FINAL REPORT

Tarin and North Tarin Rock BioBlitz











Wheatbelt Natural Resource Management Tarin and North Tarin Rock BioBlitz: Report October 2016

Acknowledgements:

Wheatbelt NRM would like to thank the following groups and individuals for their contributions and efforts in helping run the successful 2016 Tarin and North Tarin Rock BioBlitz.

- Claudia Hadlow the Dumbleyung Landcare Zone Manager for her ideas and assistance in planning and running the event on the day.
- Peter Lacey from the Department of Parks and Wildlife (DPaW) Narrogin Office for granting access to the Tarin and North Tarin Rock Nature Reserves during the event.
- Marissah Kruger from Department of Parks and Wildlife (DPaW) Katanning Office for her valuable assistance in selecting survey sites and providing background information and for her assistance on the day.
- **Colin and Ronnie Joyce** for allowing participants to camp on their property, and for their assistance before and during the event.
- **June Olmott of Patchies Catering** for catering on the Saturday evening to a very appreciative crowd.
- Kevin Powell, Rod and Jamie Frost for being our First Aid Officers over the weekend thankfully you were not needed.
- All the **Team Leaders and volunteers** for your invaluable assistance and good humor over the weekend we couldn't have done it without you!

Graphic design:

Wheathelt NRM

Amy Griffiths
Annie Slarke

Chris David

Haydn Hamilton

Jackie Courtenay

Kelly Thorburn

Leigh Whisson

Marissah Kruger

Michelle Slarke

Mike Griffiths

Paul Van Heurck

Peter White

Robin Campbell

COVER – Strated Pardelote (male), *Pardalotus striatus* substriatus (Aidan English)

Introduction	4
The Site	7
Survey Methodology	10
Results	12
Threats and Recommendations	14
Species List	16
References	38











7

INTRODUCTION

BACKGROUND

The 2016 Tarin Rock BioBlitz was the eleventh BioBlitz held in the Wheatbelt and was jointly organised by Wheatbelt NRM and the Dumbleyung Landcare Zone.

The collaborative, community-based, biological survey was held over 24 hours during the 8–9th October 2016 based around Tarin Rock and North Tarin Rock Nature Reserves. Surveys were also conducted in a nearby unnamed Nature Reserve (Res# 38379).

Professional and amateur biologists, ecologists and naturalists worked together as 'citizen scientists', conducting fieldwork with local community members and participants from across the South West, to discover more about this area's high conservation value bushland and biodiversity.

Information and data obtained during this BioBlitz will provide useful indicators of environmental quality to various stakeholders and serve as a baseline for future monitoring and management of the remnant bushland in the surrounding area.

This report summarises findings from the event, identifies various species found during the survey, and identifies environmental management issues.

PROJECT AIM

The aim of the 2016 Tarin Rock BioBlitz was to increase the local and broader community's interest in and awareness of the area's biological richness, while enhancing the community's skills and capacity for engaging in biodiversity conservation activities.

Activities that manage plants, animals and fire events have been ongoing in the bushland areas, with occasional bird, mammal and plant surveys being undertaken by keen locals. Ongoing management of the Nature Reserves has continued by the Department of Parks and Wildlife.

Wheatbelt NRM's involvement in jointly organising the Tari Rock BioBlitz helped reinforce key elements of its 3 Year Plan – to engage communities, including youth and research institutions, in biodiversity conservation activities in the Wheatbelt.

The BioBlitz concept is a cost-effective, volunteer and community-based event which provides a rapid assessment of site-specific biodiversity values and threats. This event aimed to gather information on the needs of various reserves in the area.

Volunteers taking part in the Tarin Rock BioBlitz were from various ages and vocations and included scientists, amateur naturalists, biologists, professional consultants, and university students. Most participants were enthusiastic amateurs. The educational benefits of the BioBlitz experience were enhanced with an all pervading sense of fun.

PROJECT GOALS

Primary Goals

- to engage with the local community on their own patch and build support for local conservation activities
- to collect data on as many species, and from as many taxonomic groups as possible, over a 24 hour time period
- to create a report summarising results from the survey, including prioritised management recommendations for the community to consider

Secondary Goals

- to bring various specialists with considerable and varied expertise to the rural community for scientific endeavor
- to build links between scientists and local community members, and between urban and rural residents
- to raise awareness of the rich biodiversity and conservation value of Tarin Rock, North Tarin Rock and surrounding areas
- to create local learning and networking opportunities around biodiversity by working alongside experienced practitioners to collect baseline biological information
- to have fun!



