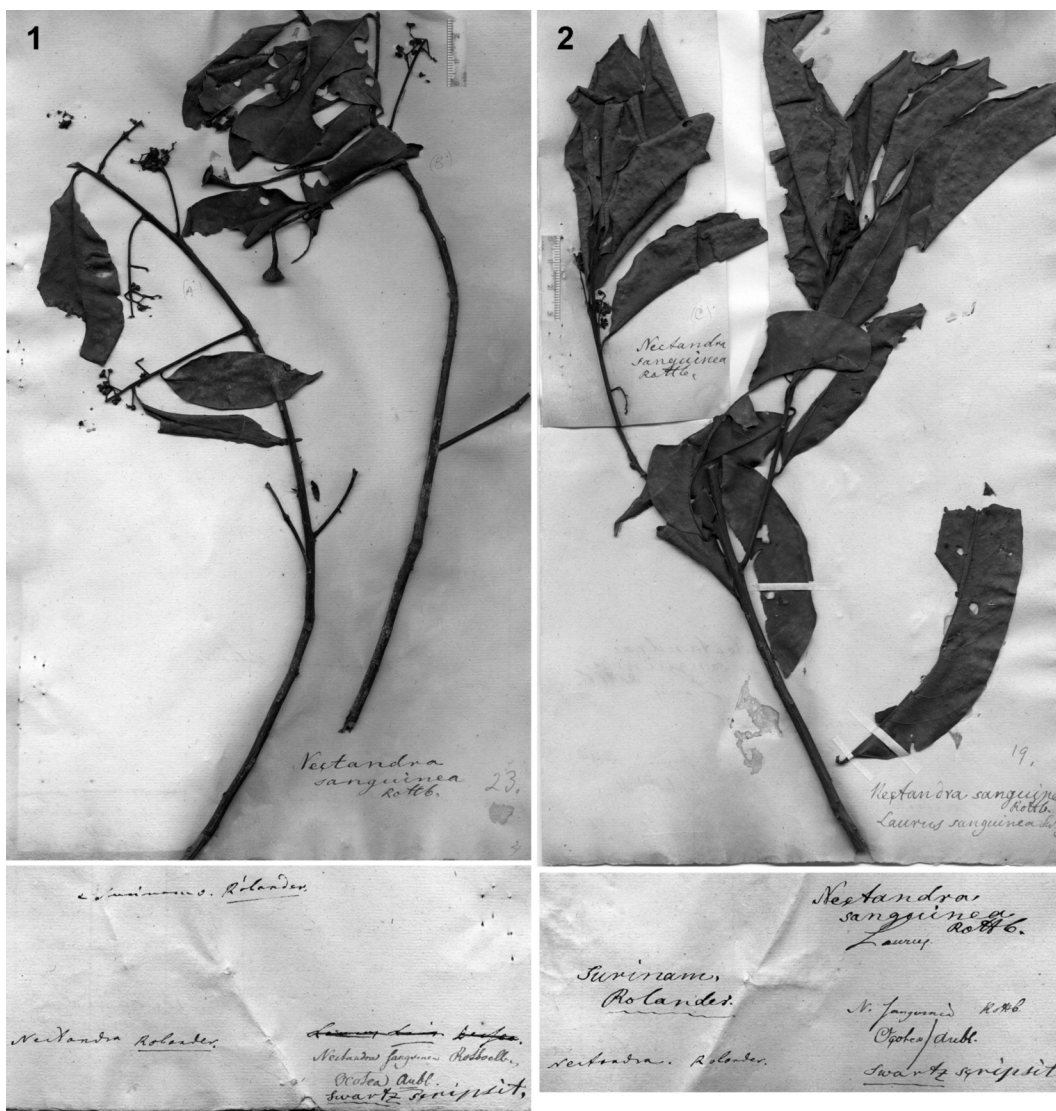
The name *Nectandra sanguinea* had long been misinterpreted in the sense of *N. salicifolia* (Kunth) Nees, until Bernardi (1967) recognized its true identity. According to Rohwer (1993: 73), *Nectandra salicifolia* is a catch-all species of the *N. coriacea* (Sw.) Griseb. group. Because of its variational pattern, Mez (1888, 1889) treated it as a *species collectiva*, under the erroneous name of *N. sanguinea*. As pointed out by Kostermans (1936), the type specimen of *N. sanguinea* could not be found in the Copenhagen Herbarium, and Mez (1889, 1892) apparently did not see it by the time of his *Lauraceae americanae* monograph, as he did not cite the Rolander specimen he had seen at Stockholm, likely years later.

