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HARMFUL BEHAVIOR MEDIATED BY PATHOGENS AND PARASITES

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Arguably, one of the most conflicting associations in the natural world is that between a parasite or pathogen and its host. Parasites (or pathogens, henceforth used interchangeably) and their hosts are expected to have conflicting interests, simply because parasite reproduction and transmission are performed at the expense of the hosts fitness. However, this may not always be the case. In fact, infected hosts can use their parasites as biological weapons to harm susceptible non-kin hosts, and increase their own relative fitness. What are the constraints to such harmful behavior? In this seminar, we will use mathematical models and biological systems to argue that the selective conditions for the evolution of harmful behavior mediated by parasites are much wider than previously expected.