



## LECTOTYPIFICATION OF NINE SPECIES OF COMMELINA L. (COMMELINACEAE)

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**ABSTRACT:** While updating the nomenclature of species of *Commelina* (Commelinaceae) in India, as part of a taxonomic revision, we came across problems in the typification of the following nine names viz., *Commelina appendiculata* C.B. Clarke, *C. hasskarlii* C.B. Clarke, *C. clavata* C.B. Clarke, *C. indehiscens* E. Barnes, *C. alisagarensis* Kumar & Deodikar, *C. sikkimensis* C.B. Clarke, *C. suffruticosa* Blume, *C. tricolor* E. Barnes and *C. wightii* R.S. Rao & Kammathy (= *Heterocarpus glaber* Wight) that were discussed and lectotypes designated.

**Key words:** *Commelina*, India, lectotypifications

### INTRODUCTION

*Commelina* is the largest genus of Commelinaceae, comprising about 206 species in the world [1]. It is the second largest genus of this family in India with 25 species [2, 3, 4, 5]. As part of a taxonomic revision of the genus in India, the authors made extensive field exploration for collecting live specimens, surveyed all the relevant literature, studied specimens housed at various herbaria in India and abroad (virtual herbaria) including authentic type specimens. While updating the nomenclature of different species, authors found ambiguity in the typification of nine names, that are addressed here and lectotypes selected.

### MATERIALS AND METHODS

Live materials were collected from different parts of India through extensive field studies. Variations were studied with the help of live as well as consulting specimens housed at various Indian herbaria (ASSAM, BLAT, BSI, BSD, BSJO, CALI, CAL, DD, DEV, JCB, PBL, KFRI, MH, RHT, RRLB, SNC, SKU and TBGT). Images of type specimens were procured from virtual data bases of different herbaria K, MEL, US, BM, BR, C, G, L. Acronyms of herbaria were according to Index Herbariorum [6]. Identification was done in consultation with the types and protologue.

### RESULTS AND DISCUSSION

1. *Commelina alisagarensis* Kumar & Deodikar, Proc. Indian Acad. Sci. 13: 168. 1941.

**Lectotype:** India, Andhra Pradesh, Nizamabad district, Alisagar, 12/08/1939, L.S.S. Kumar & S. Salman s.n. (K [K000794490]!), designated here; paralectotype: BSI!). **Fig. 1**

*Commelina alisagarensis* was described by Kumar and Deodikar in 1941 based on the specimens from Alisagar. There are 2 sheets, one each at K (K000794490) and BSI, but without any collection number. The specimen at K perfectly matches with the protologue is designated here as the lectotype and the one at BSI as paralectotype. *C. alisagarensis* is presently treated as conspecific to *C. petersii* Hassk.

2. *Commelina appendiculata* C.B. Clarke, Commelyn. Cyrtandr. Bengal 23. t. 13. 1874.

**Lectotype:** India, West Bengal, Darjeeling district, s.loc., 13/06/1870, C.B. Clarke 12065A (K [K000794493]!), designated here; isolectotypes: DD!, CAL!, MEL!, K [K000794496]!). **Fig. 2**



Figure 1: Lectotype of *Commelina alisagarensis* Kumar & Deodikar [L.S.S. Kumar & S. Salman s.n., K] [©The Board of Trustees of the Royal Botanical Gardens, Kew. Reproduced with permission].

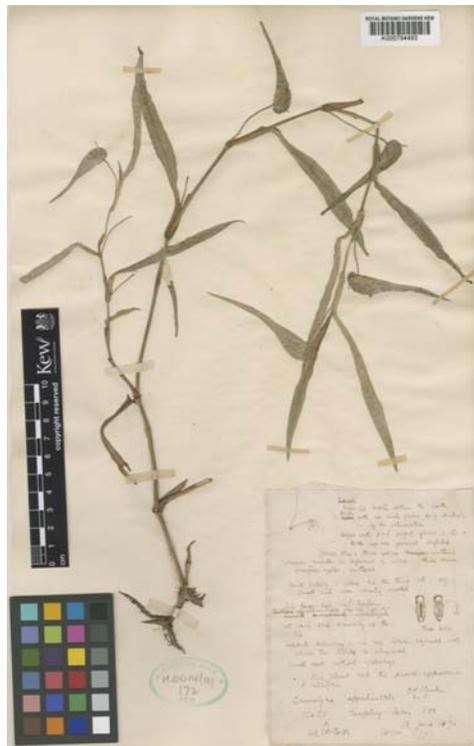


Figure 2: Lectotype of *Commelina appendiculata* C.B. Clarke [C.B. Clarke 12065 A, K] [©The Board of Trustees of the Royal Botanical Gardens, Kew. Reproduced with permission].

