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Lectotypification of four species of Indian *Trachyspermum* (Apiaceae)

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Abstract

Four species of Indian *Trachyspermum* Link are lectotypified here: *Trachyspermum falconeri* (C.B.Clarke) H.Wolff, *T. khasianum* (C.B.Clarke) H.Wolff, *T. roxburghianum* (DC.) H.Wolff and *T. villosum* (Haines) P.K.Bhattach. & K.Sarkar.

Introduction

The genus *Trachyspermum* Link consists of about 15 species worldwide (Mabberley 2008), distributed mainly in tropical regions of Northeast Africa, Central and South Asia. Presently seven species are found in India (Karthikeyan *et al.* 2009; Mukherjee and Constance 1993), of which two species, *Trachyspermum falconeri* (C.B.Clarke) H.Wolff and *T. villosum* (Haines) P.K.Bhattach. & K.Sarkar are endemic. In revising Indian *Trachyspermum*, I realized that it was necessary to lectotypify four species. While designating lectotypes, I followed the guidelines of Art. 9.2 of the Melbourne Code (McNeill *et al.* 2012).

Lectotypifications

1. *Trachyspermum falconeri* (C.B.Clarke) H.Wolff, *Das Pflanzenreich (Engler)* 4: 90 (1927) **Fig. 1**

Carum falconeri C.B.Clarke, *Flora of British India* 2(6): 683 (1879)

Lectotype (designated here): India, Uttarakhand, Gurhwal (Garhwal), without date, *Falconer s.n.* (K685648!); isolectotypes: CAL! and K685647!

Residual syntypes: India, Uttarakhand, Kumaon, without date, *Hooker f. & Thomson Ptychotis sp. 8* (CAL!); Uttarakhand, Himalaya, Bung (Bung Bung), 7000–9000 ft., 1844, *M.P. Edgeworth 150* (K685649!); Uttarakhand, Kumaon, 7000 ft., without date, *R. Strachey & J.E. Winterbottom Ptychotis n. 1* (P3213927!).

Distribution: India, endemic (Uttarakhand).

Notes: When *Carum falconeri* was published, five gatherings 'Ptychotis sp. 8, *Herb. Ind. Or. H. f. & T.*, Gurwhal; *Falconer*; alt. 7000–9000 ft., *Edgeworth*; Chiringa, alt. 7000 ft., *Strachey & Winterbottom*; Mussooree, *Dr. Bacon*' were cited in protologue, but no specific herbarium sheet was designated as holotype. Except *Dr. Bacon* gathering, six specimens representing the other gatherings were extant now, three of *Falconer s.n.* two housed at K (K685647 and K685648) and one at CAL, one of *Hooker f. & Thomson Ptychotis sp. 8* at CAL, one of *M.P. Edgeworth 150* at K (K685649) and one of *R. Strachey & J.E. Winterbottom Ptychotis n. 1* at P (P3213927).

The three specimens at K (K685647, K685648 and K685649) were examined and annotated by C.B. Clarke as '*Carum falconeri* C.B. Clarke'. Of these, *Falconer s.n.* (K685648) is the best, having complete plant specimens with root, stem, leaves, flowers and fruits and hence designated here as the lectotype as it agrees well with the protologue.

2. *Trachyspermum khasianum* (C.B.Clarke) H.Wolff, *Das Pflanzenreich (Engler)* 4: 91 (1927) **Fig. 2**

Carum khasianum C.B.Clarke, *Flora of British India* 2(6): 682 (1879)

Lectotype (designated here): Bangladesh, Sillet (Sylhet), anno 1836, *Wallich cat. n. 7218* (K685728!); isolectotype: CAL!

Residual syntypes: India, Meghalaya, Khasia, 3000–5000 ft., without date, *Hooker f. & Thomson Ptychotis sp. 9* (CAL three specimens!, M172778!, P3213921!, P3213922! and P3213924!); Meghalaya, Khasia, West Khasi Hills district, Nonkreem (Nongrim), 15 Sep 1850, *Hooker f. & Thomson Ptychotis sp. 9* (CAL!, K685641!); Assam, Tinsukia district, Boga Panee (Bogapani), 29 Jun 1850, *Hooker f. & Thomson Ptychotis sp. 9* (K685639!); Assam, Tinsukia district, Boga Panee (Bogapani), 19 Oct 1850, *Hooker f. & Thomson Ptychotis sp. 9* (K685640!).

