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## Lectotypification of *Vigna hainiana* (Fabaceae: Papilionoideae)

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*Vigna hainiana* (= *Phaseolus wightianus* Graham ex Wight & Arn.) is lectotypified using Wallichian collections at CAL and an earlier typification of *Vigna wightii* Benth. ex Bedd. is discussed.

**Keywords:** *Vigna*; *Phaseolus*; *Vigna hainiana*; *Vigna wightii*; lectotype; Robert Wight; Nathaniel Wallich

### Introduction

The pantropical genus *Vigna* Savi (Leguminosae: Papilionoideae) includes over 104 species (Schrire 2005; Delgado-Salinas et al. 2011). Historically, this genus has a complex taxonomy due to its relationship with *Phaseolus* (Maréchal et al. 1978; Delgado-Salinas et al. 1993, 2011). These authors taxonomically recognized seven sub-genera in the genus *Vigna* s.l. namely, *Ceratotropis*, *Haydonia*, *Lasiospron*, *Macrorhynchus*, *Plectotropis*, *Sigmoidotropis* and *Vigna*. However, *Vigna* subg. *Macrorhynchus* is now included in *Wajira* (Thulin et al. 2004). The sub-genus *Ceratotropis* alone had its centre of diversity in Asia with 21 species (Tomooka et al. 2002). During the revision of the tribe Phaseoleae for India, Babu et al. (1987) listed 23 species of *Vigna* including naturalized and cultivated ones. Recently, *Vigna trilobata* (L.) Verdc. var. *pusilla* Naik & Pokle was elevated to the rank of species and named *Vigna indica* T.M. Dixit et al. (Dixit et al. 2011). Aitawade et al. (2012) described a new species, *Vigna sahyadriana* from northern Western Ghats and elevated *Vigna mungo* var. *sylvestris* Lukoki, Marechal et Otoual to specific status as *Vigna sylvestris* (Lukoki, Marechal et Otoual) Aitawade, K.V. Bhat et S.R. Yadav.

While revising the Fabaceae flora of Kerala State, we noticed certain discrepancies in the typification of *Vigna hainiana* and *Vigna wightii*, which are discussed below.

Babu et al. (1987) proposed a *nomen novum* for *Phaseolus wightii* Graham ex Wight & Arn. (written as ‘wightianus’ in Graham, *Wallich Cat. no. 5591*). Since the epithet ‘wightii’ had already been occupied by a species belonging to the subgenus *Plectotropis* of the genus *Vigna*, namely *Vigna wightii* Benth. ex Bedd., Babu et al. (1987) coined the new specific epithet ‘hainiana’. However, Babu et al. (1987) lectotypified *Phaseolus wightianus* Graham ex Wight & Arn. based on *Wight 1836*, deposited at the Kew herbarium (London, UK) and the same collection was again cited as the holotype

of *Vigna wightii* Benth. ex Bedd. (see also Note). Subsequently, this error was noticed by Nayar (1994) and as a rectification, Graham in *Wallich Cat. no. 5591* was selected as the lectotype of *P. wightii* (‘wightianus’). However, Nayar (1994) failed to cite the depositories, which has been mandatory since 1 January 1991 and the selection was purely mechanical. While revising the Asian *Vigna*, Tomooka et al. (2002), avoided *V. hainiana*. The reason behind this is unclear.

Nayar (1994) selected *Wall. Cat. no. 5591* among the two cited specimens (*Wight 726* and *Wall. Cat. no. 5591*) by Wight (1834) in relation to *P. wightianus* and claims that ‘both of them match the original description of the species...’. Nayar (1994) avoided citing the depositories and this implies that she did not examine the original materials collected by Robert Wight or the specimen sent by him to Nathaniel Wallich.

