

The moss *Orthotrichum limprichtii* Hag. in the mountains of Slovakia

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This moss was firstly described by Venturi (1881) as *Orthotrichum venturii* De Not. var. *fuscum* Vent. Bouly (1884) considered the species as *Orthotrichum cupulatum* var. *fuscum* (Vent.) Bouly and later Venturi (1887) regarded the species as *Orthotrichum unigerum* var. *perforatum* Vent. in Husnot (1887). In 1884 (Limpricht 1884) revalued it as the species *Orthotrichum perforatum* Limpr. and was described on the base of plants collected by H. Gander near Innervilgraten on limestone rocks. In 1885 the species was described again by Grönvall (Grönvall 1885), this time as *Orthotrichum cupulatum* var. *papillosum* Grönv.

Hagen (1908), elaborating the Norwegian *Orthotrichum* species, found that the name *O. perforatum* had been used (*Orthotrichum perforatum* C. Müll.) to describe plants from Tschuctschica, collected by Müller. This made him to rename this species as *Orthotrichum limprichtii* Hag. The Siberian *Orthotrichum perforatum* has been later identified as the North American *Orthotrichum sordidum* Sull. et Lesq. (Vitt 1973).

Some important morphological features of *Orthotrichum limprichtii* Hag. are shown in Fig. 1.

List of synonyms:

Orthotrichum limprichtii Hag.
Orthotrichum venturii var. *fuscum* Vent. (Venturi 1881).
Orthotrichum cupulatum var. *fuscum* (Vent) Boul. (Bouly 1884).
Orthotrichum perforatum (C. Müll.) Limpr. (Limpricht 1884).
Orthotrichum unigerum var. *perforatum* Vent. (Venturi 1887)
Orthotrichum fuscum (Vent.) Vent. (Venturi 1899).
Orthotrichum cupulatum var. *papillosum* Grönv. (Grönvall 1885)

Thanks to the perfect description made by Limpricht, the species was soon known all over the Alps in different European countries - Austria, Germany, Switzerland and Italy. Except for the Alps, some records were published by Hagen (1908) from Norway - Smöland: Onsö, Ranö, leg. Bryhn; Akershus: Aker, Rambergöen, leg. Jörgensen, Hovedöen, leg. Blytt, Maridalsvejen, leg. Fridtz; Buskeruds: Hole, Gjesval, leg. Stejn, Norderhov, Froh, leg. Bryhn; Jarlsberg: Sande, Kommeessö en, leg. Kaurin; Bratsberg: Brevik, leg. Blytt; Hedemarkens: Vang, Storhammer, leg. Wulfberg.

Brotherus (1923) wrote "only in few places" and Nyholm (1954) considered the species "scattered". Furthermore, it grows in Roumania, Jud. Jasi pad Repedea (Papp 1942), pad Repedea Birnova [leg. Paap (1963), in Düll (1992)]. Brotherus (1892) reported its occurrence in Russia (Ossetia) and Düll (1992) in China.

Orthotrichum limprichtii Hag. was reported firstly from Slovakia by Györfy (1911) from Vysoké Tatry Mts., Mt. Ždiarska Vidla. The record is a little confusing, because Mt. Ždiarska Vidla is not located in the Vysoké Tatry Mts., but in the Belianske Tatry Mts. and partly consists of quartzite. Also, a revision is impossible because the sample is lost. The species was collected by Péterfi (1910) on Mt. Choč, Chočské pohorie Mts. The specimen has been revised, and the determination was correct. Later it was refound at its original location. The species was reported as *Orthotrichum unigerum* var. *perforatum* by Šmarda (1948) from Vysoké Tatry Mts. Surprisingly, in his later papers, the species was not mentioned, and other bryologists do not report it from Slovakian Moun-

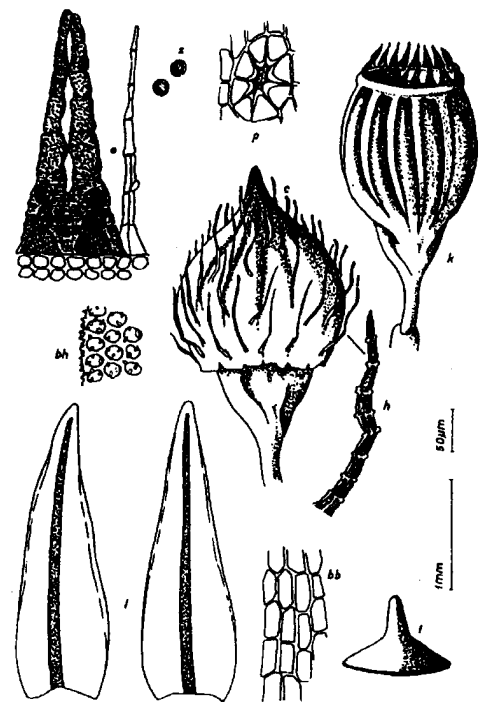


Fig. 1. *Orthotrichum limprichtii* Hag. o - peristome teeth; s - spores; p - stoma; k - dry empty capsule; bh - marginal leaf cells; h - calyptra, hair; l - leaves; bb - basal leaf cells; f - operculum (Reproduced by permission of the Editorial Board of Journal *Sbr. Západočes. Muz.*, drawing by Vondráček 1993).