Distribution: Bangladesh and India (Assam and Meghalaya).

Notes: When *Carum khasianum* was published, two gatherings 'Ptychotis ? sp. *Wall. Cat.* 7218. Ptychotis sp. 9, *Herb. Ind. Or. H. f. & T*. Khasia Mts.; alt. 3000–5000 ft., common, *Wallich*, & c' was cited in protologue, but no specific herbarium sheet was designated as holotype. Thirteen specimens representing this two gatherings were traced, two of *Wallich cat. n. 7218* one each at K (K685728) and CAL, Eleven of *Hooker f. & Thomson Ptychotis sp. 9* four at CAL, one at M (M172778), three at K (K685639!, K685640! and K685641!) and three at P (P3213921!, P3213922! and P3213924!). All the four specimens at K were examined and annotated by C.B. Clarke as '*Carum khasianum* C.B. Clarke'. From these the best one, *Wallich cat. n. 7218* (K685728), is designated here as the lectotype as it agrees well with the protologue and also having complete plant specimens with root, stem, leaves, flowers and fruits.

3. *Trachyspermum roxburghianum* (DC.) H.Wolff, *Das Pflanzenreich (Engler)* 4: 129 (1927) **Fig. 3**

Ptychotis roxburghiana DC., *Prodromus Systematis Naturalis Regni Vegetabilis* 4: 109 (1830)

Lectotype (designated here): Singapore, Sep 1822, *Wallich s.n.* (G458704!, Herb. Prodr. [G-DC]).

Residual syntypes: India, Ind. Or., without date, *B. Heyne s.n.* (G458706!, Herb. Prodr. [G-DC]); Myanmar, montes Prome, anno 1827, *Wallich s.n.* (G458705!, Herb. Prodr. [G-DC]); Prome, anno 1829, *Wallich cat. n. 571* (K685637!; CAL10466!).

Distribution: China, Java, Laos, New Guinea, Myanmar, Malaysia, Philippines, Thailand, Vietnam and India (native to Western Ghats of Peninsular India, but cultivated as spice throughout India).

Notes: A. P. de Candolle described *Ptychotis roxburghiana* on the basis of specimens from 'Culta in variis Ind. or. praesertim Bengali locis, in ins. Singaporia, ad montes Prome, etc., ex Wall. Apium involucratum Roxb. ex journ. bot. 1824. v. 2. p. 188. Athamantha Roxburghiana Wall! mss. et herb. (v. s. comm. ab. ill. coetu merc. angl. Ind. or.)', but no specific herbarium sheet was designated as holotype. Within the protologue, Candolle gave precise locality but did not provide date and number of the collection. Pertaining to this specification, five sheets were extant, three at G (G458704, G458705 and G458706) and one each at K (685637) and CAL (CAL10466). Wallich Cat. n. 571 (1) belong to collections from Singapore and 571 (2) to collections from mountains of Prome, Myanmar. The three specimens at G were examined and seen by Candolle. The best one, G458704, is designated here as the lectotype as it agrees well with the protologue and also having complete plant specimens with stem, leaves, flowers and fruits.

4. *Trachyspermum villosum* (Haines) P.K.Bhattach. & K.Sarkar, *Flora of West Champaran District Bihar* 253 (1998) **Fig. 4**

Carum villosum Haines, *Botany of Bihar and Orissa* 3: 408 (1922)

Lectotype (designated here): India, Bihar, West-Champaran district, Ramnagar, Oct 1916, *H.H. Haines 4744* (K685654!); isolectotypes: K685653! and K685655!.

Distribution: India, endemic and threatened (Bihar, confined to West-Champaran district).

Notes: Haines (1922) described *Carum villosum* on the basis of specimens collected from 'Sandstone Hills of Ramnagar, N. Champaran'. Within the protologue, Haines gave precise locality but did not provide date and number of the collection. Pertaining to this specification, three sheets were extant at K (K685653, K685654 and K685655). The best one complete specimen having stem, leaves and flowers, K685655, is designated here as the lectotype as it agrees well with the protologue.

Fig. 1. Lectotype of *Trachyspermum falconeri* (K685648, © the Board of Trustees of the Royal Botanic Gardens, Kew).

