



Loser or winner? The story of an unknown

Dario Rodriguez-Cubillo

¹ School of Natural Sciences, University of Tasmania, Hobart, Tasmania
² Bushfire and Natural Hazards CRC, East Melbourne, Victoria



Once upon a time...

Something like 8,000 years ago, Tasmania separated from mainland Australia. Species that occupied the same geographic range began a process of speciation. An example is *Eucalyptus delegatensis* subsp. *tasmaniensis* (EDST), which diverged from the mainland *Eucalyptus delegatensis* subsp. *delegatensis*, endemic to the Victorian Alps.

Through the mist, through the woods. It's a beast!

A lightning storm on 13rd January 2016 struck Tasmania, coinciding with a long-term drought. The fires spread rapidly due to low soil moisture and adverse weather conditions. Areas of the Central Plateau, in the Tasmanian Wilderness World Heritage Area, where fire was rare, were burnt (A).



To infinite and beyond.

Forests of EDST were severely burnt. This species is an unknown in fire ecology. Little research has been done about its post-fire recovery strategies.

"Understanding the responses of the Tasmanian landscape to global warming pressures is essential to align our prevailing fire management policies to the rapid changes in forest structure and flammability. Policy changes will lead into safeguarding people's security and the ecological and economic values of our natural assets" (Tasmania Fire Service, end-user, March 2019).



Hakuna matata!

We conducted a demographic field survey of forests of EDST in the Central Plateau in 2018 (B-C). Our initial analysis showed evidence of continued plant recruitment in unburnt forests (D-E). The main recovery strategy post-fire was aerial resprouting (F-H). Logging intensity had an impact on tree age (I).



Happily ever after...

EDST is recovering well, but it is still unknown whether more frequent fires could compromise its survival. Full results will be published soon. Watch this space!

A Landscape burnt in the Central Plateau of Tasmania during the 2016 lightning fires. **B-C** Demographic survey of EDST carried out in 2018 in the Central Plateau. **D** Example of seedling recruitment in an unburnt forest of EDST. **E** Close-up of one of the seedlings in picture D. **F** Aerial resprouting in a EDST tree. **G-H** Forests of EDST resprouting after a high-severity fire. **I** Logged stump in a high-severity area. Photos: A Dan Broun, B-I Dario Rodriguez-Cubillo.

