Submission Overview

This manuscript has been submitted to the editorial office for review. Changes cannot be made during editorial review, but you can view the information and files you submitted, below.

Article Type	Short Communication
Title	An experimental framework for determining the degree of intraguild predation in a three-species terrestrial omnivorous arthropod food web in the field

Manuscript Files

Name	Type of File	Size
Main Document.docx	Main Document - MS Word	624.6 KB
Cover Letter.pdf	Cover letter / Comments	62.9 KB

Abstract

1. Intraguild predation (IGP) is common in natural and human-managed systems and plays a critical role in food web dynamics. Previous studies have documented the occurrence of IGP across a wide range of arthropod predator taxa, yet there is still a lack of quantitative understanding regarding the degree/intensity of IGP in these systems.
2. I propose an experimental framework combining controlled feeding trials and stable isotope analysis to determine the degree of IGP in a three-species terrestrial omnivorous arthropod food web (top predator + mesopredator + shared prey) in the field. The degree of IGP is defined herein as the proportion (in number) of mesopredator consumed in the total diet (shared prey + mesopredator) of top predator. The feeding trials are used to

construct a standard curve for the degree of IGP in the focal system, to which the stable isotope signatures of field samples are compared to estimate the degree of IGP in the field.
3. The proposed framework leverages the strengths of different experimental approaches to studying trophic interactions, providing a useful tool for quantifying IGP in a accurate (controlled feeding trials and standard IGP curve) and realistic (stable isotope analysis of field samples) fashion.
4. If proven successful, the current framework can be extended to food webs involving more complex interactions (e.g., cannibalism and multiple shared prey) and further complemented with other

approaches (e.g., molecular gut content analysis) to capture a more complete picture of IGP dynamics in the field.

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Additional Information

Is your data available?

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

Funders

No funding was received for this manuscript

Keywords

intraguild predation; food webs; terrestrial arthropods; stable isotope analysis; trophic interactions; feeding experiment

Is this submission for a special issue?

No, this is not for a special issue

Has this manuscript been submitted previously to this journal?

No, it wasn't submitted previously

Do you or any of your co-authors have a conflict of interest to disclose?

No, there is no conflict of interest

Suggested Reviewers

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Opposed Reviewers

No response provided

Cover Letter / Comments

Yes, I'd like to add a cover letter or comments

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History

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