

First distribution records of *Calamagrostis abnormis* (Poaceae, Agrostidinae) from Sichuan and Xizang Provinces, China

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Abstract: *Calamagrostis abnormis*, a Sino-Himalayan species, is reported with new distribution records in southern Sichuan and southeastern Xizang, China. The species was previously recorded to be distributed in Yunnan and western Guizhou in China, Nepal, Bhutan, India, and Northwest Vietnam. The general distribution map of *C. abnormis* is presented.

Key words: Asia, *Deyeuxia*, distribution, Sino-Himalayan region

Introduction

A comprehensive taxonomic treatment of *Calamagrostis* s. lato (including Asian *Deyeuxia*) is now being prepared for *Flora of Pan-Himalaya* (Paszko, unpubl. data). Detail revision of herbarium collections has revealed thirty-four new provincial records of *Calamagrostis* s. lato in China, including three new country records (Paszko & Ma 2011; Paszko & Chen 2013; Paszko 2012, 2014 a, b, 2015, 2016; Paszko & Pendry 2013; Paszko & Soreng 2013; Paszko & Chen in Nobis *et al.* 2014, 2015; Paszko *et al.* 2013, 2016, 2017). Here, we are recorded the first provincial records of *Calamagrostis abnormis* (Hook. f. *emend.* Paszko) Shukla from southern Sichuan and southeastern Xizang, China.

Material and methods

The first author studied specimens of *Calamagrostis abnormis* from the herbarium of Institute of Botany of Chinese Academy of Sciences in Beijing (PE). New revised localities of *C. abnormis* are listed in the text and shown on map (Fig. 1) produced using SimpleMappr (<http://www.simplemappr.net/>). The collections were georeferenced based on locality information and their estimated coordinates are given in square brackets.

Results

Taxonomic treatment

***Calamagrostis abnormis* (Hooker f.) Shukla, 1996**

Deyeuxia abnormis Hooker, 1896, s. str. *emend.* Paszko in Paszko & Soreng, 2013.

Taxonomic note: *Calamagrostis abnormis* has complicated nomenclature, Paszko & Soreng (2013) and Paszko *et al.* (2017) have provided complete synonymy.

General distribution: BHUTAN (Deothang, Thimphu, Punakha, Tongsa, Bumthang, Mongar, Tashigang), CHINA (W Guizhou, S Sichuan, SE Xizang, Yunnan), INDIA (Arunachal Pradesh, Manipur, Meghalaya), NEPAL (Dolkha, Ramechhap, Sankhuwasabha, Solu Khumbu), VIETNAM (Lao Kay) (Fig. 1).

Distribution note: *Calamagrostis abnormis* is a widespread Sino-Himalayan species occurring in the central and eastern Nepal, Bhutan, India, South Central China, and Northwest Vietnam (Handel-Mazzetti 1936; Schmid 1958; Noltie 1999, 2000; Lu *et al.* 2006; Paszko & Soreng 2013; Paszko *et al.* 2017). In China, *Calamagrostis abnormis* was recorded till now from Yunnan and Guizhou Provinces (Lu *et al.* 2006). Here, its first records are reported from the Dechang County of Sichuan Province and from Cona and Mêdog Counties of Xizang, China.

Several new localities from Yunnan Province are also listed (Fig. 1). It is distributed mainly in the Yunnan-Guizhou Plateau, with some adjacent localities in the southeastern part of Qinghai-Tibetan Plateau. The gap between localities at Manipur (NE India) and Longling Co. (Yunnan, China) extends for almost 500 km. The disjunct distribution records of this species are probably due to lack of intensive field work in the areas in the southern slope and western part of the eastern slope of the Himalayas.

Specimens examined:

CHINA. SICHUAN [first record]: Dechang Co., Shanmaqiao, under pine forest, 2700 m, [27.405°N, 102.173°E], 11.07.1959, leg. S.F. Zhu 20300 (PE).

XIZANG [first records]: Cona Co., Lexiang, SE slope, 2530 m, [27.994°N, 91.958°E], 08.08.1974, leg. Qinghai-Tibetan Vegetation Team 2526 (PE); Mêdog Co., Gelin Basin, grassland, 1550 m, [29.324°N, 95.334°E], 12.08.1980, leg. Ecology Plateau Team 14186 (PE).

