

***Calliergon trifarium* (Bryophyta) in the Belianske lúky National Nature Reserve (Poprad Basin, Slovakia) confirmed.**

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ABSTRACT: During a bryological trip to the Belianské lúky National Nature Reserve, Poprad Basin on July 10, 1998 the authors refound a rare moss species belonging to the glacial relics - *Calliergon trifarium*. The species was refound in its original location after being reported by ŠMARDA in 1961. The species has not been reported over 37 years and its occurrence was obscure. A relevé is included.

KEYWORDS: *Calliergon trifarium*, Slovakia.

Calliergon trifarium (F. WEBER & D. MOHR) KINDB. is being considered as a glacial relic moss species (SZAFRAN 1948, KUC 1956, ŠMARDA 1960, RYBNÍČEK 1966 and others). The species is widespread in North and Central Europe, Iceland, Faroes, Central Asia, North America, Greenland (SMITH 1980).

Calliergon trifarium is in Slovakia rare and confined to marshy meadows, i. e. to the most vulnerable habitats, which were in the past, strongly influenced by underground water management and turned into fields. The Czech and Slovak Republic Red Data Book (VÁŇA & SOLDÁN 1995) lists only three localities. The Slovak locations of *Calliergon trifarium* are listed in the paper of JANOVICOVÁ & KUBINSKÁ (1998). Nearly all the locations published by RYBNÍČEK & RYBNÍČKOVÁ (1965; 1972) and ŠMARDA (1961a) were destroyed by soil reclamation in the past or the moss has been gone extinct by natural succession (e. g. fen Beňadovo).

The species in the fen Peciská near the Oravice Settlement (RYBNÍČEK & RYBNÍČKOVÁ 1972) might have survived, but has not been found despite profound searching, including an intensive whole day's search by members of the British Bryological Society on August 16, 1995 (BLACKBURN & al. 1997). A new location has recently been found in Liptovská kotlina Basin in the marshy meadows between the Settlements Važec and Štrba (JANOVICOVÁ & KUBINSKÁ 1998).

ŠMARDA (1958; 1960; 1961b), reported the only single location of *Calliergon trifarium* in Slovakia in marshy meadows Belianske slatinné lúky, Poprad Basin. The location was uncertain, because since the species was found no one has confirmed its survival.

In July 10, 1998 we refound the species in its original location as described by ŠMARDA (1961b). The species is easily recognized in the field (Fig. 1). The shoots are worm-like in appearance and leaves are imbricate, i. e. appressed and overlapping when moist and dry.

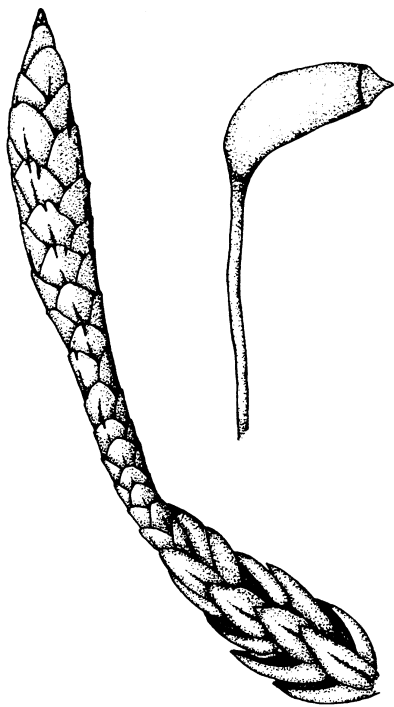


Fig. 1. The shoots of *Calliergon trifarium* and the capsule, $\times 10$. From VÁŇA & SOLDÁN (1995), publication kindly permitted by the authors.

Location: Poprad Basin, Belianske slatinné lúky meadows between the town of Spišská Belá and Šarpanec Settlement, altitude of 675 m a. s. l., a plain, community *Amblystegio scorpioides-Caricetum limosae* OSVALD 1923 [according

to RYBNÍČEK & al. (1984)], the area is constantly flooded with a shallow layer of water, cover E₁ 80%, E₀ 80%.

Relevé:

E₁:

Carex tumidicarpa 3, *Carex limosa* 2, *Eleocharis uniglumis* 2, *Primula farinosa* 2, *Molinia caerulea* 1, *Potentilla erecta* 1, *Pinguicula vulgaris* 1, *Triglochin palustre* +, *Parnassia palustris* +, *Menyanthes trifoliata* +, *Salix rosmarinifolia* +, *Betula pubescens* +, *Juncus articulatus* +, *Tofieldia calyculata* +, *Eriophorum latifolium* +, *Equisetum palustre* +, *Carex flacca* +, *Epipactis palustris* +, *Galium uliginosum* +, *Carex panicea* +, *Valeriana simplicifolia* r, *Carex nigra* r.

E₀ (percentage, -1 means less than 1%):

Drepanocladus revolvens 50, *Campylium stellatum* 10, *Drepanocladus cossonii* 5, *Dicranum bonjeanii* 5, *Aulacomnium palustre* 5, *Bryum pseudotriquetrum* 3, *Fissidens osmundoides* 1, *Calliergon trifarium* -1, *Tomenthypnum nitens* -1.

Nomenclature of vascular plants follows MARHOLD (1998), that of mosses KUBINSKÁ (1998).

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