Dear Editors of *Ecology Letters*,

We are pleased to submit the manuscript entitled “*Carcass size, not source or taxon, dictates breeding performance and carcass use in burying beetle*” for consideration as a *Letter* paper in *Ecology Letters*. All parts of the manuscript are carefully prepared following the author guidelines.

The breeding biology of burying beetles represents a fascinating area of research and has been frequently used to test ecological hypotheses and questions. However, most studies used laboratory-reared carcasses of limited sizes, questioning whether past results are representative of the patterns in the wild. Using a broad size range of carcasses from lab and wild sources, our work was able to address this question by capturing the first time optimal breeding outcomes on medium-sized carcasses. We further showed that breeding outcomes, carcass use, and larval growth did not differ between carcass sources or among carcass taxa (mammal, bird, and reptile) despite the variation in the nutritional composition of carcass tissue. Finally, we found a larval quality-quantity trade-off across the range of lab and wild carcasses studied, and the larval life-history traits can shift depending on carcass size. Importantly, our study provides solid evidence validating decades of research using lab carcasses to study the reproductive ecology of burying beetles. We are excited to share our novel findings with the scientific community and we believe this paper will be of great interest to the readers.

We declare that this manuscript is original, has not been published before, and is not under consideration for publication elsewhere. We have no conflict of interest to disclose.

Thank you very much for considering our work and we look forward to publishing with *Ecology Letters*.

Sincerely,

Dr. Syuan-Jyun Sun

Assistant Professor

International Degree Program in Climate Change and Sustainable Development, National Taiwan University