

June 23, 2017

Dear Editor,

Please consider our revised manuscript entitled “Contrasting ecological roles of non-native ungulates in a novel ecosystem” for publication as a research paper in Royal Society Open Science. This study investigates the ecological roles of ungulates, which are normally destructive invasive species in native island ecosystems, in the avian-free novel ecosystems of Guam.

We used field and nursery experiments to determine the role of non-native Philippine deer (*Rusa mariannae*) and feral pigs (*Sus scrofa*) in plant communities of limestone karst forest. Feral pigs and non-native or overabundant deer have caused widespread ecological damage in many systems. However, we show that feral pigs have no detectable effects on seedling communities in limestone karst forests, and could potentially benefit a system that has lost its avian dispersers by dispersing seeds. Deer strongly shape forest characteristics by suppressing forest regeneration. While ecological studies on non-native species have long focused on identifying their detrimental impacts, our work presents a unique situation where a species that is considered principally harmful in the same system has not only provides some ecological service, but showed no evidence of negative impacts. In response to reviewer comments, we expand on traits and environmental context instead of just focusing on native or non-native status for both plants and introduced mammals highlighted in the study. We also add more details about our methods including a new figure with a schematic of methods, and added supplementary material to help clarify both methods (site locations) and results.

We believe that our paper will appeal to readers of Royal Society Open Science and spark future research on novel ecosystems and shifting ecological roles of species within them. Further, we hope that this research will encourage conservation managers to look more closely at the functional roles of non-native species, and adaptively manage novel ecosystems instead of taking a more traditional approach that discounts all non-natives, regardless of their function within the existing system.

Thank you for your time and consideration of our manuscript.

Sincerely,
Ann Marie Gawel (on behalf of all authors)

