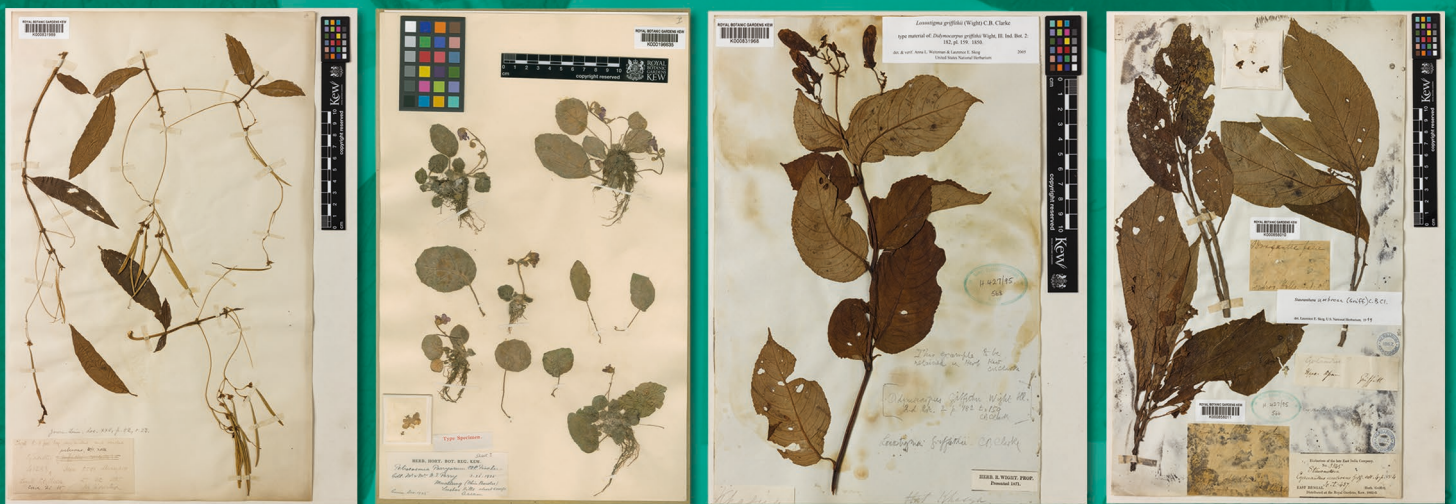


Lectotypifications of four names in the family Gesneriaceae

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Lectotypifications of four names in the family Gesneriaceae

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KEY WORDS

Gesneriaceae,
India,
nomenclature,
second-step
lectotypification.

ABSTRACT

Lectotypes are designated for four species epithets, including one second-step lectotypification, under the family Gesneriaceae Rich. & Juss., viz., *Cyananthus umbrosa* Griff., *Didymocarpus griffithii* Wight, *Lysionotus pubescens* C.B. Clarke and *Petrocosmea parryorum* C.E.C. Fisch., along with detailed notes on their typification.

RÉSUMÉ

Lectotypifications de quatre noms de la famille des Gesneriaceae.

Des lectotypes ont été désignés pour quatre épithètes spécifiques, y compris une deuxième-étape de lectotypification d'espèces sous la famille des Gesneriaceae Rich. & Juss., à savoir *Cyananthus umbrosa* Griff., *Didymocarpus griffithii* Wight, *Lysionotus pubescens* C.B. Clarke et *Petrocosmea parryorum* C.E.C. Fisch., avec des notes détaillées sur leur typification.

MOTS CLÉS
Gesneriaceae,
Inde,
nomenclature,
deuxième étape de
lectotypification.

INTRODUCTION

The family Gesneriaceae Rich. & Juss. consists of about 150 genera and more than 3700 species worldwide (Weber *et al.* 2020). It is distributed mainly in the tropics and subtropics of the Old World and the New World, with some outliers in Europe and the southern hemisphere (Weber *et al.* 2013). The family is represented by 23 genera and about 135 species in India (Möller *et al.* 2017; Akhil *et al.* 2020; Borah *et al.* 2020; Gammi *et al.* 2020; Prasanna *et al.* 2020; Singh *et al.* 2020; Taram *et al.* 2020).

