



Lectotypification of two names in the genus *Schizachyrium* Nees (Poaceae: Andropogoneae)

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Abstract

While revising the tribe Andropogoneae (Poaceae) from Western Himalaya, two names in the genus *Schizachyrium* viz. *S. exile* (Hochstetter) Pilger and *S. delavayi* (Hackel) Bor for which lectotypes had not been designated, are lectotypified here.

Key words: Lectotype, Poaceae, *Schizachyrium exile*, *Schizachyrium delavayi*

INTRODUCTION

Schizachyrium Nees, a cosmopolitan genus, nested in the tribe Andropogoneae Dumort. of Poaceae Barnhart comprises ca. 64 species mainly distributed in tropics and temperate regions of the world (Kellogg 2015; Soreng *et al.* 2017). The genus includes caespitose, perennial or annual herbs with membranous ligule, unbranched inflorescences and clavate internodes (Kellogg 2015). Species of *Schizachyrium* are characterized by having solitary racemes supported by spathes at the end of culms and branches. Recent phylogenetic studies indicate that *Schizachyrium* may be of monophyletic origin and sister to *Andropogon* L. (Estep *et al.* 2014). Occurrence of unbranched inflorescences in *Schizachyrium* distinguishes it from *Andropogon* where paired or digitate branches in the inflorescence are present. In India, the genus is represented by five species viz. *S. brevifolium* (Swartz) Nees ex Buse, *S. delavayi* (Hackel) Bor, *S. exile* (Hochstetter) Pilger, *S. impressum* (Hackel) A. Camus and *S. sanguineum* (Retzius) Alston chiefly distributed in Western Himalaya, Northeast India and Western Ghats. Western Himalaya harbours three species of *Schizachyrium* including *S. brevifolium*, *S. exile* and *S. impressum* (Tripathi *et al.* 2019) whereas *S. brevifolium* and *S. exile* have also been reported from Western Ghats (Sreekumar & Nair 1991; Potdar *et al.* 2012). *S. delavayi* and *S. sanguineum* inhabit the north eastern region of the country (Shukla 1996). During revisionary studies in the tribe Andropogoneae from Western Himalaya, perusal of literature revealed that *S. exile* and *S. delavayi* remain surrounded by uncertainty in typification. Numbered collections cited in the protologue indicated a gathering of several specimens. Rigorous survey of literature and critical examination of the specimens housed in different herbaria evinced the need to lectotypify these names under the Article 9.3 of the ICNafp (Turland *et al.* 2018).

MATERIALS AND METHODS

The present study is based on the survey of the relevant literature and examination of the specimens kept in the following herbaria (acronyms according to Thiers 2020): G, GH, GOET, K, L, M, MO, P, S, TUB and W. The digital images of the authentic specimens from the above

mentioned herbaria were procured from their websites. For the selection of types, protologues have been compared with original material and the most complete and informative specimens were selected (Art. 9.3 of the ICNafp, Turland *et al.* 2018).

TYPIIFICATION

Schizachyrium exile (Hochstetter) Pilger, Bot. Jahrb. Syst. 54 (4): 284. 1917.

Basionym: *Andropogon exilis* Hochstetter Flora 27: 241. 1844.

Lectotype (designated here): [SUDAN, Kordofan, Jebel Arashkol] (“Cordofani Arasch-Cool”), 1839, *Kotschy* 370 (TUB007032 [digital image!]) (Figure 1). **Isolectotypes:** W18890263642 [digital image!], K000280384 [digital image!], P00440402 [digital image!], GH00056770 [digital image!].

Further original materials traced:—[SUDAN, Kordofan], 1837, *Kotschy* 19 (B100167219 [digital image!]), (G00022660 [digital image!]), (GOET006919 [digital image!]), (HOH009134 [digital image!]), (K000280381 [digital image!]), (L0050064 [digital image!]), (M0103825 [digital image!]), (MO-1660973 [digital image!]), (P00440403 [digital image!]), (S10- 22175 [digital image!]), (TUB007031 [digital image!]).

Hochstetter (1844) in the protologue, indicated the basis of new species as “*In pll. exsicc. un. itin. ex Kotschyi it. Nubico nr. 370. et in Kotschyi Flora aethiopia exsicc. nr. 19*” from the east side of “montis Cordofani Arasch- Cool” (apparently Jebel Arashkol in the Kordofan region of Sudan) without specifying any herbarium in which the original material was preserved. We traced digital images from online repositories of original material and found sixteen sheets bearing two collection numbers, of which two each are housed in K, P and TUB and one each in B, G, GH, GOET, HOH, L, M, MO, S and W which are in accordance with the citations in the protologue. Among the competing original material, the specimen with the collection no. 370 deposited at TUB (Figure 1) which best matches with the protologue is selected here as the lectotype of the name *Schizachyrium exile* (Hochstetter) Pilger.

Note: *Schizachyrium exile* (Hochstetter) Pilger was originally described as *Andropogon exilis* by Hochstetter (1844) in ‘Flora oder Allgemeine Botanische Zeitung’ based on the collection of Kotschy from Kordofan region of Sudan. Later on, Pilger (1917) transferred the specific epithet of Hochst’s *Andropogon exilis* to the genus *Schizachyrium* forming a new combination viz. *Schizachyrium exile* (Hochstetter) Pilger.

