Arctoa (2000) **9**: *21-24*

PSEUDOLESKEELLA TECTORUM (LESKEACEAE, MUSCI) IN THE SOUTH-EASTERN EUROPEAN RUSSIA

PSEUDOLESKEELLA TECTORUM (LESKEACEAE, MUSCI) НА ЮГО-ВОСТОКЕ ЕВРОПЕЙСКОЙ РОССИИ

M. S. IGNATOV[1] & S. A. SURAGINA[2]

М. С. ИГНАТОВ[1] И С. А. СУРАГИНА[2]

Abstract

Pseudoleskeella tectorum is reported for the first time for the lowland of the Middle European Russia. Two localities of this species are found in Volgograd Province. Plants from one of them represent a rather peculiar phenotype, which is illustrated and discussed.

Резюме

Pseudoleskeella tectorum впервые обнаружена в средней части европейской России. Оба местонахождения находятся в Волгоградской области, на мелах и известняках по правому высокому берегу Дона, примерно в 30 км друг от друга. Несмотря на близость этих популяций, между ними имеются существенные различия в строении растений. Одна из них представляет весьма редкий фенотип, который обсуждается и иллюстрируется.

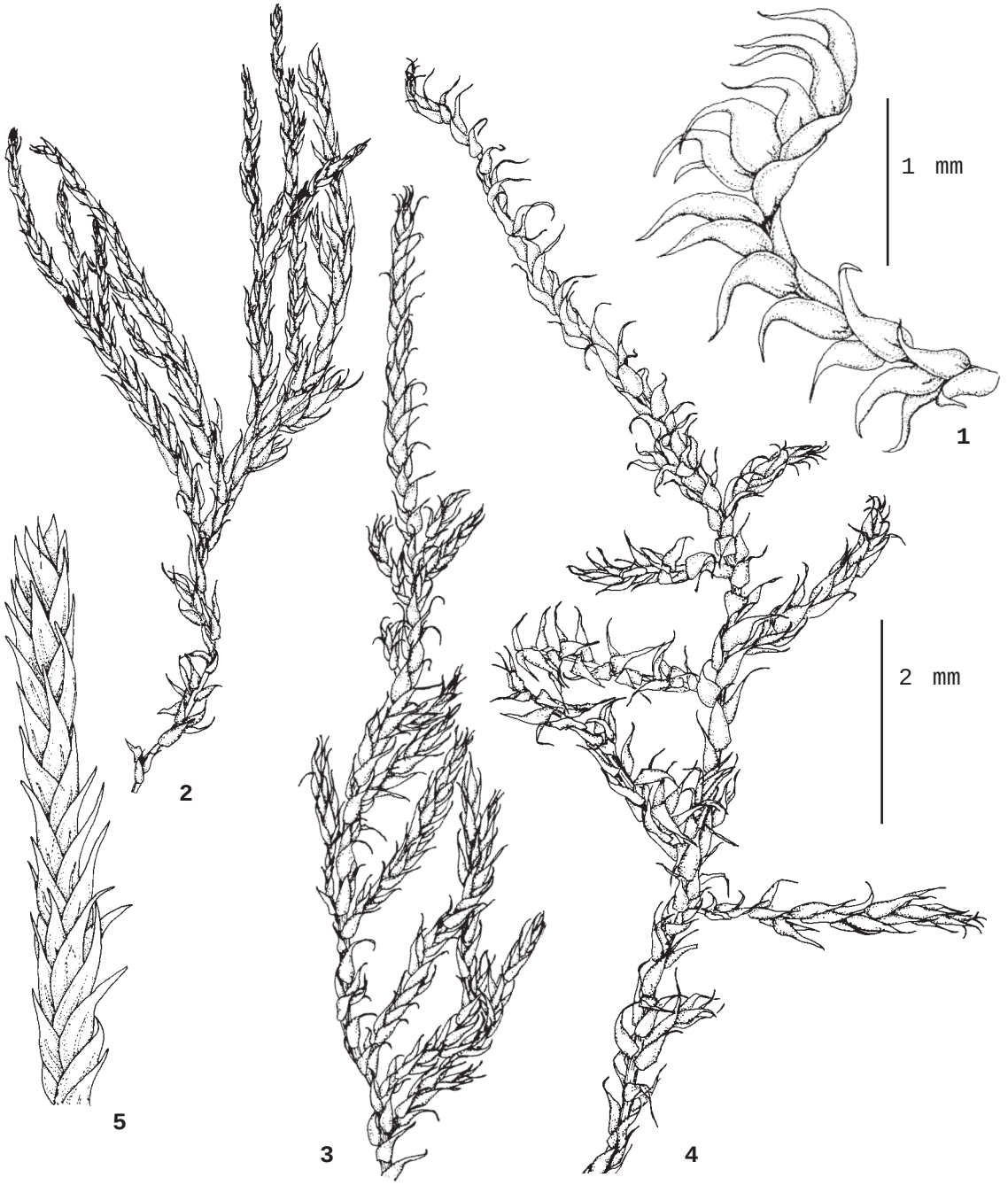
During the field work in the middle course of Don River in 1998, I. Zemlyanskaya collected a specimen of *Pseudoleskeella*, which we found difficult to identify with the available literature (Lewinsky, 1974; Smith, 1978, Wilson & Norris, 1989; Abramova & al., 1960, etc.). The specimen has longly acuminate, falcate leaves throughout stem and branches, ±soft texture and pale green color (Figs. 1, 4). Creeping shoots with long falcate leaves occur in many large collections of *Pseudoleskeella spp.*, but they are usually few, not forming the whole tuft. More than half of leaves in the mentioned collection have rather short, often forking costa (Figs. 7-8, 10-12), while some shoots have rather straight leaves with single costa to about mid-leaf (Figs. 6, 9). In 1999 we found a chance to visit this area and to study the variation of this species *in situ*.

