

## The second record of *Oreas martiana* (Bryophyta) in the Carpathians (The Tatra Mts., Slovakia)

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Abstract: The authors found the second Carpathians record of the glacial relic moss species *Oreas martiana* in the Tatra Mts., Slovakia. The species grows in a small spring in the altitude of 2000 m a.s.l. The relevé is enclosed and the distribution map in the world is presented.

Keywords: *Oreas martiana*, bryophytes, The Tatra Mts., Slovakia.

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### Introduction

*Oreas martiana* (HOPPE et HORNSCH.) BRID. is the single species of the monotypic genus *Oreas*. In Slovakia, the species was firstly collected in the Tatra Mts. (PILOUS & ŠOLTÉS 2000). The second author collected the moss below the summit of the peak Huncovský štít, at the altitude of 2240 m a.s.l. The species is known from the Central European mountains above 2200 m a.s.l. (MÖNKEMEYER 1927) and in North Alaska in the range 750-1100 m a.s.l., where the climate conditions are similar to those of the highest Central European peaks. DÜLL & MEINUNGER (1989) think the species belongs to the group of glacial relic moss species. The nomenclature of bryophytes follows KUBINSKÁ & JANOVIČOVÁ (1998), MARHOLD (1998) for vascular plants.

### World distribution

PILOUS & ŠOLTÉS (2000) compiled the distribution of the species in the Alps, Siberia, East Asia, Japan, Caucasus, North America and Greenland.

Unfortunately the occurrence in Chukotka (AFONINA 1989) and in Scandinavian Peninsula (FRISVOLL & BLOM 1992) were omitted. The new unpublished data to China's distribution of *Oreas martiana* has been kindly offered by XUELIANG BAI (Department of Biology, Inner Mongolia University, Hohhot, China, Internet cont.):

Xizang (Tibet), Mainling, E 94° 06', N 29° 12'

Shaanxi, Mt. Taibai, E 107° 42', N 33° 54', leg. HUANG QUAN, PENG ZE-XIANG

The first record in the African continent has been kindly given by HIROSHI KANDA (National Institute of Polar Research, Tokyo, Japan, Internet cont.):

Tanzania, Kirimanjaro Mt., 3900-4000 m, leg. T. PCOS, det. M. BIZOT, reg. no. 19991016-0940), without date (NIPR).

The present distribution *Oreas martiana* in the World (Fig. 1) is:

The Alps (LIMPRICHT 1890)

Kaukaz (BROTHERUS 1892)

China (GAMS 1932)

Japan (SAKURAI 1954)

Alaska (STEERE 1958)

Colorado, British Columbie (WEBER 1960)

Greenland (HOLMEN 1960)

Eastern Sayan (BARDUNOV 1965)

Kazakhstan, Mongolia (ABRAMOV & ABRAMOVA 1983)

Chukotka (AFONINA 1989)

Norway, Swalbard Island (FRISVOLL & BLOM 1992)

China (Xueliang Bai 1996, Internet cont.)

The High Tatra Mts. (PILOUS & ŠOLTÉS 2000)

Tanzania, Kirimanjaro (HIROSI KANDA 2002, Internet cont.)

