Wednesday 21 November 2018

Research suggests sex bias in ability to cope with deadly DFTD

New research suggests female Tasmanian devils have a much higher tolerance to the deadly transmissible Devil Facial Tumour Disease (DFTD) than males.

Researchers from the University of Tasmania's School of Natural Sciences studied two wild populations of devils in North West Tasmania over a three-year period.

The researchers trapped the devils seasonally to monitor how DFTD was progressing in those infected, following the changes in physiology and how fast the tumours were growing and affecting individual devils.

In particular, the team measured the cachexia, which is the decline of body condition associated with cancer.

Lead author and PhD candidate Manuel Ruiz said while the team found that as the disease progressed, with tumour sizes growing, the skinnier the animals became, it was the female's response to DFTD that came as a surprise.

"The most surprising and interesting result is that females lose much less body condition than males as the disease progresses," he said.

"This difference is up to five times.

"While males can lose up to 25% of their body weight because of the cancer, in females this impact is approximately 5-10%.

"Therefore, we suggest that female devils are much more tolerant to the cancer than male individuals."

University of Tasmania researchers joined colleagues from Chile and the US with the study ('Sex bias in ability to cope with cancer: Tasmanian devils and facial tumour disease') published today in *Proceedings of The Royal Society B: Biological Sciences.*

Mr Ruiz said the study's findings highlight the evolution of tumours and devils may be different in males and females.

“These results suggest female devils may have some ways to cope with the disease better than males,” he said.

Co-author Dr Rodrigo Hamede from the University of Tasmania’s School of Natural Sciences said during the last five years, several studies have demonstrated that devils are adapting to the DFTD epidemic.

“This is another layer of evidence showing that devils are learning to live with the cancer and that coexistence between devils and DFTD is a possible outcome,” he said.

Mr Ruiz said more research into how these differences in tolerance to the disease between males and females may affect the persistence of devils in the wild needed to be done.

“This will help to create a better understanding of how devils and tumours may be evolving in natural conditions, and how these findings may complement the current efforts to preserve the species,” he said.

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