

[Effects of river restoration on riparian ground beetles \(Coleoptera: Carabidae\) in Europe \(Januschke & Verdonschot 2015\) \[1\]](#)

Studies addressing the effects of river and floodplain restoration on riparian ground beetles mainly focus on single river sections or regions. We conducted a large-scale study of twenty paired restored and degraded river sections throughout Europe. It was tested (i) if restoration had an overall positive effect on total species richness, Shannon-Wiener diversity and richness of riparian, wetland and floodplain forest specialists, and (ii) if the effects depended on river and project characteristics as well as habitat differences caused by restoration.

Groupwise comparison of the restored and degraded river sections showed that restoration had a significant positive effect on one out of the five metrics investigated (the number of riparian specialists), and pairwise comparison of the restored sections with the corresponding degraded sections revealed an additional positive effect of restoration on total species richness. These positive effects were related to a co-occurring set of environmental variables, with the effects being more apparent in widened river sections of high-gradient cobble/gravel-bed rivers where restoration decreased riparian woody vegetation and increased sparsely vegetated banks. These results clearly indicate that the effect of restoration on riparian ground beetle richness depends on the creation of such pioneer habitats.

Keywords: Carabidae, Riparian zone, River restoration, Floodplain, Semi-terrestrial invertebrates

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