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Lectotypification of some *Senegalia* and *Vachellia* species (Mimosoideae, Leguminosae) from India

ANUP S. DESHPANDE*, SELLAPPAN KRISHNAN & MALAPATI K. JANARTHANAM
Department of Botany, Goa University, Taleigao Plateau, Goa 403206, India.
**Author for Correspondence, E-mail: anoopdesh@gmail.com*

Introduction

Subdivision of the former broadly circumscribed genus *Acacia* Miller (1754) (see Miller & Seigler, 2012 for overview) and the conservation of *Acacia* with a new type (McNeill & Turland, 2011) has led to many nomenclatural changes globally. As summarized by Maslin (2015) there are currently five genera recognized for taxa previously included in *Acacia sens. lat*. Of these, the pan-tropical genera *Senegalia* Rafinesque (1838: 119) and *Vachellia* Wight & Arnott (1834: 272) encompass the entire indigenous 'Acacia' flora of India, with several species of *Acacia sens. str.* introduced to the subcontinent.

Maslin (2012), Maslin *et al.* (2013) and Raghupathy *et al.* (2014) provided new combinations in *Senegalia* and *Vachellia* for most of the Indian species, citing previously published sources for their typification of species and infraspecific names. However, for some Indian species the original publishing authors indicated no holotype, and no lectotypes have since been designated. Therefore, in the interest of nomenclatural precision, three Indian names are lectotypified below. This is done in accordance with the article 9.2 of the Melbourne Code (McNeill *et al*., 2012) and as discussed by McNeill (2014).

Typifications

Senegalia hohenackeri (Craib) Ragupathy, Seigler, Ebinger & Maslin *Phytotaxa* 162(3): 175 (2014)

Basionym: *Acacia hohenackeri* Craib (1915: 408), as 'hoenackeri'. Lectotype (designated here):—SOUTH INDIA. Nilghiris Khundas Range, *Hohenacker 1602* [BM000946891 image!] Fig. 1. Syntypes CAL0000012916!: Nilagiri, Khoondas, *Hohenacker 1602*, HBG520818 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, K000791192 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, K000791193 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, L001841 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, L0018402 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, P02934813 (image!): Nilagiri, Khoondas, *Hohenacker 1602*, P02935016 (image!): Nilagiri, Khoondas, *Hohenacker 1602*.

Distribution:—INDIA. Endemic to India. Andhra Pradesh, Tamil Nadu, Karnataka, Kerala (Singh *et al.* 2015).

Notes:—Craib (1915) described *Acacia hohenackeri* (as "*hoenackeri*") based on the collection *Hohenacker 1602* from Khundas Range, Nilghiris, South India. Craib (l.c.) clearly mentioned in the protologue that his description was based on specimens at Kew and BM "(Herb. Kew et Herb. Mus. Brit.)". A total of nine specimens of *Hohenacker 1602* have been located by us, two each at K, L and P and one each at BM, CAL and HBG. Though the author specifically mentioned the housing of specimens, altogether nine specimens are considered here as syntypes according to article 9.3(b) of the Melbourne code (McNeill *et al.*, 2012). Though all the syntypes are in accordance with the information provided in the protologue, the specimen housed at BM (BM000946891 image!) is the most complete. The inflorescence and leaflet characters are better seen in this specimen (BM000946891) as compared to other specimens, hence it is selected here as the lectotype.

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FIGURE 1. *Acacia hohenackeri* Craib (*Hohenacker 1602* [BM000946891 image!], BM; Lectotype). ©The Natural History Museum, London

Senegalia lenticularis (Buch.-Ham. ex Benth.) Ragupathy, Seigler, Ebinger & Maslin *Phytotaxa* 162(3): 175 (2014)

Basionym: *Acacia lenticularis* Buch.-Ham. ex Benth. (1842: 508). Lectotype (designated here):—NORTH INDIA. *Royle 196* [K000791169 image!] Fig. 2. Syntypes: CAL0000012911!: 'N.W. India' *Royle s.n.*, E00318071 (image!): Rajmahal hills, *Buchanan-Hamilton 2365* K000791168 (image!): Rajmahal hills *Buchanan-Hamilton H.I. 5244*, K001120257 (image!): Rajmahal hills *Buchanan-Hamilton H.I. 5244*.

Distribution:—India (widespread) and Nepal (Kumar and Sane, 2003).

