

MEDIA RELEASE

NEWS FROM THE UNIVERSITY OF TASMANIA

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ATTENTION: Chiefs of Staff, News Directors



Aggressive devils more likely to get sick

Evolving to become less aggressive could be the key to saving the Tasmanian devil from extinction, new research suggests.

The new study, published in the British Ecological Society's Journal of Animal Ecology tomorrow, found that the less often a devil gets bitten, the more likely it is to become infected with the Devil Facial Tumour Disease (DFTD) cancer.

According to lead author Dr Rodrigo Hamede, UTAS School of Zoology, "Our results – that devils with fewer bites are more likely to develop DFTD – were very surprising and counter-intuitive."

"In most infectious diseases there are so-called 'super-spreaders', a few individuals responsible for most of the transmission.

"But we found the more aggressive devils, rather than being super-spreaders, are super-receivers."

To find out whether biting frequency predicted acquiring DFTD, Dr Hamede and his colleagues set up dozens of devil traps at two sites for 10-day periods every three months between 2006 and 2010.

They then recorded the pattern of injuries in the devils and identified any tumours. One of the sites – West Pencil Pine – was selected because devils there seem to be less badly hit by the disease.

They made three discoveries: the level of bites was similar at both sites; devils with fewer bites were significantly more likely to develop DFTD; and most tumours occurred in devils' mouths.

"This means that more aggressive devils do not get bitten as often, but they bite the tumours of the less aggressive devils and become infected," explains Dr Hamede.

Because there is no treatment for, or vaccine against, DFTD, the findings and the next stage of the research have important implications for saving the species from extinction.

"Our next step is fascinating. First we need to explore the genetic differences that might be lessening the impact of DFTD in the West Pencil Pine devil

population. Second, we need more detailed data on devil behaviour to define 'shy' or 'bold' types.

“We could then use this information to develop a management strategy to reduce the spread of the disease by boosting natural selection of less aggressive, and therefore more resilient, devils.”

Understanding how infectious diseases spread is key to controlling them, but studying disease transmission in wild animals is often very difficult. And in DFTD, which is spread by biting, ecologists also need a better understanding of devil behaviour.

Devils are solitary yet social animals. They do not live in groups but meet each other often, either during mating, establishing social hierarchies or when feeding around carcasses - all occasions when they bite each other.

For a copy of the paper, or images of devils/Dr Hamede with a devil, please email chcooper@utas.edu.au

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