

NOTES ON THE LUZULA SPICATA COMPLEX IN TURKEY

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Boissier (1884) mentions only one species of the *L. spicata* complex from the territory of Turkey and Buchenau (1906) concurs with this opinion. Recent collections have altered this situation. This short study is the result of an analysis of herbarium material, kindly loaned to us by the Royal Botanic Garden, Edinburgh.

When revising the herbarium material of the *L. spicata* complex, we found that the Balkan populations (from the S.E. part of the Balkan peninsula) and the populations of Asia Minor differ from the other European plants above all by the length of their anthers and by the relative lengths of the anthers and filaments. We named these populations of the Balkan and of Asia Minor, growing in Yugoslavia, Albania, Greece, Bulgaria, and Turkey, *L. bulgarica* (Chrtek & Křísa, 1962). We then divided the species *L. bulgarica* into two subspecies—subsp. *bulgarica* and subsp. *pindica* (Hausskn.) Chrtek et Křísa. On the basis of further study of the herbarium material we have come to the conclusion that it would be advantageous to raise these subspecies to the rank of independent species.

From Asia Minor we have recorded only the subspecies *bulgarica* of *L. bulgarica*. After our revision of the Edinburgh material we are able to add the following.

1. *Luzula spicata* (L.) DC. subsp. *spicata*

TURKEY: Amasia, in montis Ak-dagh regione alpina, alt. 16–1900 m., 9 Jul. 1889, *J. Bornmüller*; PROV. TRABZON: Bayburt—Of, 3 km. N. of pass top, alt. 2400 m., 11 Jul. 1960, *Stainton et Henderson*, no. 6177.

It is very likely that only the typical subspecies grows in Turkey, and that it reaches into this region from the mountain massifs of the Caucasus. In Europe it is also spread in the mountainous regions of Scandinavia, northern Britain, in the Atlas, in the Alps mountains, in the Massif Central and in the arctic regions of the Soviet Union.

2. *Luzula bulgarica* Chrtek & Křísa

TURKEY: Paphlagonia, Wilajet Kastambuli, Tossia, Giaurdagh, in pratis alpinis, 17 May 1892, *P. Sintenis*: Iter orientale 1892, no. 3929; Prov. Kastamonu: Ilgaz Dağ, 6600 ft., pasture in *Abietum*, 6 June 1954, *Davis* no. 21571; Bursa: slopes of Ulu dag below summit, 2180–2440 m., 19 June 1956, *H. E. Moore*, no. 7269. Bithynia, Olympus, in pasc. alpinis, 1700 m., 27 May 1899, *J. Bornmüller*: Iter Anatolicum tertium 1899, no. 5611.

The area of the species *L. bulgarica* is limited to the mountain ranges of the S.E. Balkan peninsula and to Turkey. Very likely it does not spread to the neighbouring Caucasus.

3. *Luzula pindica* (Hausskn.) Chrtek & Křisa, comb. nova

BAS.: *Luzula spicata* β *pindica* Haussknecht in Mitteil. Thür. Bot. Verein 13-14, 33, Weimar, 1899.

L. bulgarica subsp. *pindica* (Hausskn.) Chrtek & Křisa in Bot. Not. 115, (3), 308 (1962).

Luzula pindica differs from the preceding species by its total habit, by its stem leaves, which are broad and grow perpendicularly from the stem, by capsule-segments, up to 3.1 mm. long and by seeds up to 2.0 mm. long. The area of this species is also limited to the mountain ranges of the S.E. part of the Balkan peninsula, and its occurrence in Turkey is possible.

Apart from the above-mentioned species we found in the herbarium material collections of Davis and O. Polunin from Turkey yet others belonging *L. spicata* complex. We evaluate these plants as a new species, *Luzula turcica*.

***Luzula turcica* Chrtek & Křisa, species nova**

Planta perennis, dense caespitosa; *caules* erecti, plerumque 5–12 cm. alti, firmi, satis crassi; *folia* 1–3.5 cm. longa, ± 2 mm. lata, glabra, subcanaliculata, subcarnosa; *folia caulina* (plerumque 1) 0.8–1.5 cm. longa, glabra, subcanaliculata; *inflorescentia densa*, 5–8 mm. longa, 6–7 mm. lata, rotundata, erecta, multiflora; *bractae infimae* (plerumque 1) inflorescentiam subaequantur vel inflorescentia breviores; *tepala* invicem \pm aequilongae, 2.5–3 mm. longa, 1.5 mm. lata, lanceolata, tenuissime aristato-acuminata, obscuro-castanea, apicem versus anguste brunneo-membranacea; *bractae florales* floribus \pm aequilongae vel breviores, membranaceae, lacerato-laciniatae; *antherae* 0.8–1.1 mm. longae; *fructus* trigono-sphaerici, brevissime mucronati, 1.7–2.0 mm. longi, obscuro-brunnei, tepalis breviores; *semina* 1.1–1.3 mm. longa, fusca vel brunnea, breviter carunculata.

Typus: Turkey. Prov. Bitlis: Suphan Dağ, above Adilcevaz, 13,300 ft. Moist stony hollows (volcanic) near snow, rare, 26 Aug. 1954, Davis & Polunin (D. 24665—holo. E).

L. turcica differs from the closely related species of the range of *L. spicata* by the erect and not overhanging inflorescence. From *L. pseudosudetica* Krečetovič, which is also recorded from Turkey, it differs above all by its low growth, by its short, tough, grooved coiled leaves, by its dense, spherical inflorescence, by its longer anthers, and by its somewhat larger seeds.

L. turcica may extend to other alpine localities of eastern Turkey, and even its occurrence in the Caucasus is not excluded.

In conclusion it may be said that the species of the relationship of *L. spicata* require further thorough study.

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