

Original Paper

Two replacement names and lectotypifications in *Ditassa* and *Gonolobus* (Apocynaceae, Asclepiadoideae)

Rajeev Kumar Singh¹ and Sanjeet Kumar^{2*}

¹Botanical Survey of India, Arid Zone Regional Centre, AIIMS Road, Jodhpur, Rajasthan, India

²Biodiversity and Conservation Laboratory, Ambika Prasad Research Foundation, Bhubaneswar, Odisha, India

*E-mail: sanjeetaprf@gmail.com; ORCID: <https://orcid.org/0000-0001-9538-397X>

Article Details: Received: 2024-01-05 | Accepted: 2024-02-07 | Available online: 2024-02-08



Licensed under a Creative Commons Attribution 4.0 International License

Abstract: A new name, *Ditassa lallanii* R.Kr.Singh & Sanjeet Kumar, is proposed here as a replacement name for the illegitimate name *D. apiculata* Rusby, being a later homonym of *D. apiculata* K.Schum. Likely, a replacement name *Gonolobus mexicanus* R.Kr.Singh & Sanjeet Kumar is here proposed for the illegitimate *G. virescens* Decne., being a later homonym of *G. virescens* Desv. Lectotypes are designated for the names *Ditassa apiculata* Rusby, *D. mandonii* Rusby, *D. subalpina* Schltr. and *Gonolobus virescens* Decne.

Keywords: Bolivia, Endemic, Mexico, Illegitimate, Later homonym, Lectotype

Introduction

The south tropical American herbaceous climber or climbing subshrubs genus *Ditassa* R.Br. (family Apocynaceae, subfamily Asclepiadoideae, tribe Asclepiadeae, subtribe Metastelmatinae) is represented by about 114 species (Farinaccio & Konno, 2005; POWO, 2024). In Bolivia, the genus is represented by 9 species, viz. *Ditassa apiculata* Rusby, *D. burchellii* Hook. & Arn., *D. crassa* Schltr., *D. fiebrigii* Malme, *D. gracilipes* Schltr., *D. lanceolata* Decne., *D. mandonii* Rusby, *D. racemosa* Britton and *D. subalpina* Schltr., of which *D. apiculata*, *D. fiebrigii*, *D. mandonii* and *D. subalpina* are endemic. However, the name *D. apiculata* Rusby (1907: 412) is illegitimate because it is a later homonym of *D. apiculata* K.Schum. (1898: 21) in accordance to Article 53.1 in Turland *et al.*, (2018). Therefore, a new, replacement name is proposed here. To fix the identity and to avoid misapplication of names, lectotypes are designated here for three endemic plant names, viz. *D. apiculata* Rusby, *D. mandonii* Rusby and *D. subalpina* Schltr., because no holotypes were cited in the protologues, and so far, they have not been typified. In lectotypifications, the guidelines and recommendations of Article 9 of ICN (Turland *et al.*, 2018) were followed. The New World herbaceous twiners or woody vines genus *Gonolobus* Michx.

