

Figure S1. True skill statistic (TSS) values for niche-based modeling of *Dichotomius bos*, *Dichotomius nisus*, *Ontherus appendiculatus* and *Trichillum externepunctatum*.

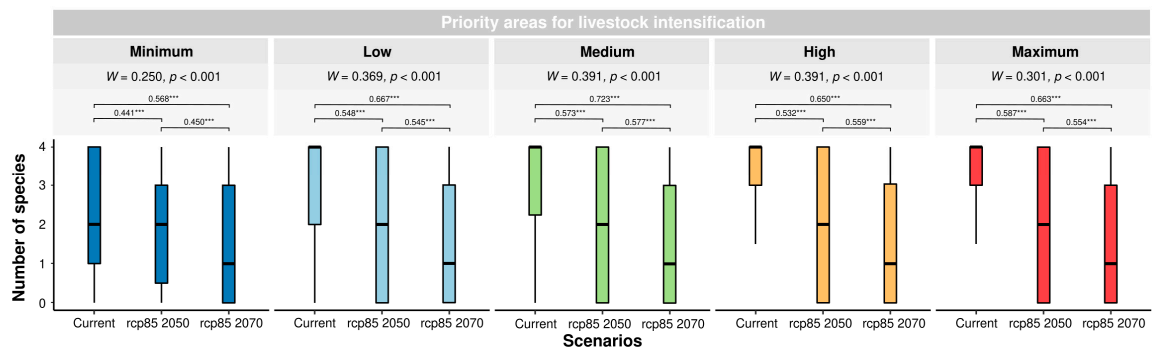


Figure S2. Number of key dung beetle species on priority areas for livestock intensification (*sensu* Barbosa et al., 2015) in the Present, 8.5 RCP 2050 and 2070 scenarios. *** Indicate pairwise significance of $p < 0.001$ between scenarios.

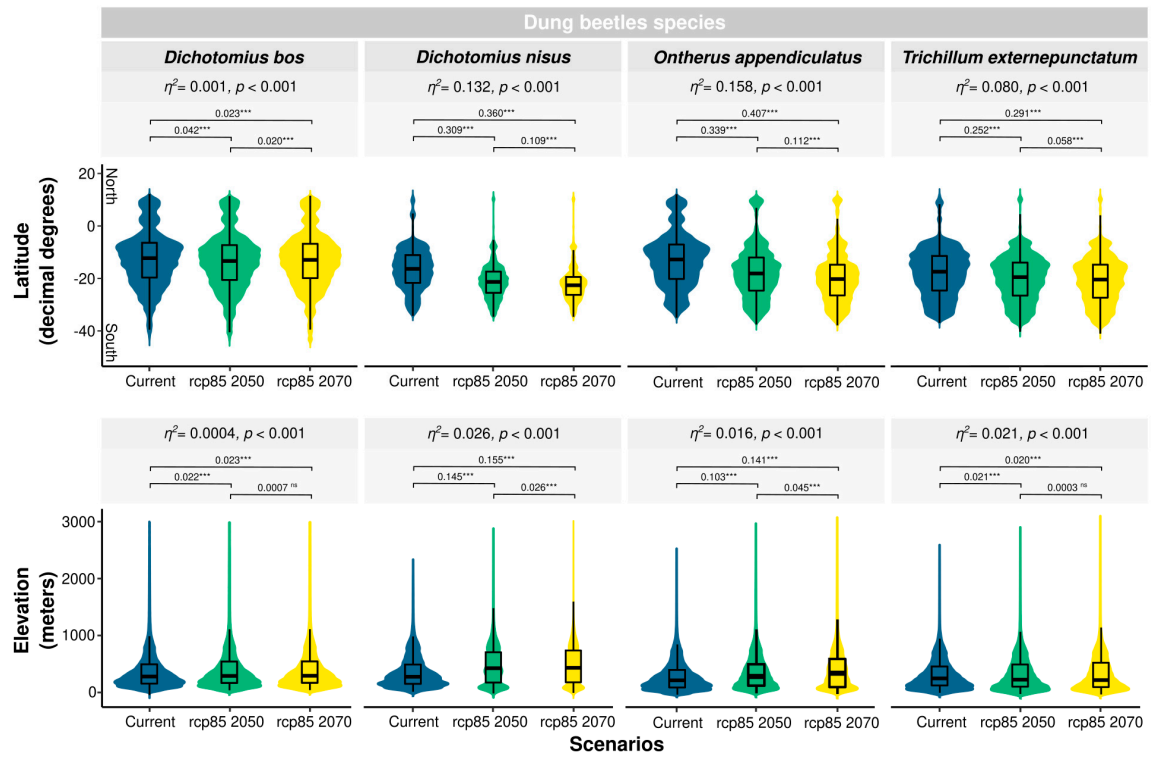


Figure S3. Effects of future climate change across latitude and elevation for dung beetles. *** Indicate pairwise significance of $p < 0.001$ between scenarios.