Bernardi “rediscovered” Rolander’s gatherings of *Nectandra* 190 years after Rottbøll’s dissertation. He illustrated the type of *Nectandra sanguinea* Rol. (1776) in his figure 3, which indicated “Fig. 3.—Holotypus *Nectandrae sanguineae* Roland. ex Rottb. (SBT)” (Bernardi, 1967). The term was incorrectly used since there are two specimens by Rolander *s.n.* at SBT and there is no clear evidence that any of them would be the holotype. According to Art. 9.8 (McNeill et al., 2006), Bernardi’s use of holotype is an error to be corrected to lectotype.

Still, Bernardi’s fig. 3 (1967) shows three branches mounted on the same sheet and a detailed copy of the handwriting supposedly related to the holotype, which is discussed below. In fact, the left lowermost branch in Bernardi’s figure has been moved to sheet SBT 2.2.1.19 since that photograph was taken. The “branch piece” is a cutting and it was fixed to SBT 2.2.1.23 (Fig. 1) with a needle (in Bernardi’s photo), which is now glued to SBT 2.2.1.19 (Fig. 2). The handwriting on the backside of the sheet also belongs to SBT 2.2.1.19 (also see *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). However, the corresponding handwriting on the backside of Bernardi’s holotypus sheet presents “e Surinamo. Rolander.” by P. J. Bergius, “*Nectandra* Rolander.” by P. J. Bergius, (*delevit Laurus* Linn. *cassius* possibly written by P. J. Bergius), *Nectandra sanguinea* Rotboell. written by O. Swartz, and *Ocotea* Aubl. written by O. Swartz. The photographs submitted along with the sheets (Fig. 3) are identical to how they are currently mounted in SBT. This indicates that the branch was transferred from sheet 2.2.1.23 to 2.2.1.19 some time after Bernardi studied these specimens (probably in November 1966, from his label on the sheet at S; Fig. 4). However, a note on the backside of the sheet with the photograph of 2.2.1.23 read (translated from Swedish): “The photo has been published in Candollea 1967 p. 56 as Holotype of N.s.,” possibly written by Dr. L. E. Kers, a statement that is not completely true as this photograph and that of Bernardi are not identical. The transfer may have occurred around when Dr. Caroline K. Allen made flower dissection studies, as indicated at the photographic sheets (probably in 1967 when she spent six months in the major herbaria of Europe).

The three known original specimens of *Nectandra sanguinea* collected by Rolander (SBT 2.2.1.23, SBT 2.2.1.19, and S) constitute syntypes, regardless of whether they belong to a single, or more than one, collection. Bernardi (1967) designated the sheet SBT 2.2.1.23 (showing three branches) as the lectotype. There is no evidence that the three sheets of *N. sanguinea* are duplicates of one collection or that they represent more than one collection (a possibility because Rolander mentions *N. sanguinea* more than once in his diaries). It is here assumed that the three sheets represent duplicates of one gathering, since they seem to belong to a single collection. In this scenario, the other two sheets are isolectotypes. However, should evidence emerge showing that the three sheets represent more than one gathering, the sheets other than the lectotype represent paratypes. The removal of the small branch from the lectotype to sheet SBT 2.2.1.19 after Bernardi’s lectotypification, is judged to be a minor change and does not require a new lectotypification. If it can be shown that the two sheets in SBT represent different gatherings, then the fragment removed from the lectotype to the other sheet represents an isolectotype, while the other material of the SBT 2.2.1.19 would be a paratype.

