

CALAMAGROSTIS NYINGCHIENSIS, A NEW COMBINATION FOR DEYEUXIA NYINGCHIENSIS (POACEAE: AGROSTIDINAE), AND ITS FIRST RECORD FROM YUNNAN PROVINCE, SW CHINA

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Abstract. *Deyeuxia nyingchiensis* is here recombined as *Calamagrostis nyingchiensis* *comb. nov.* as a result of recent studies of worldwide Agrostidinae. A new record of *C. nyingchiensis* is reported from Shangri-la (Zhongdian) County in Yunnan Province, SW China. Previously, *C. nyingchiensis* was noted from eastern Xizang and southern Sichuan, SW China. It is compared with the morphologically similar species *C. scabrescens*. A map with all known geographic records of *C. nyingchiensis* is presented.

Key words: Asia, distribution, Hengduan Mts, nomenclature, taxonomy, Xizang

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INTRODUCTION

Deyeuxia Beauv. is closely related to *Calamagrostis* Adans. based on analysis of internal and external transcribed spacer regions (Saarela *et al.* 2010; J. M. Saarela, unpubl. data). A comprehensive taxonomic treatment of *Calamagrostis* (including *Deyeuxia*) is now being prepared for *Flora of Pan-Himalaya* (Paszko, unpubl. data). Recently, Paszko (2015) placed three Himalayan species originally described under *Deyeuxia* in *Calamagrostis*. Here, a grass previously known as *Deyeuxia nyingchiensis* is recombined as *Calamagrostis nyingchiensis* *comb. nov.*

In Yunnan Province, NW China, *Calamagrostis* is represented by 3 species, and *Deyeuxia* by 16 (Sun 2003a, b). The number of species for these two genera has been grossly underestimated in Yunnan Province. Recently, *Calamagrostis gaoligongensis* (Paszko) Paszko was described as new to science from Yunnan Province (Paszko & Pendry 2013), and four species [*Calamagrostis debilis* Hook. f., *C. filiformis* Griseb., *C. himalaica* (Liou ex W. L. Chen, *emend.* Paszko) Paszko, *C. yanyuanensis* J. L. Yang] were reported from Yunnan Province as new records (Paszko 2012, 2015; Paszko *et al.* 2013; Nobis *et al.* 2014).

I found two duplicates (CAS, E) of one gathering (*Forestry Commission, Royal Botanic Garden Edinburgh Expedition to Deqen Prefecture (1995) no. 174*) incorrectly identified as *Calamagrostis* aff. *scabrescens* Griseb., collected from the north side of Xiao Xue Shan in Shangri-la (Zhongdian) County in China's northwestern Yunnan Province. A detailed examination showed that it represents *C. nyingchiensis* and is a new record for Yunnan Province.

MATERIAL AND METHODS

All revised localities of *Calamagrostis nyingchiensis* mentioned in the text are shown on a map (Fig. 1) produced using SimpleMappr (<http://www.simplemappr.net/>). Geographic coordinates are provided for each locality. If this information was not part of the original collection data, approximate coordinates are given in square brackets.

TAXONOMIC TREATMENT

Calamagrostis nyingchiensis (P. C. Kuo & S. L. Lu) Paszko, *comb. nov.*

BASEONYM: *Deyeuxia nyingchiensis* P. C. Kuo & S. L. Lu, Fl. Xizang. 5: 221. 1987.

