

OR132*Effects of habitat disturbance on the morphology of ant assemblages***Heloise Gibb**, Kate Parr, Nathan Sanders Rob Dunn

A functional traits-based understanding of organismal communities is critical for understanding the principles that underlie community assembly, and predicting likely responses of assemblages to environmental change. This is particularly true for terrestrial arthropods, of which only 20% are described and whose biology is poorly understood. Using a collaboration of over fifty ant researchers, we constructed a database containing the abundance of pitfall-trapped ants in over one thousand local assemblages around the globe. Morphological and life history traits were recorded for each species in a subset of these assemblages. We expected that habitat disturbance would alter habitat structure, resulting in changes in metrics of assemblage morphology due to species turnover. We tested the effect of habitat disturbance and climate-related covariates on the mean, variance and range of morphological traits of ant assemblages. Here, we focus on morphological traits representative of ant size and limb length. We also consider the role of phylogeny in determining morphological responses to disturbance. Our findings contribute to our growing understanding of the functional responses of species assemblages to habitat disturbance and enhance our ability to predict changes in assemblages in response to anthropogenic disturbance.