

Typification of seven names in *Dioscorea* (Dioscoreaceae) described by J.D. Hooker

Pagare R.S.^{1*}, Kishor K.C.¹ & W. Arisdason²

¹Department of Life Sciences, School of Science, Sandip University, Nashik, Maharashtra – 422 213, India

²Botanical Survey of India, southern Regional Centre, TNAU Campus, Lawley Road, Coimbatore, Tamil Nadu – 641 003, India

*E-mail: ravikiranpagare@gmail.com

Abstract: Nomenclatural notes on the species of *Dioscorea* L. described by J.D. Hooker in the *Flora of British India* are presented here. The study is based on the critical evaluation of all available original materials from various herbaria (BM, E, G, K, L, P and CAL). Lectotypes for seven names, viz. *D. collettii* Hook.f., *D. gibbiflora* Hook.f., *D. jacquemontii* Hook.f., *D. laurifolia* Wall. ex Hook.f., *D. obtusata* Hook.f., *D. polyclades* Hook.f. and *D. wightii* Hook.f. are designated here.

Keywords: *Flora of British India*, Lectotype, Nomenclature, Original material, Syntype.

Introduction

Dioscorea L. is the largest genus in the family Dioscoreaceae, represented by c. 681 species worldwide (<http://www.plantsoftheworldonline.org/>). Hooker (1892) reported 25 species of *Dioscorea* in the *Flora of British India*, of which 14 are mentioned as imperfectly known and undeterminable species. According to him “The species of *Dioscorea* are in a state of indescribable confusion, and I cannot hope to have escaped errors in the determination and delimitation of the Indian ones, to which I have devoted much labour”. Among the species of *Dioscorea* described by Hooker, ten are accepted as taxonomically distinct and one, viz. *D. deflexa* Hook.f. was treated as illegitimate heterotypic synonym because of the preoccupancy of *D. deflexa* Griseb., 1875. Among the ten valid names, three, viz. *D. decipiens* Hook.f., *D. hamiltonii* Hook.f. and *D. wallichii* Hook.f. have already been

lectotypified by Wilkin *et al.* (2007). The remaining seven accepted names are lectotypified here.

Typification

Dioscorea collettii Hook.f., Fl. Brit. India 6: 290. 1892. *Lectotype* (designated here): BURMA, Upper Burma, Shan Hills, Naungtaya, 4000 ft, ♂ fl., May 1888, H. Collett 775 (K [K000098153 digital image!]; isolecto CAL [CAL0000024783!]). **Fig. 1**

Notes: Collett and Hemsley (1890) recognized a new species of *Dioscorea* based on materials collected by Collett from Shan Hills, Burma (now Myanmar), and provided a brief description without naming. Hooker (1892) described it as *D. collettii*, and commented “the only Asiatic species with forked filaments and separated anther-cells”. Two collections of Collett 775 (CAL0000024783!, K000098153 digital image!) annotated by J.D. Hooker were traced at CAL and K. Apart, one more specimen (Collett 781) was found at K (K001142113) from the same locality and all three specimens can be regarded as syntypes (Art. 9.4 of Shenzhen Code, Turland *et al.*, 2018). Thapayai *et al.* (2005) treated the specimen (Collett 775) at K as holotype, however, since the collection number and housing of specimen mentioned neither by Collett nor by Hooker, this cannot be considered as holotype. Therefore, the specimen (K000098153, <http://specimens.kew.org/herbarium/K000098153>) in best agreement with the protologue and having an annotation of Collett and Hemsley (1890) as “*Dioscorea* sp. Indescript., Collett & Hemsley in Journ. Linn. Soc. v 28. 137 (1890)” is designated here as the lectotype.

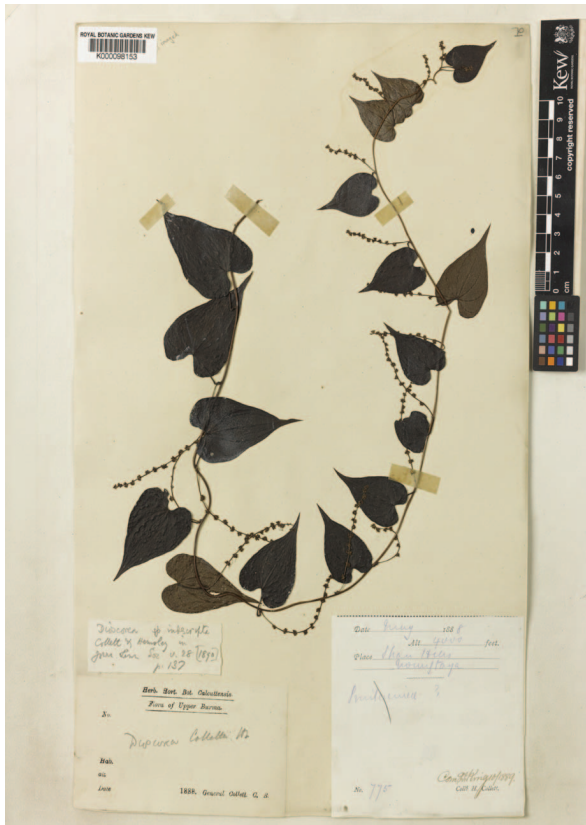


Fig. 1. Lectotype of *Dioscorea collettii* Hook.f. (<http://specimens.kew.org/herbarium/K000098153>) © The Board of Trustees for The Royal Botanic Gardens, Kew. Reproduced with permission.

