

Abstract Submitted
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Population dynamics on heterogeneous bacterial substrates WOLFRAM MOBIUS, Department of Physics and FAS Center for Systems Biology, Harvard University, Cambridge, MA, ANDREW W. MURRAY, FAS Center for Systems Biology and Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA, DAVID R. NELSON, Department of Physics and FAS Center for Systems Biology, Harvard University, Cambridge, MA — How species invade new territories and how these range expansions influence the population's genotypes are important questions in the field of population genetics. The majority of work addressing these questions focuses on homogeneous environments. Much less is known about the population dynamics and population genetics when the environmental conditions are heterogeneous in space. To better understand range expansions in two-dimensional heterogeneous environments, we employ a system of bacteria and bacteriophage, the viruses of bacteria. Thereby, the bacteria constitute the environment in which a population of bacteriophages expands. The spread of phage constitutes itself in lysis of bacteria and thus formation of clear regions on bacterial lawns, called plaques. We study the population dynamics and genetics of the expanding phage for various patterns of environments.

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