*Commelina appendiculata* was described by Clarke [7] based on materials collected from Darjeeling, India. While searching for Clarke's specimens in different herbaria it was found that there are 5 sheets at CAL, 2 at K (K000794493, K000794496), 1 at DD and 2 at MEL, all apparently part of a single collection. Among them, *C.B. Clarke 12065A* (K000794493) at K has annotations by Clarke is designated here as the lectotype and the remaining ones as isolectotypes.

**3. *Commelina clavata*** C.B. Clarke, *Commelyn. Cyrtandr. Bengal* 15. t. 5. 1874.

**Lectotype:** India, Tamil Nadu, Nilgiri, 18/03/1870, *C.B. Clarke 11012 A* (CAL!, designated here; paralectotypes: K!, MEL!). **Fig. 3**



**Figure 3: Lectotype of *Commelina clavata* C.B. Clarke [*C.B. Clarke 11012 A*, CAL] [© Central National Herbarium. Reproduced with permission].**

Clarke [7] in *Commelinaceae Cyrtandrae Benghalensis* described and illustrated *Commelina clavata* as “folia subglabra angusto lanceolata ..... semina 4 out rugoso reticulate” based on the specimens he had collected from Nilgiris (Tamil Nadu) in 1870. In the present investigation, Clarke's materials at CAL, K (K000794510, K000794511) and MEL have been critically examined. Among the five sheets at CAL, *C.B. Clarke 11012 A* have ovate-lanceolate sub-glabrous leaves, 4-seeded capsules and shallow-reticulate seeds. This specimen, agreeing with the protologue, is designated here as the lectotype and others as paralectotypes.

**4. *Commelina hasskarlii*** C.B. Clarke, *Commelyn. Cyrtandr. Bengal* 13, t.3. 1874.

**Lectotype:** India, West Bengal, Purulia district, Rajmahal Hills, *C.B. Clarke s.n.* (CAL [CAL0000001150]!, designated here). **Fig. 4**

*Commelina hasskarlii* was described by Clarke [7] based on materials collected from Purulia district, Rajmahal Hills, India. The specimen at CAL, from Rajmahal hills has no collection number but denoted it as one of the C.B. Clarke's type specimen. The sheet at CAL matches exactly with the protologue and hence designated here as the lectotype. *C. hasskarlii* is currently treated as a synonym of *C. caroliniana* Walter.

**5. *Commelina indehiscens*** E. Barnes, *J. Bombay Nat. Hist. Soc.* 46: 74. 1946.

**Lectotype:** India, Karnataka, Mysore district, Biligirirangan hills, Minchiguli Valley, 06/1939, *E. Barnes, 2137* (K [K000794486]! designated here; paralectotypes: DD!, MH!, K [K000794487]!). **Fig. 5**



Figure 4: Lectotype of *Commelina hasskarlii* C.B. Clarke [C.B. Clarke s.n., CAL] [© Central National Herbarium. Reproduced with permission].



Figure 5: Lectotype of *Commelina indehiscens* E. Barnes [E. Barnes 2137, K] [©The Board of Trustees of the Royal Botanical Gardens, Kew. Reproduced with permission].

*Commelina indehiscens* was described by Barnes [8] as “capsule 1-sperma indehiscent, floribus cleistogamia....” based on specimen from different localities in South India. There are 2 sheets at K (K000794486, K000794487) from Minchiguli in Biligirirangan hills, 1 sheet at MH and 1 at DD from Bedaguli in Biligirirangan hills. Among them, Barnes’ collection 2137 from Minchiguli Valley, Biligirirangan hills, Karnataka at K (K000794486) with cleistogamous flowers at the basal nodes, indehiscent capsules and 1-seeded dorsal locule is designated here as the lectotype.

