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The identity of *Glycyrrhiza korshinskyi* Grig. and *G . eglandulosa* X. Y. Li (Leguminosae)

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Abstract After examining a large number of specimens and type materials of *Glycyrrhiza uralensis* Fisch. ex DC., *G. korshinskyi* Grig. and *G. eglandulosa* X. Y. Li and observing their populational variation in field, we reduce *G. korshinskyi* and *G. eglandulosa* to the synonymy of *G. uralensis*.

Key words Leguminosae, *Glycyrrhiza*, *Glycyrrhiza uralensis*, *Glycyrrhiza korshinskyi*, *Glycyrrhiza eglandulosa*, new synonym.

Glycyrrhiza korshinskyi was published by Grigorjev (1930). The main characters used by Grigorjev (1930) to distinguish *G. korshinskyi* from *G. uralensis* are: infructescences sparse (not dense); pods slightly curved-falcate (not zigzag sinuate) and appressed with brown glands or short glandular prickles (not long glandular prickles). After a careful examination of the types of the two species (Figs. 1, 2), however, we found that there is almost no difference

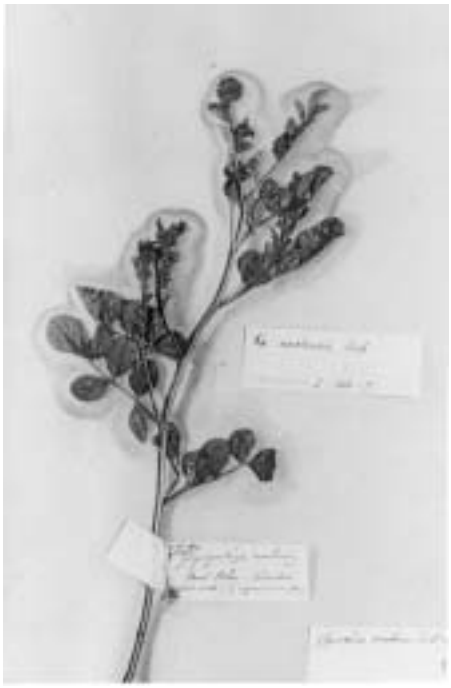

Fig. 1. Photograph of the holotype of *Glycyrrhiza uralensis* Fisch. ex DC. (photo of the specimen, PE).

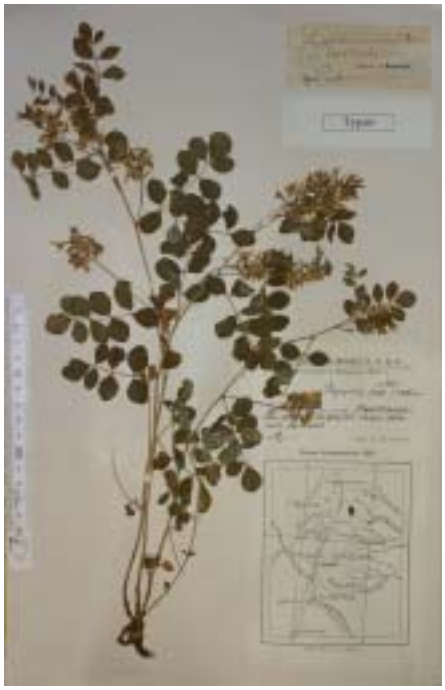

Fig. 2. Photograph of the holotype of *Glycyrrhiza korshinskyi* Grig. (*Ф. Н. Русанов 468*, LE).

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Fig. 3. Continuous variation of the pods of *Glycyrrhiza uralensis* Fisch. ex DC. **A,** *S. Coll. s.n.*, 1936-08-27, LE. **B,** *M. P. Price Gloucester 175*, K. **C,** *Nadezhina T. P. 316*, K. **D,** *Nadezhina T. P. 217*, K.

in several states of the key diagnostic characters, viz., the shape of leaves, flowers and calyces. Consequently we had difficulty in identifying the two species by flowering specimens. *G. uralensis* is a very polymorphic species occurring widely in Eurasia. Its pods show continuous variation in shape from curved-falcate to zigzag sinuate and are densely or sparsely covered with glandular prickles, sessile glands or simple hairs (Fig. 3). The pods of *G. korshinskyi* are slightly curved-falcate and appressed with brown glands or short glandular prickles, which are just in the range of variation observed in *G. uralensis*. Therefore, the infructescences and pods can not be used as diagnostic characters to distinguish the two species, and *G. korshinskyi* is by no means distinguishable from *G. uralensis*.

G. eglandulosa was described by X. Y. Li and claimed to be closely related to *G. uralensis* (Li, 1993). A close examination of the specimens and types of *G. eglandulosa* (Fig. 4) and *G. uralensis* showed that *G. eglandulosa* is extremely similar to *G. uralensis* in all the important characters, viz., the habit, the shape of leaflets, calyces and infructescences. The calyces are campanulate and their two upper teeth are fused together; the leaflets, densely covered with glands, are ovate, oblong-ovate or elliptic; the infructescences are globose, ellipsoidal or oblong-ellipsoidal. Li (1993) stated that the pods in *G. uralensis* are densely or sparsely covered with glandular prickles whereas those in *G. eglandulosa* not covered with glandular prickles but short hairs, and the auricles of wings and keels in *G. eglandulosa* are obvious whereas those in *G. uralensis* not obvious. Our research revealed that the diagnostic characters of pods and wings or keels used by Li are not reliable. Some plants of *G. uralensis* also have auricles in wings and keels, and even on the type of *G. eglandulosa*; two or three glandular prickles can also be found on the pods. Moreover, our field observation in Daquangou, the holotype locality of *G. eglandulosa*, proved that *G. eglandulosa* has no definite distribution, and in the population of *G. uralensis* we could observe only a few individuals of *G. eglandulosa*. Therefore, we do not consider the latter as an independent taxonomic entity.

