1098-92-111 **Isaac Klapper*** (klapper@temple.edu), Department of Mathematics, Wachman Hall, Temple University, 1805 North Broad Street, Philadelphia, PA 19122, and **Jack Dockery** and **Hal Smith**. *Niche Partitioning Along an Environmental Gradient.*

Biological systematics studies suggest that species are discretized in niche space. That is, rather than seeing a smoothly varying continuum of organism types with respect to continuous environmental variations, instead observers find discrete species or clumps of species, with one clump separated from another in niche space by a gap. Here, using a simple one dimensional model with a smoothly varying environmental condition, we investigate conditions for a discrete niche partitioning instability of a continuously varying species structure in the context of asexually reproducing microbes. We find that significant perturbation of translational invariance is required for instability, but that conditions for such perturbations might reasonably occur, for example through influence of boundary conditions. (Received January 17, 2014)