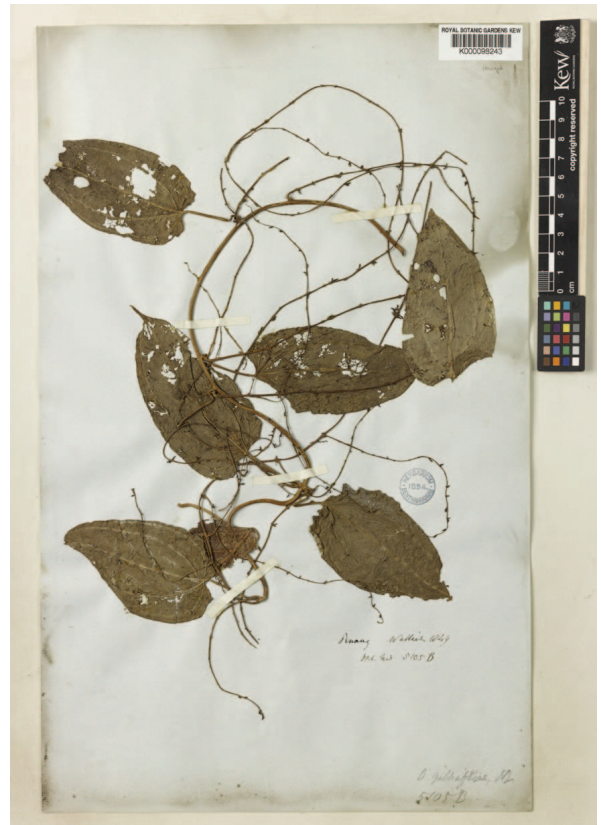


Fig. 2. Lectotype of *Dioscorea gibbiflora* Hook.f. (<http://specimens.kew.org/herbarium/K000098243>) © The Board of Trustees for The Royal Botanic Gardens, Kew. Reproduced with permission.

***Dioscorea gibbiflora* Hook.f., Fl. Brit. India 6: 294. 1892.** Lectotype (designated here): Penang, ♂ fl., s.d., Wallich 5105B (K [K000098243 digital image!]; isolecto K [K000098242, K000098244, K000098245, K000098247 digital images!]).

Fig. 2

Notes: Hooker (1892) described *D. gibbiflora* based on a collection made by Wallich from Penang. Five Wallichian (5105B) specimens (K000098242, K000098243, K000098244, K000098245, K000098247) were traced at K. Except the specimen K000098247, all other specimens were annotated by Hooker as *D. gibbiflora*. Among them, K000098243 (<http://specimens.kew.org/herbarium/K000098243>) is the most representative one and thus designated here as lectotype.

***Dioscorea jacquemontii* Hook.f., Fl. Brit. India 6: 290. 1892.** Lectotype (designated here): INDIA, Between Poonah and Carli, ♂ fl., s.d., Jacquemont 568 (K [K000950634 digital image!]).

Fig. 3

Notes: Hooker (1892) described *D. jacquemontii* based on the collections made by Jacquemont and Ritchie from Concan, between Poonah (Pune), Carli and Belgaum, respectively. Two sheets bearing the same field number, Ritchie 730 (K000950635, K000950636) were traced at K. The sheet bearing barcode K0009500635 is mounted with three female specimens, whereas, the sheet with barcode, K000950636, has one male and one female specimen. Furthermore, a sheet with two fertile specimens (Jacquemont 568), male (K000950634) and female (K000098193) collected by Jacquemont was traced at K. All the four sheets can be considered as syntypes according to Art. 9.6 of Shenzhen Code (Turland et al., 2018). Among them, Jacquemont 568 (K000950634, <http://specimens.kew.org/herbarium/K000950634>), is the most complete representative and is designated here as the lectotype.



Fig. 3. Lectotype of *Dioscorea jacquemontii* Hook.f. (<http://specimens.kew.org/herbarium/K000950634>) © The Board of Trustees for The Royal Botanic Gardens, Kew. Reproduced with permission.



Fig. 4. Lectotype of *Dioscorea laurifolia* Wall. ex Hook.f. (<https://data.nhm.ac.uk/dataset/collection-specimens/resource/05ff2255-c38a-40c9-b657-4ccb55ab2feb/record/4544812>) © The Natural History Museum, London. Reproduced with permission.

