

# The joint evolution of movement and competition strategies

Pratik R. Gupte<sup>1#</sup>, Christoph F. G. Netz<sup>1#</sup>, and Franz J. Weissing<sup>1</sup>

# Equal contribution

## Affiliations

1. Groningen Institute for Evolutionary Life Sciences, University of Groningen, The Netherlands.

## Email Addresses

PRG: [p.r.gupte@rug.nl](mailto:p.r.gupte@rug.nl)

CFGN: [c.f.g.netz@rug.nl](mailto:c.f.g.netz@rug.nl)

FJW: [f.j.weissing@rug.nl](mailto:f.j.weissing@rug.nl)

## Running Title

Joint evolution of movement and competition

## Keywords

Animal movement, Intraspecific competition, Co-evolution, Foraging ecology, Kleptoparasitism, Individual based modelling, Ideal Free Distribution

## Type of Article

Letter

## Word Count

Abstract: 150

Main text: 6,200

Number of references: 63

Number of figures: 6

## Corresponding Author

Pratik R. Gupte

**Mailing Address:** Nijenborgh 7/5172.0581, 9747 AG Groningen, The Netherlands.

**Telephone:** +31655963016 **Email Address:** [p.r.gupte@rug.nl](mailto:p.r.gupte@rug.nl)

## Authorship Statement

PRG, CFGN, and FJW conceptualised the study and the manuscript. CFGN implemented the simulation models. PRG analysed simulation model output, and prepared figures and supplementary material. PRG wrote the manuscript with substantial input from CFGN and FJW.

## Data Statement

All data are derived from the Kleptomove simulation, whose model code can be found on Github: [github.com/pratikunterwegs/Kleptomove](https://github.com/pratikunterwegs/Kleptomove) and archived on Zenodo: [zenodo.org/record/4905476](https://zenodo.org/record/4905476). These data are available on the DataverseNL repository: [doi.org/10.34894/JFSC41](https://doi.org/10.34894/JFSC41). Code for data analysis and preparing the figures in the main text and Supplementary Material is available on Github: [github.com/pratikunterwegs/kleptomove-ms](https://github.com/pratikunterwegs/kleptomove-ms) and archived on Zenodo: [doi.org/10.5281/zenodo.4904497](https://doi.org/10.5281/zenodo.4904497).