

## New records of *Taraxacum cognatum* Kirschner & Štěpánek from Western Slovakia

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Abstract: In this paper, new sites of rare dandelions *Taraxacum cognatum* Kirschner & Štěpánek (sect. *Palustria*) from Strážovské vrchy Mts. are presented. The new populations represent the northern limit and important altitudinal pattern of the distribution of the species in Slovakia. Despite the fact the species has not been classified in the New Slovak red list, we consider to evaluate *T. cognatum* as vulnerable species of the Slovak flora.

Keywords: occurrence, dandelion, *Taraxacum* sect. *Palustria*, Strážovské vrchy Mts., Asteraceae.

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### Introduction

Dandelion species in the Slovak flora belong to nine sections and the exact number of the species is still unknown. The dandelions within the sections are very alike. Well-prepared herbarium specimens are essential for the correct determination and the help of experts is needed (KIRSCHNER et al. 2002).

*Taraxacum* sect. *Palustria* (H. Lindb.) Dahlst. is the best-recognized group with ca. 42 apomictic taxa occurring in Slovakia. They grow in mineral rich communities, near springs, in fens and wet meadows (KIRSCHNER & ŠTĚPÁNEK 1998).

*Taraxacum cognatum* Kirschner & Štěpánek, Preslia 58: 106, 1986, is one of the Central European species with large area, distributed in northern Hungary, southern Slovakia, north-eastern Austria, southern Moravia, central Bohemia and the westernmost Ukraine (KIRSCHNER & ŠTĚPÁNEK 1998). The species was reported from south-eastern Canada and north-eastern United States by BRUNTON (1989). It prefers mineral rich, not halophilous communities (KIRSCHNER & ŠTĚPÁNEK 1998).

In the paper, new sites of *T. cognatum* are given with an interesting geographical and altitudinal pattern within the distribution of the species in Slovakia.

## Material and methods

The new populations were found in April 2017. The localities are characterised in the following form: phytogeographical district (FUTÁK 1980), the nearest village, the quadrant of CEBA (NIKLFELD 1971), the description of the locality, the GPS coordinates and the altitude (used Garmin *eTrex* 20), the date of collection, the collector, the name of the identifying person, the acronym of the herbarium collection where the specimen is deposited and the number of the specimen. For the preparation of the distribution map the program ArcGis, version 9.2. was used. Herbarium specimens were digitalized (Fig. 1) and are deposited in the Herbarium of the Botanical Garden of Pavol Jozef Šafárik University in Košice, Slovakia (acronym KO according to THIERS 2018).

## Results

### The description of the new sites within the distribution in Slovakia

During the field research focused on the plants of *Taraxacum* sect. *Erythrosperma* carried out in western Slovakia during 2013–2017, two new populations of *T. cognatum* were randomly found between Trenčianske Teplice town and Omšenie village in Strážovské vrchy Mts.:

**Site 1:** Strážovské vrchy Mts., Omšenie village, 7075c, spring under Kamenné vráta hill, under *Picea abies*, ca. 250 m east from the Monument of American Pilots, 48°54'48" N 18°12'46" E, 465 m a. s. l., 30. April 2017, leg. M. Dudáš, det. J. Zámečník, rev. J. Štěpánek, KO, nr. 33399 (Fig. 1).

The population occurs in the *Molinion* alliance around aspring (ca. 5m<sup>2</sup>) and contains approximately 15 plants in a different stage of flowering. This site is occasionally used as a source of potable water for tourists and forest workers. It is located close to a forest road, but there is no direct danger of destroying it by forest logging machines.

