

Video: 'Good bacteria' make diseases less deadly

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Defensive microbes could be used in the fight against disease. Credit: Dan Guy

In a new paper published in the journal *Nature Communications*, Oxford DPhil student Suzanne Ford from the Department of Zoology shows how the use of 'good bacteria' – or defensive microbes – could help fight diseases.

Using a <u>microscopic worm</u> infected both with a host-protective microbe and a harmful pathogen, the study demonstrates that the presence of a defensive microbe can force a pathogen to become less virulent.



Defensive microbes can also 'steal' <u>vital proteins</u> from pathogens to make themselves stronger, causing the pathogens to evolve to produce fewer such proteins. This, in turn, makes the defensive microbes weaker – but enough damage has already been done to the pathogen to stifle its future growth and virulence.

In a video produced by fellow Oxford DPhil student Sally Le Page for her 'Shed Science' YouTube series, Suzanne explains how, in the era of <u>antibiotic resistance</u>, alternative strategies for disease control are of the utmost importance.

More information: Suzanne A. Ford et al. Microbe-mediated host defence drives the evolution of reduced pathogen virulence, *Nature Communications* (2016). DOI: 10.1038/ncomms13430

Provided by University of Oxford

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