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K. Harrison Holmes* (khholmes@asu.edu), **Perry Olliver**, **Naomi M. Pier** and **John D. Nagy**. *Modeling an Experimental Analog to Metapopulation Dispersal*. Preliminary report.

Dispersal dynamics are a natural focus when researching metapopulations. However, dispersal parameters are difficult to pin down, even when modeling well-known metapopulations like that of American pikas (*O. princeps*) residing in discrete ore patches in Bodie, California. Andrew Smith and members of our lab have studied the Bodie pikas for decades, resulting in one of the strongest ecological data sets available. To improve current estimates for dispersal parameters, we have developed an experimental metapopulation of confused flour beetles (*T. confusum*), comprising discrete flour habitats connected by tubes to allow for movement among patches. We expect that experimentally verified models of *T. confusum* dispersal may later prove analogous to other systems, including that of Bodie. Here we show that dispersal is linear with respect to density and therefore innate, in that beetles actively seek out new habitat as opposed to simply blundering into patches. This informs the construction of a model in which Dennis *et al.*'s LPA (larvae, pupae, adults) equations govern individual patches, whereas innate dispersal governs movement among patches. The model performs well against dispersal trials performed in the experimental system over several months. (Received September 10, 2014)