(family Apocynaceae, subfamily Asclepiadoideae, tribe Asclepiadeae, subtribe Gonolobinae) is represented by about 130 species (Steven, 2005; Alvarado-Cárdenas *et al.*, 2021; POWO, 2024). In Mexico, the genus is represented by about 51 taxa, of which 34 taxa are endemic, viz. *Gonolobus albiflorus* W. D. Stevens, *G. asper* Decne., *G. bifidus* Hemsl., *G. breedlovei* L. O. Williams, *G. caamalii* Carnevali & Duno, *G. calcaratus* (Woodson) L.O.Alvarado & Velazco, *G. chloranthus* Schldl., *G. croceus* W.D.Stevens, *G. cthulhui* L.O.Alvarado, K.Maya M. & M.G.Chávez, *G. espejoi* G.M.Hern.-Barón, Hern.-Barón & López-Ferr., *G. fuscus* Decne., *G. gonzaleziarum* Pío-León, Art.Castro & L.O.Alvarado, *G. grandiflorus* (Cav.) Schult., *G. jaliscensis* B.L.Rob. & Greenm., *G. latisinuatus* (Woodson) L.O.Alvarado & Velazco, *G. lozadae* L.O.Alvarado, E.B.Cortez & C.Cerv., *G. luridus* Decne., *G. naturalistae* M.G.Chávez, Pío-León & L.O.Alvarado, *G. nemorosus* Decne., *G. pallidus* W.D.Stevens, *G. pancololote* (Sessé & Moc.) L.O.Alvarado, *G. pectinatus* Brandegees, *G. rotundus* M.E.Jones, *G. sandersii* W.D.Stevens, *G. sanmartinus* Lozada-Pérez & E.B.Cortez, *G. sororius* A.Gray ex S.Watson, *G. spiranthus* Juárez-Jaimes, W.D.Stevens & Lozada-Pérez, *G. stenanthus* (Standl.) Woodson subsp. *yucatanensis* (Woodson) Carnevali & Duno, *G. striatus* M.Martens & Galeotti, *G. tingens* Decne., *G. triflorus* M.Martens & Galeotti, *G. villasenorii* L.O.Alvarado, Pío-León, Morillo & S.Islas, *G. virescens* Decne. and *G. volcanicus* Nuñez Oberg, L.O. Alvarado & S. Islas (Alvarado-Cárdenas *et al.*, 2021, 2023, 2024; POWO 2024). Out of the 34 endemic taxa, *G. virescens* Decne. (1844: 596) is illegitimate because it is a later homonym of *G. virescens* Desv. (1825: 32) according to Article 53.1 in Turland *et al.*, (2018). Therefore, a replacement name is herein proposed. Lectotype for the name *G. virescens* Decne. is also designated here to fix the identity and to avoid misapplication of name.

Nomenclature

Ditassa lallanii R.Kr.Singh & Sanjeet Kumar, *nom. nov.*

≡ *Ditassa apiculata* Rusby, Bull. New York Bot. Gard. 4: 412. 1907, *nom. illeg.*, *non* K.Schum., Bot. Jahrb. Syst. 60: 21. 1898.

Lectotype (designated here): Bolivia, *s.d.*, *M. Bang* 2846 (GH00076317!, Figure 1); isolectotypes F0048888F!, GH00076318!, K000197245!, MICH1111601!, MO-225503!, NY00279095!, NY00279096!, PH00009607!, US00112273!, US00610961! (Figure 2).

Distribution: Endemic to Bolivia.

Etymology: Named after late Shri Lallan Singh, a great nature lover and father of lead author.

Notes: Rusby (1907) described *Ditassa apiculata* based on specimens of collection number 2846, collected by M. Bang (1853–1936) from Bolivia, but in keeping with the practice of the time, he did not designate a holotype. Rusby's types are known to be held mainly at MICH and NY, and duplicates in many American and European herbaria (Stafleu & Cowan, 1983). Eleven specimens of *D. apiculata* Rusby collected by Miguel Bang from Bolivia were traced (F0048888F, GH00076317, GH00076318, K000197245, MICH1111601, MO-225503, NY00279095, NY00279096, PH00009607, US00112273

Figure 1: Lectotype of *Ditassa apiculata* Rusby (GH00076317, © The Gray Herbarium, Harvard University)



Figure 2: Isolectotype of *Ditassa apiculata* Rusby (US00610961, © United States National Herbarium, Smithsonian Institution)



Figure 3: Specimen of *Ditassa apiculata* Rusby, collected by M.H. Nee from Bolivia in the year 1988 (NY04185378, © Herbarium, New York Botanical Garden)

