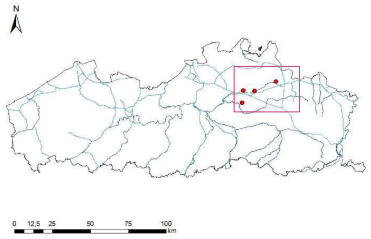
Aspects of the population ecology of the Spinycheek Crayfish *Faxonius limosus* in a lowland river ecosystem in northern Belgium

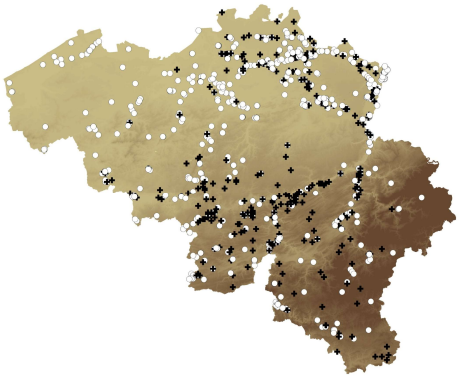
Geert De Knijf, Omar Madder, Kevin Scheers, Frédérique Steen & Luc Denys

Introduction

Invasive crayfish can have severe impacts on aquatic ecosystems, especially on water quality and aquatic macrophytes. The Spinycheek Crayfish (*Faxonius limosus*) occurs in Belgium since 1962 and is currently widely distributed and the most common crayfish species. We investigated 4 different lowland rivers in northern Belgium on the presence of the Spinycheek Crayfish. Here we present some aspects on the population ecology of the species and compare catch efficiency of two different trap types. Finally, this should contribute to an appropriate methodology to estimate population densities and to assess possible impacts.



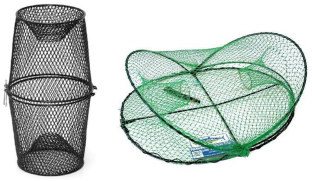
Left: Major waterways in Flanders (northern Belgium) and investigated sites in the Nete river basin;
Right: Typical northern Belgian lowland river in early spring



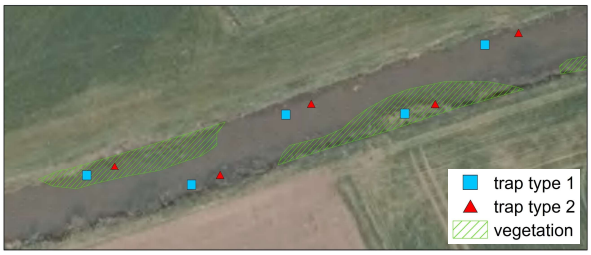
Distribution map of Spinycheek Crayfish *Faxonius limosus* in Belgium (**+** = <2000; **o** = 2000-2020)

Methodology

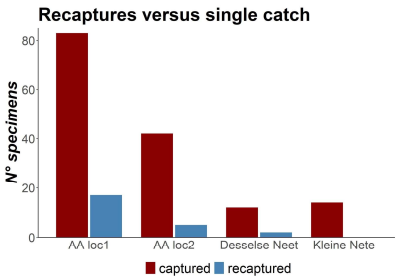
Two types of baited traps (metallic cylindrical trap and green mesh folding house trap) were used at four sites. Both were deployed pairwise, equally distributed along stretches with and without aquatic vegetation. These were, depending on the river, emptied every day for 23 to 48 consecutive days in spring 2021. Each caught individual was marked using both nail polish and a permanent marker.

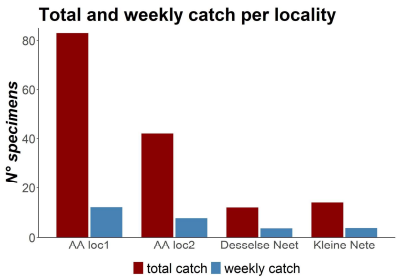


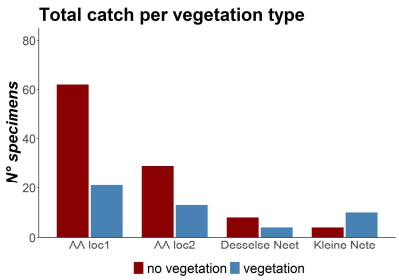
Left: cylindrical bait trap;
Right: folding house trap

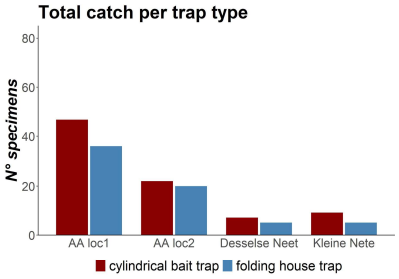


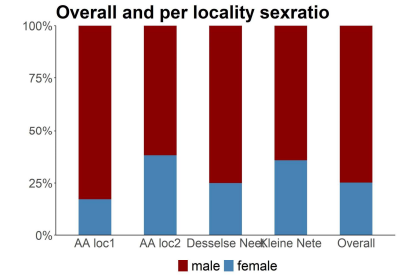
Results & discussion

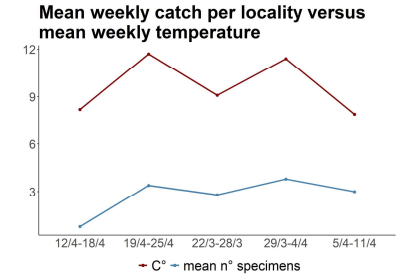












In total 151 individuals were caught with no apparent difference between either trap types. However the traps caught differently sized by-catch. The number of male crayfish caught was almost triple that of females, suggesting that the latter were less actively foraging in spring. Numbers of trapped individuals were much higher where aquatic vegetation was lacking. The number of trapped individuals closely followed the water temperature, indicating that this species is barely active when temperature drops below 10°C. Our results suggest that, although already long established, Spinycheek Crayfish density may still be quite low in these lowland rivers, in which case their impact is also likely to remain limited.

RESEARCH INSTITUTE
NATURE AND FOREST

Contact:
geert.deknijf@inbo.be
vlaanderen.be/inbo