

2012, Rawlinson Range

We approached our friends at Ngaanyatjarra Land Council and the Rawlinson Range Project was soon underway. It proved to be a great success. The venue was superb; the grandeur of the Rawlinson Range, the Schwerin Mural Crescent and the other ranges is something very special.

Projects begin several years prior to the start date, with the Administration, Logistic and Pioneer groups negotiating with traditional owners, conducting recce visits before the project to confirm suitable areas and further interactions with traditional owners, then the establishment of a base camp site.

Our hosts, led by Mr. Bennett, looked after us (tourists as he called us) grandly and assisted us in all aspects of our field work including joint tracking exercises, goanna and witchetty grub hunting, visits to the Warakurna Art Gallery, the ochre pits near Karrku and a bat cave further north. Daisy Ward also took a group to her birthing place in the Schwerin Mural Crescent.

Although we were there primarily for flora and fauna field work, several of our participants spent time unravelling some of the mysteries of Giles' water sources.

During the three weeks of the project, our survey parties travelled approximately 700km on roads and tracks.

There were 117 people participating in the Project, as well as the Traditional Owners who guided and assisted with many and varied aspects towards planning and during the field activities.

Logistics

Two months prior to the Project date, all items were unloaded from the trailer and inspected for damage and suitability. Upgrades to showers, toilets and toilets were made. As camels were not expected to be a problem, the mesh cover and electric fence were happily left home.

The Great Central road was a bit severe on the trailer, requiring many stops to tighten bolts and inspect all moving parts. Despite keeping slow speeds due to the corrugations, a disc



brake fell off, several shackle bolts with nyloc nuts began loosening, as did some nuts on the axle U bolts. Stopping every 20 minutes for checking the trailer was required and, more often than not, an issue required remedial action.

The camp layout was discussed and marked out and unloading started. Teams were 'allocated' separate areas to assist with decentralising the camp and only one track allowed between them to reduce our impact on the landscape. Having the extra toilet enabled the three main areas to be serviced suitably. The showers, however, were kept central near the marquee for convenience of water cartage.

It was decided to erect the marquee early on the third day to avoid problems from strong winds, but after lunch on the second day, a suitable lull in winds coincided with a large group of willing hands and it was erected safely and in good time.

The first load of water arrived from Yirriya on the second day so we were functional with both showers and two of the three toilets in fantastic time.

Thanks were extended to all who contributed to the preparation, setting up, smooth running of equipment and the dismantling of the facilities.

The weather

Who could complain about the weather with maximums in the high 20's and low 30's in a beautiful part of WA. There were only two "sticky" nights during the three weeks which meant all participants were able to have a comfortable night's sleep. As could be expected in this part of the country, at this time of the year, the air was very dry meaning no dew in the mornings, even on the cold nights. The warmer weather encouraged the movement of the nocturnal animals and reptiles much to the delight of Clive and his team. This project was blessed with clear skies and for the most part, pleasant winds that made the warmer days bearable. The wind did gust from the north (41 kph) in the middle of the project, and again on the last day with recorded gusts at the camp in excess of 52 kph. The wind commenced on the Monday and was relentless throughout the night before increasing on the last day. The strongest gust recorded at the Giles weather station on Tuesday the 4th September was 69 kph from the WNW.

The project's leadership team was thankful that most of the project's participants had departed for home before the wind struck from the NW. It was as if the "country" was saying "it is time you white folk moved on."

Bird survey report

Summary

Between 10th August and 3rd September 2012, Desert Discovery members and invited observers undertook 393 bird surveys in the Desert Discovery Rawlinson Range Project region. One hundred and one bird species were recorded; there were more than 1500 individual records of birds. The bird survey component of the Rawlinson Range Project was notable for the large amount of country covered, the number of surveys completed, and the rigour of the bird survey methods embraced by volunteer observers. The bird surveys have

contributed significant data to BirdLife Australia's national Bird Atlas database, the single largest citizen science project in Australia, and provided a legacy of survey sites that might be repeatedly surveyed in the future.

Discussion

The 2012 Desert Discovery Rawlinson Range Project was conducted in the western end of the Central Ranges in the Gibson Desert in Western Australia, a region extending from Lake Christopher in the west to the Sandy Blight Track in the east, and including all or parts of the Rawlinson, Dixon, Carnegie and Walter James Ranges, and the Schwerin Mural Crescent. One of the aims of the Rawlinson Range Project (hereafter called the project) was to survey as much of the region as possible for birds. Desert Discovery members and experienced invited observers were invited to undertake bird surveys and opportunistically contribute incidental records. Bird surveys commenced as Desert Discovery members and invited observers moved into the project region and continued between 10th August and 3rd September 2012.

