

Generalized reciprocity in spatially structured populations

Bernhard Voelkl^{*}

bernhard.voelkl@zoo.ox.ac.uk

WEB: homepage.univie.ac.at/bernhard.voelkl/

Generalized reciprocity has been proposed as a mechanism for enabling cooperation between unrelated individuals. It can be described by the rule “help somebody if you received help from someone”. It is simple and does not require extensive memory capacities nor individual recognition. As individuals are helping indiscriminately, such a system is vulnerable to defection by individuals who don't reciprocate. Yet, if reciprocators are more often the receivers of help than defectors, they can gain higher payoffs and defectors cannot prosper. While this cannot happen in well-mixed populations, spatial population structure can lead to conditions that favour faithful indiscriminate reciprocation.

^{*}Department of Zoology, University of Oxford, South Parks Road, Oxford, OX1 3PS, UNITED KINGDOM.