A Predator-Prey Model with Competitive Interaction amongst the Preys

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Abstract : A mathematical model is constructed to study the effect of predation on two competing species in which one of the competing species is a prey to the predator whilst the other species are not under predation. Conditions for the existence and stability of equilibrium solutions were determined. Numerical simulation results indicate the possibility of a stable coexistence of the three interacting species in form of stable oscillations under certain parameter values. We also noticed that under some certain parameter values, species under predation go into extinction.