As a part of ongoing revisionary studies in Gesneriaceae in India, the authors found that holotypes had not been cited in the protologues for three names, *viz.*, *Cyananthus umbrosa* Griff., *Lysionotus pubescens* C.B. Clarke, and *Petrocosmea parryorum* C.E.C. Fisch. We also found an erroneous typification of the name *Didymocarpus griffithii* Wight. These names have not been lectotypified earlier, and therefore, the four names are lectotypified here to avoid any ambiguity in the application of the names. After consulting the protologues, types and relevant specimens at A, BM, E, G, K, NY and P (acronyms as per Thiers 2020, continuously updated), lectotypes are designated here for these names according to Art. 9.3 of the *Shenzhen Code* (Turland *et al.* 2018).

SYSTEMATICS

Family GESNERIACEAE Rich. & Juss.
Genus *Cyananthus* Griff.

Cyananthus umbrosa Griff.

Notulae ad Plantas Asiaticas 4: 154 (Griffith 1854). — *Stauranthera umbrosa* (Griff.) C.B. Clarke, *Commelynaceae et Cyrtandraceae Bengalenses* 126 (Clarke 1874). — Type: **India**. Assam, Gubroo hills, 08.III.1836, *Griffith W. 3845* (lecto-, K[K000858010]! digital image, here designated [Fig. 1]; isolecto-, K[K000858011]! digital image).

LECTOTYPIFICATION

In the protologue Griffith (1854) cited “HAB. Assam. In umbrosis humidis collis humilis prope *Gubroo Purbut: March*, 1836.”, but did not provide specimen details. We have traced a single sheet at K with three flowering twigs and two barcode numbers (K000858010, K000858011). In the upper part of the sheet, there are two flowering twigs and the barcode number is labelled in between them. Thus, we are considering them as a single collection under the barcode number K000858010. K000858011 has a single flowering specimen but the collection details are not clearly readable. On the other hand, the collection K000858010 has a field label annotated ‘Gubroo Hills, 3.8/36’. The location exactly matches with the protologue while the date of collection is presumably March 8 1836. Further, the sub-opposite or alternate, oblong-ovate leaves, acuminate at apex, petaloid calyx and five-winged flower

buds in K000858010 agrees with the protologue, hence, it is selected here as the lectotype.

Genus *Didymocarpus* Wall.

Didymocarpus griffithii Wight

Illustrations of Indian Botany 2: 182, pl. 159 (Wight 1850). — *Dichrotrichum griffithii* (Wight) C.B. Clarke, *Commelynaceae et Cyrtandraceae Bengalenses*: 78-79 (Clarke 1874). — *Loxostigma griffithii* (Wight) C.B. Clarke, in A.D.C. & C.D.C., *Monographiae Phanerogamarum* 5: 60 (Candolle & Candolle 1883). — Type: **India**. Meghalaya, Khasya [Khasya, now Khasi], s.d., *Griffith W. s.n.* (lecto-, K[K000831968]! first step designated by Vitek *et al.* 2000; second step here designated [Fig. 2]; isolecto-, BM[BM000997689], K[K000831969, K000831970]! digital images).

LECTOTYPIFICATION

While describing *Didymocarpus griffithii*, Wight (1850) cited the collection details only as “Khasya [Khasya], Griffith”. Burt (1975) and Vitek *et al.* (2000) did not provide further details, except for the latter mentioning K for the location of the types. Hence this can be considered as the first step of lectotypification. There are three relevant herbarium sheets at K (K000831968, K000831969, K000831970). All of them bear perfect specimens with axillary cymes and a pair of lanceolate bracts at each branching and with the annotations “Khasya [Khasya], *Griffith*” in pencil or ink. K000831968 and K000831969 bear original Wight herbarium labels (HERB. R. WIGHT. PROP.). Among them, sheet K000831968 with a Wight label and annotation by Weitzman and Skog as type material is selected here as the lectotype (second-step).

Genus *Lysionotus* D. Don

Lysionotus pubescens C.B. Clarke

Journal of the Linnean Society, Botany 25: 52 (Clarke 1889). — Type: **India**. Muneypoor, Moa, 5500 ft, 27.X.1885, *C.B. Clarke 41283A* (lecto-, K[K000831989]! digital image, here designated [Fig. 3]; isolecto-, K[K000831990, K000831991]! digital images).

