

1135-92-612

Mihiri De Silva, Lubbock, TX , and **Sophia Jang*** (sophia.jang@ttu.edu), Lubbock, TX
79409. *Period-doubling and Neimark-Sacker bifurcations in a larch budmoth population model.*

We investigate a discrete consumer-resource system based on a model originally proposed for studying the cyclic dynamics of the larch budmoth population in the Swiss Alps. It is shown that the moth population can persist indefinitely for all of the biologically feasible parameter values. Using intrinsic growth rate of the consumer population as a bifurcation parameter, we prove that the system can either undergo a period-doubling or a Neimark-Sacker bifurcation when the unique interior steady state loses its stability. (Received September 10, 2017)