

Supporting Information S1: Cheating in Mutualisms Survey Methods

To assess the current opinions on cheating within the ecology and evolutionary biology communities, we conducted an anonymous online survey by sending link to the evoldir and ecolog email lists. We obtained a total of 65 responses between March 28th and May 8th, 2013; the authors of this paper did not respond. The evoldir list reaches ~8K, and the ecolog list reaches ~10K.

The survey front page read:
Survey on cheating in mutualism

You are invited to participate in a survey on cheating in mutualism. We are part of a working group from the National Center for Ecological Analysis and Synthesis (NCEAS). Please see our names and institutional affiliations at the bottom of this consent document.

This study will take approximately 5 minutes of your time. You will be asked to complete an online survey about your views on the definition(s) of cheating in mutualistic species interactions.

Your decision to participate or decline participation in this study is completely voluntary and you have the right to terminate your participation at any time without penalty. You may skip any questions you do not wish to answer. If you do not wish to complete this survey just close your browser.

Your participation in this research will be completely confidential and any resulting data will be averaged and reported in aggregate. Possible outlets of dissemination may be through publication of survey results in a synthesis paper in a peer-reviewed publication. Although your participation in this research may not benefit you directly, it will engender a more representative view of how the scientific community perceives the concepts of cheating and mutualism. We believe that a description of those aggregated views will foster progress in a variety of associated disciplines.

There are no risks to individuals participating in this survey beyond those that exist in daily life.

If you have questions about this project, you may contact any of the project personnel listed below. If you have any questions about your rights as a participant in this study or any concerns or complaints, please contact any of the cognizant Institutional Review Boards listed at the bottom of this consent document.

Please print a copy of this consent form for your records, if you so desire.

I have read the above consent form, I certify that I am an evolutionary biologist and/or ecologist at least 18 years of age or older and, by clicking the submit button to enter the survey, I indicate my willingness to voluntarily take part in the study.

Our sincere thanks for making this research possible,

Representatives of the NCEAS working group on cheating in mutualism:

Maren Friesen, Michigan State University, 517-884-6947 or mfriesen@msu.edu

Joshua Ness, Skidmore College, 518-580-5080 or jness@skidmore.edu

Katy Heath, University of Illinois, 217-265-5473 or kheath@illinois.edu

Cognizant Institutional Review Boards (IRBs):

University of Illinois IRB: 217-333-2670 (collect calls accepted if you identify yourself as a research participant), or irb@illinois.edu

Michigan State University IRB: 517-355-2180 or irb@msu.edu

Skidmore College IRB: 518-580-5000 or irb@skidmore.edu

Individual Information

What field(s) do you study?

Please choose the field you predominantly work in.

Ecology

Evolution

Both ecology and evolution

Neither ecology nor evolution

What kind of work do you do?

Predominantly empirical

Predominantly theoretical

A combination of empirical and theoretical

None of the above

Do you study mutualism?

Yes, I study mutualism.

No, I do not study mutualism.

Do you study cheating?

Yes, I study cheating.

No, I do not study cheating.

What is your current occupation?

Professor

Post-doc

Graduate student

Undergraduate student

Technician

Other

Your views on cheating in mutualisms

How common is cheating in mutualisms?

1--5, Nonexistent -- Ubiquitous

How much of a threat does cheating pose for the persistence of mutualisms?

1--5, No threat -- Extreme threat

To determine whether an individual is a cheater, how often would you compare it to:
other individuals of the SAME species?

1--5, Never--Exclusively

individuals of a DIFFERENT species?

1--5, Never--Exclusively

NO partner?

1--5, Never--Exclusively

an "ideal" partner?

1--5, Never--Exclusively

Assess the following statements:

A cheater provides no reward.

1--5, Completely disagree--Completely agree

A cheater provides less reward than other potential partners.

1--5, Completely disagree--Completely agree

A cheater provides less than its fair share.

1--5, Completely disagree--Completely agree

A cheater takes a benefit but does not provide a reward.

1--5, Completely disagree--Completely agree

A cheater takes more reward than other potential partners.

1--5, Completely disagree--Completely agree

A cheater takes more than its fair share.

1--5, Completely disagree--Completely agree

A cheater has a higher reward taken : reward given ratio than other prospective partners.

1--5, Completely disagree--Completely agree

What characteristics define cheaters? Check all boxes that apply.

Cheating can be:

a choice for individuals that have the potential to cooperate.

a pure strategy for a genotype within a cooperative lineage.

a pure strategy for a species evolutionarily derived from a cooperative species.

a pure strategy for a species unrelated to the cooperative species.

Which statement best matches the way you would define a cheater?

A cheater is an individual that takes rewards from a partner but does not give anything in return.

A cheater is an individual that takes rewards from a partner but gives very little in return.

A cheater is an individual that gets a higher net benefit by decreasing the net benefit to the partner.