New Estonian records: Mosses

Kai Vellak¹, Leiti Kannukene², Mare Leis³ & Nele Ingerpuu¹

¹University of Tartu, Institute of Ecology and Earth Sciences, 40 Lai Street, Tartu 51005, Estonia. E-mail: kai.vellak@ut.ee
²Estonian Museum of Natural History, 29A Lai Street, Tallinn 10133, Estonia.
³Estonian University of Life Sciences, Institute of Agricultural and Environmental Sciences, 181 Riia Street, Tartu 51014, Estonia.

The number of bryophyte species known from Estonia was 583 in 2011 (Vellak et al., 2011). Seven moss species and one subspecies have been identified and added as new to the Estonian bryoflora during last two years. The specimens are deposited in the bryological herbaria of the Natural History Museum, University of Tartu (TU), University of Life Sciences (TAA) and Estonian Museum of Natural History (TAM). We can conclude that the list of Estonian bryoflora includes now 590 species (http://www.botany.ut.ee/bruoloogia/).

Atrichum crispum (James.) Sull. [pehme kadrisammal]
1 st loc.: Valga Co., Ēru District, Lata village, paludified forest, in a sandy pit (58°57′N 26°13′E), leg. M. Leis, 10 Sep 2004, det. M. Leis, 8 Feb 2012; (TU 157121). Since the first find in 2004, eight more localities have been found from different regions in Estonia checking all Atrichum tenellum specimens kept in three herbaria of Estonia (TAA, TAM and TU). Therefore, having already nine localities in Estonia, its frequency class can be estimated as rather rare (st r). This species grows on moist sandy soil in old boreal coniferous and mixed forests. It is widely distributed in North America, locally abundant in Britain and Ireland (Frey et al., 2006), but not known from Scandinavia and other Baltic states.

Bryum kunzei Hornsch. [Kunze pungsammal]

This species has been treated earlier as a variety of B. caespiticium Hedw., but recently has been acknowledged as a separate species (Holyoak, 2004). B. caespiticium is rather common in different meadow communities, whereas B. kunzei occurs on basic substrates in open habitats (Hallingbäck et al., 2008). Its distribution extends from South Europe to South Scandinavia (Frey et al., 2006).

Grimmia anomala Hampe ex Schimp. [kivirahnik]
1 st loc.: Harju Co., Paldiski City Administration, Suur-Pakri Island, moist alvar meadow, on shaded big erratic boulder, in crevices (59°20′N 23°53′E), leg. L. Kannukene, 17 June 1994, det. L. Kannukene, 11 March 2013 (TAM B872:60). This species is distributed in mountain regions of Europe, from Scandinavia to Spain, also in North America and Asia, being rare throughout its distribution area (Ignatova & Muños, 2004). Grows preferably on siliceous cliffs and boulders in half-shaded to exposed areas (Hallingbäck et al., 2006).

Microbryum starkeanum (Hedw.) R. H. Zander [Starke pisisammal]

Specimens identified now as M. starkeanum have been identified earlier as Pottia mutica Vent. or Pottia davalliana (Sm.) C. E. O. Jensen (Ros et al., 1996). From 11 specimens named as P. davalliana and kept in Estonian herbaria (TAA, TAM, TU), three specimens were verified to be Microbryum starkeanum and eight remained as Microbryum davallianum (Sm.) R. H. Zander (syn. P. davalliana). The first species is very rare and the second is rather rare in Estonia according to the known herbaria data. Both species
occur on exposed calcareous periodically wet clayey soil (Hallingbäck et al., 2008).

**Thamnobryum neckeroides** (Hook.) E. Lawton [töm-pöössasammal]

*T. neckeroides* grows both on basic and acid substrates, sometimes also on tree bases and is recorded in Europe rather recently from Czech Republic, Germany and Italy (Mastracci, 2003) and from Latvia (Åboliša et al., 2011). It has wider distribution area as was known earlier, being distributed on both hemispheres (Mastracci, 2003).

**Thamnobryum subserratum** (Hook. ex Harv.) Nag. & Z. Iwats. [sarnas-pöössasammal]

This species has ecological demands similar to *T. alopecurum* (Hedw.) Gangulee, and it grows on wet riverbanks in half shade (Frahm, 2009).

**Sphagnum majus** (Russow) C.E.O. Jensen subsp. norvegicum

This subspecies is characterized by paler color and stronger habitus comparing with the subspecies *majus*. This moss is known from Scandinavian and North America, grows in bryophytic and minerotrophic lowland habitats, preferably in carpets (Flatberg, 2009).

**Zygodon rupestris** Schimp. ex Lorentz [kaljukrussik]

This species has been known under different names and on different taxon levels since 1865, the present name has been acknowledged quite recently (Karttunen, 1984). This moss is common in southern part of Europe, growing mainly on trunks of deciduous trees and on rocks in oceanic regions (Smith, 2004).

**ACKNOWLEDGEMENTS**

Dr. Blanka Shaw is thanked for verifying specimens of *Atrichum crispum*. The work has been financed by Estonian Ministry of Education and Research (SF0180012s09, SF0180095s08, SF0170052s08, RP1LMBOTK).

**REFERENCES**