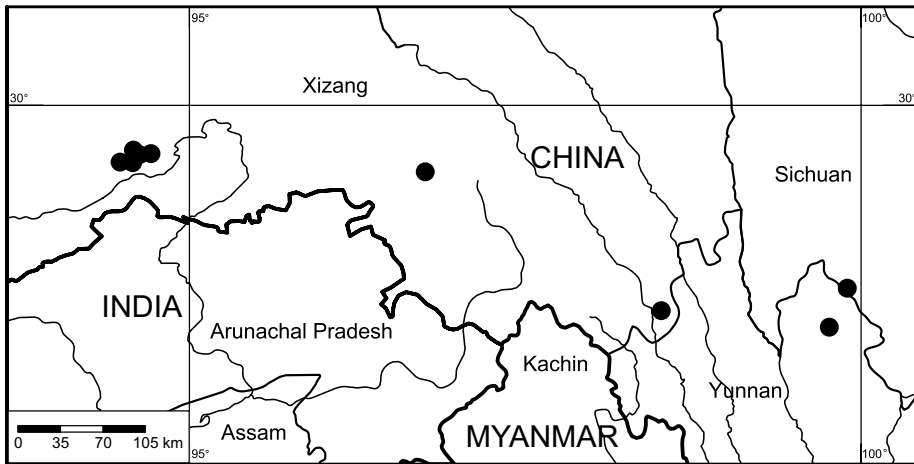


Fig. 1. Distribution map with all known geographic records of *Calamagrostis nyingchiensis* (P. C. Kuo & S. L. Lu) Paszko in northwestern China (Yunnan, Sichuan and Xizang).

TYPE: CHINA. XIZANG. Nyingchi xian, 30 Aug. 1977, leg. Kuo & W.-Y. Wang 23251 (HNWP, *n.v.*).

Perennial, caespitose. Culms 65–100 cm tall, unbranched, glabrous; nodes 3–4. Sheaths ribbed, smooth, not inflated; collars smooth; ligules 3.0–6.5 mm long, membranous, acute. Cauline blades 9–17 cm long, 3–6 mm wide, lanceolate-linear, gray, involute; midrib not prominent; abaxial surfaces minutely scabrous; adaxial surfaces moderately ribbed, glabrous or minutely scabrid. Panicle open, ovate in outline, 7–21 cm long; branches in whorls of 2–6, curving, spreading or ascending, the lowest panicle branches 2–8 cm; primary branches slightly scabrous, with spikelets densely clustered in upper half of branch. Spikelets 4.6–7.4 mm long, 1-flowered; glumes subequal or equal, weakly scabrid on keel, acuminate at apex; the lower 4.6–7.4 mm long and 0.95–1.30 mm wide, 1-veined; the upper 4.3–6.9 mm long and 1.0–1.4 mm wide, 3-veined, 0.87–1 times as long as the lower glume; callus hairs 0.6–1.8 mm long, 0.22–0.47 times as long as lemmas, surrounding the floret; lemma 2.8–3.8 mm long, 5-veined, 0.51–0.68 times as long as lower glumes, apex 2–4-toothed, with dorsal awn 2.3–4.8 mm long, attached in upper half (0.48–0.82) of lemmas, not exerted from glumes or only slightly exerted; palea 1.5–2.6 mm long, 0.5–0.7 times as long as lemmas;

rachilla extensions 0.8–2.0 mm, densely bearded with hairs 3.5–5.4 mm long. Anthers 0.7–1.1 mm. Flowering in August.

TAXONOMIC NOTE. *Calamagrostis nyingchiensis* was described by P. C. Kuo & S. L. Lu (*in* Lu & Liou 1987: 221) based on a collection from Nyingchi County in eastern Xizang, China. *Calamagrostis nyingchiensis* is morphologically similar to *C. scabrescens*. Both species are characterized by a tufted habit, the presence of well-developed pennicilate rachilla prolongations in the spikelets, and the awn inserted in the upper part of the lemma back. *Calamagrostis nyingchiensis* differs from *C. scabrescens* by having shorter anthers (0.7–1.1 mm vs. 1.35–2.65 mm long), shorter lemma awns (2.3–4.8 mm vs. 4.75–9.25 mm long), and a smaller ratio of lemma to lower glume length (0.5–0.7 vs. 0.7–1.0) (Paszko, unpubl. data).

