1125-34-2342Aladeen Al Basheer\* (albasha@clarkson.edu), Clarkson University, 8 Clarkson Ave 5815,<br/>POTSDAM, NY 13699, Rana D Parshad (rparshad@clarkson.edu), Clarkson University, 8<br/>Clarkson Ave 5815, potsdam, NY 13699, Emmanuel Quansah (quansaek@clarkson.edu),<br/>Clarkson University, 8 Clarkson Ave 5815, potsdam, NY , and Suman Bhowmick<br/>(bhowmis@clarkson.edu), Clarkson University, 8 Clarkson Ave 5815, potsdam, NY , and Suman Bhowmick<br/>(bhowmis@clarkson.edu), Clarkson University, 8 Clarkson Ave 5815, potsdam, 13699. Prey<br/>cannibalism alters the dynamics of Holling-Tanner-type predator-prey models.

Cannibalism, which is the act of killing and consumption of conspecifics, has been considered primarily in the predator, despite strong ecological evidence that it exists among prey. In the current manuscript, we investigate both the ODE and spatially explicit forms of a Holling–Tanner model, with ratio dependent functional response, and show that cannibalism in the predator provides a stabilizing influence as expected. However, when cannibalism in the prey is considered, we show that it cannot stabilize the unstable interior equilibrium in the ODE case, in certain parameter regime, but can destabilize the stable interior equilibrium, leading to a stable limit cycle or "life boat" mechanism, for prey. We also show that prey cannibalism can lead to pattern forming Turing dynamics, which is an impossibility without it. (Received September 20, 2016)