The project region was very large, and track access is only possible in some areas. Due to limited time and small numbers of observers, there could be no attempt to systematically survey the entire region. Rather, an attempt was made to survey thoroughly as many areas as possible. Surveys were either opportunistic or conducted at set distances along tracks. An attempt was also made to sample as many habitat types as possible.

The existing BirdLife Australia Atlas data were made available to Desert Discovery for the project region. These sites were scattered through some parts of the project region, and an attempt was made to repeat 2-hectare surveys in as many existing survey sites as possible.

The Rawlinson Range project region in the Gibson Desert is relatively remote



Brown Goshawk (Jiri Lochman) - at the Project, Brown Goshawks were almost entirely restricted to the Rawlinson Range. These birds of prey are specialist hunters, often hunting and striking small birds as they come into water or other places where they are vulnerable.



Pair of Dusky Grasswrens (Graham Goods) – a 'poster child' of the Rawlinson Range project, and sought after by birders and non-birders alike, these grasswrens are restricted to rocky ranges through central Australia.

and rarely surveyed for birds. The Desert Discovery project provided the first attempt to systematically survey the extended region. Despite access limitations in some areas and low numbers of observers, the surveys provided an insight into bird distribution and numbers. It is significant that 74% of all surveys (289 of 393) were conducted using the preferred 2-hectare bird survey method. This was an important result and provides a basis for repeatable surveys in the future. When seasonal conditions are taken into account, it seems likely that most of the bird species in the region were recorded. Given different seasonal conditions, including prolonged drought or particularly wet periods, recording rates and species numbers might be quite different.

Botany Report

The Rawlinson Range was the largest project Desert Discovery (DD) had ever tackled particularly in the size of the area we planned to survey. It was a massive task but through the commitment of everyone we were able to achieve all we set out to do. There were 15 -17 people involved doing various tasks, which all contributed to the end result. The final outcome, was 344 records with approximately 214 species collected, including the Sandy Blight Junction Track.

For the first time, we worked in partnership with the Western Australian Herbarium. They were extremely supportive and provided us with some of the presses, data sheets and guidelines for collecting.

At the completion of the Project, the presses were returned to the WA Herbarium for the specimens to be formally identified. Of the 344 specimens records, over 335 were photographed. These have been forwarded to the WA Herbarium for their use, including assisting with the identification process.

Operationally, one team operated out of base camp, which was approximately 30 kms from Warakurna. The second large contingent circumnavigated the Rawlinson Range over a period of nine days. Whenever possible, the large team broke into two parties and, while one group was climbing and working on the ranges, the other worked on the flat country. Even though this increased the diversity of species collected, it did bring to our notice some plants which had adapted to a variety



Goodenia vilmoriniae Graeme and Maree Goods



Calytrix carinata Graeme and Maree Goods

of geographical locations irrespective of where they were collected.



Acacia stronglyphylla at Glen Cummings Gorge
Trevor Blake

Weeds of the Rawlinson Range

Only two exotic species, Buffel Grass and Burrgrass, were collected in the Rawlinson Range area. Buffel Grass (*Cenchrus ciliaris*, sometimes called *Pennesetum ciliare*) was the most widespread. Around the Warakurna town and roadhouse, Wild Turnip and Afghan Melon were seen and two potentially invasive garden succulents, a Mother-of-millions and a Carrion Flower.

Hopefully, the lack of weeds encountered in winter 2012 might also indicate that most of the country is still free of invasive exotic species, and a weed plan resourced for vigilance and action might keep this splendid country in good ecological condition.



Buffel Grass (*Cenchrus ciliaris*) at Yirrarra C Nicholson

Rawlinson Range Project – Invertebrate Collections

Approximately 3000 invertebrate specimens (insects and spiders) were collected during the Desert Discovery Rawlinson Range Project in August 2012. All material collected has been lodged in the South Australian Museum entomology collection and has been pinned and labelled, or housed in vials of 75% ethanol. Some of the bee material collected in 100% ethanol will enable DNA extraction.

Of the collections made, ants, bees, beetles, plant-feeding bugs, moths and butterflies are presently being identified by various specialists from the South Australian Museum. Other specimens collected have been sorted to the level of Order and, in time, these will be identified and data-based as part of the Museum's collection. All material is now available for researchers from Australia and around the world to study.

