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# Functional trait patterns in grassland communities, and the importance of scale

V. Cordlandwehr

1. The appeal of trait-based approaches is that they reduce the multiple dimensions of communities based on assemblages of species to a more restricted number based on functional characteristics (i.e. functional traits) and allow for comparisons across communities of different species pools.  
(Keddy (1992): Assembly and Response Rules - 2 Goals for Predictive Community Ecology. *Journal of Vegetation Science* 3: 157-164; Dias & Cabido (2001): Vive la difference: plant functional diversity matters to ecosystem processes. *Trends in Ecology & Evolution* 16: 646-655)
2. Database-retrieved traits can lead to potential but not measurable trait-environment relations.  
(this thesis, chapter 4)
3. On the community-level, neglecting intraspecific trait variability will not result in underestimating the response of communities to environmental gradients, as it is suggested by Leps et al. (2011), but these relations are often more pronounced than when using realized traits.  
(Leps et al. (2011): Community trait response to environment: disentangling species turnover vs intraspecific trait variability effects. *Ecography* 34: 856-863; this thesis, chapter 4 and 5)
4. Having at least one plot-specific trait measure per species is a good proxy for total trait variability of species co-occurring within a plot.  
(this thesis, chapter 2)
5. In comparison to traditional hand mowing, long-term management by machine mowing leads to soil compaction and lower soil aeration, reflected in a treatment effect on plant species composition, and consequently leads to a deviation of the composition of these grasslands from historical grassland communities.  
(this thesis, chapter 6)
6. Discrepancies between species-level and community-level trait relations might be linked to the paradox that niches can be successfully filled by being either sufficiently similar or sufficiently dissimilar to neighboring individuals. Disentangling this paradox is a challenging task for future studies.  
(this thesis, chapter 7)
7. Nature reserves alone are not adequate for nature conservation but they are the cornerstone on which regional strategies are built.  
(Margules & Pressey (2000): Systematic conservation planning. *Nature* 405:243-253)
8. Leaking pipelines of women in science are clearly showing that gender equality is not yet reached at German universities, thus measures of women's advancement should not yet be abandoned.  
(data: Statistisches Bundesamt 2014, analysis: Center of Excellence Women and Science 2015)
9. For the performance of every science system, it is crucial that scientific professions are attractive and recruitment is transparent and reliable.  
(German Council of Science and Humanities, Drs. 3228-13)