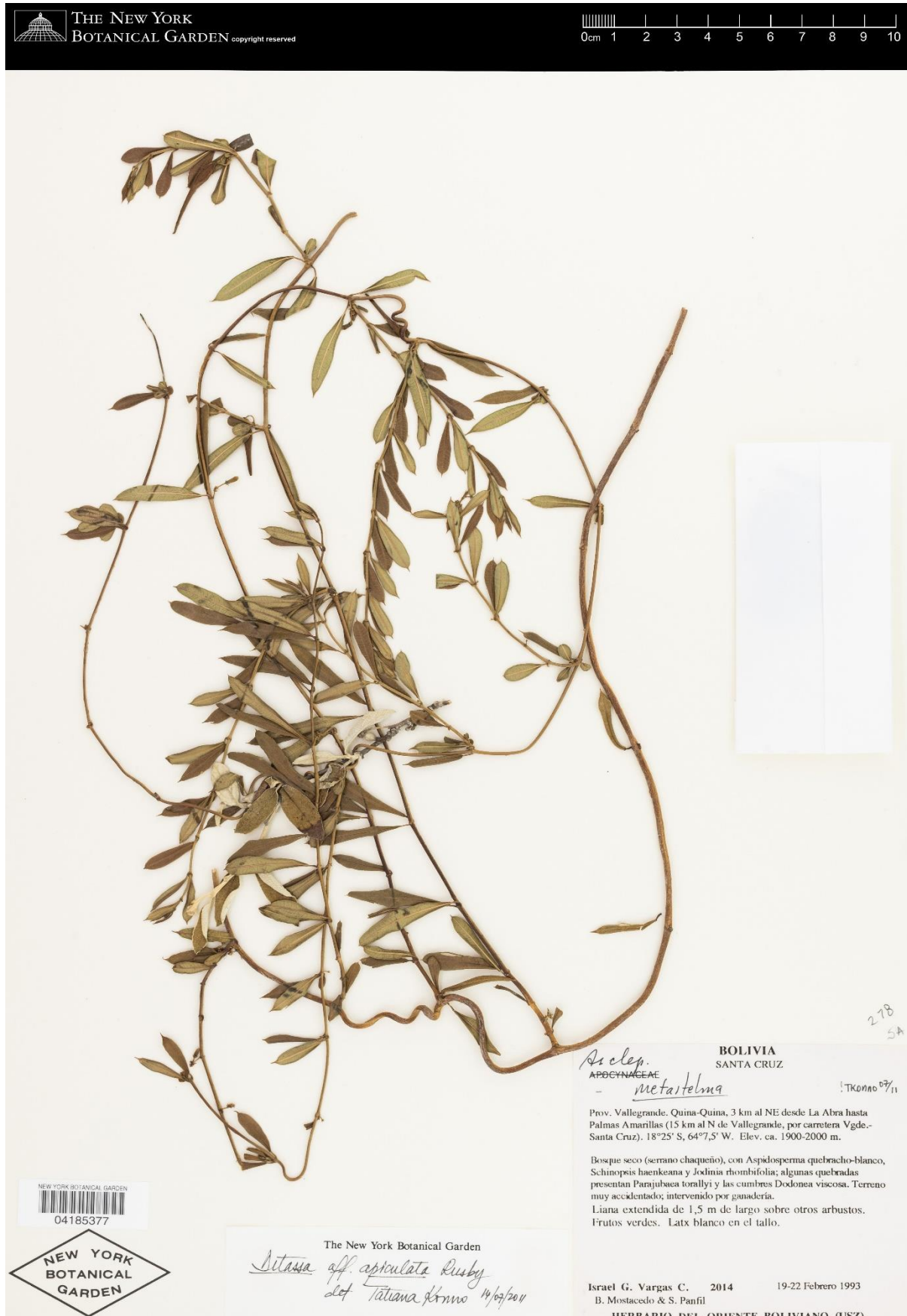


Figure 4: Specimen of *Ditassa apiculata* Rusby, collected by I.G. Vargas Caballero from Bolivia in the year 1993 (NY04185377, © Herbarium of the New York Botanical Garden)



Figure 5: Specimen of *Ditassa apiculata* Rusby, collected by R. Mello-Silva, R.C. Forzza and P.H. Labiak from Bolivia in the year 2002 (RB00049385, © Herbarium of the Jardim Botânico do Rio de Janeiro).



Figure 6: Lectotype of *Ditassa mandonii* Rusby (NY00279081, © Herbarium, New York Botanical Garden).



HERB. LUGD. BAT. 1822 60 745

L.2727302

Ditassa subalpina Schltr. sp. n.
 Plantae in itinere secundo per Boliviam lectae
 No. 1742

Ditassa subalpina SCHLTR. sp. n.
 Volubilis, scandens, ramosa; ramis ramulisque filiformibus elongatis, tuberculatis, bene foliatis; foliis erecto-patentibus, anguste oblongis, breviter acuminatis vel apiculatis, basi subcuneatis, superne glabris, subtus subglabris, margine sparsim ciliolatis, 1.5-4 cm longis, medio fere 5-11 mm latis, petiolo puberulo, 2-4 mm longo; cymis umbelliformibus 3-6-floris, pedunculo 5-7 mm longo; pedicellisque ca. 3 mm longis sparsim pilosis; floribus in genere medio-ocribus, ut videtur niveis; calycis segmentis ovato-oblongis, acuminatis, subglabris, ca. 1.5 mm longis; corolla usque ad quintam partem basilarem 5-fida, 6 mm longa, extus glabrata, intus niveo-barbellata, lobis e basi lanceolata oblique lineari-ligulatis, obtusis; coronae folioli linearibus subacutis, ca. 4 mm longis, gynostegium fere 3-plo excedentibus, intus ligula anguste lineari-flexuosa aequilonga ornatis; antheris trapezideo-quadratis, appendice hyalina reniformi, apiculata; pollinibus oblique oblongoideis, translatoribus duplo brevioribus retinaculo oblongoideo paulo minori juxta basin affixis.

