

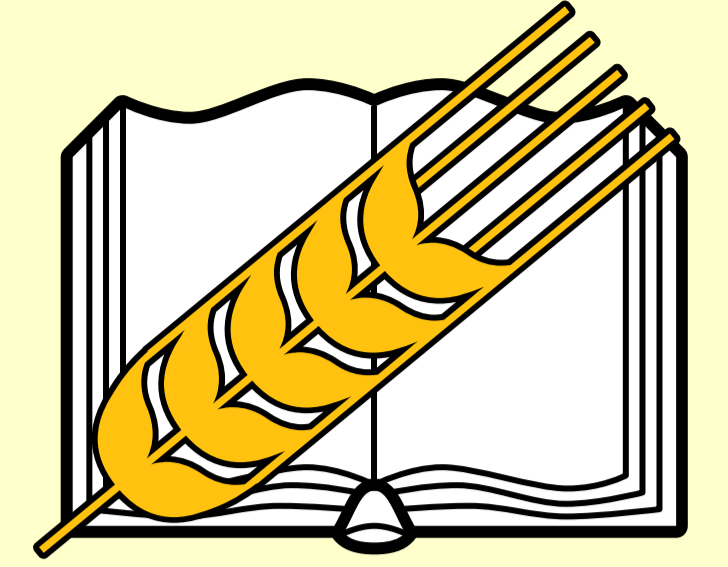
Weed species diversity in the Czech Republic under different farming and site conditions



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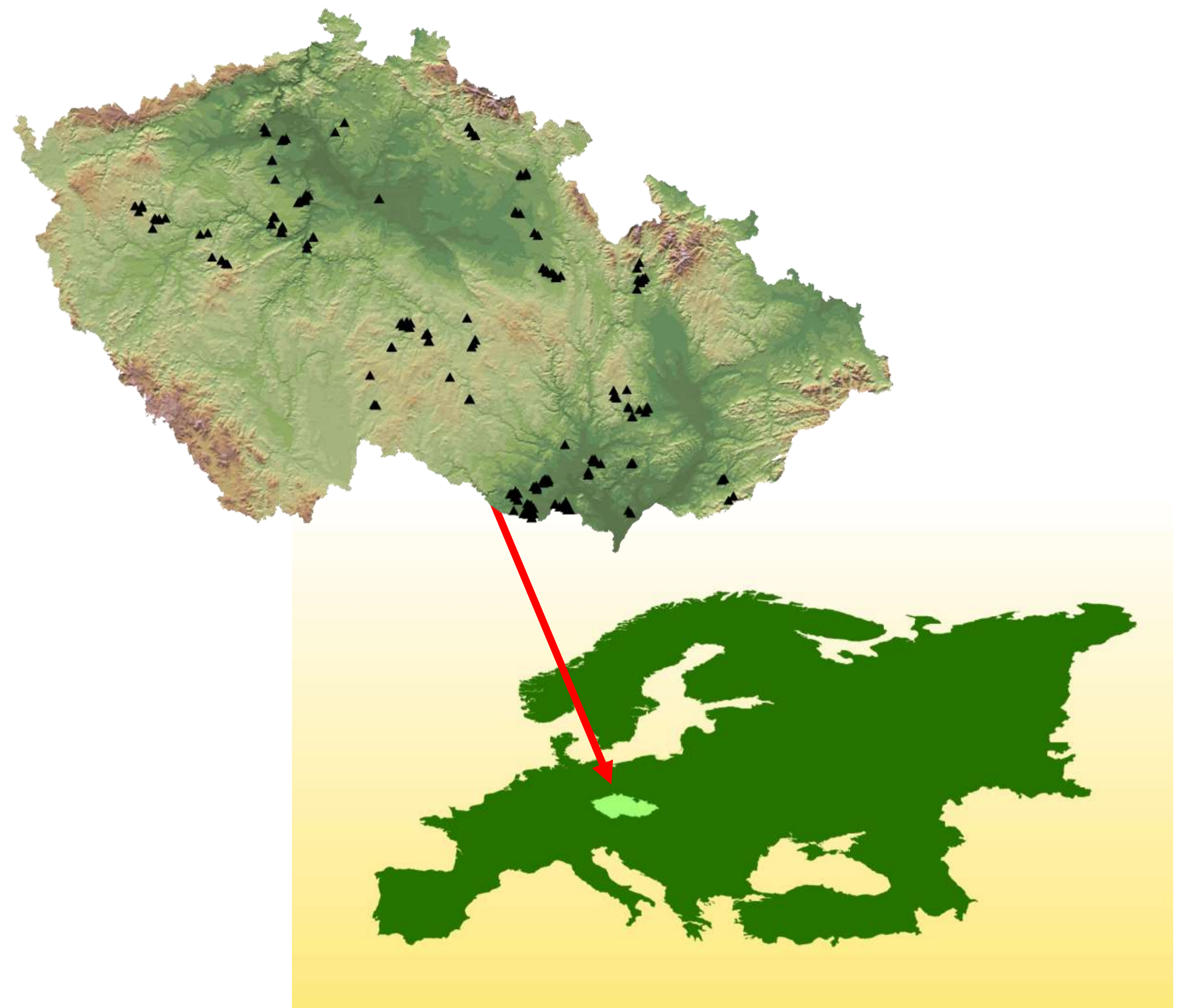


OBJECTIVES

The aim of this study was to explore the composition of weed vegetation on arable land in selected areas of the Czech Republic and to determine the level of γ -diversity which is represented by total species richness within an ecological landscape.

