Harvesting Behavior in a Simulated Lotka-Volterra Model

An Availability Fallacy

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Abstract:
For the analysis presented in this paper we use an experiment to study human behavior in a simulated environment based on a simple Lotka-Volterra predator-prey model. The aim is to maximize the profit of the harvest of prey and predator simultaneously and to study the influence of different harvesting strategies on the outcome in terms economic performance.
The results of the empirical analysis show that the behavior of the participants is significantly dependent on the amount of available objects, independent of the revenue. Subjects perform efficiently according to the rules when valuable objects are prey, however behave significantly inefficient when high price objects are predator.

Keywords: Experimental Economics, Simulation Method, Predator Prey Model, Availability Behavior, Harvesting Strategies, Fallacy.