

S4. Algorithm for searching ESS

We solve each case of the model for ESS $\theta^* = \{\tau^*, z^*\}$ by invading consecutive strategies. If the invading strategy wins then it becomes the new resident strategy. In the first round the strategies for such a competition are taken from the set of possible combinations of $\tau^I \in \{0, \Delta\tau^I, 2\Delta\tau^I, \dots, 120 - \Delta\tau^I, 120\}$ and $z^I \in \{0, \Delta z^I, 2\Delta z^I, \dots, 1 - \Delta z^I, 1\}$, where steps in a considered vector are $\Delta\tau^I = 2$ and $\Delta z^I = 0.02$. When all pairs are checked for invasion then we get a first approximation of the ESS strategy τ^{*I} and z^{*I} . In the next approximation new vectors of strategies are defined around τ^{*I} and z^{*I} , each with a radius that equals 2 times the previous step for a considered vector: $\tau^{II} \in \{\tau^{*I} - 2\Delta\tau^I, \tau^{*I} - 2\Delta\tau^I + \Delta\tau^{II}, \dots, \tau^{*I} + 2\Delta\tau^I - \Delta\tau^{II}, \tau^{*I} + 2\Delta\tau^I\}$, where $\Delta\tau^{II} = 4\Delta\tau^I/10$ is a new step; analogically $z^{II} \in \{z^{*I} - 2\Delta z^I, z^{*I} - 2\Delta z^I + \Delta z^{II}, \dots, z^{*I} + 2\Delta z^I - \Delta z^{II}, z^{*I} + 2\Delta z^I\}$, where $\Delta z^{II} = 4\Delta z^I/10$. Again, all possible pairs are checked for invasion giving the second approximation τ^{*II} and z^{*II} . The third, fourth, and fifth approximations are done analogically to the second approximation.