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Title: *Taxonomic and ecological revision of schizotrichacean cyanobacteria from Svalbard*

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The cyanobacterial microflora of Svalbard belongs to the most important components in tundra ecosystems. However, its taxonomic classification was seriously changed in last decades, as a result of modern ultrastructural and molecular investigations. The review of dominant and characteristic species must be therefore re-evaluated in all ecosystems, and this process is especially urgent in habitats with extreme ecological conditions.

The process of revisions of cyanobacterial taxa, recognizable in natural, distinct habitats, is realized in last years. The dominant types in various parts of the tundra biome are particularly investigated. In central parts of Spitsbergen, where the vicinity of Petuniabukta was selected as the model area, was particularly studied the dominant populations in various microhabitats and the dominant genera are studied in detail. The taxonomic revision of dominant morpho- and ecospecies of fine filamentous cyanobacteria from the family Schizotrichaceae are included in this presentation.

Schizotrichaceae represent usually very distinct and characteristical communities in extreme habitats, and several species play important role also in tundra biome in Svalbard. Up to now, four species were recorded from Svalbard by previous authors, but we were not able to confirm any from these taxa (*Schizothrix arenaria*, *Sch*. cf. *calcicola*, *Sch*. *fragilis*, *Sch*. *tinctoria*). On the other hand, in various parts of the tundra biome were found several characteristical species with important ecological importance. They are particularly:

• In soil biotopes are important *Trichocoleus abiscoensis* and *Schizothrix borealis*.

• *Schizothrix facilis* is a common species in fast glacial streams and forms distinct biomass on stony substrates.

• Two species were found as important colonizers of wet rocky walls, *Schizothrix septentrionalis* on rocky marine shores and *Sch*. *nigra* on stones among wet tundra. Both these types play important role as producers of biomass and during agglomeration of detritus on bare stony substrates.

The morphological characterization and ecological role of all mentioned taxa in Svalbard ecosystems is described in the presentation. The endemic character of all these types is probable, but phytogeographic relations to northest part of Scandinavia was proved also in cyanobacterial microflora.