

Lectotypification of names of Neotropical species of *Mucuna* (Leguminosae: Papilionoideae: Phaseoleae)

Tânia M. Moura,¹ Ana Maria G.A. Tozzi,² Vidal F. Mansano³ & Gwilym P. Lewis⁴

¹ Programa de Pós-graduação em Biologia Vegetal, Instituto de Biologia, Universidade Estadual de Campinas, Rua Monteiro Lobato 255, Cidade Universitária Zeferino Vaz, Barão Geraldo, Campinas, SP, Brasil, 13083-862

² Departamento de Biologia Vegetal, Instituto de Biologia, Universidade Estadual de Campinas, Rua Monteiro Lobato 255, Cidade Universitária Zeferino Vaz, Barão Geraldo, Campinas, SP, Brasil, 13083-862

³ Instituto de Pesquisas Jardim Botânico do Rio de Janeiro, DIPEQ, Rua Pacheco Leão 915, Jardim Botânico, Rio de Janeiro, RJ, Brasil, 22460-030

⁴ Herbarium, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB, U.K.

Author for correspondence: Tânia M. Moura, tmariamoura@gmail.com

Abstract Systematic studies of Neotropical species of *Mucuna* are relatively scarce. As a precursor to further taxonomic studies of this genus, we here propose lectotypes for seven New World taxa.

Keywords Fabaceae; lectotype; New World; nomenclature; Neotropics

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■ INTRODUCTION

In the most recent study (Ruiz, 2009) to compile data on the Neotropical species of the genus *Mucuna*, 17 species were recognized. Nevertheless, published data on the diversity of *Mucuna* occurring in the Americas is relatively scarce and the treatment by Ruiz (2009) presented an underestimate of the number of species in the Neotropical region. Most of the recently published literature on *Mucuna* in the Neotropics describes new local species (e.g., Tozzi & al., 2005; Ruiz, 2009; Moura & al., 2012; Moura & al., in press a, b).

During preparation of an updated list of *Mucuna* species for the Neotropics, and in order to obtain more precise details about the geographical distribution of the genus in the region, materials in 57 herbaria were studied: Argentina: LP, LPC, SI; Austria: W; Belgium: BR; Bolivia: LPB; Brazil: ALCB, CEN, CEPEC, CFJP, CGMS, ESA, HEPH, HST, HUEFS, IAC, IBGE, IPA, INPA, MIRR, PEUFR, R, RB, SP, UB, UEC, UFG, UFJF, UFP, UFRR; Colombia: ANDES, COAH, COL, CUVC, FMB, HUA, JAUM, MEDEL, UDBC; Denmark: AAU; England: BM, FHO, K, OXF; France: P; Germany: B; Ireland: TCD; Mexico: IEB, XAL; Spain: MA; Sweden: GB; U.S.A.: A, F, GH, NY, MO, US.

During analysis of herbarium material and a careful study of the literature it was apparent that some species names had never been fully typified, including those presented in the following references: Bentham (1859), Micheli (1892), Fawcett & Rendle (1917), Kunth (1823), and Ruiz & Pavón (1798). To remove any ambiguity about any of these names, this paper proposes lectotypes for seven Neotropical species of *Mucuna*.

■ TYPIFICATIONS

1. *Mucuna andreana* Micheli in J. Bot. (Morot) 6(8): 146–147, pl. 5–6. 1892 – **Lectotype (designated here)**: COLOMBIA. La Paila, in valle flum. Cauca, ca. 1000 m, 27 Mar 1876 (fl.), *Ed. André 1978* (K).

In the protologue of *Mucuna andreana* the author cited: “*N. Gr.* La Paila in valle fluminis Cauca, alt. 1000 met., mart. 1876 (n. 1978) E. A.” but did not give the herbarium where the specimen is housed. The aforementioned specimen collected by Eduard François Andre was located by us in K. Although the author Micheli also cited other collections in the species’ protologue, namely *Holton 971* and *Pittier 1277*, it is clear that the principal material studied by the author was *E. Andre 1978*, and for this reason that specimen is here chosen as the lectotype of *Mucuna andreana*.

