

Peer Review

Review of: "An Elementary Microscopic Model of Sympatric Speciation"

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This is a well-written and interesting paper. The biology is well explained, and the hypotheses are clearly stated. Two models are studied. The first one is a classical mean-field model, and the second one is an individual-based spatial model. In what follows, I state a few comments and questions.

1. The authors may want to be more explicit about the differences and similarities in behavior between the two models. In particular, they should explain what we gain with the individual-based model.
2. The authors use a large diffusion rate in their simulations. How is this done? Do the birds hop around at a fast rate? What happens at a slow rate?
3. From my point of view, the simpler the model, the better. I am not sure explicit genomes are necessary. A newborn bird could have a beak size normally distributed around the beak size of its parent. I would also do without the energy level. All birds would have the same level, reproduce at the same rate, and die at the same rate. I believe the behavior of the model would be similar, but there would be fewer parameters to estimate.
4. I saw only one typo, four lines up from display (2): $x_{(-1)}$.

Declarations

Potential competing interests: No potential competing interests to declare.