

BRYOPHYTE MOLECULAR BARCODING RECORDS. 4

БРИОЛОГИЧЕСКИЕ НАХОДКИ ПО РЕЗУЛЬТАТАМ ДНК-МАРКИРОВАНИЯ. 4

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Abstract

DNA-barcoding revealed/confirmed the range extension of the following bryophytes: *Serpoleskea confervoides* (Sakhalin Island), *Pseudoamblystegium subtile* (Sakhalin Island), and *Plagiothecium laetum* (Moscow Province).

Резюме

С помощью ДНК-баркодинга выявлены или подтверждены находки за пределами основного ареала следующих видов мохообразных: *Serpoleskea confervoides* (Сахалин), *Pseudoamblystegium subtile* (Сахалин) и *Plagiothecium laetum* (Московская область).

KEYWORDS: mosses, new records, molecular markers, nrITS, Russia

INTRODUCTION

This paper continues the series of brief reports of new findings in the course of the bryophyte DNA studies. It presents various finding where the sequencing either confirms species identities, which are ambiguous by various reasons, or discloses their affinities, or support generic placements of certain taxa that have never been investigated for molecular markers earlier, or have never been barcoded previously, or have been barcoded from different parts of the world. Being obtained in the course of screening rather than special projects of a particular group, such data may remain unsubmitted to DNA databases and stay neglected and not searchable among published materials.

1. *Serpoleskea confervoides* (Brid.) Loeske

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Specimen: Russia, Sakhalin, Smirnykh Distr., Nature Reserve “Vaida Mountain” 49°53'N – 143°28'E, alt. 900 m, calcareous cliffs near mountain summit, cliff cleft, coll. M.S. Ignatov & V.V. Teleganova 21 Aug 2006 (MHA).

DNA: isolate OK2981, Genbank # MZ447839 (nuclear Internal Transcribed Spacer region).

This species has mainly European distribution. In Russia it has scattered distribution in the European part,

and is rather common only in the Caucasus. East of Urals, it was reported only in some areas of the southern West Siberia. The species was not reported from China in the Moss Flora of China (Hu *et al.*, 2008). In Japan, Iwatsuki (2004) confirmed only the occurrence in Shikoku. Although Flora of North America reported it in Alaska and Yukon (Crum & Hedenäs, 2014), the species was not found in NE Asia so far.

2. *Pseudoamblystegium subtile* (Hedw.) Vanderp. & Hedenäs

Specimen: Russia, Sakhalin, Okha District, Schmidt Peninsula, SW slope of Tri Brata Mountain, 54°04'N – 142°49'E, alt. 265 m, soil bank along stream on steep slope, under *Betula ermanii* subsp. *lanata* canopy. 1 Oct 2009, Pisarenko #03741 (MHA ex NVS).

DNA: isolate OK105, Genbank # MZ417373 (nuclear Internal Transcribed Spacer region).

The species is rather widespread in Europe and western part of Asian Russia. However, Cherdantseva *et al.* (2018), after the revision of Asian collections, excluded it from the moss flora of the Russian Far East. The species seems to be rare in East Asia.

3. *Plagiothecium laetum* Bruch, Schimper & W. Gümbel

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Specimen: Russia, Moscow Province, Mytishi (55°56'10.2"N – 37°34'06.4"E); on the trunk of a fallen *Populus*, closer to the roots; the light is diffused, the whole day is hidden from direct sunlight by the crowns of forest trees; sporophytes available, few; grew up next to *Sciuro-hypnum starkei*, *Sanionia uncinata*, and *Dicranum scoparium*. 27.VIII.2020 Ishchenko #6 (MHA).

DNA: isolate OK2918, Genbank # MZ491026 (nuclear Internal Transcribed Spacer region).

Until recently, *P. laetum* was considered as a common species throughout Russia. However, the analysis of Ignatova *et al.* (2019) found that so-named specimens belong mostly to a separate lineage, *P. rossicum*. Ignatova *et al.* (l.c.) confirmed presence of *P. laetum* s.str. in Russia only in the Caucasus. The present report, however, indicates that scattered localities of this species occur in Central European Russia.

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