
How do domestic or wild herbivores influence plant functional traits?

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Résumé

The urgency of restoring ecosystems over vast areas has placed rewilding using wild herbivores at the forefront. However, few scientific studies address its effects on biodiversity and ecosystem functioning compared to more traditional conservation interventions with domestic herbivores. *Equus ferus przewalskii* introduced 30 years ago in semi-freedom in the National Park of Cévennes, France, (as a step of a conservation program of the species for its reintroduction in Mongolia) now occur as a wild horse population, socially natural (i.e. management is based on natural selection). This introduction allowed us to compare this management system ('as wild') with other breeding systems: domestic sheep or domestic horses. The evaluation of a rewilding project is based in particular on the restoration of ecological functions, we therefore sought to find out if there are differences in the functional traits of the vegetation depending of the grazer and its management (domestic *vs* 'as wild'). Two levels of organization were tested (1) plant communities – using the TRY database and botanical surveys carried out in 2022 and (2) plant populations – by selecting indicator species with traits measured *in situ*. At equivalent grazing pressure, the first results highlight differences including the presence of more chamaephytes in the enclosures grazed by Przewalski's horses, and more therophytes and geophytes with domestic horses. The results concerning intraspecific variability are more nuanced depending on the species tested. (Re)introducing one grazer or another, at similar grazing pressure, will lead to differences in response traits of plant communities. These first results could help in management choices, but further studies are needed to better understand differences on effect traits to link them to ecological functions.

Mots-Clés: plant community, intraspecific variability, Przewalski horses, domestic horses, sheep

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