

# Notes on *Astragalus* sect. *Corethrum* (Fabaceae), including a new combination

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A new combination is proposed in *Astragalus* L. sect. *Corethrum* Bunge: *A. scoparius* Schrenk subsp. *intarrensii* (Franch.) Ghahremani. The subspecies is endemic to Middle Asia (Kirgistan, Tadzhikistan and Uzbekistan). A list of species of *Astragalus* sect. *Corethrum* is provided as well as a note on its phylogeography.

Key words: *Astragalus scoparius* subsp. *intarrensii*, Fabaceae, Middle Asia, nomenclature, taxonomy

During sectional revisionary work on the *Astragalus* type specimens of the Old World, in herbarium of the Komarov Botanical Institute, St. Petersburg (LE), I concluded that *A. intarrensii* Franch. should be recognized as a subspecies of *A. scoparius* Schrenk. The geographic distributions of the two taxa do not overlap. *Astragalus scoparius* is distributed in Kazakhstan (Yakovlev *et al.* 1996) and China (Kuntsun *et al.* 1993), while *A. intarrensii* is distributed in Kirgistan, Tadzhikistan and Uzbekistan (Yakovlev *et al.* 1996). The taxa belong to *Astragalus* sect. *Corethrum* Bunge, originally established by Bunge (1868: 98) to accommodate *A. scoparius* and *A. semenovii* Bunge. The section belongs to *Astragalus* sub-

gen. *Cercidothrix* Bunge (Bunge 1868: 94). A concise description of *Astragalus* sect. *Corethrum* follows.

## ***Astragalus* L. sect. *Corethrum* Bunge**

Mem. Acad. Imp. Sci. St. Petersburg 11, 16: 98. 1868. —  
Lectotype (Podlech 1990): *A. scoparius* Schrenk.

Perennial, vested with bifurcate hairs; acaulescent or subacaulescent; stipules adnate to petiole, free (not connate); leaves imparipinnate; inflorescence long-pedunculate; bracteoles absent; calyx campanulate or campanulate-cylindric; corolla glabrous; pods exceeding the calyx, bilocular, coriaceous.

***Astragalus scoparius* Schrenk**

in Fischer & C. A. Meyer, Enum. Plant. Nova. I: 82. 1841. — Lectotype (Podlech & Sytin 1996): “in promontorio montium Alatau”, 23.VI.1840 A. G. von Schrenk (LE!, isolectotypes BM, LE!, P, W).

Perennial, acaulescent or nearly so, 15–60 cm tall. Stem up to 2.5 cm long. Stipules 4–7 mm long, adnate to petiole up to middle. Leaves 6–13.5 cm long. Leaflets (1–)2–6(–7) pairs, (5–)7–25(–30) mm long, acute. Peduncles 1.5–2 times as long as leaves. Inflorescence 5–25 cm long, with 5 or more flowers. Bract lanceolate to ovate, equaling to pedicel or to 4 times the length of it. Calyx cylindrical-campanulate, 6–9 mm long, teeth (1–)1.5–2 mm long. Standard (13–)16–20 mm long, limb ovate to oblong-ovate, usually retuse. Wing 14–17 mm long, limb oblong, retuse. Keel 10–20 mm long. Pod sessile to subsessile, 5.5–13 mm long, beak 2–4 mm long.

***Astragalus scoparius* subsp. *scoparius***

Stems undeveloped or up to 1.5–2.5 cm long. Leaflets (3–)4–6(–7) pairs. Pod covered with black and white hairs.