LIST OF PARTICIPANTS

The success of these BioBlitz events is partly due to the enormous efforts made by volunteers in both leading teams and assisting with the organization of the event on the day to travelling large distance from surrounding areas to participate in the activities.

Over 60 people participated in the 2016 Tarin Rock BioBlitz, there were many new faces alongside the core group of volunteers who regularly attend BioBlitzes in Western Australia.

Aidan English

Alexander White

Amy Griffiths

Angus Dempster

Annie Slarke

Beth Bartram

Bree Howard

Bridie Dempster

Chris David

Claire Hamersley

Claudia Hadlow

Daniel Giles

Diane Hatwell

Earle Wendt

Eloise Brown

Elsa Ritzema-Horton

Erika Clark

Erin Ladyman

Glenda Pearson

Hailey Taylor

Hanna Ward

Harriet Davie

Haydn Hamilton

Isaac Bamford

Isaac Ward

Jackie Courtenay

James Piper

Jamie Frost

Jason Horton

Jean Sloan

Jess Booker

Jessica Stingemore

Jill Clarke

Joel Clark

John Masters

Kelly Thorburn

Keven Giles Jr

Keven Giles Sr

Kevin Powell

Lara Osborne

Lara Osborne

Leah Bamford

Leigh Whisson

Liz Kington

Lyn Phillips

Lyn Taylor

Malcolm Ovans

Margaret Redfern

Marissah Kruger

Maryann Evetts

Melissa Howe

Michelle Slarke

Mike Griffiths

Paul Clark

Paul Van Heurck

Peter Giles

Peter Taylor

Peter White

Rachael Parker

Rex Adams

Robin Campbell

Rod Frost

Simon Dempster

Susie Stockwell

Taryn Brebner

Viktoriya Hlamazda

THE SITE

LOCATION

The Tarin Rock Bioblitz survey area was based about 25km west of Lake Grace located right on the boundary of the Avon River and Blackwood River Catchments and are within the Shires of Lake Grace and Dumbleyung. This area forms part of the globally significant Southwest Australia Ecoregion (SAE). The area is classified as a biodiversity hotspot due to its rich diversity of species which are under considerable threat. Clearing for agriculture has affected a high proportion of the region's vegetation, making it one of 25 biologically rich areas around the world that have lost at least 70% of their original habitat. Weeds, fire, feral animals (both herbivores and carnivores) and land clearing pose ongoing threats to the remaining vegetation and associated fauna in the region and the wider wheatbelt of the south west corner of Western Australia.

Tarin Rock area has a number of significant patches of remnant vegetation and includes the Tarin Rock and North Tarin Rock Nature Reserves as well as Reserve # 38379 these reserves totaled an area of 4,000ha that were partially surveyed during the BioBlitz. The main vegetation types in the reserves included: woodlands, mallees, tall shrublands, heathlands and breakaway associations.

A number of sites were selected for the survey based on these vegetation communities. Team leaders who specialise in various environmental fields then led small groups in activities to collect information on the plants and animals found in the area.



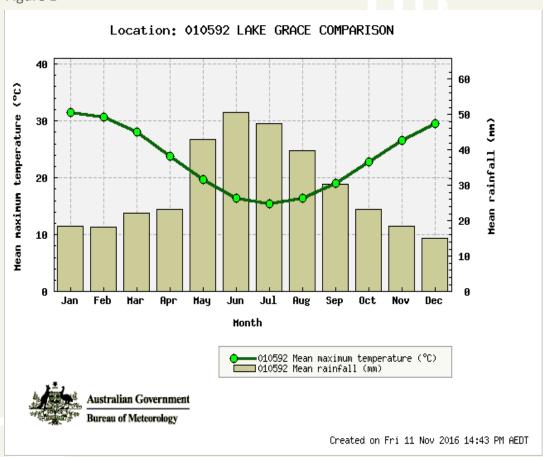
WEATHER CONDITIONS

The Wheatbelt climate is described as Mediterranean with cool moist winters with winter-predominant rainfall of 300–650mm per annum and hot dry summers with up 7–8 months of dry weather (*Beard*, 1990; *Grein*, 1995). The Shire of Lake Grace and Dumbleyung receives an average of between 350 and 40mm rain each year based on figures taken from the Lake Grace weather station 26km east of the camping site (*see Figure 1*).

