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DYNAMICS OF PREY-PREDATOR MODEL WITHHOLLING-TYPE II AND MODIFIED LESLIE-GOWER SCHEMES WITH PREY REFUGE

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ABSTRACT

A predator-prey system with Holling type II functional response and modified Leslie–Gower type dynamics incorporating constant proportion of prey refuge compared by considering the model without prey refuge is considered. In both cases condition for local asymptotic stability of positive equilibrium point of the system is discussed by non-dimensionalize the system and global asymptotic stability is proved by defining appropriate Dulac function. Numerical simulations are also carried out to verify the analytical results.

KEYWORDS: ***Refuge, Local and Global Stability; Limit Cycle , Modified Leslie-Gower& Dulac Function***

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