



Comparing ecohydrological processes in alien vs. native ranges: perspectives from the endangered shrub *Myricaria germanica*

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Comparing the ecology of woody species in their alien and native ranges may provide interesting insights for theoretical ecology, invasion biology, restoration ecology and forestry. The literature which describes the biological evolution of successful plant invaders is rich and increasing. However, no general theories have been developed about the geomorphic settings which may limit or favour the alien woody species expansion along rivers. The aim of this contribution is to explore the research opportunities in the comparison of ecohydrological processes occurring in the alien vs. the native ranges of invasive tree and shrub species along the riverine corridor. We use the endangered shrub *Myricaria germanica* as an example. *Myricaria germanica* is an Euro-Asiatic pioneer species that, in the native range, develops along natural rivers, wide and dynamic. These conditions are increasingly limited by anthropogenic constraints in most European rivers. This species has been recently introduced in New Zealand, where it is spreading in some natural rivers of the Canterbury region (South Island). We present the current knowledge about the natural and anthropogenic factors influencing this species in its native range. We compare this information with the current knowledge about the same factors influencing *M. germanica* invasiveness and invasibility of riparian habitats in New Zealand. We stress the need to identify potential factors which could drive life-traits and growing strategies divergence which may hinder the application to the alien ranges of existing ecohydrological knowledge from native ranges. Moreover, the pattern of expansion of the alien range of species endangered in their native ranges opens new windows for research.