Fig. 2. Lectotype of *Trachyspermum khasianum* (K685728, © the Board of Trustees of the Royal Botanic Gardens, Kew).

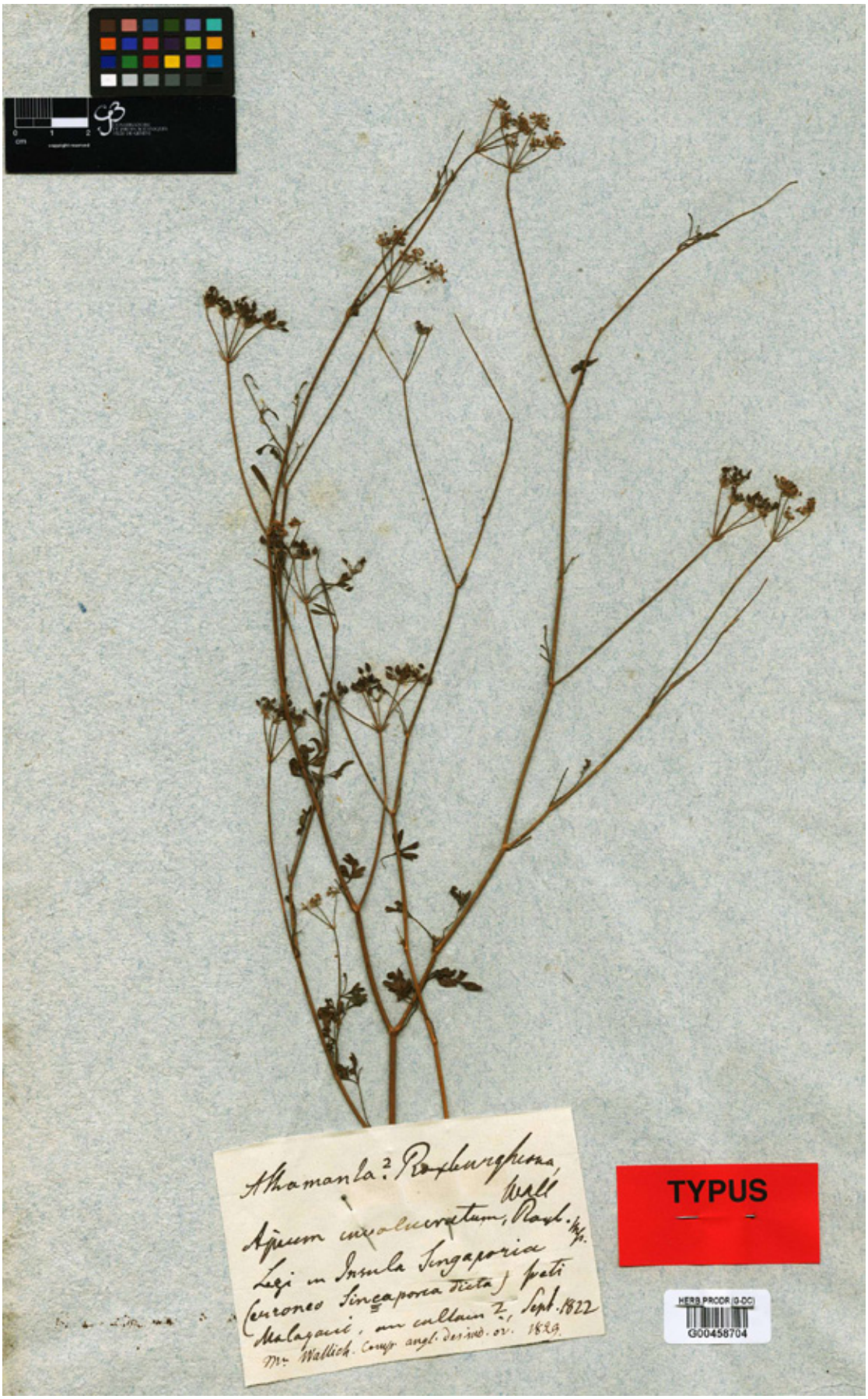

Fig. 3. Lectotype of *Trachyspermum roxburghianum* (G458704, © Herbarium G-DC, Geneva).

Fig. 4. Lectotype of *Trachyspermum villosum* (K685654, © the Board of Trustees of the Royal Botanic Gardens, Kew).

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