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## Modeling and analysis of a stage-structured food web model and refuge

By Jawad Kadhim, Zahraa / Abbas Majeed, Azhar

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | The dynamic relationship between predators and their prey has long been and will continue to be one of the dominant themes in both ecology and mathematical ecology due to its universal existence and importance. In this book, a food web model consisting of two predator-one stage structured prey involving Lotka-Volterra type of functional response and a prey refuge, is proposed and analyzed. For this model, it is assumed that the prey growth logistically in the absence of predator. The stage structure for the prey is one of the important factors that affect the extinction of the predator and divided into two classes known as mature and immature. Dynamics of interacting biological species has been studied in the past few decades from various angles. Many species become extinct and many others are at the verge of extinction due to several reasons like, over exploitation, over predation, mismanagement of natural resources etc. To save these species, suitable measures such as restriction on harvesting, creating reserve zones/refuges should be taken. The stability analysis and local bifurcation of this system are carried out analytically as well as numerically. | Format: Paperback | Language/Sprache: english | 80...



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