ADDITIONAL SPECIMENS EXAMINED (LE). — **Kazakhstan.** E. Pribalkhash, Arganati Mt., 9.V.1976 V. P. & V. V. Bochantsev 1069; E. Pribalkhash, Arkharli Mt., 28.V.1976 V. P. & V. V. Bochantsev 992; without locality, 1841 Karelin & Kirilov 250; W. Dzungarian Ala-tau, Chaterbai Mt., 26.VI.1959 V. P. Goloskokov s. n.; N. Dzungarian Ala-tau, sharp slope, Tentek river, 11.VI.1959 V. P. Goloskokov s. n.; N. Dzungarian Ala-tau, Kaikan Mt., 18.VI.1959 V. P. Goloskokov s. n.; Semirichenskaya prov., Dzhark., between Ketmen & Koldzhat, 5.VI.1912 B. Shishkin s. n.; N. Tian-shan, Ketmen Mt., 19.VI.1959 I. V. Gubanov s. n.; Dzungarian Ala-tau Mt., between Sarkand & Kapal, 10.VII.1943, N. I. Rubtsov s. n.; S-E Pribalkhash, 50 km E. of Lepsi, 8.VI.1958 Ruseava s. n.; Semirech. prov., Karkarali, 30.V.1873 Kuschakewich s. n.; Dzungarian Ala-tau, prope Sarkand, 8.VI.1959 V. P. Goloskokov s. n.; Lepsa, 1842 Karelin & Kirilov s. n.; S. Altai, Narim valley river, 19.VII.1960 Rodugin s. n.

***Astragalus scoparius* subsp. *intarrensii* (Franch.) Ghahremani, *comb. nova***

*Astragalus intarrensii* Franch., Ann. Sci. Nat., Bot., ser. VI, XV: 258. 1883. — Lectotype (Podlech 1998):

“Ansab, vallee des Jagnaous”, 2 215 m, 4.VII.1881 P. G. E. Bonvalot Capus 322 (P: photo: TARI!).

*Astragalus slobodovii* Gontsch. & A. Kor. in Fl. Tadzhik. V: 676. 1937. — Type: “Sjuzhena in parte occ. jugi Zerawschanici”, 3.VI.1932 P. N. Ovczinnikov & Slobodov 153 (LE!).

Stems usually undeveloped or up 1.5 cm long. Leaflets (1–)2–4 pairs. Pod covered with white hairs.

ADDITIONAL SPECIMENS EXAMINED (LE). — **Tadzhikistan.** Zerawshan, Pasrud, h. 6000', 26.VI.1882 A. Regel s. n.; Saritag river, W. Iskandar-kul, 30.VII.1960 T. B. Egorova 2188; Zerawshan, Margusar, Pasrud, h. 6–7000', 27.VI.1882 A. Regel s. n.; S. Turkestan Mt., near to Zerawshan river, 12.VII.1960 T. B. Egorova 1774; Samarkand prov., Kshut, Kazian river, 31.V.1908 Fedotov & Golbek s. n.; Iskandar-kul, h. 7000', V.1892 V. L. Komarov s. n.; Zerawshan, Iskandar-kul, h. 7000', 2–4.VII.1882 A. Regel s. n.; Iskandar-kul, 8.IX.1964 R. Kamelin s. n.; Samarkand prov., S.W. Dundana Mt., 7.VII.1908 Federov & Golbek s. n.; Samarkand prov., 19.V.1908 Federov & Golbek s. n.; Mashat, 10.VII.1936 without collector; 23.VI.1899 Lipsky 198; Iskandar-kul lake, h. 7000', 2–14.VII.1882 A. Regel s. n.; Between Pachud prov., Pendjhakent, h. 3200', V.1899 V. L. Komarov s. n.; Gissar Mt., Dzhidzhik river, 25.VI.1949 Neustruyeva 13; Kshut, 14.VI.1916 Lipsky 717; Samarkand prov., prope Zimarl to Yagnobe, 1913 B. A. Fedtschenko s. n.; Pamir-alai, Turkestan Mt., Zaamin-su valley, 22.VI.1935 B. Zakrzhevsky 540; Zerawshan, Gessar-kschtut, 18.–30.VI.1882 A. Regel s. n.; Samarkand prov., Alpes Zerawshan, h. 2700', 25.VII.1913 B. Fedtschenko 432; Central Zerawshan Mt., Iskandar-kul lake, 30.VII.1960 S. Yunusov 3017; S. Turkestan Mt., Guzaribad, 11.VII.1960 S. Yunusov 2494; Mashan, 10.VII.1936 Knoring 40.

Section *Corethrum* has its centre of diversity in the Turkestanian floristic province (Takhtajan 1986) of the Irano-Turanian region. The species, which now number 12, are distributed in Kazakhstan (six species, of which three are endemic), Kirgistan (six species, of which one is endemic), Uzbekistan (five species), Afghanistan (three endemic species), Tadzhikistan and China (one species both). The list of the species given below is based on Gontcharov *et al.* (1946), Kuntsun *et al.* (1993), Rechinger (1957), and Yakovlev *et al.* (1996).