2. *Mucuna inflexa* (Ruiz & Pav.) DC., Prodr. 2: 405. 1825 ≡ *Negretia inflexa* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 176. 1798 – **Lectotype (designated here)**: PERU. *Ruiz & Pavon s.n.* (OXF).

Ruiz & Pavon (1798) did not cite any specimens but stated “*N. foliolis laterabilis cordatis, floribus umbellatis, pedicellis inflexis, leguminibus urentissimus, seminibus subglobosis ... Peduncululi 2–4 unares, penduli. Flores numerosi, umbellati, ita digesti ut fanale in araneae formam structum aemulentur*” and “*Planta fruticosa, volubilis-scandens ... Habitat in Andibus per Cuchero, Pozuzo et Muña nemora calida*” (p. 176) in the protologue of their new taxon. The only specimen of *Mucuna* from the Ruiz and Pavon collections found in OXF has flowers and fruit. Although it does not have several flowers, as cited on the protologue, the other characteristics are in accordance with the original description. In addition, handwriting by the

authors on the specimen: “*Negretia inflexa* Fl Peru. Del Peru” is conclusive. Other specimens known to be identified by the authors are: FI 51702, although this specimen has only flowers, and BM 931437 (a vegetative specimen). All other specimens found in the Ruiz and Pavon collection at MA have either flowers or fruits, and all lack any annotations by the authors. We thus propose the specimen with flowers and fruits at OXF as the lectotype.

3. *Mucuna mitis* (Ruiz & Pav.) DC., Prodr. 2: 405. 1825 ≡ *Negretia mitis* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 177. 1798 – **Lectotype (designated here)**: PERU. Chinchão. Ruiz and Pavon Herbarium (MA no. 812451).

Ruiz & Pavon (1798) did not cite any specimens but stated “N. foliolis obliquè ovati, racemis longissimis; leguminibus inermibus, seminibus compressiusculis”, and: “*HABITAT* in *Peruviae* nemoribus *Chinchao* ad *Macoram* et *Masapata* praedia. ... *VERNACULE Llamapañau*” (pp. 177–178) in the protologue of their new taxon. The specimen MA 812451 in the Ruiz and Pavon Herbarium has written on the label: “indeterminata vulgo Llamapañau, de Chinchao”, and is a flowering specimen (the specimen lacks fruits). Although the authors include fruit characteristics in the protologue of *Negretia mitis*, there are only two specimens of *Mucuna mitis* in the Ruiz and Pavon Herbarium: MA 812451 (in flower) and MA 812434 (a vegetative specimen). The other herbaria supposed to house Ruiz and Pavon collections (F, FI) do not have any specimen of *M. mitis*, leading us to believe that either the authors described fruit based on personal field observations or the additional material of this species studied by Ruiz and Pavon is lost. We propose the flowering specimen MA 812451 as the lectotype.

4. *Mucuna mollis* (Kunth) DC., Prodr. 2: 405. 1825 ≡ *Negretia mollis* Kunth in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. [quarto ed.] 6: 444. 1823 – **Lectotype (designated here)**: COLOMBIA. Quindiu, Humboldt & Bonpland Herbarium in Paris (P no. 00660135).

Kunth (1823) in his protologue of *Negretia mollis* stated: “N. foliolis subacuminatis, supra tomentoso-hirtis, subtus mollissime sericeo-tomentosis et fusciscentibus, terminali subrotundo-elliptico, lateralibus valde inaequilateris; racemis capitato-globosis; bracteis ovatis, acutiusculis; leguminibus densissime sericeo-tomentosis; oblongo-acinaciformibus; seminibus lenticulari-orbiculatis”, and: “*Crescit in monte Quindiu, locis temperatis, alt. 800–1000 hex. (Nova Granata)*.” (p. 444). The author gave only the collection locality of his new species, but no collector or collection number was given. Specimen P 00660135 is the only one of *Mucuna mollis* from Quindiu, Colombia in the Humboldt & Bonpland Herbarium in Paris, and for that reason we chose here this specimen as the lectotype of *Negretia mollis*.

