



# Package from the bush

An unlikely delivery from one scientist to another has provided valuable insight into what some consider Australia's prettiest wallaby.

STORY BY BRON WILLIS





A Yellow-footed Rock-wallaby. Photo by Jurgen and Christine Sohns/Minden Pictures

In August 2019, Bush Heritage ecologist Graeme Finlayson woke up to red dirt, the sweat of hard work permeating his clothes and granite-scattered horizons that framed the endless saltbush plains of Boolcoomatta Reserve, Adnyamathanha and Wiljakali country, west of Broken Hill.

A few hundred kilometres away at the University of Adelaide, doctoral researcher and plant expert Dr Adam Croxford began his workday surrounded by the sparse surfaces and white hues of a clinical laboratory. The settings couldn't be more contrasting – and yet they were soon to become closely connected.

A week or so later, a package arrived at Adam's lab. In it were hundreds of snap-lock bags containing ecological gold: the scats of Yellow-footed Rock-wallabies, feral goats and Euros from Boolcoomatta, the neighbouring Bimbowrie Conservation Reserve, and Plumbago and Mount Victor stations.

"Yellow-footed Rock-wallaby scats are quite distinctive," says Graeme. "They're torpedo-like, with a little tail."

But the Yellow-footed Rock-wallaby is not the only mammal to roam South Australia's stunning Olary Ranges, where Graeme and three other scientists gathered the scats over a one-week period. Euros and feral goats also inhabit the nooks and crannies of the ancient granite rocks. It's the relationship between these three species, in particular their diets, that Adam and Graeme are studying.

"One of the questions we asked in the study was 'are the wallabies, Euros and goats competing for the same food source?'" says Adam. "And we found a significant overlap in their diets, with them all eating chenopods (e.g. bluebushes), forbs (e.g. native daisies) and Acacia shrubs."

The Yellow-footed Rock-wallaby, known as *Andu* to Adnyamathanha people for which it is a totem species, is Australia's largest rock wallaby. According to Graeme, it's also the prettiest in the country.

"The patterning on their tail, the colouration on their face – they're a stunning animal," he says.

Once found in arid, rocky landscapes throughout Queensland, New South Wales and South Australia, the species is now limited to a few isolated populations. In 2017, a decade after Bush Heritage purchased Boolcoomatta, the wallabies began to be seen regularly on the reserve for the first time in over

90 years. Much to Graeme's pleasure, analysis of the scats at Adam's lab confirms their presence across the reserve.

"Previously, the wallabies had only been seen at one rocky outcrop on Boolcoomatta. But through the scat analysis, we confirmed Yellow-footed Rock-wallabies at two new locations there," says Graeme.

Of course, it's what the scats tell us about how to help the wallabies that Graeme really wants to know.

"If you really want to see more Yellow-footed Rock-wallabies on Boolcoomatta we need to address this competition for food that we now know occurs, particularly during times of drought," he says.

When the precious scats from the carefully mapped locations arrived in Adam Croxford's research lab, they were cause for some excitement.

"Scats can be really valuable, especially with modern DNA techniques," says Adam. "But they have to be carefully collected: you can store only one scat per bag, as cold and fresh as possible. The touch of a human hand would contaminate the data, so collectors turn the bag inside out, zip it up, label it with the GPS point – and send it off as soon as possible."

While Adam's University of Adelaide lab might be a vastly different setting to the plains of Boolcoomatta, the collection and the analysis are equally important parts of a larger collaboration.

"Partnerships between conservation groups like Bush Heritage and universities are so important," says Adam. "They bring together a lot of skills, each of which contributes to a complex story."

At the time of writing, Graeme and some of the collection team were preparing to return to the Olary Ranges to gather more scats, this time from a changed landscape: heavy Spring rains have transformed Boolcoomatta's drought-stricken plains and brought about a flush of fresh growth.

"What we really want to know now," says Adam, "is whether the three species' diets still overlap when the vegetation is flourishing. Do they have preferences? If you give them a choice, do they choose to eat different things?"

We're looking forward to finding out. ●

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