In subalpinen Gebüsch der Cuesta de los Monos, ca. 1300 m (no. 1742, blühend im März 1911).
 Verbr.: Endemisch.

Plantae in itinere secundo per Boliviam lectae
 No. 1742
 In subalpinen Gebüsch der Cuesta de los Monos
 1300 m
 leg. Th. Herzog 4 No. März 1911

602480

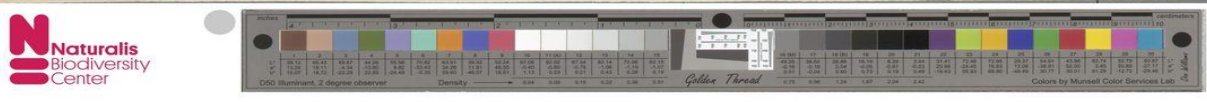


Figure 7: Lectotype of *Ditassa subalpina* Schltr. (L.2727302, © Naturalis Biodiversity Center, Leiden).

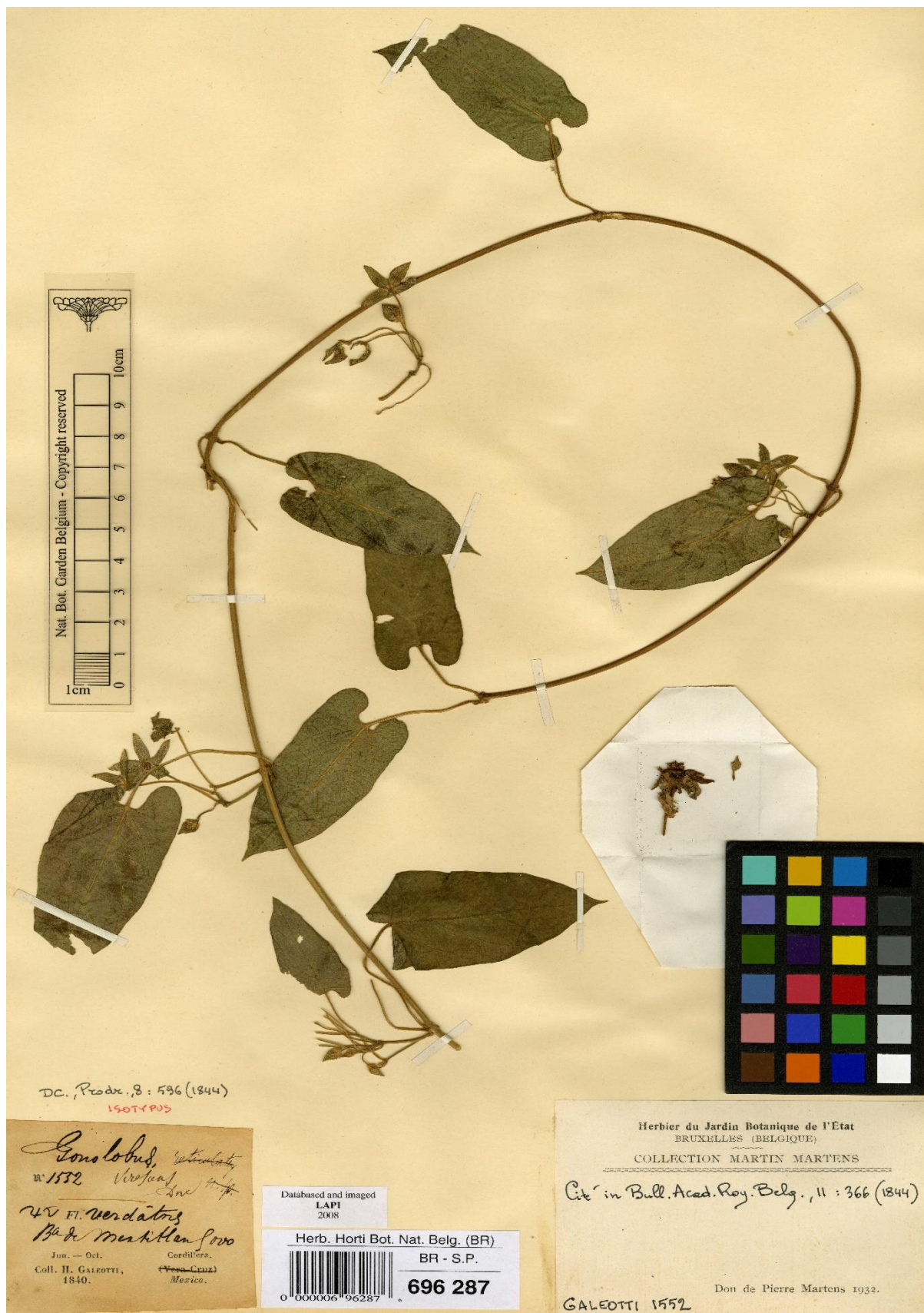


Figure 8: Lectotype of *Gonolobus virescens* Decne. (BR000006962876, © Herbarium of the National Botanic Garden of Belgium)

