# Epixylic bryophytes on different deciduous tree species logs in the valley of river Luga (Leningrad region) G. L. Freydin, E. V. Kushnevskaya gregory.maclion@gmail.com



Epixylic bryocommunities were studied in 2020-2021 in the valley of river Luga (see map). Bryophyte's flora and vegetation were studied on 12 cm diameter microplots (see fig. 2). Microplots were established on logs and stumps, registered on macroplots 10 by 10 m. 211 microplots and 8 macroplots were studied. Dead wood have been identified using microscopic anatomical features.

58 species of mosses and 21 hepatics were registered. Except bryophytes there are 11 taxons of lichens and 10 vascular plants. The most common species are generalists: *Sanionia uncinata, Plagiomnium cuspidatum, Brachythecium salebrosum, Rhizomnium punctatum.* Some of them you can see on photos.



There are several factors we have registered: forest type, species of wood, presence of sandstone

outcrops near macroplot, position of microplot on log (up or lateral), hovering height (on plot – HungHsm), log's diameter (Dsm), decomposition wood (Hmm), cover of leafy litter and bark. The most significant ones are species of log, bark cover, forest type and hovering height (see table).



Fig.2. Study plot



#### Fig.3. Ordination plot (species)

#### Fig.4. Ordination plot (communities)

NMDS ordination (Fig 3-4) shows that all epixylic communities form a single group in our data. We interpret NMDS1 axis as succession gradient, multidirectional vectors of some factors and ecology of species confirm it. Relatively rare epiphytic lichens, *Anomodon viticulosus, Leucodon sciuroides* and sporadic *Platygirium repens* are situated in the left part of the plot (fig. 3). Vectors of hovering height and bark cover are directed approximately one way, also to the right. Values and species are both early successional. Low decomposition wood, leafy litter, some vascular plants and ground bryophytes (*Hylocomium splendens, Pleurozium schreberi, Climacium dendroides*) located on the right side characterize late successional stages.

The most specific flora and vegetation are on dead wood of *Populus tremula,* as shown on the plots (see PT ellipses). Interesting, that vegetation on *Ulmus glabra* is the most diverse, but the flora is not.

# Some common species in studied epixylic communities









Plagiochila porelloides

# Rhizomnium punctatum

## Sanionia uncinata

### Homalia trichomanoides



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