

BEEETLEMANIA

Living Fossil Found in the Porongurup

STORY ADAM MORRIS

It's been a long and winding evolutionary road for *Beutelius rutherfordi*. This very special beetle was recently found minding his own business deep in the bushland of the Porongurup, a short one hour's drive north of Albany.

The Porongurup, famous for its ancient granite outcrops and proximity to The Stirlings, is less widely known as one of the most biodiverse hotspots on the planet with over 750 native plant species and ten endemic animal species concentrated into just over 2500 hectares. These conditions, along with the Porongurup being mostly spared from human contact, apart from the Noongar first peoples, who are land's traditional custodians, are perfect for species such as *Beutelius rutherfordi*, as he's been allowed to exist mostly undisturbed for what could be more than 200 million years.

Loxley Fedec, a local naturalist, along with licensed fauna surveyor Bo Janmaat and geologist Lucia Quearry, are all members of the Friends of the Porongurup Range who regularly conduct fauna surveys in the area. Together they stumbled across a peculiar

looking beetle none of them had seen before. Everything collected in the pit traps is photographed and documented before a catch and release system is activated - which Loxley describes as being the best of both worlds where science meets conservation.

Loxley is a member of the South Coast Threatened Invertebrates Recovery Team (SCTIRT) and a member of the Friends of the Porongurup Range fauna survey team. Although Loxley is quick to point out that she is not officially a scientist, she does consider herself to be a naturalist and a conservation practitioner. She explains, "I guess my role with SCTIRT is to connect community with the scientists. I have gotten to meet some incredible scientists, those guys really are amazing and a huge help for local conservation. In turn we are able to assist them with field work and at their request we are able to send specimens for DNA sequencing and much more."

The mysterious identity of *Beutelius rutherfordi* turned out to be a head scratcher on the day and the team assembled were unable to place him, so Loxley posted to

iNaturalist where it received an identification. She then got in touch with Canadian entomologist Professor Steve Marshall who had visited the Porongurup five years earlier specifically looking for this very rare beetle. At the time Marshall wanted to photograph the beetle himself for his then upcoming book on beetle natural history, but *Beutelius rutherfordi* proved elusive and Professor Marshall left Australia empty handed and disappointed that the beetle had bested him.

Loxley says that Professor Marshall was equal parts amazed and thrilled when she sent him an image of the beetle to verify. Loxley acknowledges that although many West Australians are unaware of just what we have here on our doorstep regarding the super concentration of biodiversity in such a small area, the international scientific community has long recognised the southwest of Western Australia as a real frontier. Loxley believes what makes the area so unique is that the Porongurup is particularly ancient and is estimated to be 1.2 billion years old. It is itself along with the flora and fauna that exist upon it, a type of living fossil.

"Living fossil is a very apt description, especially for the beetle for sure but we often find what are known as Gondwanan relict species - good examples are Bothriembryon Land Snails and primitive Mygalomorph spiders. The Porongurup area is rich in Mygalomorphs (trapdoor spiders) which have their own incredible story and another great example is Velvet Worms (*Kumbudjena kaata*) but I haven't found one yet."

As for this special beetle family Loxley says they are now recognised as the oldest living Australian beetles - older than Gondwana itself. 200 million years ago they were more widespread but only four of the original eighteen species remain today. All four are endemic to Australia, with only one of the four found in Western Australia including right here in the Porongurup.

"They are rare, very rare, and knowledge of them is equally scarce. There are only 5 adult specimens and a single larva specimen in existence. The fact that it has been so well described and named from so few specimens is testimony to its importance. This critter is absolutely significant as far as beetles go but it is by no means the only critter to be amazed at in this ancient place."

Fauna surveyor Bo adds, "In the bigger picture, and considering the geological age of this area, exploring what we have here is just beginning. We have to take very special care of this ancient landscape as we continue to explore and discover, being careful not to disturb it."



OPPOSITE LEFT: The elusive and ancient *Beutelius rutherfordi*. PHOTO BO JANMAAT
OPPOSITE RIGHT: Licensed fauna surveyor Bo Janmaat and geologist Lucia Quearry with student Jarvis Smallman make careful observations before a specimen is released. PHOTO LOXLEY FEDEC
ABOVE: Measuring a tiny Honey Possum. PHOTO LOXLEY FEDEC

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