Schizachyrium delavayi (Hackel) Bor, Indian Forest Rec., Bot. 1(3): 95. 1938.

Basionym: *Andropogon delavayi* Hackel, A. Candolle & C. Candolle, Monogr. Phan. 6: 404. 1889.

Lectotype (designated here): CHINA. Yunnan, near Hoken, 19 November 1886, *P.J.M. Delavay* 1800 [W 19160027418 (digital image!)] [Figure 2].

Further original material traced: Yunnan, [Dali], 6 May 1887, *P.J.M. Delavay* 2242 [W19160027417 (digital image!)].

Andropogon delavayi was described by Hackel (1889: 404) in ‘Monographiae phanerogamarum’, where he mentioned two specimens. He wrote of the source of the species: “China australis, prov. Yun-nan : Kimi-se ad pedes Hee-schan-men prope Hoken (Delavay 1800 in h. paris.) ; in pratis ad Ki-pin-Kay prope Tali (id. n. 2242).” We could trace two sheets of *A. delavayi* of the herbarium P preserved at the herbarium W. Among the competing material, the specimen with the best representative material under collection number 1800 (Figure 2) is designated here as the lectotype (Article 9.3, ICN, Turland *et al.* 2018).

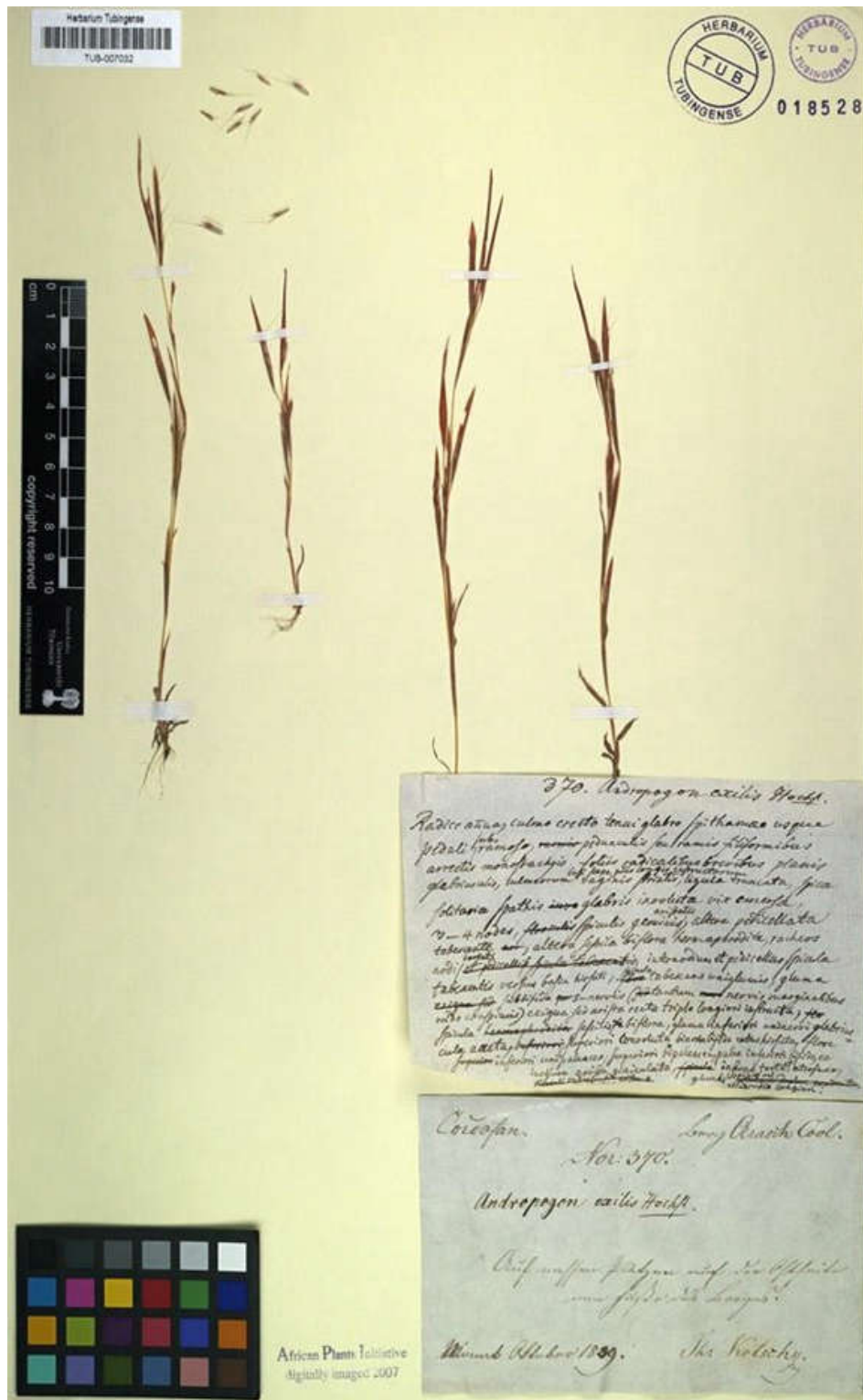


Figure 1. Lectotype image of *Schizachyrium exile* (Hochst.) Pilg. [©: Director, TUB]