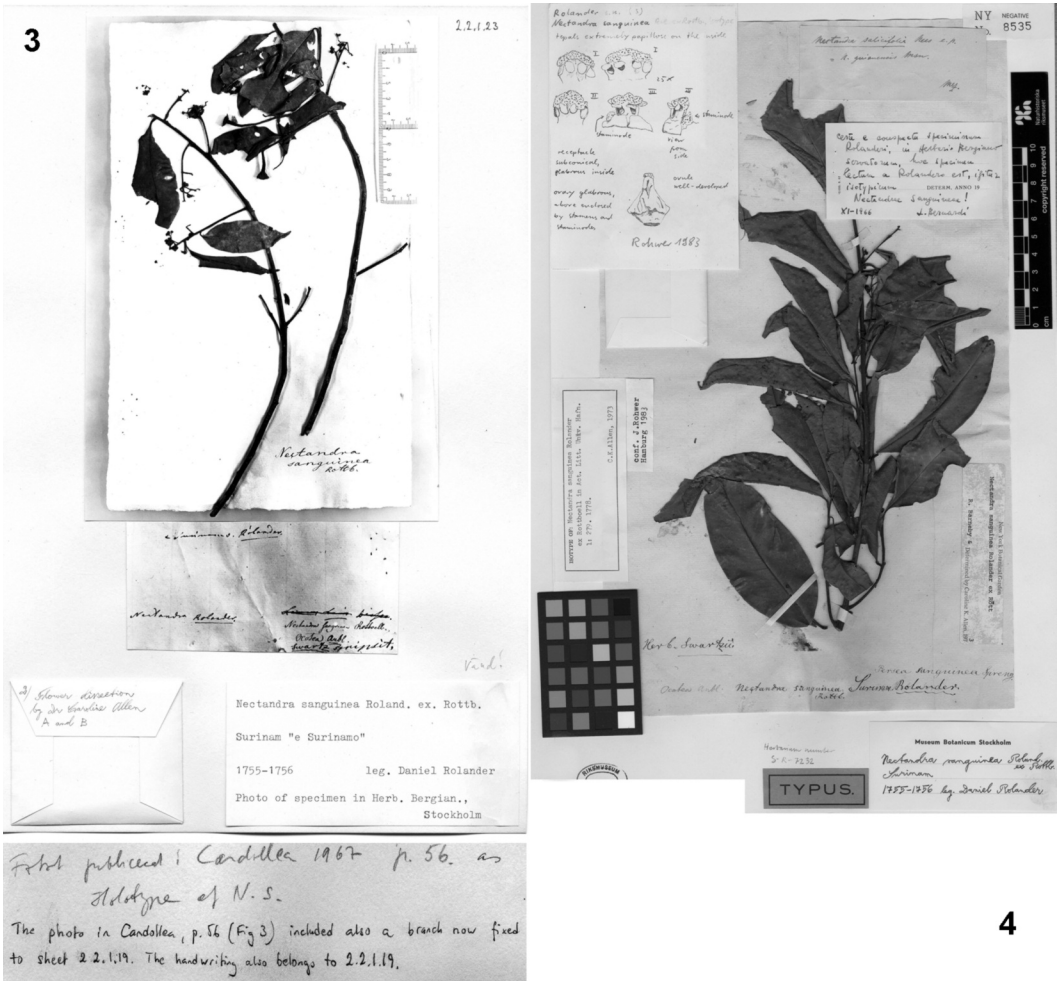


FIGURES 1–2. **1**, *Rolander s.n.* (SBT 2.2.1.23). Top: frontside of sheet of lectotype of *Nectandra sanguinea* Rol. with handwriting “*Nectandra sanguinea* Rottb.” by J. E. Wikström; bottom: backside of sheet. **2**, *Rolander s.n.* (SBT 2.2.1.19). Top: frontside of sheet of islectotype of *N. sanguinea* Rol. with handwriting “*Nectandra sanguinea* Rottb.” (twice) and “*Laurus sanguinea* Swz.” by J. E. Wikström; bottom: backside of sheet.

TYPIFICATION

Nectandra sanguinea Rol. in Rottb., Descr. Rar. Pl. Surin.: 11–12. 1776. 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” [consensus 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 [Figs. 1, 3]; Isolectotypes: SBT 2.2.1.19 [fl.; Fig. 2], S [R-7232 ex Herb. Swartz, NY neg. 8535; fl., annotated by Mez as “*Nectandra salicifolia* Nees e.p. = *N. guianensis* Msn.”; Fig. 4]). Synonyms: *Laurus sanguinea* (Rol.) Sw., Fl. Ind. Occid. 2(1): 707. 1798.



FIGURES 3–4. **3**, *Rolander* s.n. (SBT 2.2.1.23). Top: photographic sheet; bottom: backside of sheet. **4**, *Rolander* s.n. (S), isolectotype of *Nectandra sanguinea* Rol.

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]; Isolectotypes, 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, S [R-7211]).

Here we are ascertaining the type locality from Rolander's *Diarium Surinamicum* (1754–1756). Rolander states that *N. sanguinea* was collected in an "ancient forest" that he traveled to by horse from the "beautiful" sugar plantation called Capoerica, whence in the forest some distance from this plantation (Mss., p. 387–388). Old maps of Suriname show the location of the plantations by name. Capoerica was well up river from Carl Gustav Dahlberg's plantation, as it required a boat trip of quite some distance to reach from the Dahlberg plantation. The forest would have been quite pristine, since there were fewer plantations and less exploitation farther up river.

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