Dear all,

Thanks for sharing your thoughts. Here are my thoughts:

1) Including three years of data should give us a good chance (>50%) to get reviewed by Nature Communications (NC) because of the importance of our topic (rice and biocontrol), the novelty of our approach, the rarity of high-quality field data, and the consistency of our results (for both ladybugs and spiders in conventional/organic farms). You don’t have to go global in order to get accepted by NC. Publishing 1-year data first in another journal, however, will reduce our NC chance to 0% because it will take away the novelty. That being said, we will try Ecological Applications for now to get you a quicker return.

2) I firmly believe that you two have a great potential in academia. Don’t get discouraged easily by some reviewers’ comments. In fact, every scholar gets negative comments frequently (e.g., my committee member Robert Denno, my advisor Steven Pennings, our friend Zac, myself, etc.). It is the norm – once you have this right expectation, you will feel much more comfortable dealing with the results and know how to proceed. Basically, appreciate positive comments, take constructive comments, and ignore negative comments/personal opinions.

3) While few scholars are fast writers, the majority are not. In addition, the publication process just takes time. Again, if you have an appropriate expectation, you will feel comfortable going through the process. Scholars working on modeling can generate papers at a faster pace, but they are expected to publish much more as well. My suggestion is that you should pick up a topic you like and work consistently, and then you will have a long-term success.

4) Here are some instructions for our manuscript revision. Please use tracked changes in Word to make our communication easier.

**New title**

Pest consumption by arthropod generalist predators increases with crop stage in organic and conventional farms

**Introduction**

My suggestion is to keep most of the first paragraph. Then we will introduce knowledge gaps in biocontrol in farming systems and why our study (quantifying diet composition over stages and farm types) will help fill the gaps and provide insights into biocontrol.

**Value / Novelty**

The lack of novel applied relevance (the main conclusion about predators is already well known) CK: I disagree – this reviewer doesn’t know the topic well. We can emphasize our value in the revision: 1) Quantifying pest consumption provides important insights into biocontrol in the field. 2) Analyzing prey from different functional groups.

Editor: a nice job of showing that generalist predators will shift their diets based on the frequency of prey in a rice field and that diet composition changes as the prey base changes over time.

Reviewer 1: this is interesting information and a step towards better understanding biological control of rice pests. However, as shown already by the title, the paper claims to have investigated biocontrol efficacy which is not correct. What was studied is how the proportion of prey in the guts of generalist predators varies with crop stage, relative abundance of different prey types and with type of management. CK: Not exactly in the guts though – our study reflects accumulated consumption over a period of time. However, I agree that our title and conclusion could focus on diet composition. GC: make clear the difference between “per capita consumption” and “reduction in pest populations”

Reviewer 1: In general I find the introduction unbalanced. It makes it sound like 1) the value of generalist predators is unclear, but that 2) stable isotope analyses will clarify their role. I would like to see a more balanced discussion of what is actually known about generalist predators and how stable isotopes can help. What are the pros and cons with this method compared with others? There are lots of other studies who have used stable isotope, including comparing organic and conventional systems (e.g. Birkhofer et al 2011 Agricultural and Forest Entomol). What did they find, and what could they not explain with that method? CK: Cite Birkhofer et al. 2011. Birkhofer et al. did not use the stable isotope signatures of predator’s diet (e.g., herbivores, detritivores, tourists) to quantify what predators ate – 1) higher C3 in predators in their study could come from organisms other than herbivores, and therefore their conclusion could be incorrect; 2) they used 13C only, instead of 13C and 15N in our study.

Reviewer 1: Again, you are not investigating biocontrol efficacy in this paper. You’re the feeding niches of predators. To assess biocontrol efficacy you need to know how many predators are available in comparison to prey and you need an independent estimate of pest population reduction. CK: The revision will emphasize predators’ diet composition and its implication for biocontrol. Replace “biocontrol efficacy” in most sentences.

Reviewer 2: Conducted in production rice fields under two systems, organic and conventional. Farms were paired between farming system to control for the influence of surrounding landscapes. Take home messages: a) Predators in conventional farms exhibited isotope signatures consistent with a higher proportion of rice-herbivore prey than were consumed by predators in organic farms. b) Predators consumed more pest through the cropping cycle. Methods: appropriate sampling, R packages, globally important crop under realistic, field conditions. CK: Include these strengths in cover letters, abstract, and conclusion.