Typical temperatures range from 5–16°C during winter months (June-August) and 13–31°C during summer (December-February) (*Bureau of Meteorology, 2016*).

Weather in the week leading up to the BioBlitz was 22–27°C and post the event 22-33°C. Both days of the event were overcast with cold, wet and windy conditions with temps reaching 19 and 17 °C. Unfortunately these conditions were not ideal for locating reptiles and birds or trapping animals as they we all keeping out of the wind and cold.





GEOLOGY AND SOILS

The area is part of the Yilgarn Block and broadly undulating with long gradual slopes and an altitudinal range of approximately 150m with a maximum elevation 430m at the trig point on Tarin Rock Nature Reserve. The area is underlain by granites and granitic gneisses covered by a mix of alluvial soils in the valleys, granitic white and yellow sands on the slopes, laterite cap rock on the ridges and with limited areas of white kaolinite clays below lateritic breakaways on North Tarin Rock Nature Reserve. The laterite generally resists erosion forming gently undulating hills and the valleys which contain seasonal watercourses, there is no permanent water on the reserves although pools may form during heavy rainfall.

REGIONAL SIGNIFICANCE

The areas clearing for agriculture has meant that the remaining natural vegetation patches are important refuges for plant and animal species in the area. Although the Shire of Lake Grace 10,380 km² and has extensive areas of remnant vegetation compared to other Wheatbelt shires, approximately 40% of the shire retains its remnant vegetation is still critical to the survival of animal and plant species in the area. Conversely Dumbleyung Shire has only approximately 13% of and only 6% of the shire is contained in shire reserves, nature reserves and crown land, the remaining 7% of the shire's remnant vegetation is owned by private landholders (Grein, 1995) and hence these patches are more critical for conservation in the region.

The two Shire's existing vegetation consists of heath, mallee-heath with small patches of woodland all provide important refuge habitats, for a number of species, including: Chuditch (Dasyurus geoffroii), Common Brushtail Possum (Trichosurus vulpecula), Honey Possum (Tarsipes rostratus), Western Pigmy Possum (Cercatetus concinnus), Western Mouse (Pseudomys occidentalis), and Red-tailed Phascogale (Phascogale calura). The area also provides nesting and feeding habitat for the Carnabys' Black Cockatoo (Calyptorhynchus latirostris).

The three reserves surveyed during the BioBlitz contain high quality examples of the remaining vegetation with high plant species diversity with very little disturbance except for small incursions of weeds from the farmland moving along drainage areas, the size of the reserves also allows foxes, cats and rabbits to potentially have an impact on native wildlife.

2 SURVEY METHODOLGY

The BioBlitz was preceded by an extensive period of preparation and consultation and site visits between Wheatbelt NRM staff the Dumbleyung Landcare Zone Manager and Department of Parks and Wildlife (DPaW) Conservation Officer.

The organisers along with team leaders identified likely habitats for flora and fauna between eight and ten 'team leaders' guided groups of up to ten volunteers to various locations on the Reserves throughout the weekend, with volunteers swapping between sessions and locations according to their skills or interests. Sometimes teams from different areas of interest joined forces and undertook field work alongside each other to improve survey efficiency. The Leaders answered a myriad of questions and generously shared their knowledge and were ultimately responsible for returning the final species datasheets to the BioBlitz coordinator at the end of each survey period or went away and followed up identifications on species seen during the weekend.

Nine motion sensing cameras were placed in strategic locations on Tarin and North Tarin Rock Nature Reserves for 42 nights before the event to capture species that might be difficult to identify over the 24 hour period of the BioBlitz.

Sixty Elliott traps were set for the one night using peanut paste and rolled oats as bait and were set on Saturday night and checked and pulled in on Sunday morning. Unfortunately due to the inclement weather conditions no animals were trapped.

Two Sites each with 6 pit traps (12 in total) and associated drift fences and 2 Sheffield Cage Traps (4 in total) and 6 small Elliott Traps (12 in total) baited with peanut paste and rolled oats were set at Tarin Rock Nature Reserve for a single night, also with no captures.