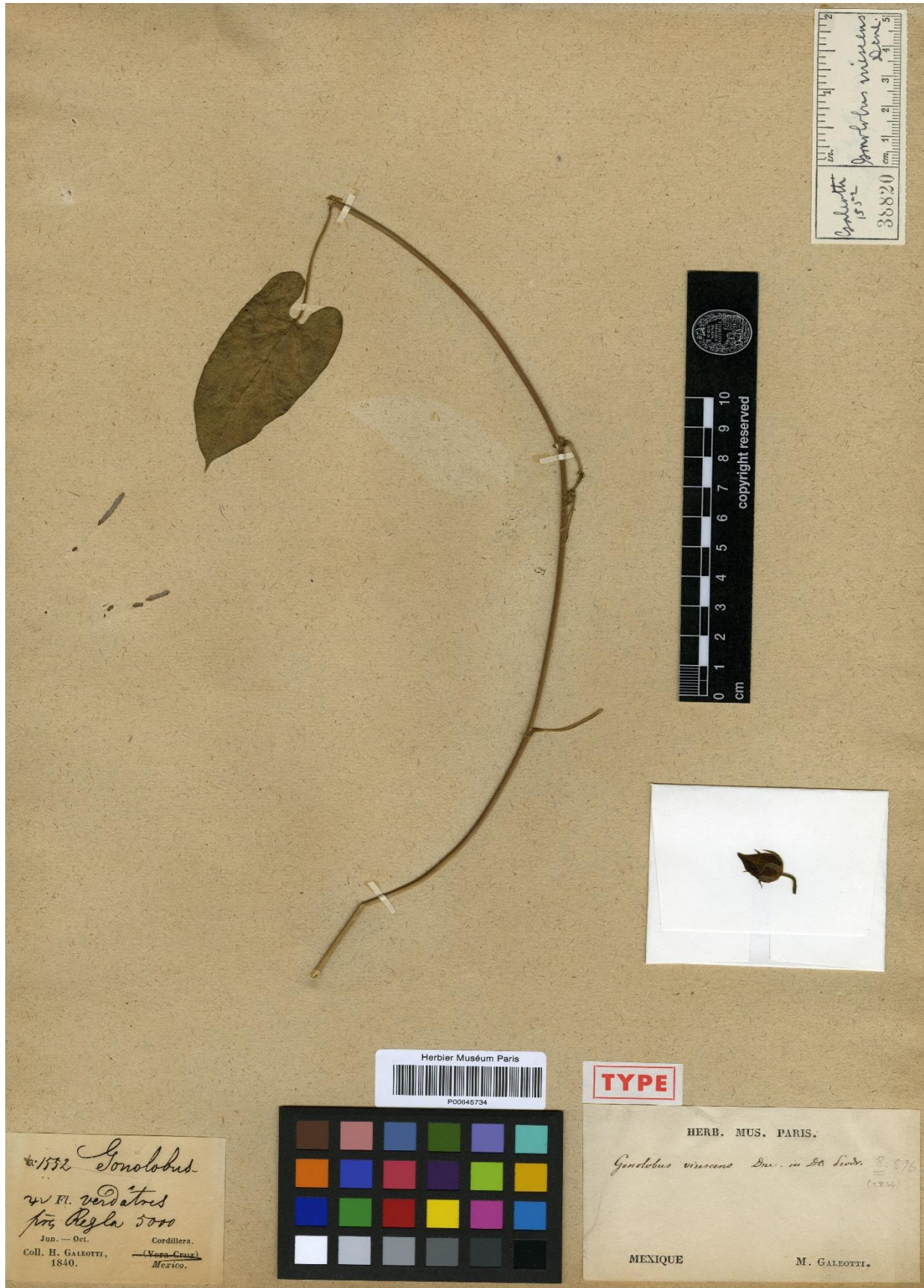


Figure 9: Isolectotype of *Gonolobus virescens* Decne. (P00645734, © Muséum National d'Histoire Naturelle, Paris)

and US0061096). Among these specimens, GH00076317, being the best-preserved and most fitting the protologue description, is designated here as the lectotype. The species was collected later from Bolivia in the year 1988 by M.H. Nee (NY04185378, Figure 3), in 1993 by I.G. Vargas Caballero (NY04185377, Figure 4) and in 2002 by R. Mello-Silva, R.C. Forzza and P.H. Labiak (RB00049385, Figure 5).

Ditassa mandonii Rusby, Descr. S. Amer. Pl. 97. 1920.

Lectotype (designated here): Bolivia, Apolo, 4800 ft., 20 April 1902, *R.S. Williams 2453* (NY00279081!, Figure 6); isolectotype UC946269!.

Remaining syntypes: Bolivia, Larecaja, June 1860, *G. Mandon 354* (K000197237!, NY04185454!, NY04185455!, V0364917F!).

Distribution: Endemic to Bolivia.

Notes: *Ditassa mandonii* was described by Rusby (1920) based on specimens collected from Bolivia by G. Mandon (1799–1866), field no. 354 and R.S. Williams (1859-1945), field no. 2453. Four specimens collected from Bolivia by G. Mandon, field no. 354 (K000197237, NY04185454, NY04185455 and V0364917F) and two of R.S. Williams, field no. 2453 (NY00279081 and UC946269) were traced. Of these, the better preserved NY00279081, is chosen here as the lectotype.

