Gilbert's Potoroo particular for truffle-like fungi



So far as edible bush delicacies go, the Gilbert's Potoroo has a very refined taste. The majority of their diet is native truffle-like underground fungi, and as a result the presence of these fungi largely determines the survival and breeding of potoroos. With diminishing areas of suitable habitat, together with the impacts of bushfires and feral predators such as foxes and feral cats, the Gilbert's Potoroo is critically endangered. The species was first recorded for science in 1840 by the collector John Gilbert from whom the potoroo takes its scientific name. Once thought to be extinct, the species is now only found in a few small remaining pockets of south-coastal Western Australia.

Smaller in size than a quokka, and the smallest member of the kangaroo family, the shy yet engaging Gilbert's Potoroo has certainly captured the hearts and minds of those people working to save them. Conservationists are keen to raise awareness of the plight of this threatened species, and they've been prepared to go to extreme lengths to help the species. Dr Jackie Courtenay from the Gilbert's Potoroo Action Group once abseiled 160 metres down the side of a Perth city building to raise money and awareness of the Gilbert's Potoroo.

"I'm terrified of heights so this was a huge thing for me to do! But I am only one person on the Gilbert's Potoroo Action Group committee and ten others have also taken the plunge off the QV1 building in the last few years. The group has been going for 20 years now and what we're all doing is trying to help save the Gilbert's Potoroo, so it's very much a joint effort," said Dr Courtenay.

"...the world's rarest marsupial and Australia's rarest mammal..."

"Gilbert's Potoroo are thought to be the world's rarest marsupial and Australia's rarest mammal. As a digging mammal or 'ecosystem engineer' they fill an important role in the environment. Their digging aerates the soil, allows better water penetration, creates small holes that fill with leaf litter which assist plant germination and most importantly spreads the spores of the truffle-like fungi around in the environment. These fungi then form a relationship with plants which assists in nutrient transfer and plant health."





There are estimated to only be about 100-120 Gilbert's Potoroo remaining in the wild. The species has benefited hugely from conservation efforts and without these they would likely already be extinct. A large bushfire in 2015 almost wiped out the species, with conservation efforts focused on a previously established translocated population of Gilbert's Potoroo on the Bald Island Nature Reserve off the coast east of Albany in southern Western Australia.

"...Gilbert's Potoroo are one of 63 species likely to go extinct by 2041..."

"Gilbert's Potoroo have been identified as one of 63 species likely to go extinct by 2041 without ongoing recovery efforts and management so recovery actions are recognised for not only ensuring its survival up until now, but also as still required for ongoing survival."

"The creation of the Bald Island population by the State Government's Department of Biodiversity Conservation and Attractions (DBCA) starting in 2005 was a particularly critical conservation action without which the species would almost certainly have gone extinct as a result of the catastrophic 2015 bushfire at Two Peoples Bay," explained Dr Courtenay.



The recovery plan for the Gilbert's Potoroo aims to ensure that the genetic diversity of the species is maximised whilst increasing their population numbers. The Gilbert's Potoroo Action Group are hard at work raising awareness of the species' plight, and fundraising to support recovery efforts.

"DBCA need to ensure their genetic diversity to ensure the populations at the various locations are as healthy as possible. The number of populations of Gilbert's Potoroo also needs to increase, by finding at least one new location that has suitable vegetation and sufficient truffle-like fungi and where predators can be excluded or managed well enough to allow potoroos to survive," explained Dr Courtenay.





"The Gilbert's Potoroo Action Group have previously received State Government Natural Resource Management grants to fund population genetic work on all known populations of Gilbert's Potoroo, to provide information on the genetic diversity to help inform a population management strategy for the species that DBCA is developing. As a contribution to one of these grants, DNA Zoo Australia also assembled the genome of Gilbert's Potoroo."

Research has also been undertaken to try and better understand the presence of the truffle-like fungi in the unburnt and recovering burnt areas of the Two Peoples Bay area which was the site of the large 2015 bushfire.

With the support of the Gilbert's Potoroo Action Group via a Federal government Threatened Species Recovery Fund grant, DBCA also recently established another insurance population of potoroos on Middle Island off the coast of Esperance about 500 kilometres east of Two Peoples Bay.



"We've also supported DBCA to undertake a radio-tracking project at Two Peoples Bay to monitor the movement of Gilbert's Potoroo, and a camera trap project monitoring for feral cats. We're hoping to gain more grants and funding to further utilise innovative technology to help towards the conservation of the Gilbert's Potoroo," said Dr Courtenay.

"I'd encourage everyone to support the work of the Gilbert's Potoroo Action Group through donating, fundraising, volunteering, and following us on Facebook @gilbertspotorooactiongroup, Twitter @gilbertspotoroo, Instagram @gilbertspotoroo, and YouTube @PotorooOrg, to find out what is going on and help spread awareness about this delightful species."

To help support the work of the Gilbert's Potoroo Action Group, visit their website: https://www.potoroo.org/

Article by Dr Phil Tucak, <u>Wildlife Outreach Vet</u>. Images thanks to Dick Walker and the Gilbert's Potoroo Action Group.



