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Ronald E. Mickens* (rohrrs@math.gatech.edu), Clark Atlanta University, Department of Physics, Atlanta, GA 30314. *Analysis of a Predator-Prey Model.*

A predator-prey model is constructed in which the birth and death rates for each population depends on the other population. The fixed-points are calculated and their local stability properties are determined. The possibility that a limit-cycle might exist is also investigated. The model is defined by the following system of ODE's:

$$\frac{dx}{dt} = \frac{a_1x}{1 + c_1y} - b_1(1 + c_2y)x^2 - c_3xy,$$

$$\frac{dy}{dt} = -\frac{a_2y}{1 + d_1x} + d_2xy.$$

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