*Thank you for continuing to consider our submission, please see our responses to the editors below in italics (or below each \*\*\*)*

==Editor comment==  
  
The proposed corrections by the authors are curious. Species, “time in ground”, and treatment all appear to be independent variables so, I do not understand what the authors mean by "We determined that the effect of the treatment was better predicted by species rather than time in the ground.”  I think what the authors are doing is trying to is predict whether survivorship and germination success in various plant species depends on treatment (fenced/unfenced), species of plant, and the amount of time in the ground.  However, the statistical methods are not explained in sufficient detail to really nail down how they were testing their hypotheses, and the way the proposed revisions are written seems to suggest that the authors aren’t clear on which variables are independent vs. dependent.

\*\*\*

*Thank you for requesting more clarification on this. Species, “time in ground,” and treatment can, indeed, all be considered independent explanatory variables for seedling survival. However, time in ground for each species was staggered due to fruiting phenology, and as can be shown in the following two figures (also included in amended supplementary material), this was tightly correlated to species, with little to no variation in time within a single species. Therefore, while it makes sense to test the interaction between time in ground and treatment as well as the interaction between treatment and species, testing for an interaction between species and time in ground, since they are tightly correlated, is not appropriate here. However, we did run three of the models that you specified to illustrate why we decided to proceed with testing within each individual species. In the table below, the full model improves the fit of a model that just has treatment, time, and their interaction. However, the full model does not improve the fit of a model that just has treatment, species, and their interaction.*

*The main issue seems to be that we need to clarify whether a seedling had lower survival because it was in the ground for a longer time. As can be seed by the second figure below (also included in our supplementary materials), there was not a decrease in survival as length of time in the ground increased. Survival patterns are staggered across these lengths of time.*



*Boxplot of #of days in ground for each group of seedlings by species of the seedlings. (Supplementary Figure 4)*



*Plot showing proportion of seedlings that survived in fenced versus unfenced plots for six tree species (arranged from left to right, from shortest time in the ground to longest) showing that time in ground did not decrease survival or increase treatment effect. (Supplementary figure 5)*

*Please see our revised Table 1a with relevant models (which we have pasted below). We show that adding time to the model with only species and treatment does not improve the fit of the model, rather, the model with only species and treatment remains the best fit of the three. Further, adding species to the model that only had time and treatment as predictive variables significantly improved the fit. This supports our decision to further analyze the treatment effects for each individual species, but does not support analyzing effects based on time.*

***Table 1a.*** *Generalized linear mixed effects model comparison; main effects included length of time seedlings were in the ground, fenced or unfenced treatment, and seedling species, as well as a treatment by species and a treatment by time interaction. The best fit model did not include a treatment by time interaction, indicating that the effect of treatment did not depend on the growing time duration for seedling species.*

|  |  |  |  |
| --- | --- | --- | --- |
| *Model* | *no. parameters* | *AICc* | *ΔAICc* |
| *treatment, species, treatment:species* | *13* | *608.45* | *0* |
| *treatment, time, species, treatment:species, treatment:time* | *15* | *610.34* | *1.89* |
| *treatment, time, treatment:time* | *5* | *762.53* | *158.1* |

Editor comment:

The best approach would be to include all possible models in the model fitting procedure and compare with AICc.  The authors seem to have selected a few models to compare but, in my experience, this is not an appropriate approach because the analysis begins with assumptions about which variables are important.  I’d suggest running the following models:  
  
Treatment  
Species  
Time  
Treatment Species  
Treatment Time  
Species Time  
Treatment Species Time  
Treatment Species Treatment\*Species  
Treatment Time Treatment\*Time  
Species Time Species\*Time  
Treatment Species Time Treatment\*Species  
Treatment Species Time Treatment\*Time  
Treatment Species Time Species\*Time  
Treatment Species Time Treatment\*Species Treatment\*Time  
Treatment Species Time Treatment\*Species Species\*Time  
Treatment Species Time Treatment\*Time Species\*Time  
Treatment Species Time Treatment\*Species Treatment\*Time Species\*Time  
  
This seems like the most thorough approach. I feel like the revisions might require that the authors retract acceptance and rework the manuscript.

*\*\*\**

*Thank you for being explicit with which models we should test. However, as we mention above, because species and time are so strongly correlated, it would not be appropriate to test models testing their interaction. The manuscript with Table 1 has been revised to reflect our changes above. Thank you again for taking the time to review this and offer suggestions, and thank you especially for continuing to consider our submission.*