METHODOLOGY

Our survey was conducted at 27 conventional and 35 organic farms in 2006-2008. Fields with winter cereals, spring cereals and wide-row spring crops were selected for sampling. In each sampled field, one phytocoenological relevé of standard size of 100 m² was recorded in the central part of the field. The species coverage was estimated using nine-degree Braun-Blanquet cover-abundance scale. Total γ -diversity was expressed as total number of weed species recorded, and then the species diversity and constancies for different farming systems, altitudes and crops were stated. Subsequently, the species were divided on the basis of their perennality.

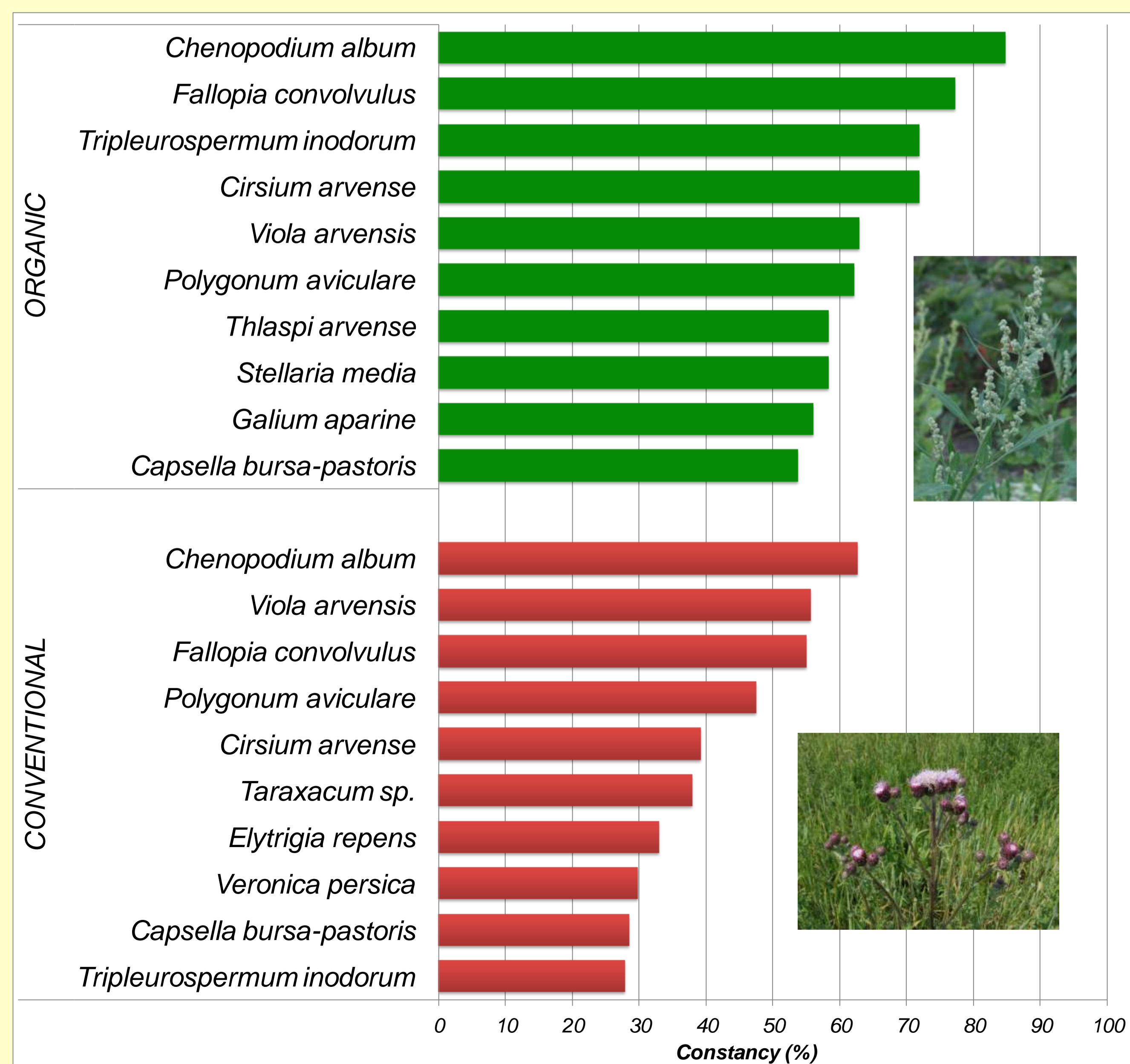


Phytocoenological relevés recorded

RESULTS

Totally, 172 weed species have been found - 123 in conventional and 162 in organic farming. The highest number of species was found in winter cereals and at medium altitudes. *Chenopodium album* was recorded as the species with the highest constancy in both types of farming. Totally 89 annuals, 17 biennials and 15 perennials have been found in conventional farming. In organic farming, totally 109 annuals, 23 biennials, 28 perennials and 2 semiparasite annuals have been found. The results confirmed positive impact of organic farming on γ -diversity of weed communities.

10 weed species with the highest constancy for different types of farming



Number of species found in individual crops at different altitudes

(total number of weed species found including crop volunteers)

Total number of species in	Crop	Altitude	both farming types		type of farming	
			conventional	organic	conventional	organic
	winter cereals	< 250 m	163	148	84	114
	spring cereals	250-350 m	160	149	101	155
	root crops	> 350 m	147	135	92	137