Notes:—Bentham (1842) validated the name *Acacia lenticularis* Buch.-Ham. (nom. nud.) based on the gathering *Wallich Catalogue No. 5244* and also unnumbered collections by Hamilton and Royle from 'North India'. We have located five herbarium specimens that could be regarded as original material of this name, three at Kew and one each

FIGURE 2. *Acacia lenticularis* Buchanan-Hamilton ex Bentham (*Royle 196* [K000791169 image!], K; Lectotype) ©RBG, Kew

at CAL and E. Out of three specimens at K-W, two specimens, i.e. K001120257 and K000791168 have the list number, name of the plant and locality from the Catalogue: "5244 *Acacia lenticularis* B. Ham. in Rajmahl". This label is a reproduction of the entry that appears in the Wallich Catalogue. Royle's collection from N.W. India (K000791169) is housed in the general collection at Kew and is stamped "Herbarium Hookerianum"; there is a duplicate of this gathering at CAL (CAL0000012911). One more specimen collected by F. Buchanan-Hamilton from Rajmahal Hills is housed at E (E00318071); it was gathered on 07 Jan. 1811 with the collection number '2365' (this number is not mentioned in the protologue or in the Wallich Catalogue). The annotation on the bottom left hand corner of this sheet, and the herbarium label affixed to the top, right hand corner of the sheet, confirms its identity as original material. Since, Bentham did not give the description of pod while validating the name, the specimens with pods (K001120257 or K000791168) have not been considered for selecting lectotype. The specimen at E (E00318071) is in fruit and the

specimen at CAL is of flowering material, but not preserved well. The third specimen collected by Royle housed at K (K000791169 image!) is a flowering specimen which is representative of the protologue and well preserved, hence it is selected here as lectotype for the name *Acacia lenticularis*.

Vachellia bolei (R.P. Subhedar) Ragupathy, Seigler, Ebinger & Maslin *Nuytsia* 24: 21 (2014)

Basionym: *Acacia bolei* R.P. Subhedar (1985: 440); *A. wightii* Baker ex Benth. (1875: 506), *nom. illeg.*, non Wight & Arnott (1834: 274); *Vachellia wightii* Ragupathy, Seigler, Ebinger & Maslin, Phytotaxa 162: 177 (2014), *nom. illeg.* (superfl.). I[st] Step Lectotype:—INDIA. [Penins. Ind. Or.], *Wight KD 896* (lectotype K, isolectotype CAL) (vide, Subhedar, 1985).

IInd Step Lectotype (designated here):—INDIA. Travancore, Sea Coast, Tinnevelly District, June 1835, *Wight 896* [K000791143 image!] Fig. 3; Isolectotype: K000791142 (image!): Sea Coast, Tirunevelly District, June 1835, *Wight 896*; Syntype: CAL0000012942!, Sea Coast, Tirunelvelly District, June 1835, *Wight 896*.

FIGURE 3. *Acacia bolei* R.P. Subhedar K.D. (*Wight 896* [K000791143 image!], K; Lectotype). ©RBG, Kew

Distribution:—India. Tamil Nadu (Tirunelvelli District)

Notes:—Bentham (1875) described *Acacia wightii* based on material collected by Wight from 'Tinnevelly District', Peninsular India. However, since this epithet was preoccupied the name is illegitimate, therefore, Subhedar (1985) provided a new name for the species, i.e. *Acacia bolei* Subhedar (1985: 440). When transferring this name to *Vachellia* Raghupathy *et al.* (2014) erroneously based their new combination on the illegitimate name, *A. wightii* Baker ex Benth.; therefore, the name *V. wightii* Ragupathy, Seigler, Ebinger & Maslin is also illegitimate, being superfluous. Maslin (2014) rectified this error by publishing a new combination, *Vachellia bolei* (R.P. Subhedar) Ragupathy, Seigler, Ebinger & Maslin.

We have located four collections made by Wight from India that are potential types, namely, *Wight 592, 595, 597* and *896*; these specimens were located at herb. CAL, E and K. Of these sheets, *Wight 592, 595* and *597* are labelled *A. wightii* Graham, but this is clearly a misidentification because the specimens are of *Albizzia amara.* These fruiting specimens do not have spines and the pinnae and leaflets are more numerous, which corresponds to *Albizzia*. There are annotations on these sheets identifying them as *Albizzia amara*. In the protologue of *A. wightii* Baker ex Benth., it is clearly mentioned as pods unknown ('*Legumen ignotum*'). Hence, these specimens do not agree with the protologue of *A. wightii* Baker ex Benth. Subhedar (1985) regarded *Wight 896* as the lectotype of *A. wightii*, noting that there were specimens at both CAL and K, but not specifying which herbarium contained the lectotype. This treatment is considered as a 1st step lectotypification. Furthermore, we now know that there are three specimens of *Wight 896*, one housed at CAL (CAL0000012942!) and two at K [K000791142 and K000791143 (image!)]. These specimens are considered to be original material and all three are regarded as syntypes. Of these *Wight 896* (K000791143) is selected here as lectotype for the name *Acacia wightii* as 2nd step lectotypification. This is a flowering specimen and well preserved compared to other specimen (K000791142).

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