
We report existence of mixed mode oscillations [MMO], crash-recovery-outbreak phenomena [CRO] and chaos in a predator-prey-scavenger model with Holling type II functional response and added competition. The prey is the primary source of the population dynamics. The scavenger feeds on the carcasses of the predator and also hunts the common prey, thus bringing in competition to the predator. We extend earlier predator-prey-scavenger models which had a type I functional response and without competition. The normalized equations can be set as a singularly perturbed system that can explain the observed CRO phenomenon. In addition we find MMO and period doubling route to chaos for both the CRO and MMO states of the system as we vary one of the system parameters. Numerical results show cascades of period doubling bifurcations and rich dynamics. We conjecture the existence of a folded singularity in the system that gives rise to canards. (Received February 10, 2014)