

First record of *Sisymbrium strictissimum* L. (Brassicaceae) in the Macedonian flora

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Abstract

Sisymbrium strictissimum is reported for the first time in the Macedonian flora. Two subpopulations, comprising approximately 70 individuals in total, were documented in the vicinity of the town of Debar, growing in waste places along the road between Boškov Most and the village of Gari. Photographs of living specimens and their habitat, as well as a distribution map, are provided.

Key words: Balkan Peninsula; North Macedonia; native distribution; subpopulations.

Intoduction

The genus *Sisymbrium* L. (Brassicaceae) comprises 48 annual to perennial species, with a native distribution across Eurasia, most of Africa, and parts of North and South America (POWO 2025). Many of its representatives have been introduced beyond their natural ranges, which are often uncertain (Ball 1993; POWO 2025). In the flora of North Macedonia, six *Sisymbrium* species were known to occur, all of them primarily inhabiting ruderal habitats: *Sisymbrium altissimum* L., *S. irio* L., *S. loeselii* L., *S. officinale* (L.) Scop., *S. orientale* L., and *S. polyceratum* L. (Micevski & Matevski, 1995). According to Marhold (2011+), these species are native to the Balkan countries in which they occur, including North Macedonia.

In June 2025, while driving along the road between Boškov Most and the village of Gari (Debar district), I noticed a population of a *Sisymbrium* species, which was documented and identified as *S. strictissimum* L. This species has not been previously recorded from North Macedonia and it is reported here as new to its flora.

Material and Methods

Fieldwork was conducted on 13 June 2025. Plant material was collected and prepared as herbarium specimens deposited in the private herbarium of the author. Data on population size and habitat characteristics were recorded in the field, including photographs of living plants and their habitats. Identification of the collected specimens was performed following Ball (1993).

Results and Discussion

Sisymbrium strictissimum L., Sp. Pl.: 660.
1753 (Figs. 1 – 3)

Records: Debar district, near the road between Boškov Most and the village of Gari, 686 m, 41.541059°N, 20.631119°E, 13.6.2025, leg. & det. A. Teofilovski (herb. A. Teofilovski); Debar district, near the road between Boškov Most and the village of Gari, 630 m, 41.547175°N, 20.619672°E, 13.6.2025, leg. & det. A. Teofilovski (herb. A. Teofilovski).

These are the first records of this species in North Macedonia. It is the only perennial representative of the genus in the country, as well as the only one with undivided leaves.

The native distribution range of *Sisymbrium strictissimum* includes Europe and Central Asia (Kazakhstan) (POWO, 2025). In Europe, it is native to Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, France, Germany, Hungary, Italy, Kosovo, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, and Ukraine (Nikolić, 1972; Marhold, 2011+). As an introduced plant, it occurs in Sweden, Norway, and Finland, while in Switzerland, it is considered naturalized (Marhold, 2011+). Based on the presented data indicating the species' native occurrence in the Balkan Peninsula, its presence in North Macedonia is likewise considered native. In the Balkan Peninsula, it has so far been recorded from all countries except Greece and the European part of Turkey.

The two subpopulations of *Sisymbrium strictissimum*, recorded near the town of Debar, are approximately 1 km apart and grow in waste places along the local road to the village of Gari. The sites

are densely overgrown with *Rubus* sp. and *Clematis vitalba*. About 70 individuals were recorded at the two sites. In Albania, Kosovo, Serbia, and Bulgaria, neighboring countries of North Macedonia, this species has a fairly restricted distribution, inhabiting various natural habitats such as stony slopes, grasslands, forests, shrublands, and riverbanks (Assenov, 1970; Nikolić, 1972; Barina et al., 2017). In Bulgaria, in addition to natural habitats, it also occurs in ruderal sites such as waste places and vineyards (Assenov, 1970).

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Fig. 1. *Sisymbrium strictissimum*, plants in natural habitat. (Debar district, near the road between Boškov Most and the village of Gari, 686 m a.s.l., 13.6.2025, photo. A. Teofilovski)



Fig. 2. *Sisymbrium strictissimum*, habitat. (Debar district, near the road between Boškov Most and the village of Gari, 686 m a.s.l., 13.6.2025, photo. A. Teofilovski)

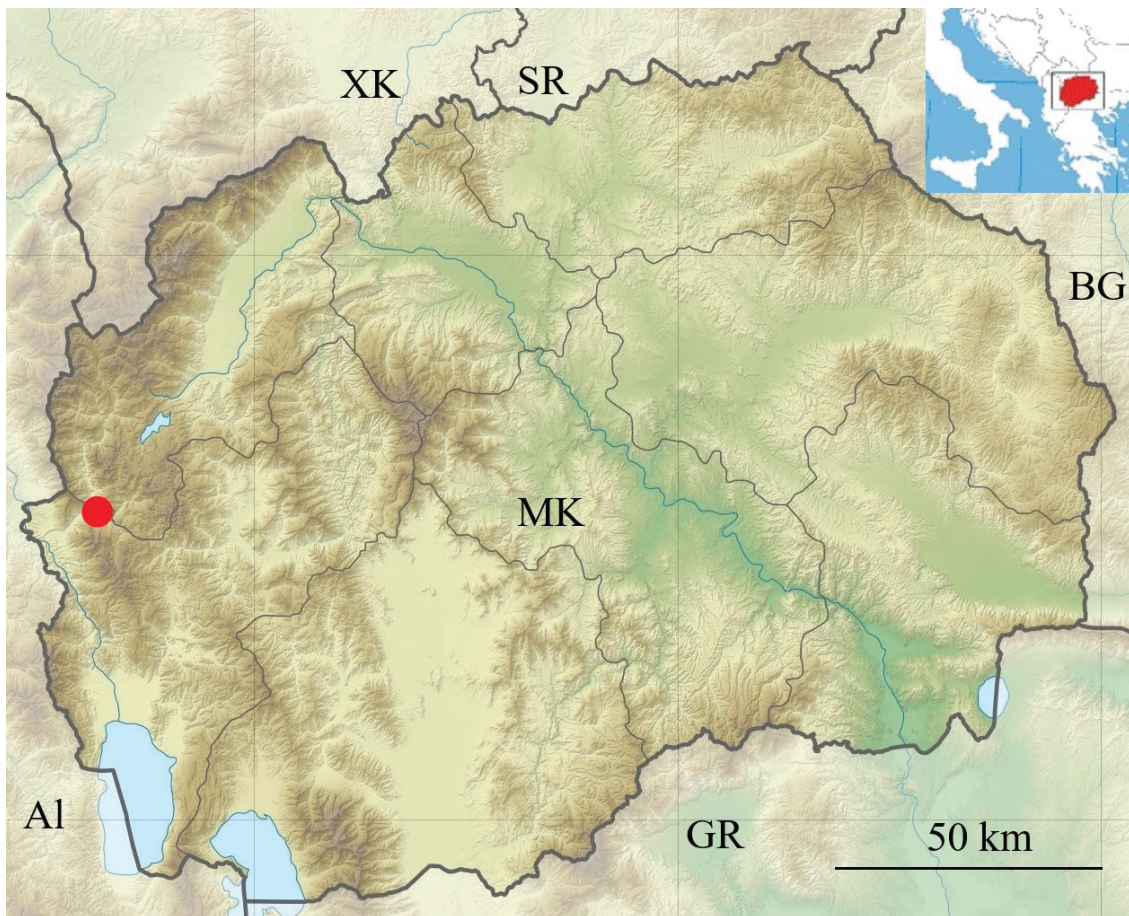


Fig. 3. Map of the distribution of *Sisymbrium strictissimum* in North Macedonia