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Remarks on the types of two 19th century *Arundinaria* names (Poaceae)

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ABSTRACT

Second-step lectotypification is designated here for two 19th century names in *Arundinaria* namely, *A. spathiflora* Trin. and *A. aristata* Gamble.

Key words: *Arundinaria*, lectotype, second-step.

INTRODUCTION

The genus *Arundinaria* Michx. is represented by three species mainly distributed in North America (Triplett & Clark 2010). Munro (1866) recognized 29 species in the monograph and Gamble (1896) recognized 28 species from British India. Further, Chao & Renvoize (1989) revised the genus *Arundinaria* for Southeast Asia and Africa and split the genus into eight genera with 42 species and retained only two species of *Arundinaria* namely, *A. baviensis* Balansa and *A. racemosa* Munro. In India, the genus is represented by 13 species (Shukla 1996; Kandwal & Singh 2016) which is presently transferred to different genera (POWO 2020).

During digitization of type specimens at CAL, I came across a publication of Chao & Renvoize (1989) and found that the second-step lectotypification is needed for two names in *Arundinaria* described in 19th century which are discussed here.

Typification

Thamnocalamus spathiflorus (Trin.) Munro, Trans. Linn. Soc. London 26: 34. 1868. Basionym:

Arundinaria spathiflora Trin., Mém. Acad. Imp. Sci. Saint-Petersbourg, Sér. 6, Sci. Math., Seconde Pt. Sci. Nat. 3: 617. 1835.

Lectotype (first-step, designated by Chao & Renvoize 1989: 363): Napalia, 1821, *Wallich* 5041 (four specimens at K); second-step, designated here: Napalia, 1821, *Wallich* 5041 (K000246148 image!); isolectotypes (CAL0000077112!, E00393486, K000246149, K000872522, K0001104564 images!). **Fig. 1.**

Synonym: *Arundinaria aristata* Gamble, Ann. Roy. Bot. Gard. Calcutta 7: 18. 1896.

Lectotype (first-step, designated by Chao & Renvoize 1989: 363): India, Sikkim, Phalut, 10000 ft., May 1890, *G.A. Gammie* s.n. (four specimens at K); second-step, designated here: India, Sikkim, Phalut, 10000 ft., May 1890, *G.A. Gammie* s.n. (K000246146 image!); isolectotypes (K000246145, K000710253, K000710254 images!). **Fig. 2.**

Residual syntypes: India, Sikkim, Yakla, 11000 ft., 17 October 1869, *C.B. Clarke* 10057D (CAL0000002519!); *C.B. Clarke* 10057F (CAL0000002520!); *C.B. Clarke* 10057R (CAL0000002521!); *C.B. Clarke* 10057I (CAL0000002522!); Darjeeling, Tonglo, 10000 ft., October 1880, *C. Levinge* 8520 (CAL0000002526!); 13 October 1868, *S. Kurz* s.n.

(CAL0000002527!); Tongloo, 10000 ft., 14 October 1868, *S. Kurz* s.n. (CAL0000002528!, CAL0000002529!); 1878, *G. King* s.n. (CAL0000002530!, CAL0000002532!); Phaloot, 10000 ft., May 1890, *Dr. King's Collector* s.n. (CAL0000002531!, CAL0000002533!, CAL0000002534!). Bhutan, above Chupcha in woods, 9500–10000 ft., *Griffith* 6723 (CAL0000002523!)



Fig. 1. Second-step lectotype of *Arundinaria spathiflora* Trin. (K000246148) © The Board of Trustees of the Royal Botanic Gardens, Kew.

<http://specimens.kew.org/herbarium/K000246148>

Original materials: India, Sikkim, Yakla, 11500 ft., 17 October 1869, *C.B. Clarke* 10107C (CAL0000002524!); *C.B. Clarke* 10107D (CAL0000002525!).

Note: Trinius (1835) cited “Habit in Nepalia” in the protologue. Chao & Renvoize (1989) lectotypified the name by designating *Wallich* 5041 (K) as the lectotype of *A. spathiflora*. There are four herbarium specimens of *Wallich* 5041 at K and three of them bear Chao & Renvoize’s annotation “Wallich 5041 lectotype”. Therefore, it cannot be established that which of the specimen at K was designated as lectotype and it must be considered as first-step lectotypification and warrants second-step lectotypification by narrowing to single specimen under Art. 9.17 of the *Shenzhen Code* (Turland *et al.* 2018). So, I designate here the well preserved specimen *Wallich* 5041 (K000246148) as the second-step lectotype. I also traced two specimens at CAL and E.

Arundinaria aristata Gamble was described based on the collections of Kurz, C.B. Clarke, C.G. Rogers, G.A. Gammie, H.C. Levinge, G. King, J.S. Gamble from Sikkim and Griffith from Bhutan. Chao & Renvoize (1989) designated *G.A. Gammie* s.n. (K) as the lectotype. There are four herbarium specimens of *G.A. Gammie* s.n. at K and all specimens bear Chao & Renvoize’s annotation “Gammie in May 1890 lectotype”.



Fig. 2. Second-step lectotype of *Arundinaria aristata* Gamble (K000246146) © The Board of Trustees of the Royal Botanic Gardens, Kew.

<http://specimens.kew.org/herbarium/K000246146T>

Therefore, it cannot be established that which of the specimen at K was designated as lectotype and it must be considered as first-step lectotypification and warrants second-step lectotypification by narrowing to single specimen under Art. 9.17 of the *Code*. So, I designate here the well preserved flowering specimen *G.A. Gammie* s.n. (K000246146) as the second-step lectotype. I also traced four specimens of *C.B. Clarke*, five specimens of *G. King*, three specimens of *S. Kurz*, one specimen of *C. Levinge* from Sikkim and one specimen of *Griffith* from Bhutan at CAL. Furthermore, I traced two specimens of *C.B. Clarke* which were collected from Yakla at an altitude of 11500 ft. Both specimens bear Gamble’s annotation in his handwriting, therefore, these specimens can be considered as “Original material”.

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