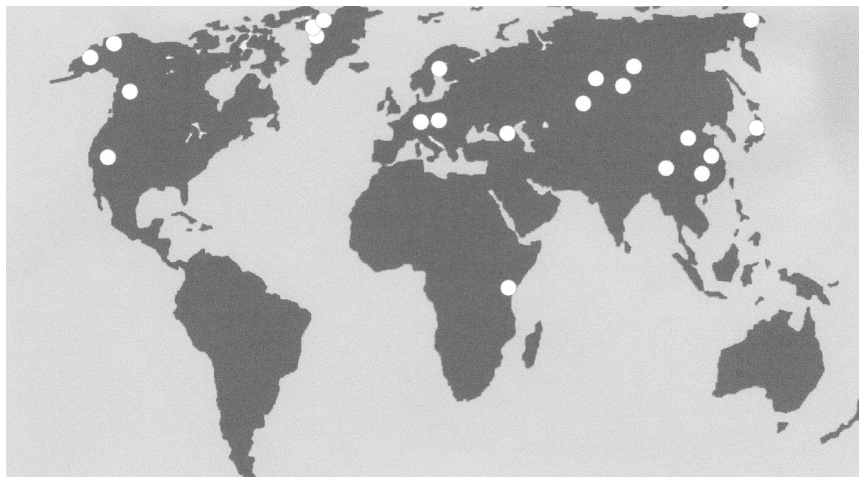


Fig. 1. World distribution of *Oreas martiana*.

## Specimens stored in Slovakian herbaria

National Museum, Bratislava (BRA): „*Oreas martiana* Slexstein (?) bei Schladming, Steiermark, 8000´, Gneit, 4. 9. 1870 leg. J. BREIDLER c. JURATZKA“; „*Oreas Martiana* Brid., Tirol, Wallertal, leg. MERGL“; „*Oreas Martiana* Brid, Tirol, Schlerr, leg. BAYER“ (BRA); „*Oreas Martiana* Brid., Tirol, leg. MERGL“; „*Oreas Martiana* Brid., Tirol, Kemalen, leg. BAYER“; „*Oreas Martiana*, Schladming, Stmk. leg. BAYER“; „*Oreas Martiana* (Hoppe & Hornsch.) Brid., USA, Colorado, Clear Creek Co. Summit Lake, Mt. Evans, 4220 m, breite tiefe Matten an steinigen Hängen ober dem Einflussgebiet des Sees bildend, sehr selten fruchtend, 14. IX. 1963, leg. W. A. WEBER, A. VAARANA & KHANA“.

Tatra Nationa Park (TNP): „*Oreas martiana* (HOPPE & HORNSCH.) BRID., Vysoké Tatry, Huncovský štít, *Aronico clusii-Luzuletum spadicae*, 2240 m a.s.l., 7. 6. 1999, leg. ŠOLTÉS, det. PILOUS“; „*Oreas martiana* (HOPPE & HORNSCH.) BRID., Vysoké Tatry, Huncovský štít, *Aronico clusii-Luzuletum spadicae*, 2200 m a.s.l., 15. 6. 2000, leg., det. ŠOLTÉS“; „*Oreas martiana* (HOPPE & HORNSCH.) BRID., Vysoké Tatry, Malá Studená dolina, *Mniobryetum albicantis*, 2000 m a.s.l., 7. 8. 2003, leg. ŠOLTÉS & MAČÁKOVÁ, det. ŠOLTÉS“.

## New locality

The authors recorded the new locality of *Oreas martiana* in the comm. *Mniobryetum albicantis*.

Relevé:

The High Tatra Mts., Malá Studená dolina Walley, small spring, 2000 m a.s.l., south aspect, slope gradient 10<sup>0</sup>, 2 x 3 m, August 7, 2003, total cover 75%, E<sub>1</sub> 5%, E<sub>0</sub> 75%, coordinates: E 20<sup>0</sup>11'55", N 49<sup>0</sup>11'23".

E<sub>1</sub>:

*Luzula alpinopilosa* +, *Poa alpina* +, *Caltha \*laeta* +, *Ligusticum mutellina* +, *Epilobium alsinifolium*,

E<sub>0</sub>:

*Philonotis seriata* 3, *Scapania undulata* 2b, *Philonotis fontana* 2a, *Pohlia wahlenbergii* 2a, *Jungermannia obovata* 2a, *Racomitrium sudeticum* 1, *Oreas martiana* +, *Lyngbya* sp. +.

The population is poor and only two tufts were seen, the largest being 5 cm in diameter. All the plants were sterile. The specimen is deposited in the Museum of the Tatra National Park (TNP) in Tatranská Lomnica.

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