Ditassa subalpina Schltr., Repert. Spec. Nov. Regni Veg. 13: 439. 1914.

Lectotype (designated here): Bolivia, Im subalpinen Gebüsch der Cuesta de los Monos, 1300 m, March 1911, *T.C.J. Herzog 1742* (L.2727302!, Figure 7); isolectotypes F0043850F!, S06-1350!, Z-000001631!.

Distribution: Endemic to Bolivia.

Notes: Schlechter (1914) described *Ditassa subalpina* based on specimens collected by T.C.J. Herzog (1880–1961) from Bolivia, but no holotype was designated by him. Schlechter's types are known to be held mainly at B and K, and duplicates in many American and European herbaria (Stafleu & Cowan, 1985). Four specimens of *D. subalpina* Schltr. collected by T.C.J. Herzog from Bolivia were traced (F0043850F, L.2727302, S06-1350 and Z-000001631). Of these, the best-preserved specimen, L.2727302, is designated here as the lectotype as it agrees well with the protologue.

Gonolobus mexicanus R.Kr.Singh & Sanjeet Kumar, *nom. nov.*

≡ *Gonolobus virescens* Decne., Prodr. [A. P. de Candolle] 8: 596. 1844, *nom. illeg., non* Desv., Prodr. Pl. Ind. Occid. [Hamilton] 32. 1825.

Lectotype (designated here): Mexico, Cordillera, Regla, 5000 ft., 1840, *H. Galeotti 1552* (BR0000006962876!, Figure 8); isolectotypes K000197297!, P00645734! (Figure 9).

Distribution: Endemic to Mexico.

Etymology: The specific epithet refers to the country Mexico.

