

A generalized two-sex logistic model

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We provide a generalization of the logistic two-sex model with ephemeral pair-bonds and with stable couples without assuming any specific mathematical form for fertility, mortality and the mating function. In particular, we establish a necessary and sufficient condition on the fertility/mortality density dependent ratio that ensures the existence of the logistic behavior. Several differences and similarities between the two models are also provided.

References

- [1] M. Iannelli, M. Martcheva and F.A. Milner, *Gender-structured population modeling, mathematical methods, numerics and simulations* . SIAM, Philadelphia, PA, April 2005
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