

An Initial Field Survey of Reptiles within Scotia Reserve
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Introduction:

Scotia Sanctuary is 65, 000 ha property in South West New South Wales (Latitude 37 53 16 South and Longitude 1 45 02 77 East) which is managed by the staff from the Australian Wildlife Conservancy.

Within the property are two 4000 ha fenced areas which are in the process of becoming feral free. Within these fenced compounds are large fenced off areas that are breeding pens for some critically endangered mammal species including Stick Nest Rats *Leporillus conditor*, Mala's *Lagorchestes hirsutus*, Nail Tailed Wallabies *Onchogalea fraenata* and Bilbies *Macrotis lagotis*. These are known from the area by historical records and it is hoped that they will be re-introduced to the wild (within the feral free zone) shortly. Other species of mammals of conservation concern within the sanctuary are Numbats *Myrmecobius fasciatus*, Mallee Ningai *Ningaui yvonneae* and the Bolam's mouse *Pseudomys bolami*.

Methods:

The survey lasted at total 2 weeks from the 5th of April to the 20th of the month the temperature during the day was on average 28 degrees Celsius with an overnight low of 14. No rain occurred and it was generally sunny.

A total of 16 sites were to be surveyed of 4 habitat sites these where Mallee *Triodia*, Mallee Shrubland, *Casuarina pauper* open woodland and Scrubland. All four of the Mallee *Triodia* and *Casuarina pauper* open woodland sites were surveyed, 3 of the four Mallee Shrubland Sites and 2 of the Shrubland Sites. The reason two of the shrubland sites and one of the Mallee Shrubland site were not surveyed was due to time constraints. *Triodia* otherwise known as spinifex seems to be a must for a number of the reptile species within the sanctuary.

Each site was chosen by the Caretaker of the property to coincide with a further project. A site consisted of a series of pit fall buckets set out in a grid. Each grid measured approximately 100 metres X 100 metres. The determination of the centre of the site was by Global Positioning (a G.P.S waypoint) and measurements from there by a marked rope and two compasses. This was done to provide a uniform sized area for later estimations of population densities of fauna across the whole property.

Each row of pit fall traps had four 20 litre buckets with a 10-metre drift fence made from Nylon flywire centred above each bucket. The buckets were 30 metres apart in a straight line. 50 metres above and below the centre line was another identical row.

Sites were only open for one night and day at a time, the traps where checked at dusk of the morning of being opened and again at 6 am the next morning. Once all traps and sites had been checked in the morning they were then closed. Each trap contained a styrofoam cup or a toilet roll and some live mealworms for any animals (especially

small mammals) to help keep the trapped animals calm until release. Each animal was recorded and in some cases photographed on being released.

In addition to the pit falling, night driving on the tracks and hand searching during the day and night was undertaken to find other specimens and species that would not usually be pit falled such as arboreal Geckos and Large Snakes etc. Other methods also included a chain drag (This is where a chain is dragged over a sandy track and 24 hours later it is inspected for animal tracks) this was quite successful due to the fine sandy soil present.

A total of 28 species reptiles were recorded during the survey. An additional ten species of reptile and two frogs were identified from photographs taken within the sanctuary.

Troublesome species were keyed out in both (Swan & Wilson, 2003) and (Swan et al, 2004). Taxonomy follows (Swan et al, 2004).

Results:

Agamidae, Dragons.

All dragons pit falled where found in the dusk check, indicating they had been trapped during daylight hours.

***Amphibolurus nobbi coggeri*, Nobby Dragon**

One individual found by hand searching amongst the Mallee Shrubland site. It was basking at the base of a *Triodia* Clump.

***Ctenophorus fordi*, Mallee Sand Dragon**

Many individuals sighted and captured (both by hand and in the pit falls) amongst the Mallee *Triodia* Sites. It seems to be restricted to *Triodia*.

***Ctenophorus pictus*, Painted Dragon**

A total of 5 individuals were found all in the shrubland sites without *Triodia*, this was unusual as it commonly found in *Triodia* dominant habitats in Victoria. Four of the individuals (all reproductive males) were basking and/or perching, on a tractor tire, a termite mound, a fallen log and a roadside verge. The last specimen (a juvenile) was found under a sheet of corrugated iron.

***Pogona vitticeps*, Inland Bearded Dragon**

Of the 3 individuals found (one adult and two juveniles) one juvenile was pit falled in a Mallee Shrubland Site, another was found during a hand search of the same site and the adult was found basking on a stump in the shrubland site.

Gekkonidae, Geckos.

All geckos that were pit trapped, were recorded during the morning check of the traps indicating nocturnal activity.

***Diplodactylus damaeus*, Beaded Gecko**

The most numerous terrestrial gecko species, it was recorded from all sites but was most common in the Mallee *Triodia* site. It was also found whilst active on the road at

night as well as whilst hand held spotlighting and under corrugated iron during the day. The gecko tracks recorded during the chain drag were thought to be from this species, as they were observed to be identical to tracks made by the species whilst being observed at night.

***Gehyra variegata*, Tree Dtella**

Very common at the mess hall at night were 14 individuals were found on the walls catching insects and other arthropods attracted to lights. They were also recorded under flaking bark of fallen *Casuarina pauper*, and sheets of tin and in both the *C. pauper* woodland site and shrubland sites.

***Heteronotia binoei*, Prickly Gecko**

Very common under sheets of tin and fallen timber in the Shrubland site it was also recorded in the pit falls at the Shrubland sites.