In summary, according to the evidence discussed above, we consider that the morphological characters of *G. korshinskyi* and *G. eglandulosa* do not exceed the range of variation seen in *G. uralensis*. That is, *G. korshinskyi* and *G. eglandulosa* should be reduced to the synonymy of *G. uralensis*.

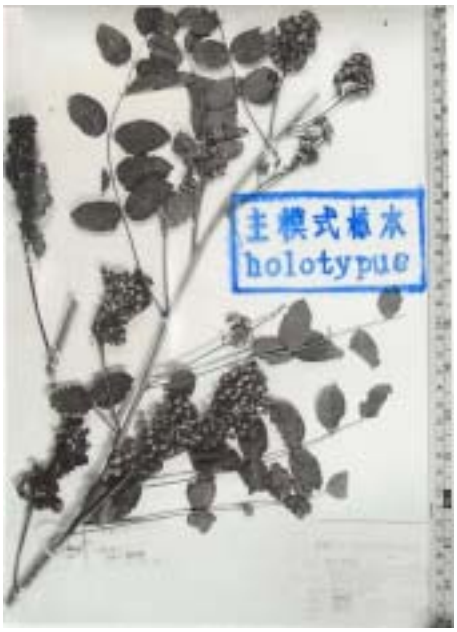

Fig. 4. Photograph of the holotype of *Glycyrrhiza eglandulosa* X. Y. Li (*X. Y. Li 820171*, SHI).

Glycyrrhiza uralensis Fisch. ex DC. in Prodr. 2: 248. 1825; Ledeb., Fl. Ross. I: 566. 1842; Franch., Pl. David. l: 92. 1884; Grig. in Bull. Jard. Bot. Princ. URSS 29 (1–2): 92. 1930; Kitagawa in Journ. Jpn. Bot. 13: 428. 1939; Grig. & Vass. in Kom. Fl. URSS 13: 236. 1948; Krug. in Acta Inst. Bot. Acad. Sci. URSS, Ser. I. 11: 176. l955; Fl. Chin. Trad. Med., 1: 355, Colour Pl. 16. 1959; Anonymous, Icon. Corm. Sin. 2: 434, fig. 2598. 1972; S. C. Lin et al. in Acta Phytotax. Sin. 15 (2): 49. fig. 1. 1977; Ali in Nasir & Ali, Fl. W. Pakistan 100: 95. 1977; Yakovlev in Grobov, P1. Asiae Centr. 8a: 50. 1983; Rechinger., Fl. Iranica. Papilionaceae II, 166. 1984; X. Y. Li in Bull. Bot. Res. 13 (1): 27. 1993; P. C. Li & H. B. Cui in Fl. Reip. Pop. Sin. 42 (2): 169. 1993; Yakovlev et al., Leg. North. Eurasia 292. 1996; Kumar & Sane,

Leg. S. Asia 251. 2003. Type: *G. uralensis* Fisch. DE CAND Prodr. 2 v. 248. n. 7., Fructus non oidi, *G. asperimae* pro. (photograph of holotype, PE!).

G. korshinskyi Grig. in Bull. Jard. Bot. Princ. URSS 29: 94. 1930; Grig. & Vass. in Kom. Fl. URSS 13: 237. 1948; Krug. in Acta Inst. Bot. Acad. Sci. URSS, Ser. I. 11: 179. l955; Yakovlev et al. in Leg. North. Eurasia 291. 1996. Type: Kasakstanica. Without precise locality, 1927-06-19, *Ф. Н. Русанов 468* (holotype, LE!).

G. eglandulosa X. Y. Li in Bull. Bot. Res. 13 (1): 29. 1993; P. C. Li & H. B. Cui in Fl. Reip. Pop. Sin. 42 (2): 169. 1993; Paratype: on the way from Yanqi to Tashidian, alt. 1150 m, 1990-07-27, *X. Y. Li 90202* (SHI!). Type: China. Xinjiang (新疆): Shihezi (石河子), alt. 420.9 m, 1982-07-24, *X. Y. Li 820171* (holotype, SHI!).

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膜荚甘草和无腺毛甘草(豆科)的名实问题

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摘要 在考证了模式标本、查阅了大量腊叶标本的基础上, 结合野外居群生物学调查工作, 作者认为膜荚甘草*Glycyrrhiza korshinskyi* Grig.和无腺毛甘草*G. eglandulosa* X. Y. Li作为独立的种不能成立, 应处理为乌拉甘草*G. uralensis* Fisch. ex DC.的异名。

关键词 豆科; 甘草属; 乌拉甘草; 膜荚甘草; 无腺毛甘草; 新异名