It is anticipated that when the material is worked on by researchers, new species and extensions of known range will be discovered, however this may take time as regrettably many groups are not being studied at present.

A number of different methods were employed to collect invertebrate specimens including:

- vehicle net (known as Priscilla)
- malaise traps
- micro pitfalls
- vertebrate pitfall line
- honey baiting on trees
- hand collecting / netting / beating bushes
- black light
- dip net (in water)

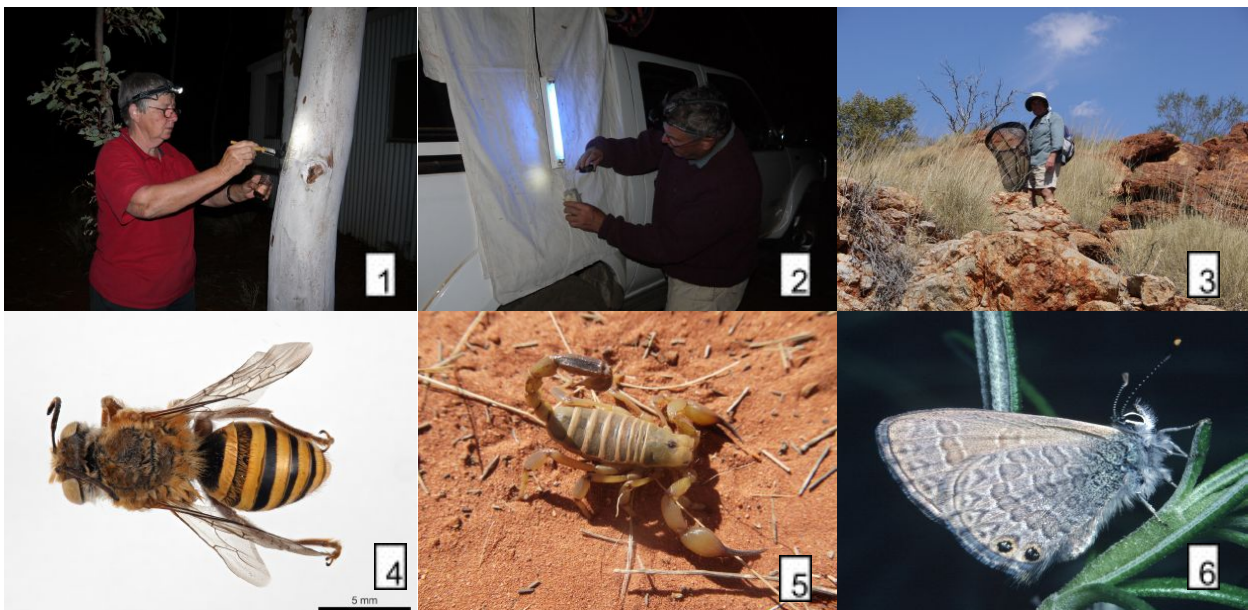


Fig 1 Honey baiting (Mike More); **Fig 2** Light trapping (Jan Forrest); **Fig 3** Butterfly net (Jan Forrest); **Fig 4** Striped Bee *Ctenocelletes tigris* (Jan Forrest); **Fig 5** Scorpion (Jan Forrest); **Fig 6** Double-spotted Lineblue Butterfly (Lindsay F Hunt)

Rawlinson Range Project Fauna Survey Report

Over the three weeks of the project period, fauna surveys were conducted on a total of 8 sites, each of which was selected as being representative of the various habitats found in that part of the Gibson Desert.

Survey Method

Survey methods included the use of Crouch Box Traps (300mm x 160 mm x 130 mm), Elliott Traps (330 x 90 x 100 mm), Pitfall Traps (consisting of a series of 20 L plastic buckets buried with the rim at ground level and connected with a 45 cm drift fence), spotlight and night vision equipment observations at night, detection of insectivorous bats using mist nets and Anabat, use of motion- and heat-sensor cameras, use of a 'drain' camera (for searching in hollows and crevices), systematic searching for reptiles (looking under logs, rocks and ground litter) and incidental sightings. The location of each site was determined with a hand held GPS receiver (Map Datum WGS 84—UTM Grid Reference).

