N\_model.m is a function file of the dynamic system, and test\_stable.m is used to test the stability of equilibrium points. The plotting codes (fig2\_1, fig2\_2, fig\_Pawnee, fig\_Lamto) output the figures in the main text (fig2\_1/2, fig3) and the appendix (figs2) respectively.

betaof3.csv is a summary of the simulation results generated using the above MATLAB codes. Finally, R (fig\_sens.R) is used to plot the elasticity analysis graphs.

At the initial stage of model establishment, some parameters were simplified in expression. In the process of corresponding to experimental data, for the purpose of elasticity analysis, some parameters were disassembled or merged, resulting in some differences between the codes and the symbol selection in the final model.