

1158-92-91

Jim M Cushing* (cushing@math.arizona.edu), Department of Mathematics, 617 N Santa Rita Ave, Tucson, AZ 85721-0089. *Discrete time Darwinian models and an application to the evolution of post-reproduction survival.*

I will discuss the derivation and analysis of discrete time Darwinian dynamic models designed to address evolutionary trade-offs between reproductive effort and post-reproduction survival. A focus will be placed on the role of nonlinear density effects in determining circumstances under which evolution selects low or high post-reproduction survival (semelparity or iteroparity). The mathematical analysis utilizes bifurcation and stability theory methods. (Received February 23, 2020)