LECTOTYPIFICATION

In the protologue of *Lysionotus pubescens*, Clarke (1889) cited “North Muneypore [Manipur], alt. 5500 feet [n. 41283]” along with an illustration (Clarke 1889: pl. 23) which is also original material according to Art 9.4. (Turland *et al.* 2018), and since Clarke omitted to explicitly state a holotype, a lectotypification is necessary (Art. 9.3., Turland *et al.* 2018). We have traced three relevant herbarium sheets at K with the collection numbers 41283A (K000831989), 41283D (K000831990) and 41283E (K000831991). All specimens have mature capsules and detailed field labels. Among them, K000831989 bears four fruiting branches and an annotation by Clarke: “shrub 6-8 feet long, semi pendent, much branched, *Lysionotus pubescens* sp. nov.”, is selected here as the lectotype.



FIG. 1. — Lectotype (<http://specimens.kew.org/herbarium/K000858010>) and isolectotype (<http://specimens.kew.org/herbarium/K000858011>) of *Cyananthera umbrosa* Griff. © copyright of the Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with permission.



FIG. 2. — Lectotype of *Didymocarpus griffithii* Wight (<http://specimens.kew.org/herbarium/K000831968>). © copyright of the Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with permission.

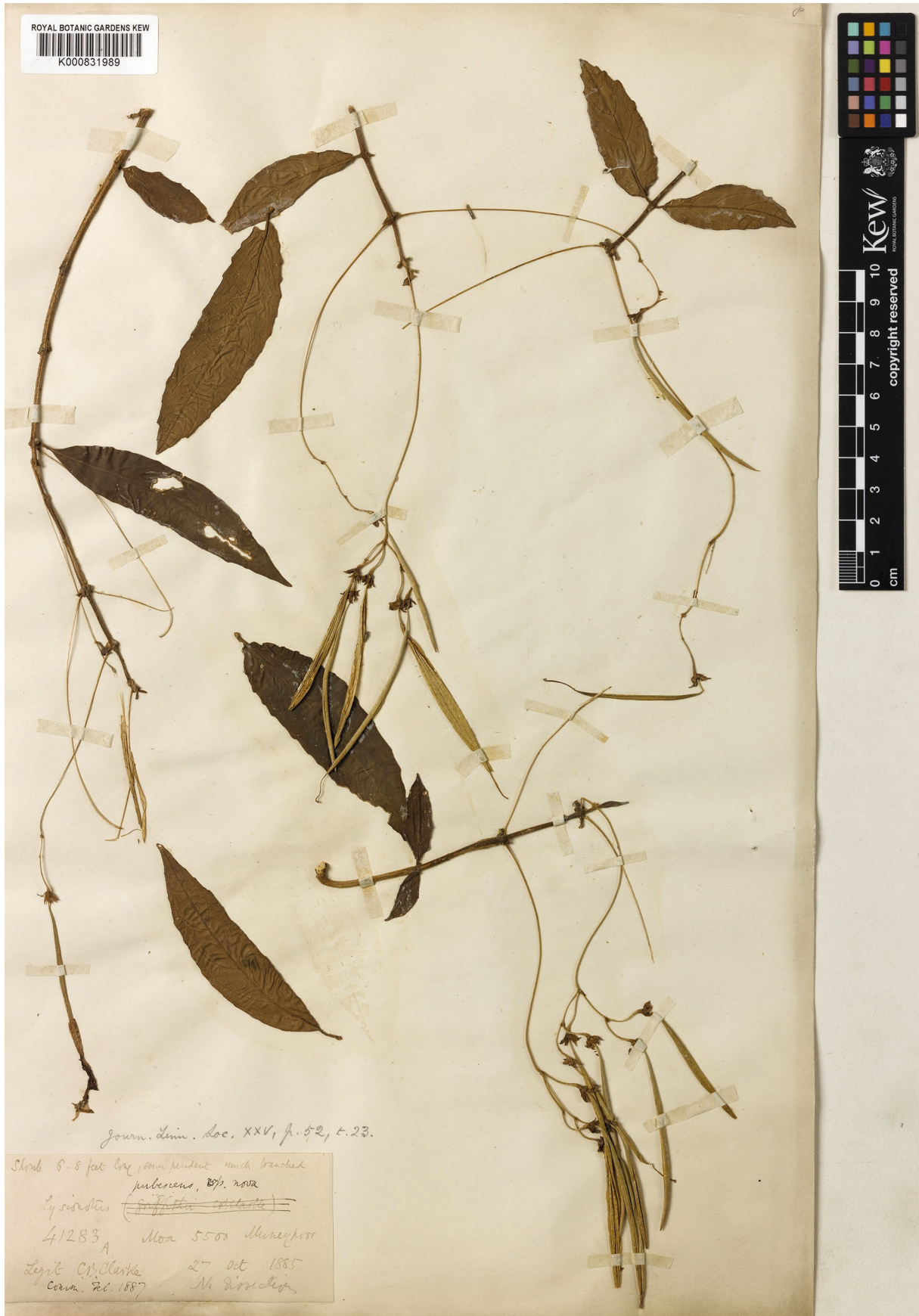


FIG. 3. — Lectotype of *Lysionotus pubescens* C.B. Clarke (<http://specimens.kew.org/herbarium/K000831989>). © copyright of the Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with permission.



FIG. 4. — Lectotype of *Petrocosmea parryorum* C.E.C.Fisch. (<http://specimens.kew.org/herbarium/K000196635>). © copyright of the Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with permission.

Genus *Petrocosmea* Oliv.*Petrocosmea parryorum* C.E.C.Fisch.