**6. *Commelina sikkimensis*** C.B. Clarke, Commelyn. Cyrtandr. Bengal 16. t. 6. 1874.

**Lectotype:** India, Chura, 06/1850, C.B. Clarke 956 (K [K000794520]!), designated here; paralectotypes: K [K000794519]!, CAL!, DD!, MEL!). **Fig. 6**



**Figure 6: Lectotype of *Commelina sikkimensis* C.B. Clarke [C.B. Clarke 956, K] [©The Board of Trustees of the Royal Botanical Gardens, Kew. Reproduced with permission].**

*Commelia sikkimensis* was described by C.B. Clarke [7] based on specimens from Sikkim and Assam (India). While searching for Clarke’s specimens in different herbaria it was found that there are 2 sheets at K (K000794519, K000794520), 1 each at CAL, DD and MEL, all are different collections. The sheets at K had annotations by Clarke. Among them K000794520, perfectly matches with the protologue, is designated here as the lectotype and the remaining specimens at K, CAL, DD, MEL are designated as paralectotypes.

**7. *Commelina suffruticosa*** Blume, Enum. Pl. Javae 3. 1827.

**Lectotype:** Java, Mount Salak, 1826, s.coll. s.n.(P [P01743250]!), designated here). **Fig. 7**



**Figure 7: Lectotype of *Commelina suffruticosa* Blume [s.coll. s.n., P] [©The Board of Trustees of the Museum National d'Historie Naturelle, Paris. Reproduced with permission].**

*Commelina suffruticosa* was described by Blume [9]. While searching for Blume's specimens in different herbaria it was found that there is a single specimen at P (P01743250) which is designated here as the lectotype.

**8. *Commelina tricolor* E. Barnes, J. Bombay Nat. Hist. Soc. 46: 79. 1946**

**Lectotype:** India, Tamil Nadu, Nilgiri, Gudalur Ghat, Karadimalai, 07/1940, *E. Barnes* 2265 (CAL [CAL0000001149]!), designated here; isolectotype: DD!; paralectotypes: K [K000794488, K000794489]!. **Fig. 8**



**Figure 8: Lectotype of *Commelina tricolor* E. Barnes [*E. Barnes* 2265, CAL] [© Central National Herbarium. Reproduced with permission].**

Barnes in 1946 described *Commelina tricolor* based on his collections from Nilgiris in South India. While searching for Barnes' specimens in different herbaria it was found that there is one sheet each at CAL (CAL0000001149), DD and two sheets at K (K000794488, K000794489). All are good specimens and have field tickets in Barnes's own handwriting. Among them *Barnes 2265* at CAL is designated here as the lectotype and the one at DD as isolectotype and at K as paralectotype.

**9. *Heterocarpus glaber* Wight, Ic. Pl. Ind. Or. 29. t. 2067. 1853 (= *Commelina wightii* R.S. Rao, Bull. Bot. Surv. India 3: 168. 1961).**

**Lectotype:** India, Paulghautcherry, 08/1844, *Wight s.n. A* (K [K000794505], designated here). **Fig. 9**



**Figure 9: Lectotype of *Heterocarpus glaber* Wight (= *Commelina wightii* R.S. Rao) [*Wight s.n. A*, K] [©The Board of Trustees of the Royal Botanical Gardens, Kew. Reproduced with permission]**

Robert Wight [10] in *Icones Plantarum Indiae Orientalis* described and illustrated *Heterocarpus glaber* (= *Commelina wightii* R.S. Rao & Kammathy) based on specimens from Bolampatty hills and Palghat jungles in South India. There is one sheet at MH and according to Noltie [11], 3 sheets at K (K000794505, K000794506, K000794507) and no specimens at E. In the present study images of all the above sheets were seen, but all lacking the name in Wight's own handwriting. The material at K (K000794505), contains six specimens which are marked here as A-F. Among them, A is a perfect match for the description, is designated here as the lectotype.

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