YUNNAN: Binchuan Co., Jizu Mt., Zhujing Temple, *Quercus* forest, 2300 m, [25.83°N, 100.578°E], 22.08.1963, leg. NW Yunnan - Jinsha River Team 63-6639 (PE); Dayao Co., Dayao to Desang(?) Mt., 2500 m, [25.726°N, 101.325°E], 02.09.1963, leg. NW Yunnan - Jinsha River Team 63-6803 (PE); Huize Co.: Liangwang Shan, ca. 20 km SE of Dongchuan, on new rd. to Zhoatong via Zhehai, scrubby *Pinus yunnanensis*/*Alnus nepalensis* forest, shrubs and grasses, around corn and tobacco fields, alt. 2080 m, 26°N, 103.25°E, 14.09.1997, leg. R. Soreng *et al.* 5290 (PE); Jingdong Co., Ailao Mt., Xujiaba, grassland, riverbank, 2500 m, [24.452°N, 100.836°E], 20.07.2003, leg. S.S. Zhou 1555 (PE); Kunming City, Western Hills, Sujia Village, [25.051°N, 102.702°E], 26.10.1941, leg. T.N. Liou 19187 (PE); Kunming City, Heilongtan, wet place, streamside, [25.051°N, 102.702°E], 19.07.1954, leg. Kuming Institute Team 50524 (PE); Longling Co., 3 km S of Longling Town, 1550 m, [24.59°N, 98.69°E], 20.05.1955, leg. C.Y. Wu *et al.* 1281 (PE); Ninglang Co., unknown, [27.288°N, 100.849°E], 15.09.1981, leg. Tian 108(5) (PE); Shilin Co., Guishan, Xuantiange Temple, at the edge of forest or under the forest along the slope, 2240 m, 24.6405833°N, 103.595833°E, 12.08.2006, leg. Y.M. Shui *et al.* 64160 (PE); Shilin Co., near Guishan, 1935 m, 24.6545556°N, 103.554222°E, 16.08.2006, leg. Y.M. Shui *et al.* 64422 (PE); Shilin Co., Guishan, Yusheng Village, on the slope of the limestone hills, 2050 m, 24.6888611°N, 103.472361°E, 19.08.2006, leg. Y.M. Shui *et al.* 64610 (PE); Shilin Co., Guishan, in evergreen forest on limestone hills slope, 2560 m, 24.6275°N, 103.577778°E, 27.08.2006, leg. Y.M. Shui *et al.* 64994 (PE); Wenshan Co., Bozhu Mt., open place on slope, 2550 m, [23.376°N, 104.236°E], 28.07.1993, leg. Y.M. Shui 3116 (PE); Yongren Co., Zhonghe, wasteland, 2460 m, [26.063°N, 101.674°E], 2.08.1965, leg. Southwest Expedition Team of CAS 606 (PE).

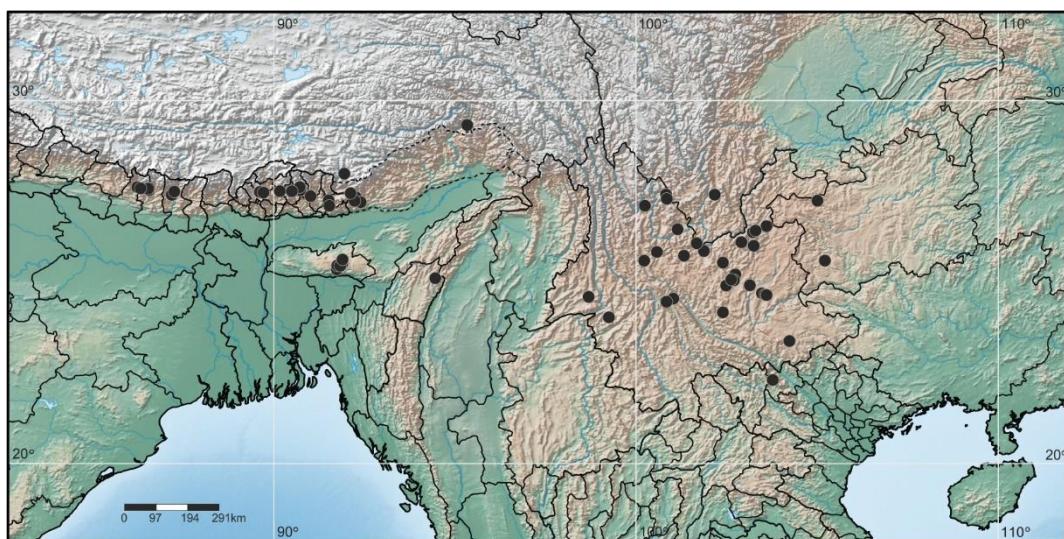


Fig 1: General distribution of *Calamagrostis abnormis*.

