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Inclusive Fitness Theory Defended

ScienceDaily (Mar. 24, 2011) — In 1964, biologist William Hamilton introduced Inclusive Fitness Theory to predict and explain phenomena ranging from animal behavior to patterns of gene expression. With its many successes, the theory became a cornerstone for modern biology. In August 2010, Harvard researchers challenged the theory in the journal *Nature*. Now *Nature* has published sharp rebuttals from scores of scientists, including Edward Allen Herre and William Wcislo, staff scientists at the Smithsonian Tropical Research Institute.

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particularly when a paradigm has been as successful as Inclusive Fitness has been. Both the factual and theoretical basis of the case for their proposed alternatives falls apart with even mild scrutiny. They simply do not make their case. But their challenge is still useful because crucial parts of the theory come out stronger for having been tested, and researchers can better see where more studies are needed."

The Smithsonian has recently established formal collaborations with Arizona State University to study social insects and the phenomenon of eusociality. Researchers expect that this collaboration will produce studies with a direct bearing on the issues raised in this debate.

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Panama's wealth of insect biodiversity, makes it possible for researchers to compare the behavior of many different bee species. In this photo STRI staff scientist David Roubik interacts with a Melipona triplaris nest. (Credit: STRI)

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