**For Cascaded manuscripts, authors should include a cover letter that includes the prior reviews and decision, and a description of changes the authors have made to address issues raised in those reviews and decision, along with a single PDF of the anonymized manuscript.**

Dear Editor:

We are grateful for your consideration of our manuscript, “Intraspecific variation in responses to extreme and moderate temperature stress in the wild species, *Solanum carolinense*.”

In this manuscript, we examine the effects of moderate and extreme temperature stress on vegetative and reproductive traits in *Solanum carolinense*. We compare temperature tolerance in plants from Minnesota and Texas to examine potential responses to climate change, such as the evolution of tolerance or avoidance mechanisms, in a space-for-time substitution. We found that development and fertilization in moderate heat reduced the size of reproductive structures and the number of seeds produced respectively. We also found that northern plants were generally affected by moderate heat to a greater extent than southern plants, but not necessarily in extreme temperature stress. Lastly, we found support for an avoidance mechanism in pollen that has been proposed by a recent body of work, conducted primarily in crop species (Luria et al. 2019; Rutley et al. 2022).

Previously, we submitted part of the work in this manuscript (Experiment 2) to New Phytologist and Oecologia. In both cases, the manuscript was rejected on the basis of an insufficient sample size to represent the geographic variation in temperature tolerance traits. We do not have the means to increase the sample size for this project at this time; instead we have expanded the manuscript to include two concordant experiments with the same sample size in each- 26 genotypes from the north and 26 genotypes from the south. We added Experiment 1, the effect of long-term moderate heat on reproductive traits, to our manuscript. This is the first time Experiment 1 has been submitted for publication.

While we agree that our sample size could be more robust, we did sample a sufficient number of genotypes to detect statistically significant differences in traits with direct evolutionary significance. Over the last 20 years, temperature extremes have become more frequent in the Midwest (USA) and average temperatures have risen steadily in Texas (USGCRP 2018). Do plant species have the capacity to acclimate and/or adapt to these environmental changes? We have attempted to understand potential responses to heat by studying populations in species with a thermally heterogeneous range. Understanding how wild species that have naturally selected traits respond is critical for informing conservation efforts in preserving or restoring sensitive species. We feel our results have direct implications for “assisted migration” efforts and forecasting the nature of changing plant communities.

We appreciate your consideration of our manuscript.

Sincerely,