

Republic of Karelia. Probably all literature records of *M. hibernica* from Republic of Komi should be referred to *M. flotoviana* (specimens were not seen).

We referred to *M. flotoviana* all studied samples of *M. hibernica* from Sweden, Denmark, Finland, Germany and Romania. Besides *M. flotoviana* was recorded from Great Britain (Crandall-Stotler, Stotler, 2007).

In eastern North America *M. hibernica* fo. *flotoviana* was recorded by R.M. Schuster (1992) from many localities in USA and Canada. In western North America *M. flotoviana* was recorded from arctic Alaska (Steere, Inoue, 1978), besides it was found by us in collections of N.A. Konstantinova and A.D. Potemkin from the state of Washington and South Alaska (KPABG, LE).

So based on this study, *M. flotoviana* can be characterized as an arcto-boreal-montane species restricted mainly to Europe and North America, with single locality in Asia.

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## ON THE LEAF MORPHOGENESIS OF PALAEOZOIC MOSSES OF PROTOSPHAGNALES

Maslova E.V.<sup>1</sup>, Ignatov M.S.<sup>2</sup>, Mosseichik Yu.V.<sup>3</sup>

<sup>1</sup>Belgorod State University, Belgorod, Russia, e-mail: e\_maslova@list.ru;

<sup>2</sup>Tsitsin Main Botanical Garden, Russian Academy of Sciences, Moscow,

Russia, e-mail: misha\_ignatov@list.ru; <sup>3</sup>Geological Institute, Russian Academy of Sciences, Moscow, Russia, e-mail: mosseichik@ginras.ru

New fossil moss collections with an excellently preserved anatomy, forming the Permian deposits of the Pechora Coal Basin, allow study leaves at different stages of development, thus revealing morphogenetic patterns of their lamina differentiation. In some respects, these patterns are different from those of modern mosses. For example, cells in the apical zone are arranged in rows, probably indicating cell divisions in one direction, i.e. without a transversal/ longitudinal alternation common for modern groups. A principally identical areolation is confirmed for *Intia* и *Protosphagnum*, which suggests their close relationship but not confirms position in different orders, as was originally suggested by Neuburg (1960).

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Обширные новые коллекции мхов из пермских отложений Печерского угольного бассейна позволили изучить многочисленные листья мхов анатомической сохранности, включая листья на ранних стадиях развития. Сравнение их со взрослыми листьями позволяет реконструировать ход клеточных делений, который, в отличие от большинства современных мхов, имеет ряд специфических особенностей. В частности, в верхушке листа клетки многократно делятся в одном направлении (без чередования продольное / поперечное деление). Подтверждается также принципиальное сходство в строении клеточной сети *Intia* и *Protosphagnum*, указывающее на принадлежность этих родов к одной близкородственной группе, а не разным порядкам, как считала М.Ф. Нейбург (1960).

## **TREE AND STAND LEVEL FACTORS DETERMINING THE DISTRIBUTION OF EPIPHYTIC BRYOPHYTES IN DECIDUOUS WOODLAND KEY HABITATS**

**Mežaka A., Brūmelis G.**

*Department of Botany and Ecology, University of Latvia, Latvia, e-mail: amezaka@lu.lv*

Epiphytic bryophytes are an important component of global biodiversity. Floristical and ecological studies on epiphytes are needed to determine abiotic factors associated with high species diversity. The aim of the present study was to evaluate the epiphytic bryophyte composition and richness in relation to tree level and forest stand factors in boreo-nemoral forests. The study was conducted in Latvian 34 Woodland Key Habitat (WKH) boreo-nemoral forest stands. Generalized linear mixed models and canonical correspondance analysis showed, that tree species and tree bark pH were the most important variables explaining epiphytic bryophyte composition and richness (total, Red-listed, WKH indicator species). Forest stand level factors, such as stand age and habitat type had only minor influence on epiphytic species composition and richness. Differences in factor influence were observed among studied epiphytic bryophyte groups.