**NONLINEAR DYNAMICAL BEHAVIORS OF A RATIO-DEPENDENT POPULATION MODEL: STABILITY, BIFURCATIONS AND CHAOS**

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**ABSTRACT**

Complex dynamics of a prey-predator system with Leslie type will be presented. First, the stability analysis will be given. Second, the bifurcations and chaotic behavior of the model will be discussed. Finally, numerical simulations will be shown to support and extend the theoretical results. The results obtained will be interpreted from the biological point of view.

**Keywords:**Prey-predator model, stability analysis, bifurcations, chaotic behavior

**References**

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