

Abstract

Although it is widely recognized that exotic plant invaders can affect diversity of native plant communities, a few studies of natural systems concern about the nature abundance and diversity loss and the associated consequences for higher trophic levels. Little is known impact of exotic riparian plant on higher-order consumers, such as birds. Such is requirement to understand underlying mechanisms of invasive processes and formulating effective management strategies.

We examined interaction between invasive knotweed (*Reynoutria* sp. div., next only knotweed) and bird communities. We recorded occurrence of birds along three rivers in riverbanks that were either dominated by native vegetation or invaded by knotweed. Birds were recorded in breeding seasons in 2011 and 2012 near town Frýdek-Místek and Valašské Meziříčí. We interested especially in (i) how knotweed composition within riparian systems affects avian communities and (ii) what common bird characteristics are influenced by knotweed.

Our outcome found positive effect of Marsh Warbler (*Acrocephalus palustris*) and Great Tit (*Parus major*) in high knotweed cover and negative effect of Grey Wagtail (*Motacilla cinerea*). Interspecific comparison common avian characteristics suggest that knotweed invasion can impact avian abundance living in lower vegetation layer, exception species living in herb layer. In breeding season 2012 I register bird community in the same study site but half of knotweed cover was involved by frost. Positive effect of Marsh Warbler was not confirmed but I found conclusive positive effect by Common Chaffinch (*Fringilla coelebs*) and Great Tit (*Parus major*). At the other side abundance of Grey Wagtail correlated with native plant species cover.

Marsh Warbler likely prefers high knotweed cover reminding its nature habitat. Other species reaction (Great Tit, Common Chaffinch and Grey Wagtail) can be explained after another analysis. Knotweed invasion can impact avian community living in lower vegetation layer.

Key words: invasive knotweed, *Reynoutria* sp., bird community, riparian habitat