

1135-92-676

A. N. Laubmeier* (anjlaubmeier@gmail.com). *Validating a Trait-Based Model for Predator-Prey Dynamics in a System of Terrestrial Arthropods.*

There is an immediate need for models which can predict the effect of changing ecological communities, either due to species loss or migration, on trophic interactions. However, in order to describe these effects, we rely on generalizable models with foundations in physical traits that can be observed across study systems. We therefore consider the Allometric Trophic Network (ATN) model, a Lotka-Volterra type model parameterized by body mass and motivate a variation on the ATN model which accounts for species habitat use and allows for interspecific predator interference. We estimate model parameters using population data from a greenhouse experiment explicitly designed for the validation of this model. We are particularly interested in the importance of habitat use in determining predators' effects on one another and the implications this might have for the design of field-level experiments.

This is a joint work with collaborators at the Swedish University of Agricultural Sciences in Uppsala and California State University, Monterey Bay. (Received September 12, 2017)