During the Weekend the first survey period was held on Saturday 12 September 2016, from 1:00pm to 6:00pm identifying plants, birds, reptiles and mammals.

The second survey period was held on Sunday 13 September 2016, from 6:00am to 7:30pm to check Elliott and pit traps and identify bird species.

The third session was also on Sunday, from 8.30am to 12.30pm again identifying plants, birds, reptiles and mammals.

Data collection was completed by 1:00pm on Sunday – the designated finish time for the 24 hour BioBlitz period. Additional effort in identification of invertebrates and confirmation of plant species took place by several team leaders after the event.

INTRODUCTION

SURVEY METHODOLGY

RESULTS



3 RESULTS

The 2016 Tarin Rock BioBlitz recorded 426 plant and animal species, including 9 mammals (4 introduced), 10 reptiles, 40 birds, 134 invertebrates, 212 plants (including 1 Threatened (T), 4 Priority 3 (P3), 1 Priority 2 (P2), 1 Priority 1 (P1) species and 1 Threatened Ecological Community (TEC) there were also 5 introduced weed species), 12 fungi and 7 lichen species. A full species list can be found in Species List.



FLORA

As an indication of the species biodiversity there has been over 900 species of plant recorded in the area of which there are 6 threatened and 49 priority species. The botany groups did a fantastic job in identifying 219 species from 92 Genus and 35 families in the 24 hour period they were given to work in. Two threatened plant species were identified in the area. There were also 12 different fungi and 7 lichen species found.

FAUNA

Surveys identified **scats** from Echidnas, Grey Kangaroos, Brush-tailed Possums, Foxes and Rabbits, evidence of the Western Mouse was found where chewed Quandong nuts were identified in large collections under dense bushes, which is typical of that species feeding habits. The lack of a bat specialist in attendance and that no nocturnal walk was conducted due to the inclement weather contributed to no bat species being identified during the surveys.

Footage from **motion sensing cameras** placed on the reserves prior to the surveys confirmed the presence of Brushtail Possums (*Trichosurus vulpecula*), Echidnas (*Trachyglossus aculeatus*) and Red-tailed Phascogale (*Phascogale calura*) a new record for North Tarin Rock Nature Reserve, other images included the Western Yellow Robin (*Eopsaltria australis griseogularis*) and Owlet Night-jar (*Aegotheles cristatus*). The cameras also identified the presence of **feral** foxes, cats, rabbits and house mice.

Considering the weekend's cool, damp and windy conditions, the **herpetology (reptile)** survey teams were very productive in identifying nine species of reptile and two frog species these included: Granite Worm Lizard (*Aprasia pulchella*), Fraser's Marbled-faced Delma (*Delma australis*), Frazer's Delma (*Delma fraseri*), Jan's Banded Snake (*Simoselaps bertholdi*) and the Southern Blindsnake (*Anilios australis*). One of the finds of the weekend were two Turtle Frogs (*Myobatrachus gouldii*), unfortunately these were found dead under a dense shrub.

The **ornothology (bird)** survey groups also did well identifying 37 species, including interesting records of a nesting Wedge-tailed Eagle (*Aquila audax*) with a nearly fledged chick, fledgling chicks of the Southern Scrub-robin (*Drymodes brunneopygia*) and motion sensing camera footage also showed the presence of the Western Yellow Robin.

The **entymology (insect)** groups found and identified 131 species of insect through searching through leaf litter and under rocks.

There were **no fish** identified during the survey.

THREATS & RECOMMENDATIONS

During this event a number of threats to biodiversity were identified. Opportunities for reducing these threats are broadly outlined below.

The Tarin Rock BioBlitz confirmed the area's high level of biodiversity and the very good condition of its remnant vegetation. The conservation value of the remaining patches is also high given the extent of native vegetation loss in the Shires of Dumbleyung and to a lesser extent Lake Grace and throughout the rest of the Wheatbelt.

Fragmentation is recognised as a serious threat to the long-term viability of bushland remnants in the Wheatbelt. Although the surveyed reserves lie on the boundary of the Shire of Lake Grace that retains 40% of its vegetation, the discontinuity of vegetation cover hinders species' movement and interferes with genetic distribution. Species in the isolated remnants are also more susceptible to catastrophic events such as fire which can wipe out remnant populations.