Meanwhile Noltie (2005) published an excellent account of Wight’s collections at Edinburgh (E) and Kew (K). He claimed that *Wallich Cat. no. 5591* and *Wight Cat. no. 726* are not found at both herbaria. Noltie (2005) also commented that ‘there exists a specimen at Edinburgh herbarium (E), annotated with name by Arnott, collected by Wight at Courtallum in September 1835, 1835.240, would be suitable as a neotype’. A search at the Edinburgh herbarium failed to locate this specimen and Noltie personally communicated that it was sent out on loan. Even though this is the case, the specimen numbered 1835.240 did not emerge as a duplicate of the type. So based on the article 9.12 of ICN (McNeill et al. 2012): ‘in lectotype designation, an isotype must be chosen if such exists, or otherwise a syntype if such exists. If no isotype, syntype or isosyntype is extant, the lectotype must be chosen from among the paratypes if such exist. If no cited specimens exist, the lectotype must be chosen from among the uncited specimens and cited and uncited illustrations that comprise the remaining original material if such exist’, is followed

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Figure 1. Lectotype of *Vigna hainiana* (CAL 000025060). © Botanical Survey of India, Kolkata (CAL) Reproduced with the consent of the Director, BSI.

here. Wallichian collections are mainly located at the Kew herbarium (K-W) and further materials are available at A, AWH, B (partly destroyed), BM, BR, C, CGE, CAL, DBN, DD, DPU, DS(CAS), E, FI, G, G-DC, GJO, FH, FI, H, KIEL, L, LE, LINN, LIV, M, MANCH, MICH, MO, NY, OXF, P, PH, PR, ROST, S, SING, TCD, TO, TU, US, W, WRSL and WU (Staffleu and Cowan 1988). A query at CAL herbarium resulted in

locating the *Wall. Cat. no. 5591*, which was actually sent to Nathaniel Wallich, then Superintendent of the Calcutta Botanic Garden, by Robert Wight during his south Indian exploration in early 1828. This is evident through a slip attached to the lower left hand corner of the specimen and because the Wallich catalogue number refers to a Wight specimen in the Wallich herbarium, for neither of which is there a collecting locality, nor is one



mentioned in the protologue. *Wallich Cat. no. 5591* at CAL herbarium (Figure 1) agrees with the protologue and is here designated as the lectotype of *Vigna hainiana* Babu et al.

*Vigna hainiana* Babu, Gopinathan & Sharma, Bull. Bot. Surv. Ind. 27: 15. 1987

(=) *Phaseolus wightianus* Grah. ex Wight & Arn., Prodr. Fl. Pen. Ind. Or. 215. 1834

Type: without precise locality, likely South India, *s.d.*, *Wallich Cat. no. 5591* (lecto here designated: CAL!, barcode no. 0000025060).

#### Note

The name *Vigna wightii* was validly published by Beddome and not by Baker as treated by Babu et al. (1987). Baker (1876) overlooked Beddome's treatment of this taxon [*Trans. Linn. Soc. London* 25(2): 215. 1865] but referred to Beddome's *Ic. Pl. Ind. Or. t. 296. 1874* and cited Carnatic: Courtallum, *Wight, Thomson*. While reducing *Vigna wightii* Benth. ex Bedd. to a variety of pantropical *Vigna vexillata*, Babu et al. (1987) cited Baker as the author as well as typified it based on *Wight 1836* as holotype, the same one that was cited as lectotype of *Phaseolus wightianus* Grah. ex Wight & Arn. The specific epithet '*wightii*' was coined by Bentham most probably after examining the materials