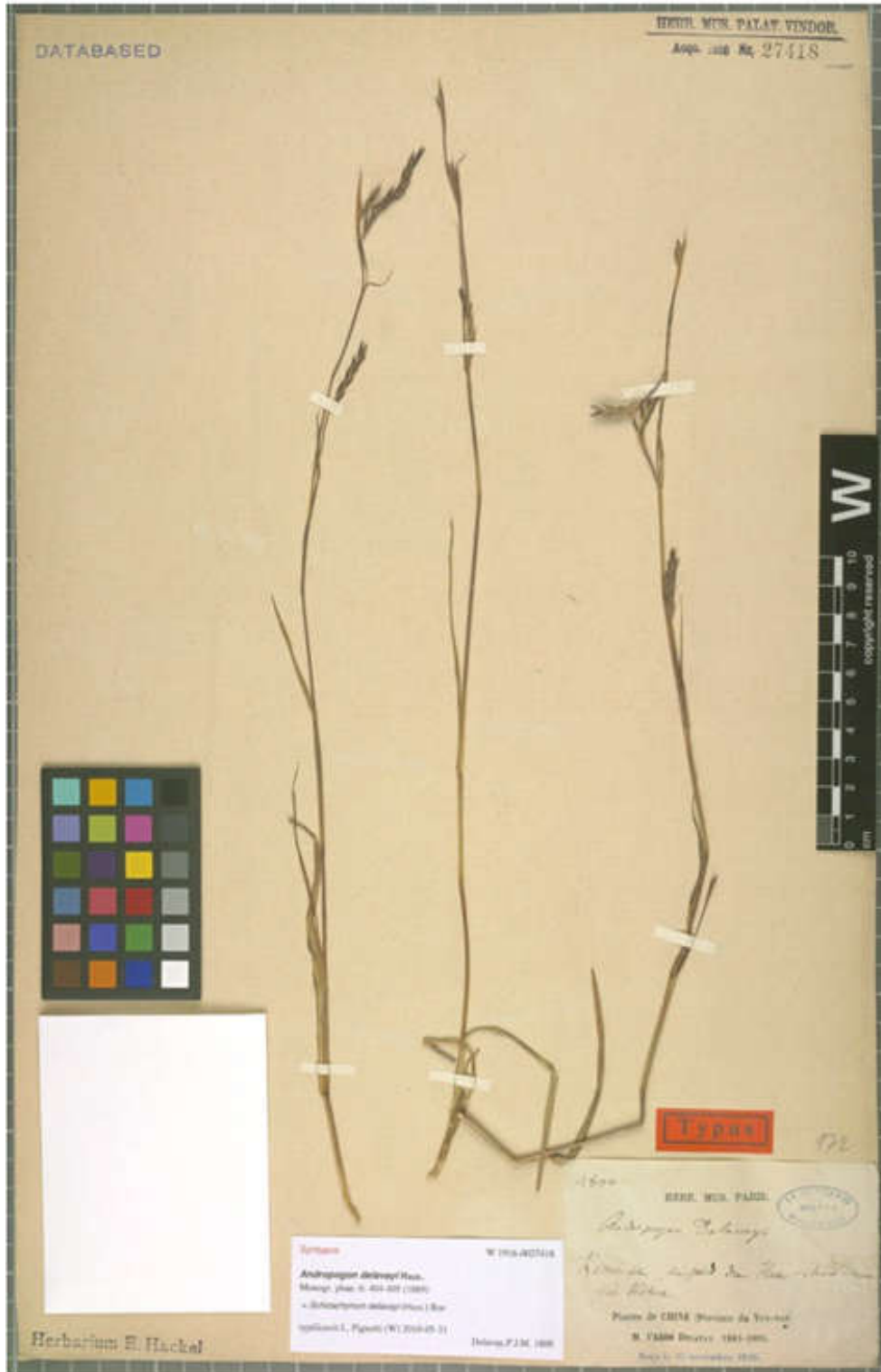


Figure 2. Lectotype image of *Schizachyrium delavayi* (Hack.) Bor. [@: Director, W]

Note: *Schizachyrium delavayi* (Hackel) Bor was originally described as *Andropogon delavayi* by Hackel (1889) in 'Monographiae Phanerogamarum' based on the collections of Delavay from Yunan. As revealed from the available literature, Delavay's type specimens are preserved at P (Stafleu & Cowan 1976) while Hackel's at W (Stafleu & Cowan 1979). So, we could infer that the specimens collected by Delavay preserved at P might have been transferred to W in any way, where Hackel had described *Andropogon delavayi*. Later on, Bor (1938) transferred the specific epithet of Hackel's *Andropogon delavayi* to the genus *Schizachyrium* forming a new combination viz. *Schizachyrium delavayi* (Hackel) Bor.

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