Five species of weeds were found during the BioBlitz. Weeds are a widespread problem in Wheatbelt remnants and direct treatment is unlikely to be practical or feasible. However, their spread can be minimised by curtailing disturbance of the remnant where possible. Early targeted control of problem weeds like Bridal Creeper can reduce its spread into the natural vegetation. Also management of overland water flow into the reserve can reduce the incursion of weeds along watercourses. Ongoing monitoring of weed occurrences in the native vegetation should be ongoing.

The five introduced plant species are considered environmental weeds in WA and should be monitored. These are Bridal Creeper (Asparagus asparagoides), Cape Weed (Arctotheca calendula), Wild Radish (Raphanus raphanistrum), Turnip Weed (Rapistrum rugosum) and Wild Oat (Avena fatua).



INTRODUCTION

SURVEY METHODOLGY **RESULTS**

SPECIES LIST

The presence of feral foxes, cats and rabbits was also noted during the BioBlitz. It is recommended the current feral animal control program is expanded where possible to form a broader coordinated predator and herbivore control program which includes private landholders, Shires and DPaW.

Foxes and cats have had a massive impact on native fauna in the Wheatbelt, especially species in the weight range between 55 grams to 5.5 kilograms (Johnson & Isaac, 2009), with many native species that fall into this weight range now being locally extinct. Those that remain are likely to be under considerable predation pressure from feral predators, and it can be assumed that native faunal diversity will continue to decline in their presence. Development of a strategic ongoing feral animal control involving surrounding landholders is recommended to reduce the pressure on the native fauna on the reserves and remaining vegetation in the area.

Ongoing monitoring of native animal populations using motion sensing cameras and then confirming the species presence using Elliott trapping is recommended especially in confirming evidence of the Western Mouse on Tarin Rock Nature Reserve and the camera footage of the Red-tailed Phascogale and Brush-tailed Possum on North Tarin Rock Nature Reserves.

Due to the extent of land clearing in the area and the isolation of some of the vegetation remnants it is recommended that the current efforts by landholders to develop and establish revegetation corridors that link these remnants be encouraged. Land managers should be encouraged to fence off remnants, revegetation sites and apply appropriate and coordinated fire, weed and feral animal control programs.



4 SPECIES LIST

PLANTS (212, 5 INTRODUCED)

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
ASPARAGACEAE			
*Asparagus asparagoides		Bridal Creeper	
Laxmannia grandiflora			
Laxmannia paleacea			
Lomandra sp. 1			
Thysanotus sp. 1			
Thysanotus sp. 2			
ASTERACEAE			
*Arctotheca calendula		Cape Weed	
Hyalosperma demissum			
Olearia ciliate		Fringed Daisy Bush	
Olearia muelleri		Goldfields Daisy	
Waitzia acuminate	Dangalang	Orange Immortelle	
BRASSICCEAE			
*Raphanus raphanistrum		Wild Radish	
*Rapistrum rugosum		Turnip Weed	
BORYACEAE			
Borya sphaerocephala		Pincushions	
CALASTRACEAE			
Stackhousia monogyna			
CASUARINACEAE			
Allocasuarina acutivalvis			
Allocasuarina campestris			
Allocasuarina corniculata			
Allocasuarina huegeliana	Kwowl	Rock Sheoak	
Allocasuarina humilis		Dwarf Sheoak	
Allocasuarina microstachya			

INTRODUCTION

SURVEY METHODOLGY

RESULTS

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Allocasuarina pinaster		Compass Bush	
CUPRESSACEAE			
Callitris canescens			
Callitris roei		Roe's Cypress Pine	
CYPERACEAE			
Lepidosperma sp. 1			
Mesomelaena sp. 1			
DILLENIACEAE			
Hibbertia sp. 1		Yellow Buttercup	
Hibbertia pungens			
DROSERACEAE			
Drosera macrantha		Bridal Rainbow	
Drosera subhirtella		Sunny Rainbow	
Drosera sp. 1 (flat)			
Drosera sp. 2			
ERICACEAE			
Astroloma pallidum		Kick Bush	
Leucopogon sp. 1			
Lysinema ciliatum		Curry Flower	
EUPHORBIACEAE			
Beyeria lechenaultii?		Pale Turpentine Bush	
FABACEAE			
Acacia acuminata	Mangart	Jam	
Acacia depressa		Echidna Wattle	Т
Acacia lasiocarpa		Panjang	
Acacia pulchella var. glaberrima			
Acacia sp. 1			