1. *A. chamaesarathron* Rech. f. (Koelz 12951, type, US). Distribution: Afghanistan.
2. *A. chorizanthus* Rech. f. & Gilli (Gilli 1510, type, W). Distribution: Afghanistan.
3. *A. dschangartensis* Sumn. (V. V. Sapazhnikov, type, LE!). Distribution: Kirgistan.

4. *A. ereospartoides* Regel (*O. A. Fedtchenko*, type, LE!). Distribution: Kazakhstan.
5. *A. kronenburgii* B. Fedtsch. ex Kneuck (*A. Kronenburg*, type, LE!). Distribution: Kazakhstan, Kirgistan, Uzbekistan.
6. *A. mackewiczii* Gontsch. (*Mackewicz*, type, TASH). Distribution: Kirgistan, Uzbekistan.
7. *A. nematodes* Bunge ex Boiss. (*Sewerzow*, type, LE!). Distribution: Kazakhstan, Kirgistan, Uzbekistan.
8. *A. pseudoscoparius* Gontsch. (*Dissjatova 2058*, type, LE!). Distribution: Kirgistan, Uzbekistan.
- 9a. *A. scoparius* Schrenk subsp. *scoparius* (*A. G. Schrenk*, type, LE!). Distribution: Kazakhstan, China.
- 9b. *A. scoparius* Schrenk subsp. *intarrensensis* (Franch.) Ghahremani (*G. E. Bonvalot Capus 322*, type, P). Distribution: Kirgistan, Tadzhikistan, Uzbekistan.
10. *A. semenovii* Bunge (*Semenov*, type, LE!). Distribution: Kazakhstan.
11. *A. terektensis* Fisjun. (*Arystangaliev & Bykov*, type, AA). Distribution: Kazakhstan
12. *A. virgaeformis* Sirj. & Rech. f. (*Koie 2383*, type, W, C). Distribution: Afghanistan.

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## References

- Bunge, A. 1868: Generis *Astragali* species Gerontogaeae 1. Claves diagnosticae. — *Mem. Acad. Imp. Sci. Saint Petersburg*, ser. 7, 11(16): 1–254.
- Gontcharov, N. T., Borissova, A. G., Gorskova, S. G., Popov, M. G. & Vasilchenko, I. T. [Гончаров, Н. Т., Бориссова, А. Г., Горскова, С. Г., Попов, М. Г. & Василченко, И. Т.] 1946: [*Leguminosae: Astragalus*]. — In: Komarov, V. L. & Shishkin, B. K. [Комаров, В. Л. & Шишкин, Б. К.] (eds.), [*Flora SSSR 12*]: 1–918. Moskva & Leningrad. [In Russian.]
- Rechinger, K. H. 1957: Symbolae Afghanicae 3. — *Biol. Skr. Dansk Vid. Selsk.* 9(3): 1–208.
- Kuntsun, F., Zhenwan, C., Shanbow, H., Yichi, H., Chensen, D., Yingxen, L. & Peichun, L. 1993: *Angiospermae, Dicotyledoneae: Leguminosae* (4). — In: Kuntsun, F. (ed.), *Flora Reipublicae Popularis Sinicae* 42(1): 1–384. Science Press, Peking. [In Chinese.]
- Podlech, D. 1990: Die Typifizierung der altweltlichen Sektion der Gattung *Astragalus* L. (*Leguminosae*). — *Mitt. Bot. Staatssamml. München* 29: 461–494.
- Podlech, D. 1998: Typification of *Astragalus* species II. Species mainly of the herbaria of Paris (P) und Geneva (G). — *Sendtnera* 5: 247–263.
- Podlech, D. & Sytin, A. 1996: Typification of Russian and some other species of *Astragalus* I. — *Sendtnera* 3: 149–176.
- Takhtajan, A. L. 1986: *Floristic regions of the world*. — Univ. California Press, Berkeley etc. 522 pp.
- Yakovlev, G. P., Sytin, A. K. & Roskov, Yu. R. 1996: *Legumes of northern Eurasia, a check-list*. — Royal Botanic Gardens, Kew. 724 pp.