

T5: A revised infrageneric classification of the moss genus *Grimmia* (Grimmiaceae)

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A classical taxonomic revision of the genus *Grimmia* (Bryophyta) is currently in its final stage. According to Muñoz & Pando (2000) the genus comprise 73 species plus several described afterwards (Muñoz & al. 2002; Muñoz, 2002; Greven, 2003). A preliminary cladistic analysis using morphological characters render the following infrageneric groups: subg. *Grimmia*; subg. *Orthogrimmia*, including sect. *Donniana* and *Montanae*; subg. *Ovales*; and subg. *Trichophyllae*, including sect. *Trichophyllae* and *Pulvinatae*. However, morphological characters from the gametophyte and sporophyte analyzed separately produced conflicting trees, which could be considered indication of that such groups are not monophyletic. Moreover, from this preliminary analysis of the morphological data set we generated a novel infrageneric classification implicating rather profound changes in the traditional taxonomy of *Grimmia*, which could not be tested using morphological data alone. We therefore decide to test the monophyly of the such groups using cDNA and nDNA.

Nucleotide sequences from ITS (nDNA) and *trnL-F* (cDNA) were used in order to evaluate:

- 1) monophyly of the *Grimmia* infrageneric groups classically accepted,
- 2) the traditional infrageneric classification against the new one proposed,
- 3) the phylogenetic relationships of *Grimmia* with the rest of the genera in the Grimmiaceae (*Aligrimmia*, *Coscinodon*, *Indusiella*, *Jaffueliobryum*, *Leucoperichaetium*, *Racomitrium* and *Schistidium*).

Results obtained to date confirm the validity of the novel infrageneric classification proposed, and open new avenues of research within the genus and the family.

Muñoz, J. and F.Pando. 2000. A world synopsis of the genus *Grimmia* (Musci, Grimmiaceae). *Monogr. Syst. Bot. Missouri Bot. Gard.* 82: i-vi, 1-133.

Muñoz, J., J.R.Shevock and D.Toren. 2002. *Grimmia serrana* (Bryopsida, Grimmiaceae), a new species from California, U.S.A. *Journal of Bryology* 24: 143-146.

Muñoz, J. 2002. *Grimmia exquisita* (Musci, Grimmiaceae), a new species from central Asia. *Journal of Bryology* 24: 315-318.

Greven, H. C. 2003. *Grimmias of the world*. Leiden, Backhuys Publishers.