5. *Mucuna mutisiana* (Kunth) DC., Prodr. 2: 406. 1825 ≡ *Negretia mutisiana* Kunth in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. [quarto ed.] 6: 443. 1823 – **Lectotype (designated here)**: COLOMBIA. Santa Fé, Humboldt & Bonpland Herbarium in Paris (P no. 00660134).

Kunth (1823) in the protologue of *Negretia mutisiana* stated: “*Legit celeb. Mutisius prope Santa Fe de Bogota, alt. 1360 hex.*” (p. 443). The author gave the collection locality of his species and the name of the collector, but no collection number. P 00660134, in the Humboldt & Bonpland Herbarium in Paris is almost certainly the specimen collected by Mutis in Santa Fe, although the specimen carries no collector’s name or number. It is most probably the material studied by Kunth, because it is a collection of the taxon in question that agrees with the original description and it is housed in P where Kunth was working at the time. For that reason and because the author did not mention specifically which material he used in the protologue, the material at P with the register number 00660134 is here chosen as the lectotype of *Negretia mutisiana*.

6. *Mucuna rostrata* Benth. in Martius, Fl. Bras. 15(1): 171, pl. 157. 1859 – **Lectotype (designated here)**: BRASIL. Solimões, Gapó, June/1851, *Spruce 1625* (K no. 502761).

In the protologue of *Mucuna rostrata* Benth (1859) stated: “foliolis subtus pilosulis; pedunculo a medio florifero; vexillo alis subtriente brevioribus; carina alas superante, acute rostrata. ... LEGUMEN ignotum” and reported the habitat of the species to be: “*in silvis al flumen Itapicurú prov. Maragnanensis: M.; ad flumen Solimões: Spruce n. 1625.*” There are two duplicate specimens of *Spruce 1625* in K: K 502760 and K 502761. K 502761 comprises stem, leaves and inflorescence; whilst K 502760 has only leaves and inflorescence. In the protologue the author cited “CAULIS alte scandens, junior pilosulus, mox glabratus. Nec stipulas nec stipellas vidi.” K 502161 is the most complete material, and we here select it as the lectotype of *Mucuna rostrata*.

7. *Mucuna sloanei* Fawc. & Rendle in J. Bot. 55: 36. 1917 – **Lectotype (designated here)**: illustration: Jacquin, Select. Stirp. Amer. Hist.: t. 182, f. 84. 1763.

There is no indication that Jacquin (1763: 202–203) intended to publish *Dolichos urens* “Jacq.” as a new species. He used the same specific epithet as that of *Dolichos urens* L. (1759: 1162) and clearly cited the protologue of Linnaeus’s validly published binomial, thus indicating no intention to publish a new name himself (“*D. urens* Jacq.” is thus not an illegitimate later homonym of *D. urens* L.). Nevertheless, Jacquin’s plate does not fit the Linnaean protologue, demonstrating that Jacquin misidentified the species described by him as *Dolichos urens* L. So the material used in his description does not belong to the species described by Linnaeus as *Dolichos urens*. Candolle (1825: 405) further complicated the situation by taking the species description of Jacquin and proposing the new combination *Mucuna urens* (L.) DC. based on Linnaeus’s name *Dolichos urens* L. Fawcett & Rendle (1917: 36–38) noted the previous misinterpretations by Jacquin and Candolle and provided the binomial *Mucuna sloanei* Fawc. & Rendle, validated by reference to Jacquin’s previously and effectively published diagnosis; their name is thus the name of a new taxon, and not a nomen novum for a previous, illegitimate name. The binomials *Dolichos urens* Jacq. and *Mucuna urens* (L.) DC. are equivalent to Fawcett and Rendle’s *Mucuna sloanei*.

Neither Jacquin (1763) nor Fawcett & Rendle (1917) cited any collections in their protologues, although Jacquin (1763) did cite the image “Tab. CLXXXII. f. 84”. We have chosen the image cited by Jacquin as the lectotype of *Mucuna sloanei* Fawc. & Rendle as it is the only known element linked to the protologue.

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