

# INVERTEBRATE FRIENDLY MANAGEMENT OF ROADSIDE VERGES: TOWARDS A MULTI-SPECIES APPROACH

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In Flanders, roadside verges occupy an estimated surface of 20 000-25 000 ha, which makes them potentially the biggest natural area in the country. They play an underestimated role in landscape and nature connectivity if managed in a proper way. In cities or villages and in high intensive agricultural areas, they are often the only “natural” strip available for wild flora and fauna.

In Flanders, 37 different types of roadside verges are distinguished on the basis of their plant species composition. As a result, the management of roadside verges was mainly driven by botanical goals. This is reflected in the Flemish legislation (Bermbesluit) that regulates the management of roadside verges and is in this frame compulsory for local, regional and national authorities.

Some decades ago (1985-1991) extensive research on the invertebrate fauna of roadside verges along high-input agroecosystems was conducted. Already then, the significant importance of roadside verges for the survival of invertebrate populations, was clearly demonstrated. Moreover, seasonal migration phenomena were discovered of invertebrates colonizing agricultural fields from their source populations in verges in order to reproduce and return afterwards to the roadside refugia for overwintering.

INSECTA	HEMIPTERA	ARACHNIDA
<b>DIPTERA</b>	Coreidae	<b>ARANEAE</b>
Bibionidae	Lygaeidae	Agelenidae
Conopidae	Pentatomidae	Araneidae
Dolichopodidae	<b>HYMENOPTERA</b>	Clubionidae
Syrphidae	Apidae	Gnaphosidae
Tabanidae	Vespidae	Linyphiidae
Tipulidae	<b>MECOPTERA</b>	Lycosidae
<b>COLEOPTERA</b>	Panorpidae	Philodromidae
Aphodiidae	<b>MEGALOPTERA</b>	Pisauridae
Carabidae	Sialidae	Salticidae
Cerambycidae	<b>NEUROPTERA</b>	Tetragnathidae
Coccinellidae	Chrysopidae	Theridiidae
Curculionidae	<b>ODONATA</b>	Thomisidae
Elateridae	Aeschnidae	<b>OPILIONES</b>
<b>DERMAPTERA</b>	Coenagrionidae	Phalangiidae
Forficulidae	Libellulidae	Nemastomatidae
<b>LEPIDOPTERA</b>	<b>ORTHOPTERA</b>	Trogulidae
Erebidae	Acrididae	<b>CRUSTACEA MALACOSTRACA</b>
Lycaenidae	Tetrigidae	<b>ISOPODA</b>
Lycaenidae	Tettigoniidae	Armadillidiidae
Nymphalidae		Porcellionidae
Pieridae		Oniscidae
		<b>MYRIAPODA</b>
		Julidae
		Polydesmidae



Some examples of Invertebrate families typically found in roadside verges in East Flanders (casus Merelbeke)

More recently, the importance of roadside verges came back into the picture, due to recent sampling by pitfall traps and due to research demonstrating the dramatic decline of insect populations in general and the decline of crucial pollinators threatening food production. Indeed, well managed roadside verges can play a crucial role in many ways: as a shelter, as hibernation area, as a source of nectar and pollen for invertebrates, ... However, this requires a different and well adopted management of the verges, with a different timing of mowing and more differential mowing schedules. Instead of

In the end, it is argued that the old legislation (Bermbesluit) focussing on botanical goals is in need of a thorough evaluation and adaptation permitting a more multispecies approach of this significant surface of roadside verges in Flanders.