***Dioscorea laurifolia* Wall. ex Hook.f., Fl. Brit. India 6: 293.1892.**

Lectotype (designated here): **Penang**, ♂ fl., *s.d.*, G. Porter *s.n.* (BM [BM001049925 digital image!]; isolecto K [K001104831, K000098237, K000098238 digital images!], CAL [Acc. No. 477394!]). **Fig. 4**

Notes: Hooker (1892) validated *D. laurifolia* Wall. (Numer. List No. 5111, *nom. nud.*) and mentioned three collectors, *viz.* Porter, Maingay and Hullet in the protologue. Four sheets from Penang, Porter (Wall., Numer. List No. 5111) has been located, one at BM (BM001049925) and three at K (K001104831, K000098237, K000098238) and all can be regarded as syntypes (Art. 9.4, 9.6; Turland *et al.*, 2018). Also, no collection under Maingay and Hullet is traceable in any of the herbaria. Furthermore, in synonymy, a collection from Penang by Porter is referred under *D. glabra* (Wall.,

Numer. List No. 5105B). Three sheets have been traced under the name at BM and K (BM001049881, K001104787, K001104788), but we could not recognize any elongated unilaterally paniced male spikes in the specimens which is one of the key characters of *D. laurifolia*. Hence, these are not considered under *D. laurifolia* here. Among the four recognized sheets, the specimen (BM001049925, <https://data.nhm.ac.uk/dataset/collection-specimens/resource/05ff2255-c38a-40c9-b657-4ccb55ab2feb/record/4544812>) with Porter's annotation best agrees with the protologue and is designated here as the lectotype and others consequently as isolectotypes.

***Dioscorea obtusata* Hook.f., Fl. Brit. India 6: 293. 1892. Lectotype** (designated here): **CEYLON**, *s.l.*, ♂ fl., *s.d.*, Macrae 111 (K [K000098236 digital image!]; isolecto BM [BM000958191 digital image!]). **Fig. 5**

Notes: Hooker (1892) described *D. obtuneata* based on collection made from Ceylon (now Sri Lanka), but did not provide any details on specimen. However, Hooker (1892) had mentioned in the protologue that “he had seen one specimen in Hookerian Herbarium collected from Ceylon and annotated by Sir W. Hooker but with no other locality or collector’s name”. But, this specimen is not traceable in any of the herbaria. However, other two specimens were traced, one each at K (K000098236) and BM (BM000958191) for the name *D. obtuneata*. The specimen housed at K (K00008236) was annotated by Hooker and according to the article 9.6, the above specimens can be considered as syntypes. Among them, though both have distinct inflorescences, *Macrae* 111 housed at K (K000098236, <http://specimens.kew.org/herbarium/K000098236>) is the most complete specimen that shows phyllotaxy clearly is designated here as the lectotype.



Fig. 5. Lectotype of *Dioscorea obtuneata* Hook.f. (<http://specimens.kew.org/herbarium/K000098236>) © The Board of Trustees for The Royal Botanic Gardens, Kew. Reproduced with permission.

***Dioscorea polyclades* Hook.f., Fl. Brit. India 6: 294, 1892.** *Lectotype* (designated here): SINGAPORE, ♂ fl., 1890, *Ridley* 1646 (BM [BM001051495 digital image!]).

Fig. 6

Notes: Hooker (1892) described *D. polyclades* based on collection made by Ridley from Singapore. Hooker (1892) had also stated “The Singapore plant I think certainly Zollinger’s No. 283 from Java”. Eight specimens of *Zollinger* 283, two each at BM (BM001051499, BM001051500), G (G00191826, G00191835) and K (K000098332, K001144646) and one each at L (L 1465246) and P (P01751236) were traced. But *Ridley* 1646 at BM (BM001051495, <https://data.nhm.ac.uk/object/b56ec95e-6155-4b9a-a01e-89e3679b557f/1564358400000>) is the sole collection which unequivocally agrees with the protologue is designated here as the lectotype.

***Dioscorea wightii* Hook.f., Fl. Brit. India 6: 291.**



Fig. 6. Lectotype of *Dioscorea polyclades* Hook.f. (<https://data.nhm.ac.uk/object/b56ec95e-6155-4b9a-a01e-89e3679b557f/1564358400000>) © The Natural History Museum, London. Reproduced with permission.

1892. *Lectotype* (designated here, if not holotype): **Travancore**, Courtallam, August 1835, *Wight* 2827 (K [K000098200 digital image!]; isolecto CAL [CAL0000024785!]).

Fig. 7

Notes: Hooker (1892) described *D. wightii* based on collection made by Robert Wight from Courtallam, (in Tamil Nadu). Two collections (male specimens), *Wight* 2827 and *Wight* 939A, which are matching with the protologue were traced at K. Under the gathering *Wight* 2827, two herbarium sheets were traced, one each at K (K000098200) and CAL (CAL0000024785), however, only the K specimen was annotated by the author. The herbarium catalogue database of Royal Botanical Garden, Edinburgh indicates *Wight* 939A (E00179442 and E00179443) as isotypes. There is no evidence to prove which among the available specimens is seen by Hooker. Since the primary deposit of Hooker is at Kew, the specimen bearing the barcode K000098200 (<http://specimens.kew.org/herbarium/K000098200>) is selected here as the lectotype.

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Fig. 7. Lectotype of *Dioscorea wightii* Hook.f. (<http://specimens.kew.org/herbarium/K000098200>) © The Board of Trustees for The Royal Botanic Gardens, Kew. Reproduced with permission.

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