DISTRIBUTION. Eighteen herbarium sheets of *Calamagrostis nyingchiensis* housed at CAS (2), E (2), HNWP (1), KRAM (1), PE (11) and US (1), representing eleven separate collection events, were located. I have not seen the type collection. Lu and Liou (1987) recorded *C. nyingchiensis* from Nyingchi and Yadong Counties in Xizang and also from Sichuan, China. Similar information is provided in *Flora of China* (Lu *et al.* 2006). In Xizang, *C. nyingchiensis* occurs in its eastern



Fig. 2. Specimens of *Calamagrostis nyingchiensis* (P. C. Kuo & S. L. Lu) Paszko from a newly discovered locality in Yunnan, SW China (CAS).

part, in Baxoi, Zayü (formerly known as Tsarung) and Nyingchi Counties. In Sichuan it occurs in its southern part, in Xiangcheng County. Here I provide the first record from the northwestern Yunnan Province, where it was collected in Shangri-la (Zhongdian) County on the north side of Xiao Xue Shan at 3830 m a.s.l. (Fig. 2). I have not traced any specimen of *C. nyingchiensis* from Yadong County in Xizang.

Calamagrostis nyingchiensis is restricted to the Sino-Himalayan forest subkingdom (Wu & Wu 1998; Tang 2015). It has been recorded in the Hengduan Mountain region and in the East Himalayan region (the Southeast Xizang subregion). *Calamagrostis himalaica* (Liou ex W. L. Chen emend. Paszko) Paszko, *C. debilis*, and *C. gaoligongensis* have similar distribution limits in China (Paszko & Pendry 2013; Paszko *et al.* 2013; Paszko 2014, 2015).

HABITAT. *Calamagrostis nyingchiensis* grows on grassy mountainsides and among alpine shrubs at 3500–4700 m a.s.l. (Lu *et al.* 2006). In Yunnan it was collected from an open shale bank in *Abies* forest at 3830 m a.s.l.

SPECIMENS EXAMINED: CHINA. SICHUAN. [Xiangcheng Co.], Wengsui to Xang Chen, N side of Da Xue Shan (Big Snow Mountain) pass, alt. 4100 m, 28.6025000°N, 99.8563889°E, 7 Oct. 1994, *leg. Alpine Garden Society Expedition to China ACE 1827* (E, CAS).

XIZANG. Baxoi Co.: Ranwu to Demala Mt., alt. 4400–4600 m, [29.505°N, 96.7556°E], 3 Sept. 1983, *leg. B. S. Li et al. 7362* (PE, 2 sheets). Nyingchi Co.: [without precise locality], alt. 4000 m, [29.5774451°N, 94.4841701°E], 30 Aug. 1977, *leg. B. Z. Guo & W. Y. Wang 23292* (HNWP); Sejila Mt., S side of Serkyimla Pass, above Nyingchi (Nyingtri) and Kongpo Nyangchu (Rv) ca 15 km on road to Bomi (Bome), alt. 3770 m, 29.6666667°N, 94.5833333°E, 8 Sept. 1997, *leg. R. J. Soreng et al. 5578* (KRAM, PE, US); Sejila Mt., alt. 3600 m, [29.5733°N, 94.5772°E], 4 Aug. 1979, *leg. T. P. Yi 79061* (PE); West slope of Sejila Mt., alt. 3500 m, [29.5733°N, 94.5772°E], 2 Aug. 1975, *leg. Qingzangbudian Team 751126* (PE, 2 sheets); East slope of Sejila Mt., alt. 4100 m, [29.6406°N, 94.7139°E], 17 Sept. 1980, *leg. Shengtaishi Gaoyuan Team 15626* (PE); Nyingchi to Sejila Mt., alt. 3900 m, [29.6327°N, 94.6272°E], 19 Sept. 1965, *leg. Y. T. Zhang & K. Y. Lang 2766* (PE). Zayü Co. [formerly known as Tsarung]:

Sacred Mt. Kar-war-kar-boo, Tsa-wa-rung, bare rocks, alt. 3500 m, [28.4712°N, 98.5127°E], Sept. 1935, *leg. C. W. Wang 66498* (PE, 2 sheets).

YUNNAN [first record]. Shangri-la (Zhongdian) Co.: N side of Xiao Xue Shan, alt. 3830 m, 28.3483333°N, 99.7633333°E, 12 Sept. 1995, *leg. Forestry Commision, Royal Botanic Garden Edinburgh Expedition to Deqen Prefecture (1995) no. 174* (E, CAS).

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