

**Kuang, Y.**

**Global stability of Gause-type predator-prey systems.** (English) Zbl 0742.92022  
*J. Math. Biol.* 28, No. 4, 463-474 (1990).

The following class of Gauss-type predator-prey models is considered

$$(1) \quad x' = xg(x) - \xi(y)p(x), \quad y' = \eta(y)(-\gamma + q(x)),$$

where  $x(t)$  and  $y(t)$  represent the prey and predator populations, respectively. The main aim of this paper is addressed to obtaining sufficient conditions under which the system (1) has a global asymptotically stable nontrivial equilibrium solution. Results are obtained via comparison techniques and Bendixson-Dulac's criterion.

Reviewer: [M.Lizana \(Caracas\)](#)

**MSC:**

- 92D40 Ecology
- 34D05 Asymptotic properties of solutions to ordinary differential equations
- 34C05 Topological structure of integral curves, singular points, limit cycles of ordinary differential equations

Cited in **1** Review  
Cited in **39** Documents

**Keywords:**

global stability; limit cycles; Gauss-type predator-prey models; global asymptotically stable nontrivial equilibrium solution; comparison techniques; Bendixson-Dulac's criterion

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