Pseudoleskeella was found in two places along the high right bank of Don River: (1) Melokletskaya (49° 19'N – 43° 10'E), a chalk area, where *Pseudoleskeella* grows on chalk under *Juniperus sabina* L.,as well as on horizontal branches of this prostrate coniferous shrub, at 10-30 cm above ground; *Juniperus sabina* is rather common in this area, growing on chalk slopes, sandy dunes, but epiphytic mosses are rather rare on its trunk and *Pseudoleskeella* was found only in this place. (2) Kremenskaya (49° 30'N – 43° 31E), a limestome area, where *Pseudoleskeella* was found on open rocks in deep canyon, and rarer on trunk bases of *Populus tremula* L. and *Betula pendula* Roth (in lower part of slopes of deep ravines). Important to note, that the limestone outcrops in Kremenskaya is a unique place with ±solid rocks in Volgograd Province and neighboring areas, where rather soft chalks are very common.

Plants from these localities are somewhat different in size and appearance (cf. Figs. 2-4). Plants from the first locality (chalk & *Juniperus*) are softer, loosely branched, with falcate, longly to moderately acuminate leaves on stem and branches (either on creeping upon substrate ones, or those forming the main mass of tuft); branch leaves are straight in few shoots (Fig. 3), branches with small leaves are few in only one collection; laminal cells are thin-walled, and elongate (3-4:1) throughout the upper half

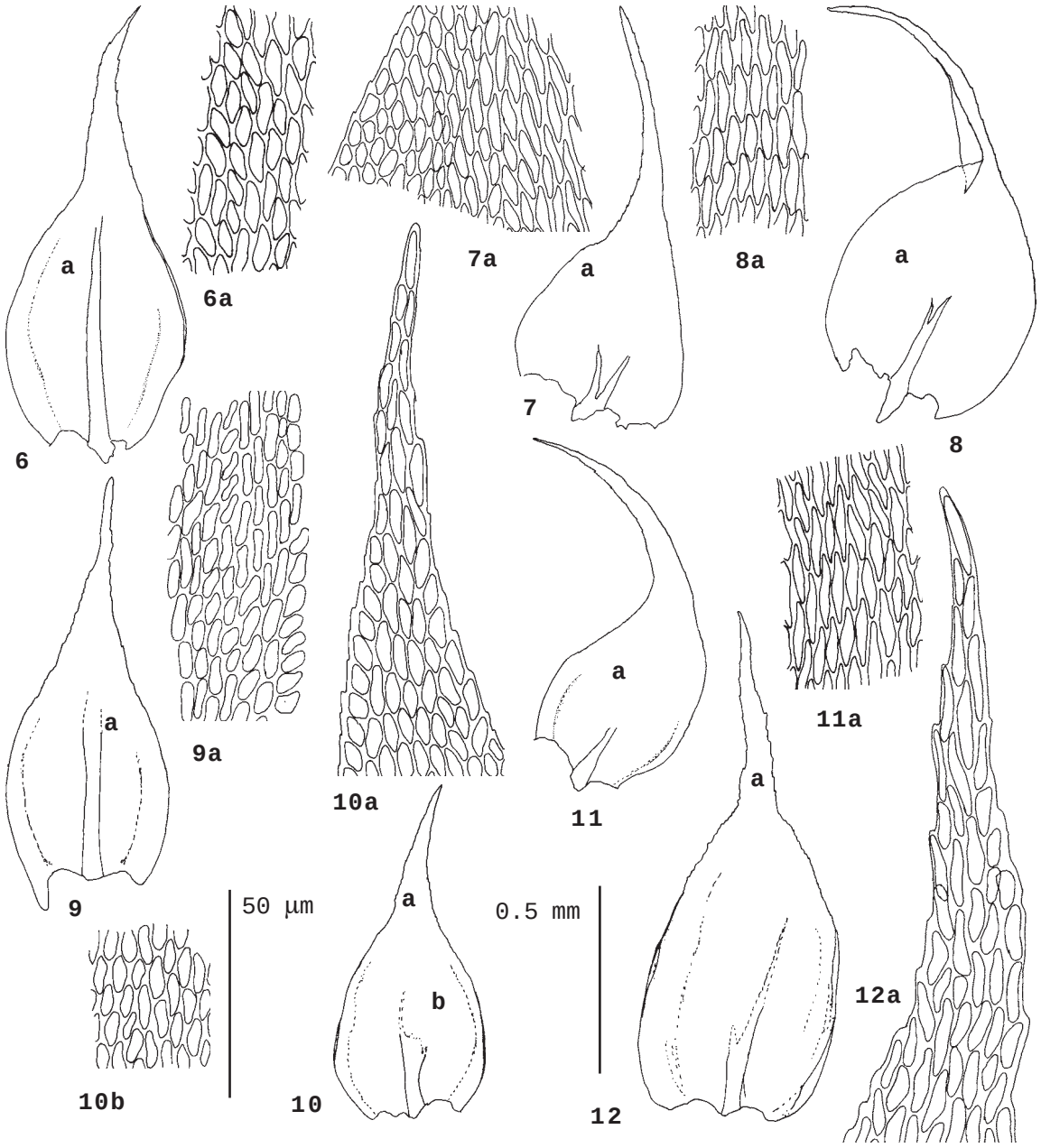
[1] – Main Botanical Garden of Russian Academy of Sciences, Botanicheskaya 4, Moscow 127276 Russia – Россия 127276 Москва, Ботаническая 4, Главный ботанический сад РАН

