



SWEDISH TAXONOMY INITIATIVE PROJECT REPORT

Project period: 2006

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MOSSES:

Revision of European species of *Sciuro-hypnum*, *Brachytheciastrum* and *Brachythecium* sect. *albicans*

(1) A molecular (ITS, rpl16, trnG) and morphological study of the European members of the *Sciuro-hypnum reflexum* complex suggests that the complex is monophyletic, and revealed the existence of seven rather than five species, which all occur in Sweden: *S. curtum*, *S. dovrense*, comb. nov., *S. glaciale*, *S. latifolium*, *S. reflexum*, *S. starkii*, and *S. tromsoeense*, comb. nov.

Sciuro-hypnum dovrense and *S. tromsoense* are now recognized as species or re-established as species, respectively.

Haplotype network reconstructions based on ITS and chloroplast data separately revealed likely recombination between some of the species, which suggests that both hybridization and a wide phenotypic plasticity is the reason for earlier problems with distinguishing several of the species.

Another problem may have been that almost all the species of the complex are predominantly northern or mountainous, and were therefore not as thoroughly studied as many southern lowland taxa.

(2) Molecular and morphological results from a parallel study of the *Brachythecium albicans* complex suggest that only the two species *B. albicans* and *B. coruscum* should be recognized, whereas *B. albicans* subsp. *dumetorum* is a shade phenotype of *B. albicans*.

A table with key characters differentiating the sometimes similarly looking species *B. albicans*, *B. coruscum*, *B. salebrosum*, and *B. turgidum* is provided in the published paper.

(3) The genus *Brachytheciastrum* could not be accommodated within the reduced time frame of the project and was entirely deleted from the study.



Brachythecium albicans Utö, Stockholms skärgård. Foto: Lars Hedenäs.



Sciuro-hypnum glaciale Røyrvik, Nordtrøndelag, Norge. Foto: Lars Hedenäs.

REFERENCES (directly or indirectly referable to this project)

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- Draper, I. & Hedenäs, L. 2009. *Sciuro-hypnum dovrense* (Limpr.) Draper & Hedenäs, a distinct Eurasian alpine species. *Cryptogamie, Bryologie* 30: 289-299.
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- Hedenäs, L., Draper, I., Milyutina, I. & Michael S. Ignatov, M. S. 2012. ITS and morphology tell different histories about the species of the *Sciuro-hypnum reflexum* complex (Brachytheciaceae, Bryophyta). *Bryologist* 115: 153-172.

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