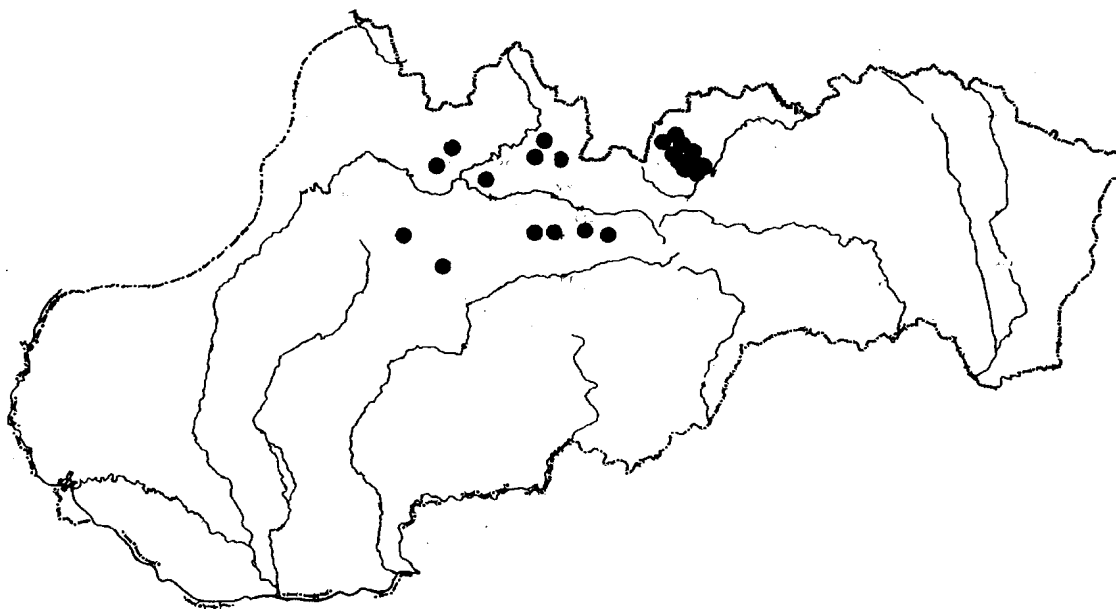


Fig. 2. Distribution of *Orthotrichum limprichtii* Hag. in Slovakia.

tains. In the period 1938 - 1980. I collected it at several localities, not published until now. Only an exceptional occurrence was reported in the Musci Czechoslovenici Exiccati, no 1040 and 1349 (Pilous, unpublished).

The present distribution

(if not noticed otherwise, the finds were made by the author and are unpublished until now):

Chočské pohorie Mts.: Choč (1952);
 Západné Tatry Mts.: Sivý vrch (1947, 1948); Osobitá (1982);
 Veľká Fatra Mts.: Kráľova Studňa (1962);
 Malá Fatra Mts.: Rozsutec (1950); Chleb (1951, 1978, 6 specimens); Klak (1949, 1951, 5 specimens);
 Červené vrchy Mts.: Cemjak (1951);
 Belianske Tatry Mts.: Muráň Mt. (1950); Ždiarska Vidla Mt. (1961); Žlebina (1961); Nový Mt. (1952); Ždiarska Vidla Mt. (Györfly 1911); dolina pod Novým Valley (1961); Hlásna skala (1955); Havran Mt. (1947); Košiary (1951, 1961); Bujačí vrch Mt. (1938, 1951, 1961);
 Nízke Tatry Mts.: Krakova hoľa Mt. (1954, 1960); Ohnište (1970); Sinná (1958, 5 specimens); Ďumbier Mt. (1949).

In Slovakia it grows exclusively on limestone and mylonite bedrock, on stile or vertical walls in karst crevices often in west facing, slightly shaded, inaccessible habitats. As uncertain appear records on granite bedrock. The Vysoké Tatry Mts. consist mainly of granite and *Orthotrichum limprichtii* Hag. does not occur there (at least I haven't yet collected it there). On the other hand, on limestone bedrock at higher altitude, it occurs scattered, but always in small tufts, never forming mass occurens like e.g. *Orthotrichum urnigerum* Myr.

Vondráček (1993) published the distribution of Slovak and Czech *Orthotrichum* species. There is only one record of *Orthotrichum limprichtii* of his own, but the revision of herbarium collections led to new localities for the species:

Vysoké Tatry Mts.: Dolina Zeleného plesa Valley, sub. *Orthotrichum cupulatum*, leg. Šmarda (specimen without date);
 Belianske Tatry Mts.: Ždiar, sub. *Orthotrichum nudum*, leg. 1951 Pilous; Ždiarska Vidla, sub. *Orthotrichum cupulatum*, leg. 1955 Šmarda; Bujačí vrch, sub. *Orthotrichum urnigerum*, leg. 1954 Šmarda; Dolina Siedmich prameňov Valley, sub. *Orthotrichum urnigerum*, leg. 1958 Ježek, ibid. sub. *Orthotrichum urnigerum*, leg. 1956 Vondráček; Rakúsky chrbát, sub.

Orthotrichum umigerum, leg. 1956 Šmarda et
Vondráček.

The occurrence of *Orthotrichum limprichtii* Hag. in
Slovak mountains (Fig. 2) is often accompanied by the
equally rare *Schistidium tenerum* (Zett.) Nyh. and
Grimmia andreaeoides Limpr. Due to lack of high altitude
habitats the species does not occur in the neighbouring
Czech Republic.

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