[2] – Volgograd Pedagogical University, Volgograd Russia – Россия Волгоград, Волгоградский государственный педагогический университет



Figs. 1-5. *Pseudoleskeella tectorum* (Funck ex Brid.) Kindb. (1&3-5 – from Melokletskaya: 1&5 coll. Zemlyanskaya 7.V.1998, MHA; 3-4 – coll. Ignatov & Suragina 6.VIII.1999, MHA; 2 – from Kremenskaya, coll. Ignatov & Suragina, 8.VIII.1999, MHA). 1&5 – stems; 2-4 – habit. Scale bars: 1 mm for 1 & 5; 2 mm for 2-4.

in many leaves. Contrary to this, plants from the second (limestone) area are brownish-green to brownish, densely repeatedly branched (Fig. 2), so the surface of tuft is covered by branches with small, catenulate leaves. Leaves are ±short, nearly always straight; falcate longer leaves are very rare in marginal part of tuft, where shoots are creeping upon substrate; costa is short and forking in most leaves; laminal cells are thin-walled, mostly 1-2:1; more rarely in largest falcate leaves a small area in upper leaf have somewhat longer cells (2-3:1).



Figs. 6-12. *Pseudoleskeella tectorum* (Funck ex Brid.) Kindb. (from Melokletskaya: coll. Zemlyanskaya 7.V.1998, MHA). Leaves and cells of area(s) marked by letter. Scale bars: 0.5 mm for leaves; 50 μm for cells.

The combination of character states of plants from the latter limestone area is in a well agreement with *P. tectorum*. Most of herbarium specimens of this species are similar to this phenotype and used for illustrations (Wilson & Norris 1989, etc.). The long-leaved plants of *P. tectorum* was mentioned by some authors (cf. Lewinsky, 1978), but our search in several herbaria (MW, MHA, LE, H) is resulted in few collections ±approaching to those from Melokletskaya: from calcareous area of Northern Finland, Kuusamo (H: herbarium of Finland). This fact, as well as the partial overlap in morphology of both populations from South-East Russia led us to conclusion, that they both belong to the same species. The peculiar characteristics of plants from Melokletskaya can be probably explained by its unusual habitat on and under shrubby *Juniperus*.

These two populaions of *Pseudoleskeella tectorum* in Volgograd Province are quite isolated. No one more locality is known in the lowland of the Middle European Russia and the adjacent areas of Ukraina. The closest localities are: in Caucasus, ca. 650 km apart from the Volgogad localities, Krym (Crimea) – 750 km; South Urals – 1000-1100 km; Karelia – 1700-1800 km.

AKNOWLEDGEMENTS

The authors are grateful to Elena A. Ignatova helped much in preparation of illustrations for this paper, I. Zemlyanskaya for making available for our study her collections and V. Kulakov for help with our field trip. The study was partly supported by the Russian Foundation for Fundamental Researches, grants 99-04-48194 & 99-04-63087.

LITERATURE CITED

[ABRAMOVA, A. L., L. I. SAVICH-LJUBITSKYA & Z. I. SMIRNOVA] АБРАМОВА, А. Л., Л. И. САВИЧ-ЛЮБИЦКАЯ, З. Н. СМИРНОВА 1960. Определитель листостебельных мхов Арктики СССР. – [Handbook of mosses of Arctic of the USSR] *М., Л., Изд-во АН СССР* [*Moscow & Leningrad, Izd. Akad. Nauk SSRR*], *716.*

LEWINSKY, J. 1974 [1975]. The genera Leskeella and Pseudoleskeella in Greenland. – *Bryologist* **77**: *601-611.*

SMITH, A. J. E. 1978. The mossflora of Britain and Ireland. – *Cambridge: Cambridge Univ. Press. 706 pp.*

WILSON, P. & D. H. Norris 1989. Pseudoleskeella in North America and Europe. – *Bryologist* **92**: *387-396.*