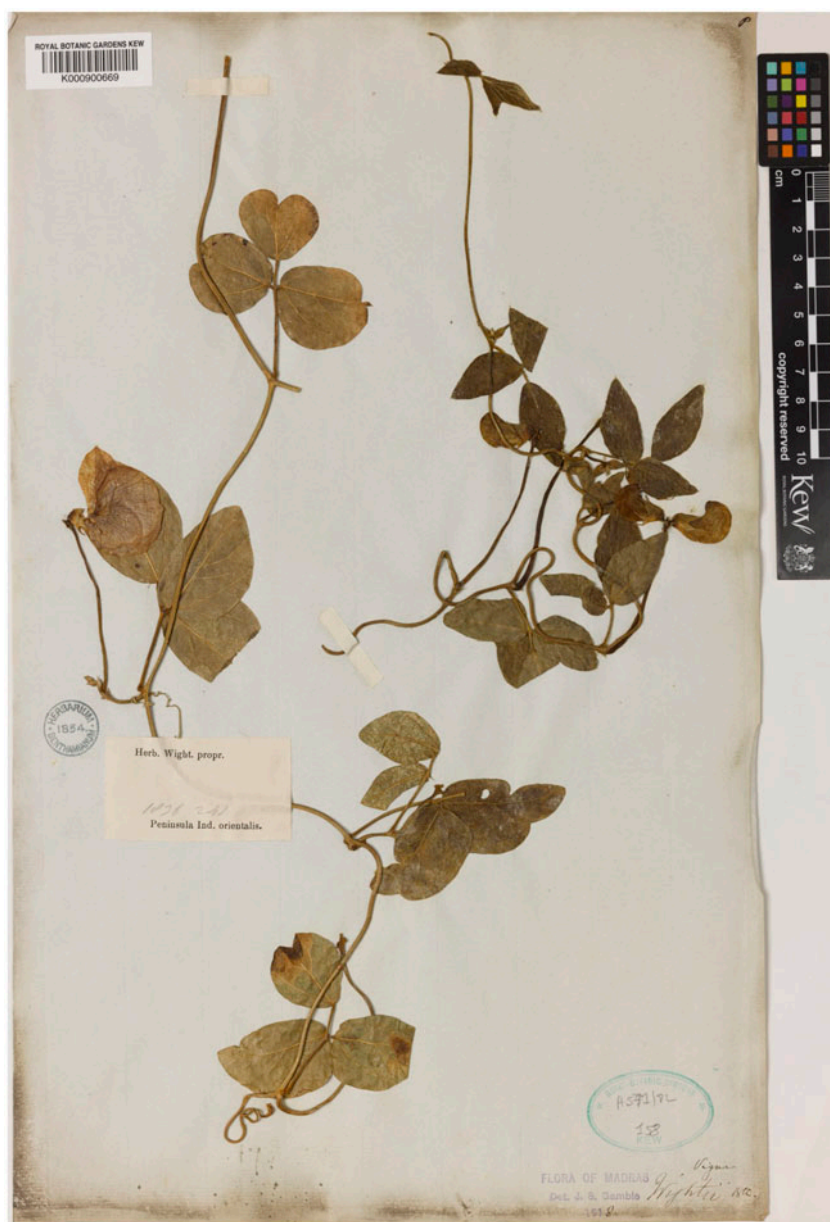


Figure 2. *Vigna wightii* Benth. ex Bedd. *Herb. Wight Prop. 1836. 244*, Peninsula Ind. Orientalis (K000900669!). © The Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with the consent of the Royal Botanic Gardens, Kew.

collected by Robert Wight from Peninsular India. (see the label Herbarium Benthamianum 1854 on left hand middle corner in addition to Herb. Wight Prop. 1836. 244 Peninsula Ind. Orientalis; Figure 2). There is no way to ascertain whether Beddome observed the Wightian collections that were in the possession of Bentham. However, Beddome (1865) followed the specific epithet 'wightii' suggested by Bentham while validating *Vigna wightii* Benth. Their exists another sheet of *V. wightii* at K, collected from Courtallum in 1836 expeditions by Robert Wight, which bears *Peninsula Indiae Orientalis* No. 798. This sheet was received by Hooker in 1867 and examined by Baker but was not eligible as type because of the earlier validation by Beddome.

Beddome (1865) described *V. wightii* Benth. during the enumeration of Annamallai plants without citing specimens; however, there should be material of it in K or BM, where the majority of Beddome's collections are deposited. So *V. wightii* Benth. should be typified based on Beddome's collections from the Annamallai Mountains. We came to know that only 6% of BM collections are available through online catalogue and at K, the Global Plant Initiative team proceeds with cataloguing of the herbarium collections. So at present we abstain from lectotypifying this taxon due to non-availability of Beddome's collections from BM and K.

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