Bulletin of Miscellaneous Information (Kew) 1926 (10): 438 (Fischer 1926). — Type: India, Assam, Lushai Hills, Muallung (Chin border), c. 5000 ft. 03.XI.1925, Mr. & Mrs. N.E. Parry s.n. (lecto-, K[K000196635]! digital image, here designated [Fig. 4]; isolecto-, K[K000196636, K000196637, K000196638]! digital images).

LECTOTYPIFICATION

Fischer (1926) described *Petrocosmea parryorum*, based on the collections of Mr. and Mrs. Parry and cited “INDIA. Assam; Lushai Hills, about 1700 m., near Sailsuk, Muallung, on the Chin Hill border, and Vanlaiphai, Sept.-Nov., Mr. and Mrs. N. E. Parry (type in Herb. Kew.)”. We have traced four relevant sheets at K (K000196635, K000196636, K000196637, K000196638), that seem to come from three collections: K000196635 and K000196636 were from Muallung while K000196637 from Vanlaiphai, all three collected on 3 November 1925, and K000196638 from Sailsuk collected in September 1925. The sheet K000196636 has two plants, a single leaf and inflorescence and a separately mounted flower. The plant on the right has a flower with a 6-lobed corolla, which is an exception. K000196637 and K000196638 each hold a small single plant and a separately mounted leaf. The former has no flowers but infructescences separately placed in an envelope on the sheet, while the latter plant has flowers and illustrations. K000196635 having five flowering plants on the sheet with five leaves are mounted separately and a flower in a pocket is selected here as the lectotype.

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REFERENCES

- AKHIL M. K., KRISHNA N., AMRUTHA A. & NAMPY S. 2020. — A new species of *Lyonotus* (Gesneriaceae) from Arunachal Pradesh, India. *Journal of Asia-Pacific Biodiversity* 14 (1): 116-120. <https://doi.org/10.1016/j.japb.2020.09.009>
- BORAH D., SINGH R. K., TARAM M. & DAS A. P. 2020. — *Boeica arunachalensis* (Gesneriaceae), a new species from Indian Eastern Himalaya and typification of five names in *Boeica*. *Indian Forester* 146 (9): 871-874.
- BURTT B. L. 1975. — Studies in the Gesneriaceae of the Old

