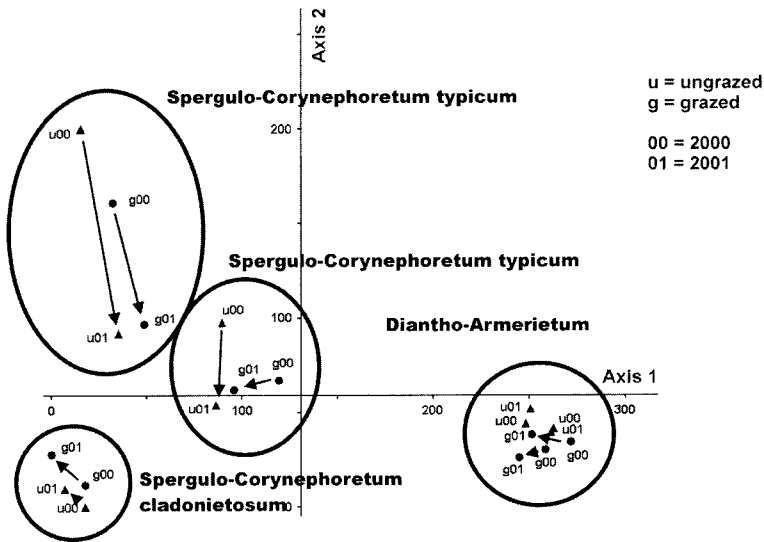


Grazing in sand dune ecosystems – impact on vegetation structure and pattern of *Corynephorum* and *Diantho-Armerietum*

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For two years up to now, the changes of vegetation structure in replicated fenced and cattle-grazed plots of 3 plant communities (*Spergulo-Corynephorum typicum*, *S.-C. cladonietosum* and *Diantho-Armerietum*) have been investigated in north-western Germany. The multivariate analysis of Braun-Blanquet relevés shows after two years that apart from grazing effects and (in fenced plots) successional changes, intrinsic dynamics e.g. of species turnover play an important role in *Corynephorum* but not in *Diantho-Armerietum* (Figure 1). One aspect deals with the influence of grazing on vertical and horizontal vegetation structure. Digital image data of vertical vegetation structure have been analysed (method following [1]). In ungrazed plots of *Diantho-Armerietum* the vegetation is taller and denser. At 30 cm the flower horizon is visible (inflorescences of *Agrostis capillaris*); below 10 cm the vegetation is very dense. First results show moreover that under extensive grazing impact the diversity of vertical structures increases. The horizontal pattern of vegetation structure has been characterised by Color infrared aerial photos. Similar to vertical structure the pattern of patchiness (living phytobiomass, open sand sites) is much more diverse than in fenced plots.

Figure 1: Correspondence analyses (DCA) of grazed and ungrazed plots in 2000 und 2001; eigenvalues: axis 1 = 0.54636, axis 2 = 0.111097



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[1] Zehm, A, Nobis, M, Storm, C, Schwabe, A (in print) Dynamics of vertical vegetation structure caused by grazing. Verhandlungen der Gesellschaft für Ökologie 32