

Recent activities in bryology in Latvia

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In 2011, a group of 12 professionals and scientists gathered and decided to establish a subdivision of the Latvian Society of Botanists, thus the Latvian Bryological Group was created. First of all, the head of the group was L. Auniņa, later replaced by A. Mežaka. At the moment, there are 23 members in the group. Activities of the Latvian Bryological Group include field expeditions (Figure 1), experience exchange events, and popularization of bryology as science. For this reason, since 2015, information about bryophytes to the general public has been published in Facebook page *Sūnas Latvijā* (in English – *Bryophytes in Latvia*) with almost 400 followers.

To pay more attention to easily recognizable species and understand their distribution in Latvia, since 2016, the most visible activity of the Latvian Bryological Group is selection of the “Bryophyte of the Year” by voting for several species candidates every year. Up to now, already four species have won this title – *Ptilium crista-castrensis* (in 2016), *Climacium dendroides* (2017), *Leucobryum glaucum* (2018), and *Trichocolea tomentella* (2019). The most popular platform where to submit species observations is the web portal Dabasdati.lv (in English – *Nature Data*). In the portal, during the last 10 years, information about occurrence of bryophyte species has been published by amateur photographers, nature watchers and scientists. The portal was created in 2008 by the Latvian Fund for Nature and the Latvian Ornithological Society. Since then, 3019 bryophyte species records belonging to 298 taxa have been submitted by 107 persons. The most popular species are the three “Bryophytes of the Year” (*P. crista-castrensis* (291 records), *C. dendroides* (225), *L. glaucum* (118)), *Hypnum cupressiforme* (77 records), *Neckera pennata* (54), and *Hylocomium splendens* (53). The peak of bryophyte popularity in the portal was registered in 2017, when 1160 records were entered (Dabasdati.lv, 2018). To disseminate the information about the “Bryophyte of the Year”, two notice boards were placed nearby the living samples in the Botanical Garden of the University of Latvia (designed by a member of Latvian Bryological Group, Lauma Strazdiņa) (Figure 2).



Figure 1. Latvian Bryological Group in Lielie Kangari Nature Reserve in 2016 carrying out a bryophyte survey to update the species checklist for this area.



Figure 2. Notice board about *Leucobryum glaucum*, the “Bryophyte of the Year 2018”, at the Botanical Garden of the University of Latvia.

In 2017, mapping of habitats of European Union importance begun in Latvia under the project “Preconditions for Better Biodiversity Preservation and Ecosystem Protection in Latvia” (shortly called Nature Census). A manual-type material with descriptions of rare and protected species in Latvia for habitat experts was summarized by the bryologist L. Liepiņa (2017). Many Latvian bryologists are participating in this project, therefore new localities of rare species have been discovered during the period from 2017 to 2018. The newly recorded species and new species localities are listed below:

- : *Barbilophozia hatcheri* (rare in Latvia, found in Piejūra Nature Park in the south-eastern coast of the Gulf of Riga, record by U. Suško);
- : *Bartramia ithyphylla* (0th category of the Latvian Data Red Book; the only known locality in the Baltic countries, found on dolomite outcrop on the bank of Venta River in West Latvia (by A. Opmanis);
- : *Campylopus pyriformis* (new species in Latvia, found on peaty soil in a drainage ditch not far from Riga, record by A. Opmanis)
- : *Hypnum imponens* (1st category of the Latvian Red Data Book, currently the only known locality in Latvia in Moricsala Strict Nature Reserve, record by A. Opmanis (earlier found in 1913);
- : *Oxystegus tenuirostris* (0th category of the Latvian Data Red Book; found on granite boulder at spring brook in West Latvia, record by A. Opmanis);
- : *Pterygoneurum ovatum* (new species for Latvia, found on dolomite outcrop in West Latvia, record by A. Opmanis);
- : *Ricciocarpos natans* var. *terrestris* (included in national protected species list, 0th category of the Latvian Data Red Book; the first record of terrestrial form in Latvia, found in wet forest by J. Kluša),
- : *Scapania nemorea* (included in national protected species list, 1st category of the Latvian Data Red Book; found in bog woodland on log by Līga Strazdiņa);
- : *Thamnobryum alopecuroides* (included in national protected species list, 1st category of the Latvian Data Red Book; the third record in West Latvia, record by A. Opmanis);
- : *Tritomaria exsectiformis* (included in national protected species list; found in several locations by A. Opmanis and I. Leimanis).



Figure 3. New locality of *Dicranodontium denudatum* found by B. Bambe in 2018.



Figure 4. *Riccia rhenana* – new species for Latvia found in 2015 by J. Kluša.

New species for Latvia were found also occasionally in individual field surveys. B. Bambe recorded *Pseudotaxiphyllum elegans* already in 1995, but recognized it only in 2018 thanks to the Polish colleague G. J. Wolski (Ellis et al., 2018). B. Bambe also found a new locality for rare species *Dicranodontium denudatum* (Figure 3). Another new bryophyte species for Latvia was recorded by J. Kluša who found *Riccia rhenana* in 2015, and recognized it one year later (Figure 4), and *Schistidium dupretii* found in 2017. J. Kluša also discovered new localities of species that so far were found only once in Latvia, such as *Syntrichia papillosa* and *Weissia squarrosa* (Strazdiņa et al., 2017).

Studies on bryophyte ecology are rarely done in Latvia, still some results have been published every year by different research institutions, mostly by the Latvian State Forest Research Institute “Silava”, University of Latvia, and Daugavpils University. Studies about epiphytes are carried out by L. Gerra-Inohosa (2015, 2016, 2018) and Līga Strazdiņa (2018), about bryophytes in peatlands and mires by A. Mežaka and A. Priede (2016a, 2016b, 2018). A. Mežaka is currently working abroad on tropical bryophytes under project “Life on a Leaf: Species Interactions and Community Dynamics in Epiphyll Communities” funded by Marie Skłodowska-Curie Global Fellowship from the European Union.

To evaluate the quality of habitats and vitality of species, monitoring of rare and protected species listed in the Habitats Directive of the European Union (i.e. *Dicranum viride*, *Leucobryum glaucum*, *Buxbaumia viridis*, *Hamatocaulis vernicosus*, *H. lapponicus*) was carried out by the Latvian Botanical Society in 2015 (surveys done by four bryologists – A. Mežaka, U. Suško, B. Bambe, and I. Rēriha).

It is worth to mention two recently published books: the updated checklist of lichen and bryophyte taxa in Latvia (Āboliņa et al., 2015), and a detailed study of bryophyte species distribution in the largest mire complex in Latvia, Teiči Mire Strict Nature Reserve (Bambe et al., 2017).

Among many efforts, the Latvian community of bryologists experienced also a great loss. In 2015, one of the most experienced bryologists in Latvia, Austrā Āboliņa passed away at age of 82. She was author of more than 260 scientific publications and popular-science works. Nearly all common names of bryophyte species in Latvian were created by A. Āboliņa, thus leaving behind an immortal heritage.

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