- World XL: the genus *Loxostigma*. *Notes from the Royal Botanic Garden Edinburgh* 34 (1): 101-105.
- CANDOLLE A. DE & CANDOLLE C. DE 1883. — *Monographiae phanerogamarum prodromi nunc continuato nunc revisio*. G. Masson, Paris, 654 p. <https://gallica.bnf.fr/ark:/12148/bpt6k982369>
- CLARKE C. B. 1874. — *Commelynaceae et Cyrtandraceae Bengalenses*. Thacker, Spink and Co., Calcutta, 78-79, 126 p.
- CLARKE C. B. 1889. — On the plants of Kohima and Munnepore. *Journal of the Linnean Society, Botany* 25: 1-107. <https://doi.org/10.1111/j.1095-8339.1889.tb00793.x>
- FISCHER C. E. C. 1926. — Decades kewensis plantarum novarum in herbio horti regii conservatorum. *Bulletin of Miscellaneous Information (Royal Botanic Gardens, Kew)* 1926 (10): 433-440.
- GAMMI L., BORAH D., TARAM M., TAG H. & KHAPUGIN A. A. 2020. — *Beccarinda tonkinensis* (Gesneriaceae), a new record for India and its IUCN Red List status in India. *Wulfenia* 27: 139-144.
- GRIFFITH W. 1854. — *Notulae ad Plantas Asiaticas*. Charles A. Serrao, Calcutta, 764 p. <https://doi.org/10.5962/bhl.title.70352>
- MÖLLER M., NAMPY S., JANEESHA A. P. & WEBER A. 2017. — The Gesneriaceae of India: consequences of updated generic concepts and new family classification. *Rhedeia* 27 (1): 23-41. <https://doi.org/10.22244/rhedeia.2017.27.1.5>
- PRASANNA N. S., LIU D. T., SARYAN P., DUAN S. Z., CAI L. & GOWDA V. 2020. — *Didymocarpus sinoindicus* (Gesneriaceae), a new species from India and China. *Rhedeia* 30 (1): 135-142. <https://doi.org/10.22244/rhedeia.2020.30.01.07>
- SINGH R. K., ARIGELA R. K., BORAH D. & TARAM M. 2020. — *Henckelia collegii-sancti-thomasi* (Gesneriaceae), a new synonym of narrow endemic species *H. hookeri* of Northeast India. *NeBIO* 11 (3): 205-207.
- TARAM M., MIPUN P. & BORAH D. 2020. — *Rhynchotechum parviflorum* Blume (Gesneriaceae): a new record to mainland India. *Journal of Threatened Taxa* 12(1): 15208-15211. <https://doi.org/10.11609/jott.5306.12.1.15208-15211>
- THIERS B. M. 2020 (continuously updated). — Index Herbariorum: a global directory of public herbaria and associated staff, New York Botanical Garden’s Virtual Herbarium. Available at: <http://sweetgum.nybg.org/ih/> (accessed on 20.09.2020).
- TURLAND N. J., WIERSEMA J. H., BARRIE F. R., GREUTER W., HAWKSWORTH D. L., HERENDEN P. S., KNAPP S., KUSBER W.-H., LI D.-Z., MARHOLD K., MAY T. W., MCNEILL J., MONRO A.M., PRADO J., PRICE M. J. & SMITH G. F. (eds) 2018. — International Code of Nomenclature for Algae, Fungi, and Plants (Shenzhen Code) adopted by the Nineteenth International Botanical Congress, Shenzhen, China, July 2017. *Regnum Vegetabile* 159. Koeltz Botanical Books, Glashütten, 254 p. <https://doi.org/10.12705/code.2018>
- VITEK E., WEBER A. & BURTT B. L. 2000. — Names, types, and current placement of the species hitherto referred to *Didymocarpus*, *Loxocarpus*, *Codonoboaea*, *Platyadenia* and *Henckelia* (Gesneriaceae). *Annalen des Naturhistorischen Museums in Wien*, B 102: 477-530. <https://www.jstor.org/stable/41767199>
- WEBER A., CLARK J. L. & MÖLLER M. 2013. — A new formal classification of Gesneriaceae. *Selbyana* 31 (2): 68-94. <https://www.jstor.org/stable/24894283>
- WEBER A., MIDDLETON D. J., CLARK J. L. & MÖLLER M. 2020. — Keys to the infrafamilial taxa and genera of Gesneriaceae. *Rhedeia* 30 (1): 5-47. <https://doi.org/10.22244/rhedeia.2020.30.01.02>
- WIGHT R. 1850. — *Illustrations of Indian Botany: or Figures Illustrative of each of the Natural Orders of Indian Plants*. Volume 2. P.R.Hunt, American Mission Press, Madras, 230 p. <https://doi.org/10.5962/bhl.title.9603>

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