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Analysis of a predator-prey model
with disease in the predator species

In the paper we analyse a diffusive predator-prey model with disease in predator species proposed by Qiao et al. [1]. In the original article there appears a mistake in the procedure of the model undimensionalisation. We make a correction in this procedure and show that some changes in the model analysis are necessary to obtain results similar to those presented by Qiao et al.

We propose corrected conditions for global stability of one of the existing equilibria – disease free steady state and endemic state in the case without diffusion as well as in the model with diffusion. On the basis of the corrected analysis we present new stability results.

References

[1] M. Qiao, A. Liu, U. Foryś, *Qualitative analysis for a reaction-diffusion predator-prey model with disease in the prey species*, J. Appl. Math., Art. ID 236208 (2014), doi=10.1155/2014/236208.

[2] P. Radziński, U. Foryś, *Analysis of a predator-prey model with disease in the predator species*, Mathematica Applicanda 46(1) (2018), 137–147, doi=10.14708/ma.v46i1.6385.