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NOTE

Lectotypification of Five Names in *Carex* L. (Cyperaceae)

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ABSTRACT: Five names in *Carex* L. (Cyperaceae), namely C. *fluviatilis* Boott, *C. vulpinaris* Nees, *C. thomsonii* Boott, *C. teinogyna* Boott, *C. longicruris* Nees are lectotypified as a part of the revisionary study of this genus in India.

KEY WORDS: *Carex*, Cyperaceae, lectotype, India.

INTRODUCTION

The genus *Carex* L. is one of the largest genera in the family Cyperaceae comprising about 2000 species globally (Lunkai *et al.* 2010) and 160 – 170 species in India (Karthikeyan *et al.* 1989; Singh & Prasad, 2001). The genus was subdivided into two subgenera by C.B. Clarke (1894) primarily based on the number of stigmatic characters viz., bistigmatic species in the subgenus *Vignea* (P. Beauv. ex T. Lestib.) Peterm. and tristigmatic ones in the subgenus *Eucarex* (= *Carex*). Currently a part of the subgenus *Vignea* of the genus *Carex* L. (Cyperaceae) in India is being revised under the Flora of India Project. During this study, the authors examined specimens from various herbaria in India and also the specimen images of European herbaria available online. Based on these, five names are lectotypified in this paper.

LECTOTYPIFICATION

1. *Carex fluviatilis* Boott, Ill. Carex 4:172, t. 582. 1867.

Lectotype (designated here): **MYANMAR** (Birmah [Burma]): Wullooboor, *Griffith s.n.* (K, barcode no. K000998828, right hand specimen) image!.

Boott (1867) in the protologue mentioned the specimen as "Hab. In India oriental.- In aquosis versus Wullooboor (Birmah?), *Griffith*". Herbarium of Kew (K) bearing two collections of Griffith (K000998829 & K000998830) from Birmah (Burma/ Myanmar). Specimen of barcode no. K000998829 is bearing the collection no. 6103 having two complete set of specimens with four detached culms. The barcode no. K000998830 also bearing the same collection number with determinative slip of Boott, but none of them match with the illustration provided in the t. 582. However, the barcode no. K000998828 bearing two complete set of plant specimens with three detached culm, with a determinative slip with morphological diagnosis of Boott. Since the right hand specimen is similar to the illustration provided by Boott the same is designated here as lectotype.

2. ***Carex longicruris*** Nees in R. Wight, Contr. Bot. India 124. 1834. Lectotype (designated here)**: INDIA:** Herb. *Royle n. 93* (K, barcode no. K000999134) image!.

Nees in the protologue mentioned the specimen "*N. ab. E. in herb. Royle. n. 93; Wight. cat. n. 1918.- Nepalia; Royle. Peninsula Ind. or.; Wight*". The main set of Cyperaceae specimens of Nees was presumably destroyed at B herbaria (Stafleu & Cowan, 1981). Four sheets in K bearing the same collection number, qualifies the type status as syntype. One specimen at P (P00285119) from Royle herbarium without any number does not qualify as type. All Specimens at K are morphologically similar but the barcode no. K000999134 is selected here as lectotype, as it has fairly lax inflorescence as described by Nees.

3. *Carex teinogyna* Boott, Ill. Carex 1: 60. 1858.

Lectotype (designated here): **INDIA**: In Bengalia Orientali Temperata et subtropica ad Khasia alt 4–6000 ped. *Hook. f. & Thomson s.n.* (CAL!, centre specimen) (Fig. 1)

Boott (1858) mentioned in the protologue "HAB. In Bengalia orientali temperata et subtropica, ad Khasia alt 4 – 6000 ped., *Hooker et Thompson*". During the course of the study nine sheets were traced, of which 3 sheets at CAL, four at P and two at K herbaria. One of the sheets housed at CAL consists 3 specimens, bearing the original handwriting of Boott with collection data mentioned in the protologue. The other two sheets although collected by Thomson from Khasia hills, but there is no evidence that Boott examined those specimens. In K three collections made in different period were mounted in same sheet with barcode nos. (K000999139, K000999140, K000999141) but do not contain any evidence that Boott studied them. The barcode no. K000999143 contains the label data "Herbarium of East India Company, East Bengal, herb



