1125-92-1921   **Paul L Salceanu*** (`salceanu@louisiana.edu`), 217 Maxim Doucet Hall, 1401 Johnston Street, Lafayette, LA 70504, and **Azmy A Ackleh** and **Jim M Cushing**. *On the Dynamics of Evolutionary Competition Models.*

As exemplified by classic Lotka–Volterra theory, there are several canonical outcomes possible to a two species (interference) competitive interaction: coexistence, initial condition-dependent competitive exclusion of one species, or the global exclusion of one species. Evolutionary versions of Lotka–Volterra dynamics have been investigated in order to see the role that evolutionary adaptation can play in influencing the competitive outcome. For the most part, however, these investigations have been carried out by numerical simulations. We provide some rigorous mathematical criteria concerning the outcome of a competition between two species x_1 and x_2 when evolution is taken into account. Motivated by two classic experiments in which the outcome of two competing beetle species was observed to change due to phenotypic or genetic changes in one species, we consider the case when only the species x_2 can evolutionarily adapt. Using methods from persistence theory, we obtain criteria under which x_2 will persist and criteria under which x_1 will persist. (Received September 19, 2016)