

## Media Release

### Chiefs of Staff, News Directors

Wednesday, 31 August 2016

---

## Tasmanian Devils evolving in response to deadly facial tumours, research shows

Tasmanian devils may avoid extinction, with new evidence they are evolving genetic resistance to the deadly facial tumour disease.

An international team of scientists - including University of Tasmania wildlife ecologist Associate Professor Menna Jones – has discovered that two regions in the genomes of the iconic marsupials are changing in response to the rapid spread of Devil Facial Tumour Disease (DFTD), a fatal and transmissible cancer first detected in 1996.

Their findings have been published today in the journal *Nature Communications*.

Twenty years since its discovery, DFTD has wiped out an estimated 80 percent of all devils in Tasmania.

Associate Professor Jones established long-term field sites to study devils and a tissue archive in 1999. This archive, built with samples from her research group and from the State Government's Save the Tasmanian Devil Program, now represents one of the best resources globally for studying evolution of the disease.

In an international collaboration, evolutionary geneticist Andrew Storfer at Washington State University and genomicist Paul Hohenlohe at the University of Idaho compared the frequency of genes in specific regions of the old DNA to the frequency of genes in corresponding regions of DNA samples that were collected following DFTD emergence at three independent disease sites across Tasmania.

“We identified two small genomic regions in the DNA samples from all three of the recent collection sites that exhibited significant changes in response to the strong selection imposed by the disease,” Associate Professor Jones said.

“Five of seven genes in the two regions they identified were related to cancer or immune function in other mammals, suggesting that Tasmanian devils are indeed evolving resistance to DFTD.”

The researchers are currently in the process of identifying the specific functionality of the genomic regions identified in the study.

“We hope that in future, disease-free devils with apparently DFTD-resistant DNA can be bred to enhance the genetic diversity of insurance populations, in case devil reintroductions are needed in future,” she said.

## **MEDIA OPPORTUNITY**

Associate Professor Menna Jones will be available for interviews at 1pm today at the Life Sciences car park (off College Road), University’s Sandy Bay Campus.

She can also be reached by phoning 0407 815 606.

### **Information released by:**

University of Tasmania, Communications and Media Office

Phone: (03) 6226 2691

Email: [Media.Office@utas.edu.au](mailto:Media.Office@utas.edu.au)

Follow us on Twitter <https://twitter.com/utas>