Reviewer 2: It doesn’t seem fair to say that “quantitative studies regarding the trophic dynamics of generalist predators in agro-ecosystems are lacking”. In fact, the Settle et al. (1996) study cited in this paper is a classic example of predators switching between detritus- versus plant-feeding prey to improve biocontrol of rice pests…GC: Although there have been several quantitative studies on the trophic interactions of generalist predators in agro-ecosystems, it remains unclear how these interactions are affected by natural temporal dynamics of prey sources, which may hinder our ability to assess their efficacy as biocontrol agents.”

Reviewer 2: The authors are lumping some fairly broad groups of predators into single trophic groups, which might pool species with very different feeding positions (e.g., Steffan et al. 2015, Biological Control 91:34-41). In general, the paper would be strengthened with a second, complementary approach beyond stable istotpes to verify that the trophic interactions implied by the isotopes reflect, for example, feeding interactions that are directly observed in these same fields, or impacts on prey seen with experimental predator manipulations. CK: add this into our caveats.

**Data analysis**

Editor and reviewer: Additional data to support your conclusions. Nice job of showing that generalist predators will shift their diets… However, there is no indication that the generalist predators have any effect on the prey population or on rice yield. CK: If we don’t use biocontrol “efficacy” in title (used in implication in Discussion/Conclusion), we may solve this issue.

Predator abundance

Prey abundance

In their use of the k-means clustering algorithm, how did the authors decide on k = 3? Was this solely based on the Dominik et al. 2018 study cited in the manuscript? Why not explicitly test whether or not k = 3 best fits the data?

In their analysis, the paired sampling pattern is never taken into account. Shouldn't it be included in the analysis? CK: include site number as random variable?

''Predators' trophic niches'', the authors give a mean distance-to-centroid measurement to come to a rather strong conclusion about trophic niche breadth. The means seem rather close together and there is no indication of what the variability about the mean may be. The variability should be calculated and included in the manuscript. Then, the appropriate conclusions should be drawn from the mean and the variability. CK: Since we have P values, we must have had the variance somewhere. We can just report it.

Line 253-254. Here you suddenly mention that you have measures of relative abundance of different prey types. I guess this is from the sweep net samples. It is very important that you have these data and I think you should bring this up in the results section and not only in the supplement. CK: Keep our structure for now since this may interrupt the flow of our three aims.

**Methods**

Reviewer 1: Could you provide some more information about how the organic and conventional farms were selected and how organic differs from conventional management in the area? How did you ensure that they mainly differed in terms of farming system? How were they located in the landscape, how far from each other were they located? Size of farms/field etc? How long had the organic farms been organic? In what way did the organic farms differ from the conventional ones? How much were the conventional farms sprayed for example? CK: provide some information

Reviewer 2: Worries about the role of generalists in biological control are not limited to concern that they will feed on detritus-feeding rather than herbivorous prey, but also that they will feed on other predators. Of course, feeding as a “higher order” predator can also change isotopic signatures. That being said, since the trend is moving to lower d15N and d13C values later in the season, it implies that they are feeding on lower trophic levels as the cropping cycle unfolds. Nonetheless, I worry that failing to consider intraguild predation when assessing trophic position weakens what the authors can say about the ecology of this system. CK: Include this in our caveats. Although stable isotope mixing model has limitation to reveal intraguild predation, generalist predators’ stable isotope signatures moved towards lower d15N and d13C values (lower trophic levels) as crop season unfolds, suggesting that intraguild predation, if it happens, will be less common in late crop season.

Reviewer 2: Looking at Figure 2 in combination with Supplemental figure S1, it looks like quite a few predators are falling below all the prey groups in both d15N and d13C. This raises the possibility that there might be another source not being accounted for in this system, and that the only reason rice herbivores are being calculated as a high % of the estimated diet is that it's simply the closest out of the listed sources. This is especially relevant because MixSIAR doesn't have an option to allow for an unknown source unlike a similar package, SIAR. CK: Fig S1 is adjusted for trophic discrimination factor: a) Is it common for other studies to see this situation? b) Fig S1 pooled samples across stages. Did we calculate diet composition using stage-specific isotope signatures in preys? Our revision can include these: i) GC comments below. ii) The three guilds are the most common, abundant arthropods in our field. Due to the nature of generalist predators (opportunistically forage abundant prey; less likely to have preference on specific, rare species like specialist predators [parasitoid]), our study likely included the most important preys. Include this in our caveat!

GC: After correcting for trophic discrimination factors (TDFs), the mean of all predators did lie within the polygon bounded by the three sources, which justified the use of mixing model to estimate the proportional contribution of each source.

Reviewer 2: The number (N) of the predators involved in the calculations was unclear. Of course, the variability of the trophic niche would be impacted by how many individuals it's based on. The authors could correct this by presenting these numbers. CK: GC has provided a new table for the number of predators.