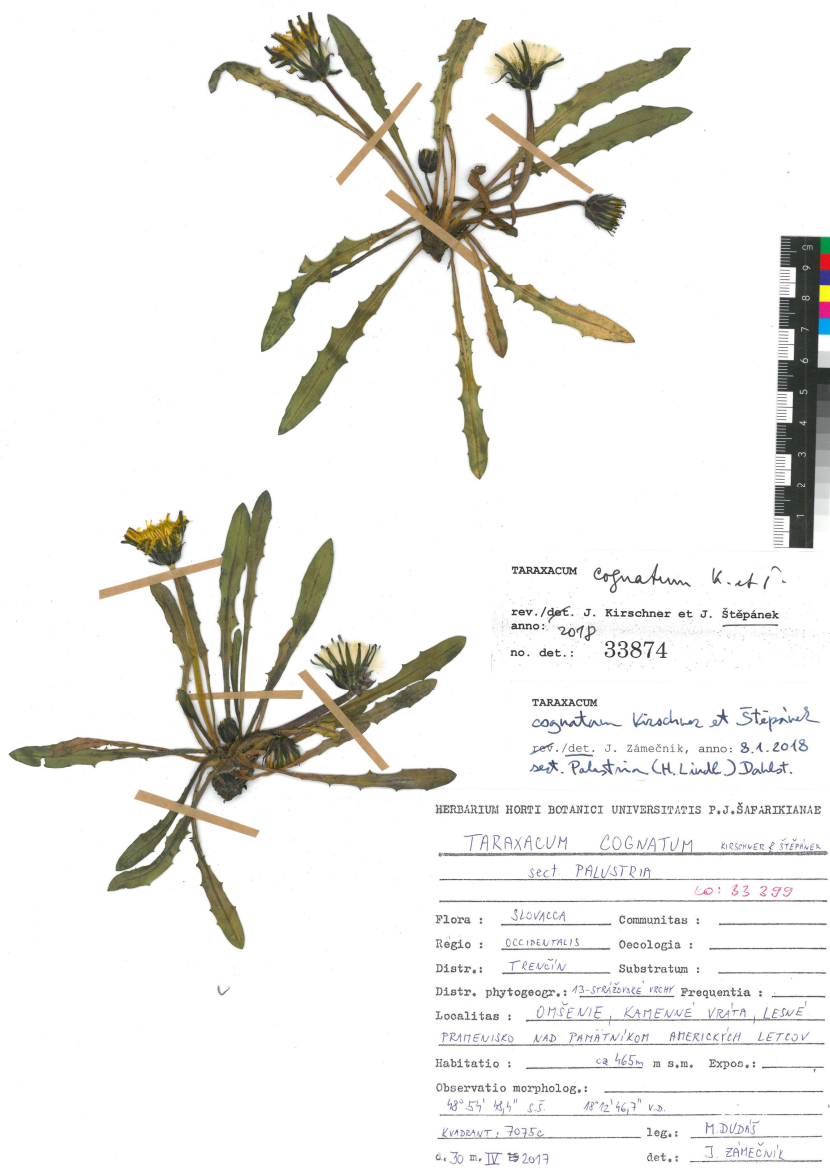
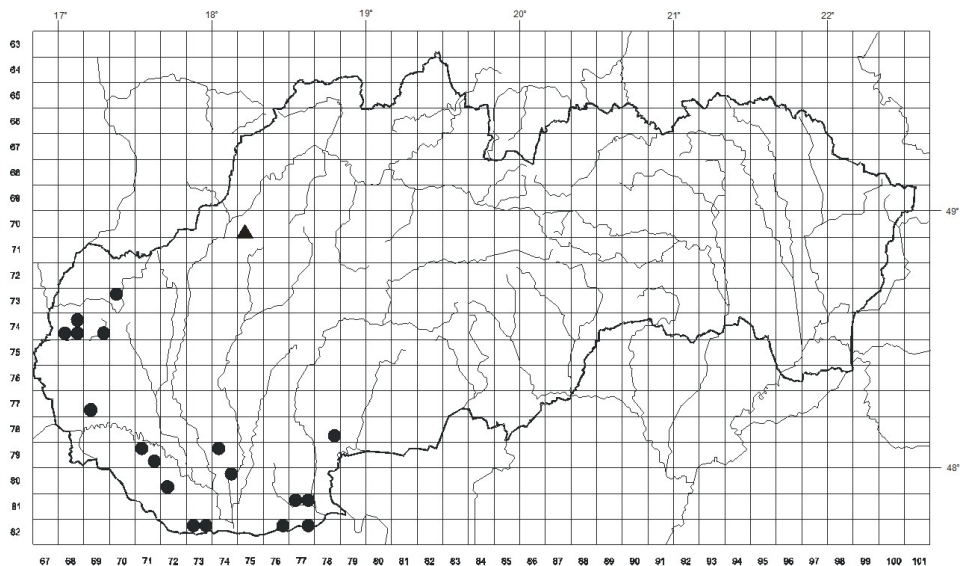


Fig. 1. Digitalized specimen of *Taraxacum cognatum* from Strážovské vrchy Mts.

**Site 2:** Strážovské vrchy Mts., Omšenie village, middle belt of forest road with a small water pool, 48°54'36" N, 18°12'57" v., 495 m a. s. l., 30. April 2017, M. Dudáš, foto.

This site is located ca. 500 m southeast from the Site 1. This population probably originates from diaspores from the site 1 brought either by tourists on their shoes or by forest logging machines. This population, growing in the middle belt of the forest road, contained at least 10 flowering plants and few young leaf rosettes. This small population is immediately threatened by a one-shot hopper with building rubble to reduce the standing water on the forest road.

These two new records of *T. cognatum* in Strážovské vrchy Mts. represent the northernmost limit of its distribution in Slovakia (Fig. 2) and the altitudinal maximum in 465 and 495 m above sea level. At the same time, this is the first record of *T. cognatum* from the Carpathians area (*Carpaticum*). KIRSCHNER & ŠTĚPÁNEK (1998) described *T. cognatum* only from the Pannonian area (*Pannonicum*) from 15 sites in Podunajská nížina Lowland, 7 sites from Záhorská nížina Lowland (still growing there in Abrod Nature Reserve, 24. 4. 2009 leg., det. et herb. J. Zámečník) and at a single locality from Ipeľsko-rimavská brázda Region. Based on these records, KLIMENT (1999) considers *T. cognatum* as a subendemic species of the Pannonian lowlands. Our findings of two new populations in Strážovské vrchy Mts. in *Carpaticum* shifts the distribution range farther to the north.



**Fig. 2.** Distribution of *T. cognatum* in Slovakia. Black dots – known localities according to KIRSCHNER & ŠTĚPÁNEK (1998); black triangle – new record.

## Conservation status

In the Red list of flowering plants of Slovakia *T. cognatum* is evaluated in the category vulnerable (VU) (FERÁKOVÁ et al. 2001) but in the new Red list (ELIÁŠ et al. 2015) the species is missing. Due to the fact, that only two recent localities from twenty-four known localities are not than 25 years old, we believe that the classification of *T. cognatum* as vulnerable would be re-evaluated in the next Red list.

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