In January 2011, the tail-end of Cyclone Yasi moved inland and deposited significant rainfall in many areas, including the Gibson Desert. This resulted in prolific plant growth and the grasses, particularly *Triodia* spp. Seeded prolifically. Thus, during the period of this project, native rodents, particularly *Notomys alexis*, *Pseudomys hermannsburgensis* and *P. desertor* were found to be common and widespread.

Populations of invertebrates, particularly insects and arachnids, also benefited from the prolific plant growth and, as a result, several species of small carnivorous marsupials, such as *Sminthopsis youngsoni* and *Ningauai ridei* were found in good numbers, along with records of *S. macroura* and *Pseudantechinus macdonnellensis*. Reptiles, of many species, were also found in good numbers.

Over the survey period, a total of 190 mammals and reptiles, of 50 species, were recorded, making this the most successful fauna survey of Desert Discovery Inc's 16 years of operation.



Black-footed Rock Wallaby (Jiri Lochman)



Centralian Blue Tongue (Colleen Barnes)

Working with the Traditional Owners

In August 2012, we had the privilege of travelling into Ngaanyatjarra Land in the Rawlinson Ranges WA, with the Desert Discovery Group.

Once there, we were introduced to the Traditional Owners (TO's) of this land. Mr. Bennett, his family and co-workers camped with us, as they were very interested in the surveys we were conducting, and wanted to teach us things too!

And wow, did they teach us! We went with them goanna hunting, witchetty grub hunting, and we had the honor of being taken to spiritual and sacred sites. We ate goanna and some were brave enough to have a go at the grub (not me). We also tried the native tomato; it was bitter and left a furry coating on our tongues.

We participated in an animal track survey, both in the sand and on the burnt country. We walked through spinifex up to our necks (for some of us "vertically challenged" persons), through dead bushes, up sand dunes and down again. The tracks ranged from those of the tiniest beetles to the very large camels. They knew them all.

After a few days trapping, Clive was disappointed that he hadn't found a Centralian Blue-tongue *Tiliqua multifasciata*. We told the TO's of this dilemma and sure enough, when they came back that afternoon they had a Blue-tongue. Clive was over the moon! They also found us a Thorny Devil *Moloch horridus*. We were all very excited to see that one. So small and soft!

We had the Warakurna and Tjukurla School students stay with us overnight. They were very excited to learn something different, like mammal trapping. They were so keen to learn more about all the different animals that were out there. But they taught me something too...how to make animal and human foot prints with my hand, how to run through spinifex barefoot (which I didn't try) and I was exhausted watching them play football!!! I think the girls won!

We were amazed by the women's craft work, their dedication to caring for their country and the work they do to preserve and protect their land for future generations.

The Anthropologists, Gemma and Astra, are to be commended for their commitment and dedication to the Traditional Owners traditions in their own country. Without their support and communication we would not have had the personal interaction with the TO's, which we thoroughly enjoyed.

We left the Rawlinson Ranges with many new friends, in awe of their many traditions, and look forward to the day we may return.



Tracking exercise (Colleen Barnes)

Giles' waterholes in the Rawlinson Range

In September 2012, Charlie Nicholson was in the Rawlinson Range as a guest of the Desert Discovery 2012 Project and the Ngaanyatjarra Traditional Owners, and was able to join several excursions on foot into the Range in attempts to locate the water features named by Ernest Giles in 1874 on the northern slope. The following are extracts from his extensive research and exploration of sites as compared to the current mapped locations.

During his Second Exploring Expedition, Giles spent a considerable time between January and July 1874 based at waterholes in the Rawlinson Range while he explored the surrounding country and probed into the desert to the west in his attempt to cross to the west coast. From a white Australian perspective, this was the scene of one of the most well-known Australian exploring tragedies, when his companion Gibson was lost in the adjacent desert that Giles named Gibson's Desert after him.

Apart from the historic interest in the waterholes Giles used and named, the question of their location and the accuracy of mapping is of ecological interest. Waters are key habitats, and mapping and being able to return to them are important for management and monitoring. It is also of practical concern, if "tourists" (the term Warakurna folk aptly apply to short term visitors to their country) are stranded and thirsty.

My focus is on the section from Yirriya at Luehmann's Springs to Circus Rockhole on the western end of the Range. This area was explored by Ernest Giles in 1874 when he named these springs and gorges. It must be noted that he did not discover any of this, and he wasn't the first to name it, as the Ngaanyatjarra people had occupied this country for possibly tens of thousands of years and had their own names and story and picture maps for all these features. In the fashion of his times, Giles simply appropriated them for naming as if they were his to bestow upon those from whom he received or sought patronage.

