

# PHILOSOPHICAL TRANSACTIONS B

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## **The evolution of cooperation based on direct fitness benefits**

A theme issue compiled and edited by Michael Taborsky, Joachim G Frommen and Christina Riehl

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## About this issue

Explanations of cooperation that are based on indirect fitness, which have dominated the theoretical and empirical literature for the past half century, cannot account for many examples of apparently altruistic behaviour observed in nature.

This theme issue brings together leading evolutionary theoreticians and empiricists to discuss complementary evolutionary mechanisms that can explain the frequent occurrence of cooperation among non-kin. With well-studied model systems from a wide range of taxa extending from insects to humans, and with theoretical treatments of the evolutionary stability of cooperation among unrelated individuals, we review the current understanding of cooperation that cannot be explained primarily by kin selection.

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**Front image:** Lake Tanganyika cichlids serve as a paradigm for reciprocal cooperation. Image provided by Michael Taborsky.

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