Fig.1. Lectotype of *Carex teinogyna* Boott in CAL (centre specimen)

Griffith" with determinative slip of Boott mentioning Khasia". The specimens of P also from Khasia hills collected by Thomson but again no indication of Boott seen these collections. In the protologue Boott mentioned that the culm 45 – 60 cm long and the spike 7.5 – 30 cm long. Since the middle specimen of CAL sheet with Boott determinative slip matches with the measurement, the same is designated here as lectotype.

4. *Carex thomsonii* Boott, Ill. Carex 1:1. 1858.

Lectotype (designated here): **INDIA**:Uttarakhand, Kumaun, Ramjunga bridge, Petora, *T. Thomson s.n.* (K, barcode no. K000061661) image!.

Boott (1858) in the protologue mentioned three collections as "HAB. In regionibustropicisKhasiae, *Drs. Thomson et Hooker*! et Himalaya, alt.1–4000 ped., a Bhotan, *Booth*!, ad Kumaon, *Dr. Thomson*! - In rupibus fluviorumcrescens"

Stafleu& Cowan (1976: 277) mentioned that the main set of *Carex* specimens of Boott are deposited in K herbarium. During the course of study 7 syntypes were located, in which three are at K and other four are housed at P. The specimens of barcode nos. K000061661 & K000998827 in K are mounted in the same sheet. The barcode no. K000998827 comprises two specimens with label data as "Ramjunga bridge, Petora, Kumaun" with collection number 1081, and the specimen of barcode no. K000061661 also bearing two plants with label data as " May 1845" with the number 1081, all the specimens were collected by T. Thomson, which was mentioned in another label data. Determinative slip of Boott and C.B. Clarke are also in this herbarium sheet. The barcode no. K000998824 comprises six plant specimens collected by J.D. Hooker and T. Thomson from Khasia hills, bearing determinative slip of C.B. Clarke. The two herbarium sheets at P have total four collections (each sheet bearing two collection nos.). The barcode no. P00301986 has two specimens collected by J.D. Hooker and T. Thomson from Khasia hills and the barcode no. P00301987 has three incomplete specimens collected by J.D. Hooker from Sikkim. The barcode no. P00301988 bearing two specimens, was collected by Thomson from Kumaun and the barcode no. P0005646 was collected from Nepal by same collector. In the protologue, Boott mentioned that this species was discovered by Dr. Thomson from Kumaun in May 1845, and named the species in honour of Dr. Thomson. Since the right hand side specimen of the barcode no K000061661 matches with the Boott's remark and the measurements, the same is chosen here as a Lectotype.

5. *Carex vulpinaris* Nees in R. Wight, Contrib. Bot. India 121.1834.

Lectotype (designated here): **NEPAL**: *Herb. Royle no. 73* (K, barcode no.K000998821, right hand specimen), image!.

Nees (1834) in the protologue of *Carex vulpinaris* cited the specimen as "*N. ab E. in herb. Royle n.* 73.– Nepalia *Royle*". During the course of study authors found two sheets of Royle's bearing same collection number housed in K herbarium qualify the type status as syntype. The barcode no. K000998822 bearing two specimens, comprising determinative slips of C.B. Clarke, F.M. Boott and also of Kukkonen. The left hand specimen is incomplete bearing only the portion of culm and spike and the right hand specimen is complete one bearing leaves, culms and spike. On the other hand, the sheet of barcode no. K000998821 comprises 4 specimens with a determinative slip of Nees. In the description, Nees mentioned that the Culm is trigonous, spike ovate, stigma bifid. Although both the above mentioned barcoded sheets comprise the above characters, the right hand specimen of the barcode no. K000998821 is designated here as Lectotype since it is comparatively better specimen than others.



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