

Data from: Predator-free space, functional responses and biological invasions

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Abstract

Predator-prey interactions are mediated by the structural complexity of habitats, but disentangling the many facets of structure that contribute to this mediation remains elusive. In a world replete with altered landscapes and biological invasions, determining how structure mediates the interactions between predators and novel prey will contribute to our understanding of invasions and predator-prey dynamics in general. Here, using simplified experimental arenas, we manipulate predator-free space, whilst holding surface area and volume constant, to quantify the effects on predator-prey interactions between two resident gammarid predators and an invasive prey, the Ponto-Caspian corophiid *Chelicorophium curvispinum*. Systematically increasing predator-free space alters the functional responses (the relationship between prey density and consumption rate) of the amphipod predators by reducing attack rates and lengthening handling times. Crucially, functional response shape also changes subtly from destabilising Type II towards stabilising Type III, such that small increases in predator-free space to result in significant reductions in prey consumption at low prey densities. Habitats with superficially similar structural complexity can have considerably

divergent consequences for prey population stability in general and, particularly, for invasive prey establishing at low densities in novel habitats.

Usage Notes

rawFRdata

Functional responses of gammarid predators towards *C. curvispinum*

References

This dataset is supplement to <https://doi.org/10.1111/1365-2435.12347>

Location



Keywords

Type III, *Chelicorophium curvispinum*, predator-prey dynamics, non-linear interactions, *Gammarus duebeni celticus*, habitat complexity, Type II, *Gammarus pulex*

Files

1 files for this dataset

rawFRdata.csv	3.88 kB	text/csv
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