LEPIDOZIA SUBTRANSVERSA STEPH., A NEW SPECIES FOR THE RUSSIAN LIVERWORT FLORA

LEPIDOZIA SUBTRANSVERSA STEPH. – НОВЫЙ ВИД ДЛЯ ФЛОРЫ ПЕЧЕНОЧНИКОВ РОССИИ

SEUNG SE CHOI¹ & VADIM A. BAKALIN²,³
СЫНГ СЭ ЧОЙ, ВАДИМ А. БАКАЛИН

Abstract

Lepidozia subtransversa Steph. is recorded for the first time for Russia from the southern spoors of Sikhote-Alin Range (Primorsky Territory, Russian Far East). The species differs from the second known from Russia species of Lepidozia (L. reptans (L.) Dumort.) in more common lateral flagelliform branches and wider (up to 15 cells wide) lobes of main stem leaves. The morphological description, differentiation from Lepidozia reptans and illustrations are given.

Резюме

Lepidozia subtransversa Steph. приводится впервые для России из южных отрогов Сихотэ-Аллія в Приморском крае (российский Дальний Восток). Этот восточназиатский вид рода Lepidozia известный в России. В сравнении L. reptans (L.) Dumort. он характеризуется более частым присутствием флагеллевидных латеральных побегов и более широкими лопастями стеблевых листьев (до 15 клеток шириной). Предполагается, что этот восточноазиатский вид редок в юго-восточной России и вряд ли будет найден во многих других пунктах. Приводятся морфологическое описание, отличия от Lepidozia reptans и оригинальные иллюстрации.

KEYWORDS: Hepaticae, Lepidozia, phytogeography, Russian Far East, Temperate East Asia.
with the western North American _L. filamentosa_, a species known in Alaska, British Columbia, Washington (Hong, 1988). According to their observations, the Alaskan material is “identical with Japanese _L. subtransversa_” (Hattori & Mizutani, 1958: 82). Later, after study of large collections from British Columbia, Hattori (1966) found that _L. subtransversa_ is different from _L. filamentosa_ and treated the former as a separate species of the latter. He notes main differences between these taxa as the following (Hattori, 1966: 269): “(1) plants are more robust in _L. subtransversa_ than in _L. filamentosa_; (2) pinnae longer (1-2 cm long) in _L. subtransversa_, whereas in _L. filamentosa_ short, slender, and loose; (3) leaves on pinnae usually denser and larger in _L. subtransversa_ than in _L. filamentosa_”. Afterwards _L. subtransversa_ was regarded as a separate species (Yamada & Iwatsuki, 2006; Mizutani & Chang, 1986, etc.).

Below we provide the description of _Lepidozia subtransversa_ based on the material from the Primorsky Territory.

**Lepidozia subtransversa** Steph., Bull. Herb. Boiss. 5: 95. 1897.


*Lepidozia coreana* Steph., Sp. Hep. 6: 332. 1922


**Plants** 20-40×0.8-1.4 mm, protruding to ascending, yellowish green to whitish green. **Stems** usually 1-2-pinnate to rarely 3-pinnate, lateral flagelliform branches elongate, common; cross section ca. 0.50-0.65×0.40-0.45 mm, cortex cells slightly thick-walled in 1-2 layers, pale green, 25-32.5×20-25 μm, inner cells, 25-32.5×20-25 μm, slightly thick-walled, trigoines concave to rarely triangular, colorless. **Rhizoides** scarce, developed near underleaf bases of flagelliform branches. **Leaves** contiguous, subtransversely inserted, obliquely quadrate, convex, asymmetrical (dorsal lobe bigger), main stem leaves 0.7-0.9×0.7-0.9 mm, branch stem leaves 0.7-0.9×0.6-0.75 mm, 3-4 lobed for 0.3-0.5 of the leaf length, lobes triangular, acute to acuminate, 7-15 cells wide at base, antical lobe usually larger, sinus acute to subacute. **Cells** subquadrate, slightly thick-walled, trigoines concave, in the midleaf 25.0-37.5×17.5-25.0 μm, near the apex 20-25×20-25 μm, at the base 20-50×20-30 μm; cuticle smooth. **Oil bodies** 7-15 per cells, elliptical to fusiform and oval, 4-5×2.5-3.0 μm, smooth, homogeneous. **Underleaves** transversely inserted, subquadrate, concave, on main stem 0.65-0.75×0.35-0.45 mm, on branches 0.40-0.55×0.35-0.45 mm, 4-lobed for 0.3-0.4 of the underleaf length, lobe ligulate to lanceolate, 6-8 cells wide at base. **Sexual condition** undeterminable in Russian plants, reported as dioicus (Iwatsuki, 2001).

**Specimen examined:** RUSSIA, Primorsky Territory, Shkotovskiy District, southern spoors of Falaza (Litovka) Mt., Smolny Klyuch Stream Valley (43°06'48"N, 132°45'39"E), 399 m alt., 09 July 2011, S.S. Choi #R5059 (JNU, duplicate in VBG).”

According to Hattori & Mizutani (1958) and Mizutani & Chang (1986), _L. subtransversa_ is mostly restricted to subalpine coniferous forests, although sometimes the species occurs in “alpine” _Pinus pumila_ (Pall.) Regel associations (Hattori & Mizutani, 1958), where it grows on rocks covered by humus, decaying wood and forest floor, and in the latter habitat it is one of the most common hepaties in the northern Japan. In Russia the species was collected in _Picea-Abies_ mossy forest, over wet rocks covered with sandy soil on slope to stream, where it forms rather pure mats.

Being seen once in the field, the species can be easily assumed as different from _Lepidozia reptans_ due to its wider leaf lobes and very common presence of lateral flagelliform branches. The main differentiating characteristics of both species are given in Table 1.

Since _L. subtransversa_ is common in boreal forest of northern Japan, we presumed its wide occurrence in similar environments in Primorsky Territory. However we failed to find more specimens neither by an undertaken revision of all available collections of _L. reptans_ from the South of the Russian Far East, nor by intensive search in the stream valleys near to the locality where the only Russian specimen was collected.

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Fig. 1. *Lepidozia subtransversa* Steph. (from: Russia, Primorsky Territory, Falaza Mt., S.S. Choi #R5059, JNU, VBGI). 1 – habit, dorsal view; 2 – part of shoot, attenuate branch, dorsal view; 3 – part of shoot, ventral view; 4 – part of shoot, dorsal view; 5 – dorsal lobe of the leaf; 6 – middle lobe of the leaf; 7 – lobes of underleaf; 8 – midlobe cells; 9 – midleaf cells; 10-13 – underleaves; 14-17 – leaves. Scales: a – 2 mm, for 1; b – 1 mm, for 2; c – 500 μm, for 3, 4; d – 100 μm, for 5-7; e – 50 μm, for 8, 9; f – 500 μm, for 10-17.
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