I have concluded (hopefully with less delusion than Giles when he staggered back to Circus and Fort McKellar after losing Gibson in the desert) that some changes to the official and the mapped locations of this series of waters and gorges must be considered.



Three Rawlinson Range springs, from Lake Christopher track. Yirriya at centre (C. Nicholson 18/8/12)

Conclusion

After an exhausting and challenging review of the information I and others gathered on site in the Rawlinson Range, the varying accounts given by Giles in his published journals, and the records of the nomenclature and mapping of the Rawlinson Range, I conclude that the official record of the waters and gorges named by Ernest Giles on his Second Expedition in 1874 requires correction in order to place his named sites where he found them, according to the list at the beginning of this discussion, subject to the fieldwork required, which must include the Ngaanyatjarra Traditional Owners, to confirm these proposed locations. These gorges, springs and waterholes are rare and key habitats in this desert ecosystem and they deserve to be clearly mapped and named for their protection and management.

Thanks from the President

First up, Desert Discovery would like to recognise those outside of the 'DD family' for their assistance in making the 2012 project a success.

Without a suitable venue we don't have a project, so thanks are due to Alex Knight of the Ngaanyatjarra Council (Aboriginal Affairs) Land & Culture and members of the Land Council for inviting us back at short notice when our original plans for our 2012 project faltered. The Ngaanyatjarra People were our hosts in 2010 for the successful Sykes Bluff Project. The Rawlinson Range country has been on our 'wish list' for many years and to be able to work there was a dream come true. Special thanks go to the Traditional Owners led by 'Mister Bennett' for opening their Lands to us and for making our stay so pleasant and rewarding. Ernest Bennett was ably supported by wife Lena Dawson, Mark and Maimee Butler, Winston and Anawari Mitchell, Cynthia Bourke, Paul and Michael Carnegie, Judith and Dianne Golding, Nancy Jackson, Brendon Lawson, Melanie Nelson, Terri-Anne Robinson and Daisy Ward. If I've missed any names, I apologise.

As this report shows, much was achieved. We at DD still have some learning to do to maximise the potential for joint field work but I believe we are making real progress. Our 'resident' Anthropologists, Gemma Aldred and Astra McKellow did an excellent job at keeping the two cultures working to advantage. Their presence aided our field work and enhanced our understanding of the country and its people. Their outback skills and work ethic were inspirational and admired by all participants. We look forward to working with them again some time soon.

One of our Aims is to involve students at our projects and on this occasion we were very successful with three groups attending. We would like to thank Principal Sandy Robertson and the Warakurna Remote Community School teachers for arranging the overnight visits of both primary and secondary students from the local schools. Thanks also to Ian Hewitt and Kevin Ross for organising the visit of nine students from Canberra Grammar School.

The ongoing support from the Department of Environment and Conservation for our projects in WA is appreciated. We'd like to make special mention of the team at the WA Herbarium

for their advice during the planning stage and for giving top priority to the identification of our collections.

Desert Discovery is a voluntary organisation and is only successful through the combined efforts of its members and friends. It is always a great team effort but there are some individuals who should be recognised formally. The committee, therefore, wishes to thank the following people for their efforts before and during the Rawlinson Range Project:-

- David Hewitt for his ongoing liaison in Alice Springs with Land Councils etc and for his involvement in the reces to establish a venue for the base camp and water sources.

- Ben Blomfield and his logistics team work tirelessly between projects ensuring our equipment is ready for the field. They had to grapple with a number of challenges with this project but the show went on.

- Ben Blomfield, Ross and Maureen Campbell for their involvement in the November 2011 recce of the Rawlinson Range area and, following the close of the 2012 project, the recce of the Tjirrkarli country for 2014. Eric and Joy Loughton also took part in the Tjirrkarli recce.

- Stuart Kostera for continuing to provide storage facilities in Perth, for our trailer and equipment.

- Libby Sakker for again agreeing to vet the articles for the project report to ensure conformity to standards and correctness of scientific names.

A special thanks to Mick and Judy Lumb for donating a Reconyx 550 White Flash camera for use by Clive's fauna team. This proved extremely useful in capturing the nocturnal activities of mammals.

Finally, thanks to the set up, knock down, firewood and water collection teams, the camp fire/supper organisers and to the folk who ferried the bulky plant presses back to Perth. One of our great strengths is the willingness of participants to make things happen.