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Phenotypic and genotypic competition models on lattice space

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Barreto *et al.* (2017) studied the rock-paper-scissors games (or cyclic competition games) by the dynamics of phenotypic and genotypic frequencies corresponding to three morphs of lizards. In their model they show that both dynamics have equal internal equilibrium but the genotypic model has wider parameter range for its stability compared to the phenotypic model.

Here, first of all, we investigate phenotypic and genotypic competition models with two-species. Then we consider the Barreto *et al.* model with different genotypic correspondence to three phenotypes. Lastly computer simulations for these models are carried out on lattice space and the effects of spatial structure are discussed.

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