***Nephrurus levis*, Smooth Knob Tailed Gecko**

Only two specimens were found and these were both caught in the pit lines at the Mallee Triodia sites. One specimen was partially eaten (the tail and a hind leg) by a young male Mallee Ningau (*N. yvonneae*) overnight, the lizard was dead on arrival to the pit fall lines that morning. The animals were both a pale orange rather than the more commonly found purplish individuals.

***Oedura marmorata*, Marbled Velvet Gecko**

Two individuals were found, both on the same night (13/04/2004) spotlighting with a torch by hand on the vertical trunk of a *C. pauper* with a *Triodia* understorey approximately 650 mm above the ground. The ambient air temperature was approximately 24 degrees Celsius and the sky was covered with patchy cloud and the moon had not yet risen.

***Rhynchoedura ornata*, Beaked Gecko**

Very common in all habitats in the pit fall traps.

***Strophurus elderi*, Jeweled Gecko**

One individual was found on a live *Triodia irritans* clumps. It was approximately 150mm above the ground on the edge of a small clump (500mm approximately round) it was found about 10 metres from the *O. marmorata* mentioned above.

***Strophurus williamsi*, Eastern Spiny Tailed Gecko**

Three Individuals were found all were approximately 1.5 metres above the ground in Wattle Shrubs (*Acacia burkittii*) they were on the edge of the shrubs/trees on the fine twigs hunting small arthropods.

Pygopodidae, Legless Lizards

***Delma australis*, Southern Legless Lizard**

One specimen pit failed in the Mallee *Triodia* site. It fell in the trap during the day.

Scincidae, Skinks

Almost all species (except one) were recorded in the pit falls occurred during the dusk check indicating diurnal activity patterns.

***Cryptoblepharus carnabyi*, Carnaby's Wall Skink**

Commonly seen on fallen trees in both the shrubland and *Casuarina pauper* woodland pit fall traps.

***Ctenotus atlas*, Skink**

One individual (a juvenile) found under a sheet of tin that was among *Triodia*. Of the seven specimens pit falled (All in the Mallee *Triodia* Sites), six were juveniles and the last a small adult. One additional specimen was observed basking in the top of a *Triodia* clump.

***Ctenotus brachyonyx*, Skink**

3 specimens were found, 2 in the pit lines in the Mallee *Triodia* sites and another found whilst basking at the base of a *Triodia* clump.

***Ctenotus regius*, Regal Striped Skink**

One specimen was found pit falled in the shrubland site. Three other specimens were found under sheets of tin in the same habitat.

***Ctenotus schomburgkii*, Skink**

With the exception of *Morethia boulengeri*, this was the most common species found. It was found in all habitats in both the pit fall traps, under cover and while basking.

***Egernia striolata*, Tree Skink**

Restricted to Shrubland and the *Casuarina pauper* woodland. 3 adults and one juvenile where trapped. Another was observed on a tree stump.

***Eremiascincus richardsonii*, Broad Banded Sand Swimmer**

Two juveniles and one adult were pit falled at the shrubland site. This was the only skink species that was active at night (picked up in the morning check).

***Lerista labialis*, Skink**

One specimen found in the pit line from the Mallee Shrubland site.

***Menetia greyii*, Grey's Skink**

Four specimens were pit falled in total, three of which came from the Mallee Shrubland site whilst the remaining came from the shrubland site. An additional active specimen was amongst leaf litter at the shrubland site.

***Morethia boulengeri*, Boulenger's Skink**

The most common reptile at Scotia. Found in all surveyed sites in the pit falls and in hand searching (both while basking and under cover) and while active.

***Morethia obscura*, Skink.**

Only recorded from one adult specimen pit falled at the Mallee *Triodia* site.

***Tiliqua rugosa*, Shingleback Lizard**

The remains of one specimen were found under a sheet of tin; most of the carcass was gone except for the head (scales mostly intact) and part of the shoulder.

Varanidae, Goannas

Varanus gouldii gouldii, Sand Monitor

Two live specimens and two additional deceased individuals were found in the shrubland sites. Both of the deceased monitors were tangled in the electrified fence.

Elapidae, Venomous Snakes

Suta nigriceps, Mitchell's Short Tailed Snake

One specimen pit failed in the Mallee shrubland site. The animal was found in the morning trap inspection indicating it had fallen in during the previous night.

Pseudechis australis, Mulga Snake

One specimen observed around the equipment shed. A snake track found from chain dragging was thought to be this species as well. The track indicated an approximate 1200mm long snake with a thick body and broad ventral scales. Whilst not yet recorded yet, it is possible that they could have been made by either a Western Brown Snake *Pseudonaja nuchalis* or an Eastern Brown *P. textilis* however this is doubtful due to the thickness of the track vs the approximated length of the snake.

Additional species recorded from Scotia but not in this survey:

Neobatrachus centralis, Trilling Frog

Neobatrachus pictus, Painted Frog

Diplodactylus vittatus, Stone Gecko

Pygopus schraderi, Eastern Hooded Scalyfoot

Egernia inornata, Desert Skink

Tiliqua occipitalis, Western Blue Tongue

Ramphotyphlops australis, Southern Blind Snake

Ramphotyphlops bituberculatus, Prong Snouted Blind Snake

Morelia spilota metcalfi, Inland Carpet Python

Pseudonaja modesta, Ringed Brown Snake

Suta suta, Curl Snake

Vermicella annulata, Bandy Bandy

Acknowledgements:

Thanks to Joss Bentley and Jamie Rockcliff of Australian Wildlife Conservancy for their Hospitality and for plant identification and the members from the Field Naturalist Group of Victoria with who this survey was conducted and Ian Kitchen for proofing the manuscript.

References:

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