

Alien macro-crustaceans in freshwater ecosystems in Flanders

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During the last decades, the spread of aquatic alien species has increased enormously. Range extensions of exotic species have been facilitated by the interconnection of river basins and increased shipping. Invasive species are considered as an important component in the decline of diversity of communities and the abundance of other species in freshwater ecosystems. Besides their ecological impact, alien species are considered to cause worldwide economical damage. Currently, eighteen alien macro-crustaceans have been found in freshwater ecosystems in Flanders. One of these invasive species is the Ponto-Caspian invader *Dikerogammarus villosus*, which has invaded most of Europe since the beginning of the 1990s, mainly as result of the opening of the Main-Danube canal. This species was recorded for the first time in the east of Flanders in 1997. In order to assess the potential effect of this species on other macroinvertebrates, laboratory experiments as well as field observations were conducted. All types of prey that were used in predator-prey experiments were consumed by *D. villosus*, especially species that were less mobile such as Chironomidae. Substrate preference experiments indicated that *D. villosus* preferred a stony substrate. Using decisions trees to model field observations, it could be concluded that *D. villosus* could mainly be found in habitats with an artificial bank structure, a high oxygen concentration and a low conductivity, which corresponds with the canals where it has been observed mostly in Flanders.

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