Dear Mr. Hsu:

I am writing to you about your manuscript (22-0082-EEN entitled "An experimental framework for determining the degree of intraguild predation in a three-species terrestrial omnivorous arthropod food web in the field"), which you submitted to Ecological Entomology.

I now have assessments from two reviewers in addition to that from my Associate Editor.  There is consensus that the approach that you propose is interesting however serious concerns were raised regarding its feasibility.  I am sorry to say I must reject your paper from Ecological Entomology.

Please note that this decision will not be reconsidered unless valid reasons are provided.

Thank you for considering Ecological Entomology for the publication of your research. I hope the outcome of this specific submission will not discourage you from the submission of future manuscripts.

Sincerely,

Dr. Bernard Roitberg

Editor in Chief, Ecological Entomology

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Reviewers' Comments to Author:

Reviewer: 1

The manuscript aims to develop a methodological framework enabling the quantification of intraguild predation. The proposed methodology would combine lab feeding trials and stable isotope analysis (δ15N) enabling the construction of a standardized curve to estimate the proportion of intraguild prey in the diet of a top predator. I fully agree with the manuscript that we need a methodology that would enable reliable quantification of intraguild predation from molecular data and I appreciate the attempt to do it. However, I am not convinced, for now, that the currently proposed framework would enable reliable quantification of IGP. The main reason is probably that the framework is based only on the theoretical level. Without any empirical validation, I can think about potential flaws why this approach may fail. I provide some reasons below.

First, it is unclear what organization level of IGP the framework aims to quantify, species pair-wise intensity or community-level? I am not a specialist in stable isotope analyses but I guess the amount of δ15N per se, delta or absolute, is unable to determine the mesopredator prey to the species level? I think that the same amount of delta δ15N can be achieved in several ways which may consequently bias the inferences based on the proposed framework. For example, the inferences may be affected by predation by a top predator on various mesopredator species that themselves may differ in degree of IGP and cannibalism (e.g. Michalko et al. 2022; Oikos e08355). Even in agroecosystems, there are tens of species of mesopredators that differ in this respect. For example, if a researcher selects a mesopredator species with a high level of cannibalism to create the reference curve, the IGP might be under-estimated if a top predator individual collected from the field would preferentially prey on a mesopredator species with a low incidence of cannibalism than a mesopredator species with high incidence (and vice-versa). A similar issue arises even at the intra-specific level of a mesopredator as differently sized individuals engage differently in cannibalism (e.g. Rypstra & Samu 2005; J. Arachnol. 33: 390–397). In other words, how to separate intense IGP on mesopredators at a lower trophic level from the weak predation on mesopredators at the higher trophic level in the field?

In summary, I would be excited to see a method where a molecular method could quantify the IGP but I would like to see some clear experimental validation of the proposed framework.  
I am also a little bit skeptical about the labour/efficiency ratio if one should construct reference curves for mesopredator species and in all experimental combinations (e.g. management types in agroecosystems).  
I wonder why the theoretical framework is based/interpreted on spiders even though no experiments were conducted. Why not on generalist predators in general?

L. 54. ‘specific diet offer’

Reviewer: 2

I have now reviewed the manuscript entitled "An experimental framework for determining the degree of intraguild predation in a three-specie terrestrial omnivorous arthropod food web in the field". The manuscript, submitted as a short communication, proposes an experimental framework to determine the degree of intraguild predation in a three-species terrestrial food web. Although I support the manuscript's general idea, I recommend that the author include empirical data. Unfortunately, because the paper lacks empirical data, I am not convinced that the suggested protocol can effectively estimate intraguild predation in the field. Indeed, the last sentence of the discussion ("If proven successful, the current framework can be extended…") conveys the idea that the author himself does not know about the method's effectiveness. Moreover, I would like to see the interpretation of Fig. 1e with real data and a deeper discussion on how such data interpolation (lines 63-64) can be used to estimate the degree of intraguild predation.