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**A note on attenuant cycles of population models with periodic carrying capacity.** (English)

Zbl 1056.92046

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Summary: We consider attenuant cycles of population models. This study concerns the second conjecture of *J. M. Cushing* and *S. M. Henson* [J. Difference Eq. Appl. 8, 1119-1120 (2002; Zbl 1023.39013)], which was recently resolved affirmatively by *S. M. Elaydi* and *R. Sacker* [Global stability of periodic orbits of nonautonomous difference equations in population biology and the Cushing-Henson conjectures. Proc. 8th Int. Conf. Diff. Eq., Brno (in press)]. They showed that the periodic fluctuations in the carrying capacity always reduce the average of population densities in the Beverton-Holt equation. We extend this result and give a class of population models in which the periodic fluctuations in the carrying capacity always reduce the average of population densities.

**MSC:**

92D25 Population dynamics (general)  
39A11 Stability of difference equations (MSC2000)  
39A10 Additive difference equations

Cited in **16** Documents

**Keywords:**

periodic difference equations; average population densities; concave functions; periodic fluctuations

**Full Text:** DOI