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## [Globalisation may increase parasite virulence](#)

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The results of a study, partly undertaken by the University of Edinburgh, were published in Nature last week, providing for the first time solid reasons for the increased susceptibility of larger host populations to the evolution of more virulent parasite strains – strains associated with greater mortality rates.

Scientists at the Universities of Edinburgh, Oxford and Western Ontario employed mathematical, epidemiological models to simulate the evolution of parasitic virulence in response to varying factors, such as parasite reproductive and dispersal rates. Their results suggest that smaller, structured populations (where only limited dispersal is possible) select for less virulent parasitic strains; in contrast to larger populations, which promote the evolution of more virulent and dangerous parasitic forms. Furthermore, they reason that their findings are a consequence of increased competition for resources between individual parasites alongside a reduction in the benefits received by the parasite offspring.

Dr Andy Gardner of the University of Edinburgh's School of Biological Sciences, who took part in the research, said: "Parasites that typically cause minor illnesses today could evolve to become deadly in future. Our findings have important implications for a world in which humans and their parasites are increasingly mobile over a global scale."

-Stylianos Serghiou

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