

ASTERELLA GRACILIS IN ROMANIA

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Abstract: In this paper, the liverwort *Asterella gracilis* is reported from Romania, after 89 years. The samples of *Asterella gracilis* were collected from Bucegi Mountains, Cerbului Valley.

Key words: *Asterella gracilis*, liverwort, Romania.

Introduction

This paper presents the liverwort *Asterella gracilis* (F. Weber) Underw., reported for the first time from Romania, Bucegi Mountains, Cerbului Valley by Radian in 1915, as *Fimbriaria pilosa* Taylor (7,8).

Material and methods

The samples of *Asterella gracilis* were collected from the Bucegi Mountains, Cerbului Valley, Prahova County, 2175-2200 m altitude, 45° 26' 15" N / 25° 27' 38" E coordinate, *leg.* S. Ștefănuț, 11 July 1999, *det.* S. Ștefănuț, 2003 [BUCA B948, B949, B950, B951, B952].

Results and discussions

The presence of *Asterella gracilis* in Romania was uncertain during the last century, because the single report of this species was in 1915, from the lower part of Cerbului Valley alpine zone, Bucegi Mountains, *leg.* Radian S.Ș., 28 June 1911 (7). In the paper of Papp (1967) and Mohan (1998) the samples from Cerbului Valley are replaced, by mistake, with *Asterella saccata* (Wahlenb.) A. Evans (*Fimbriaria fragans* Nees and *F. saccata* Nees) (4,6).

During my researches in the glacial rings of Bucegi Mountains in summer 1999, I collected some interesting liverworts samples. In 2003, when I revising the samples collected from Bucegi Massif, I found, besides a species new to Romania, the fertile liverwort *Asterella gracilis*.

The features of *Asterella gracilis* collected from Romania are:

Plants green with deep purplish undersides and margins; branching dichotomous; thallus segments 0.5-1.5 cm long × 2,5 mm wide; the dorsal surface canaliculated; epidermal cells 20 × 25 μm, thin walled, trigones small; air pores surrounded by 1-2 (3) rings of (5) 6-8 cells; chlorophyllose tissue 1/2 – 2/3 of the thallus thickness at its centre; ventral scales large, purplish, with 1-2 lanceolate appendages.

Paroecious plants; androecia purplish groups of papillae posterior to base of gynoecial stalk; stalk purplish, naked, 1 cm long, at base (450) 500 μm width × (200) 250 μm width at summit, base with inconspicuous, subulate, deciduous scales, 0.5 mm long;

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carpocephala hemisphaeric, 2 mm across, 2-4 lobed below; pseudoperianths colorless, short, with 8 segments which remain connate apically until the spores are nearly mature, segments narrowly lanceolate, 2,5 mm long, free with age; capsules yellowish-brown, dehiscing by a operculum; spores yellow, 50 μm in diametre, the surfaces punctate-granulose, the areolae 9-12 μm wide; elaters yellowish, 2-3 spiral medially, 200 μm long.

The species is present in Iceland, Norway, Sweden, Finland, France, Germany, Poland, Switzerland, Austria, Czech Republik, Slovakia, Spain, Italy, Slovenia, Bosnia-Herzegovina, Macedonia, Romania, North Russia, East Russia and North Caucasus (9).

In Romania, three species of genus *Asterella* P. Beauv. exist: *A. gracilis* (F. Weber) Underw. (syn. *Marchantia pilosa* F. Weber, *Fimbriaria pilosa* Taylor), *A. lindenbergiana* (Corda ex Nees) Arnell (syn. *Fimbriaria lindenbergiana* Corda ex Nees) and *A. saccata* (Wahlenb.) A. Evans (syn. *Fimbriaria fragrans* Nees) (1,2,3,9).

Key of *Asterella* species, reported from Romania:

- 1a. Spores not alveolate, 90-100 μm ; ventral scales longly projecting beyond the thallus margin at the apex; pseudoperianth with segments not free at maturity ***A. saccata***
- 1b. Spores alveolate; ventral scales not longly projecting beyond the thallus margin at the apex **2**
- 2a. Spores yellow, 50-60 μm ; pseudoperianth divided into 6-8 lobes free at maturity ***A. gracilis***
- 2b. Spores red-violet, 60-90 μm pseudoperianth divided into 16 lobes not free at maturity... ***A. lindenbergiana***

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