



CHINESE ACADEMY OF SCIENCES

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Dear Editor of Nature Ecology and Evolution,

My co-authors and I are pleased to submit our manuscript, *Genotypic variation in a foundation tree results in heritable ecological network structure*. The article examines the variation of interaction networks of lichen communities growing on the bark of genotyped cottonwood trees in a two decade long common garden experiment. Although there have been studies that explored the impact of genetic variation on ecological communities, including some that examined interaction networks, we are not aware of a study that has quantified network structure heritability, which is a key component for evolution by natural selection. Given the difficulty of obtaining ecological interaction network data, let alone replicated in space, this is not surprising, and we are confident that our work is unique in its combination of a genetics-based experiment with replicated network observations. We report that we found detectable broad-sense heritability of lichen interaction network similarity ($H^2 = 0.41$), which was strongly correlated with a heritable tree trait, bark roughness, but not bark chemistry traits (pH, tannin concentration and C/N ratio). As this study provides important insights at the interface of ecological and evolutionary dynamics, we believe that it is within the scope of *Nature Ecology and Evolution* and hope that you will consider it for publication. We look forward to your response and reviewer comments on this work.

Sincerely,

Dr. Matthew K. Lau, PhD.