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References

- Handel-Mazzetti, H.F. (1936): Botanische Ergebnisse der Expedition der Akademie der Wissenschaften in Wien nach Südwest-China 1914–1918. VII. Anthophyta. – *Symbolae Sinicae* 7: 731-1450.
- Lu S.L., Chen W.L. & Phillips S.M. (2006): *Deyeuxia*. – In: Wu Z.Y., Raven P.H. & Hong D.Y. (eds) Flora of China: Poaceae 22. Science Press, Beijing & Missouri Botanical Garden Press, St. Louis, pp 348-359.
- Nobis M., Ebel A.L., Nowak A., Paszko B., Bobrov A.A., et al. (2015): Contribution to the flora of Asian and European countries: new national and regional vascular plant records, 4. – *Acta Botanica Gallica: Botany Letters* 162(4): 301-316.
- Nobis M., Ebel A.L., Nowak A., Turginov O.T., Kupriyanov A.N., et al. (2014): Contribution to the flora of Asian and European countries: new national and regional vascular plant records, 2. – *Acta Botanica Gallica: Botany Letters* 161: 209-221.
- Noltie H.J. (1999): Notes relating to the Flora of Bhutan: XXXIX. Gramineae II. – Edinburgh Jurnal of Botany 56: 381-404.
- Noltie H.J. (2000): Flora of Bhutan 3(2). The Grasses of Bhutan. Royal Botanic Garden Edinburgh & Royal Government of Bhutan, Edinburgh.
- Paszko B. (2012): Taxonomic revision of *Calamagrostis filiformis*, *C. tripilifera* and their allies (Poaceae: Agrostidinae). – Polish Botanical Journal 57(2): 335–346.
- (2014a): *Deyeuxia himalaica* (Poaceae, Agrostidinae): taxonomy and its first record from Myanmar. – *Phytotaxa* 156(5): 285-290.
- (2014b): Taxonomic reassessment of *Calamagrostis garhwalensis* (Poaceae: Agrostidinae). – *Phytotaxa* 159(3): 211-220.
- (2015): The first record of the Sino-Himalayan species *Deyeuxia himalaica* in the Yunnan Province, SW China, and three new combinations in *Calamagrostis* (Poaceae, Agrostidinae). – Polish Botanical Journal 60(2): 141-145.
- Paszko B. & Chen W.L. (2013): *Deyeuxia sorengii* sp. nov. (Poaceae, Agrostidinae) from Qinghai-Tibetan Plateau. – Nordic Journal of Botany 31: 551-555.
- Paszko B., Chen W.L. & Liu B. (2016): Confirmation of *Calamagrostis salina* in China, previously misidentified as *C. macilenta*, and notes about *C. kokonorica* and *C. macilenta* (Poaceae, Agrostidinae). – *Phytotaxa* 268(4): 251-262.
- Paszko B., Chen W.L. & Szczepaniak M. (2013): *Deyeuxia debilis* (Poaceae, Agrostidinae): typification, taxonomy and update of the Chinese distribution. – *Phytotaxa* 135(1): 1-10.
- Paszko B., Liu B. & Ma H.Y. (2017): *Calamagrostis* (Poaceae, Agrostidinae) in Vietnam. – Polish Botanical Journal 62(2): 213-228.
- Paszko B. & Ma H.Y. (2011): Taxonomic revision of the *Calamagrostis epigeios* complex with particular reference to China. – *Journal of Systematics and Evolution* 49: 495-504.
- Paszko B. & Pendry C. (2013): *Deyeuxia gaoligongensis* (Poaceae: Agrostidinae), a new species from Gaoligong Shan in Yunnan, China. – *Phytotaxa* 93(1): 40-46.
- Paszko B. & Soreng R.J. (2013): Species delimitation and name application in *Deyeuxia abnormis*, *Agrostis zenkeri*, *A. pleiophylla* and related taxa (Poaceae: Agrostidinae). – *Phytotaxa* 111(1): 1-26.
- Schmid M. (1958): Flore agrostologique de l'Indochine. – *Agronomie Tropicale* (Nogent-sur-Marne) 13: 304-309.

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