Notes: Decaisne (1844) described *Gonolobus virescens* based on specimens at Paris herbarium, collected from Mexico by H. Galeotti (field number 1552). Presently, only one fragmentary specimen is extant at P (P00645734), represented only by one leaf and one flower bud. It does not show all the characters of leaves and inflorescence as mentioned in the protologue. This implies that the type specimen (P00645734) was previously more complete at the time of Decaisne or he might have described *G. virescens* with help of more type specimens. Decaisne's types are known to be held at BR, G, P and PC (Stafleu & Cowan, 1976). Two more specimens of *H. Galeotti* 1552 for the name *G. virescens* Decne. were traced, one each at BR (BR0000006962876) and K (K000197297). From the three type specimens, BR0000006962876, being the best-preserved, contains well developed leaves and inflorescences, and most fitting the protologue description, is designated here as the lectotype.

Acknowledgements

The lead author is thankful to the Director, Botanical Survey of India, Kolkata for facilities and encouragement. Authors are also grateful to the curators of BR, F, GH, K, L, MICH, MO, NY, P, PH, RB, S, UC, US and Z for the images and information of herbarium specimens.

References

- Alvarado-Cárdenas LO, Cortez EB and Cervantes CO. (2021). *Gonolobus lozadae*, a new species of Apocynaceae from the state of Oaxaca, Mexico. *Botanical Sciences*. 99(2): 447–454. <https://doi.org/10.17129/botsci.2783>
- Alvarado-Cárdenas LO, Nuñez-Oberg MB and Islas-Hernández S. (2023). New *Gonolobus* (Apocynaceae, Asclepiadoideae, Gonolobeae, Gonolobineae) for the Trans-Mexican Volcanic Belt, Puebla, Mexico. *Botanical Sciences*. 102(1): 223–233. <https://doi.org/10.17129/botsci.3345>
- Alvarado-Cárdenas LO, Pío-León JF, Morillo G and Islas-Hernández CS. (2024). A new *Gonolobus* species (Apocynaceae, Asclepiadoideae) from Sinaloa, Mexico. *Taxonomy*. 4(1): 1–9. <https://doi.org/10.3390/taxonomy4010001>
- Decaisne J. (1844). *Gonolobus* Michx. In: de Candolle ALPP. *Prodromus systematis naturalis regni vegetabilis*. Volume 8. Sumptibus Fortin, Masson et Sociorum, Paris. pp. 591–599.
- Desvaux NA. (1825). *Gonolobus*. In: Hamilton W. *Prodromus plantarum Indiae occidentalis hucusque cognitarum*. Treuttel et Würtz, London. pp. 31–32.
- Farinaccio MA and Konno TUP. (2005) *Ditassa obscura* (Apocynaceae: Asclepiadoideae, Asclepiadeae), a new combination from Minas Gerais State, Brazil. *Novon*. 15(2): 282–285.
- POWO. (2024). *Plants of the World Online*. Royal Botanic Gardens, Kew. Available from: <http://www.plantsoftheworldonline.org/> (accessed 3 January 2024).
- Rusby HH. (1907). An enumeration of the plants collected in Bolivia by Miguel Bang. *Bulletin of the New York Botanical Garden*. 4: 309–470.
- Rusby HH. (1920). Descriptions of three hundred new species of South American plants. Published by the author, New York.
- Schlechter FRR. (1914). *Asclepiadaceae novae bolivienses Herzogianae*. *Repertorium Specierum Novarum Regni Vegetabilis*. 13: 438–443.
- Schumann KM. (1898). *Asclepiadaceae*. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie*. 60: 19–23.
- Stafleu FA and Cowan RS. (1976). *Taxonomic Literature*. Volume 1. Bohn, Scheltema & Holkema, Utrecht.
- Stafleu FA and Cowan RS. (1983). *Taxonomic Literature*. Volume 4. Bohn, Scheltema & Holkema, Utrecht.
- Stafleu FA and Cowan RS. (1985). *Taxonomic Literature*. Volume 5. Bohn, Scheltema & Holkema, Utrecht.
- Stevens WD. (2005). Fourteen new species of *Gonolobus* (Apocynaceae, Asclepiadoideae) from Mexico and Central America. *Novon*. 15(1): 222–244.
- Turland NJ, Wiersema JH, Barrie FR, Greuter W, Hawksworth DL, Herendeen PS, Knapp S, Kusber W-H, Li D-Z, Marhold K, May TW, McNeill J, Monro AM, Prado J, Price MJ and Smith GF. (2018). *International Code of Nomenclature for algae, fungi, and plants (Shenzhen Code)*. *Regnum Vegetabile* 159. Koeltz Botanical Books, Glashütten. <https://doi.org/10.12705/Code.2018>