

REDISCOVERY OF THE LIVERWORT *FRULLANIA FRAGILIFOLIA*
IN THE SLOVAK TATRAS (WESTERN CARPATHIANS)

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ABSTRACT. *Frullania fragilifolia* is a rare epiphytic and epilithic species, threatened with extinction in many European countries. In the Slovak Tatras, only three localities have been recorded so far, found between 1885 and 2013 – two in the Belianske Tatras and one in the Western Tatras. This article reports a new locality of this species, which is also the first known record from the Slovak High Tatras.

KEYWORDS: bryophytes, threatened species, epiphytes, old-growth forests

INTRODUCTION

Frullania fragilifolia (Taylor) Gottsche, Lindenb. & Nees (Frullaniaceae, Marchantiophyta) is a suboceanic-montane species endemic to Europe and Atlantic islands (DAMSHOLT 2009). In many Central and Southern European countries, the species is considered threatened. The threat status of this liverwort in selected countries is as follows: Poland, the Czech Republic, and Serbia – CR (Critically Endangered), Greece – EN (Endangered), Bulgaria, Austria, and Germany – VU (Vulnerable) (HODGETTS & LOCKHART 2020). In Italy and Luxembourg, *F. fragilifolia* is considered Near Threatened (NT), while in the Netherlands it is regionally extinct (RE; HODGETTS & LOCKHART 2020). Within the territory of Slovakia, *Frullania fragilifolia* is currently classified as near threatened (NT) according to Mišíková et al. (2021). In the previous edition of the Red List of threatened bryophytes of Slovakia, the species was assessed as Vulnerable (VU; KUBINSKÁ et al. 2001). Within the entire Tatra Mountains, including both the Polish and Slovak parts, this liverwort is considered Endangered (EN; GÓRSKI 2020).

Frullania fragilifolia occurs in the Tatra Mountains as both an epiphytic and epilithic species. It has been recorded growing on the bark of beech, fir, sycamore maple, and spruce, as well as on rocks within the montane belt (P. Górski, unpubl. data) and the alpine zone (SZWEYKOWSKI 1960, GÓRSKI 2013). Until the end of the 20th century, only two localities of *F. fragilifolia* were reported from the Slovakian Tatra Mountains,

both situated in the Belianske Tatras. The first locality was recorded near the village of Ždiar (a rather imprecise reference, without elevation data; HAZSLINSZKY 1885, DUDA & VÁŇA 1977). The second locality was identified by J. Szweykowski in 1957, in the Hučavá dolina valley, on fir bark, at an elevation of 880 m a.s.l. (SZWEYKOWSKI 1960). Herbarium material from this locality is deposited in the herbarium of Adam Mickiewicz University in Poznań, Poland (POZW). In both of the aforementioned localities, I attempted – unsuccessfully – to rediscover the species (GÓRSKI 2013). The most recent known occurrence of the liverwort species was found by me in 2013 in the Slovak Western Tatras (Juráňova dolina valley; GÓRSKI & VÁŇA 2014). This floristic note presents a new locality of this species, which is also the first record from the Slovak High Tatras.

DESCRIPTION OF THE NEW LOCALITY

A new locality of *Frullania fragilifolia* has been identified in the Bielovodská dolina valley, along the main unpaved road that follows the valley floor from the village of Lysá Poľana to Bielovodská poľana glade, at an elevation of 979 m a.s.l. The species was recorded on the bark of an old sycamore maple (*Acer pseudoplatanus*) with a diameter at breast height (DBH) of 173 cm, growing on a slope adjacent to the road, above the Bialka stream. The population of *F. fragilifolia* is locally abundant. Associated epiphytes at the site include other liverworts such as *F. dilatata* and *Radula complanata*, as well as the lichen *Lobaria pulmonaria*.

Although the site is located in close proximity to a tourist trail, it does not appear to be at risk from visitor activity due to the relatively steep incline of the slope, which provides natural protection. The primary potential threat is associated with earthworks or other interventions related to road maintenance. Special attention should be given to all trees that are heavily colonized by epiphytes.

LIST OF *FRULLANIA FRAGILIFOLIA* LOCALITIES IN THE SLOVAK TATRAS

1. Belianske Tatra Mts, near the village of Ždiar (HAZSLINSZKY 1885, DUDA & VÁŇA 1977).
2. Belianske Tatra Mts, Hučavá dolina valley, near the Hučavá spring, on fir bark, alt. 880 m a.s.l., leg., det. J. Szweykowski, 13.07.1957, POZW 6037 (SZWEYKOWSKI 1960), rev. P. Górski.
3. Western Tatra Mts, Juráňova dolina valley, Tiesňavy, on bark of *Acer pseudoplatanus*, 49.2761°N, 19.7733°E, alt. 890 m, leg., det. P. Górski, 30.09.2013 (POZNB 1674, GÓRSKI & VÁŇA 2014).
4. (new locality) High Tatra Mts, Bielovodská dolina valley, along the main road at the valley bottom, at the mouth of the valley, 49.257481°N, 20.110199°E, MGRS 34UDV3556, alt. 979 m a.s.l., on the bark of an old sycamore, det. P. Górski, 18.09.2024, observation number 2047/2024/5792.

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