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Lih-Ing W Roeger* (lih-ing.roeger@ttu.edu), Department of Mathematics and Statistics,
Texas Tech University, Box 41042, Lubbock, TX 79409-1042. *Dynamically consistent discrete-time
Lotka-Volterra models*. Preliminary report.

Discrete-time difference equation systems are derived from Lotka-Volterra differential equation systems using nonstandard finite difference schemes. The difference equations are dynamically consistent with their continuous counterparts. The positivity of solutions, monotonicity of solutions, and local stability of equilibria are all preserved. We generalize Liu and Elaydi's discrete-time Lotka-Volterra competition model [Journal of Computational Analysis and Applications, **3**: 53–73, 2001]. (Received September 01, 2009)