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Acacia sp. 2			
Acacia sp. 3			
Acacia sp. 4			
Acacia sp. 5			
Acacia sp. 6			
Acacia stenoptera		Narrow Winged Wattle	
Bossiaea sp. 1		(Hairy Pods)	
Chorizema sp. 1 (climber)			
Daviesia audax			
Daviesia sp. 1			
Daviesia tortuosa			P3
Gastrolobium spinosum		Prickly Poison	
Gastrolobium sp. 1			
Gastrolobium sp. 2			
Gastrolobium sp. 3			
Gastrolobium sp. 4			
Gastrolobium sp. 5			
Gastrolobium sp. 6			
Gompholobium sp. 1			
Pultenaea sp. 1			
Sphaerolobium linophyllum			
Templetonia rossii			
GOODENIACEAE			
Dampiera juncea		Rush-like Dampiera	
Dampiera sp. 1			
Dampiera sp. 2			
Dampiera sp. 3			
Goodenia affinis		Silver Goodenia	
Lechenaultia biloba		Blue Lechenaultia	
HAEMODORACEAE			
Anigozanthos humilis		Catspaw	
Conostylis sp. 1			

INTRODUCTION

SURVEY METHODOLGY

RESULTS

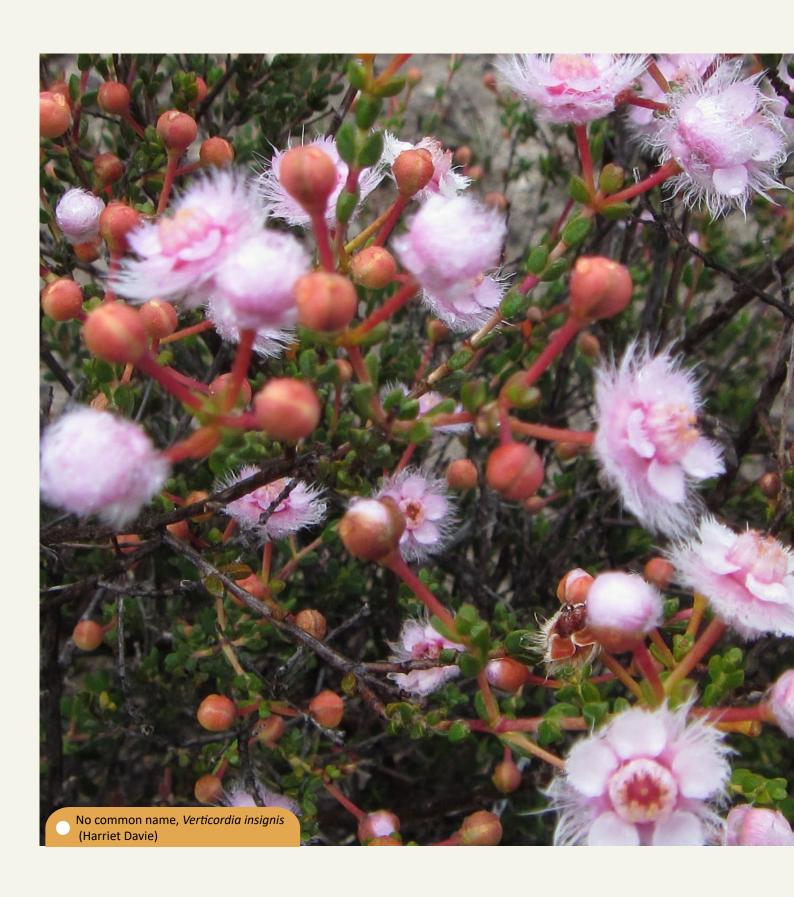
FAMILY, Genus, species, etc	Noongar Name	Common name	Status
HEMEROCALLIDACEAE			
Dianella revoluta	Mangard	Blueberry Lily	
JUNCACEAE			
Juncus sp. 1			
Juncus sp. 2			
LAMIACEAE			
Cyanostegia angustifolia		Tinsel-flower	
Chloanthes coccinea			
Dasymalla terminalis		Native Foxglove	
Hemigenia sp. 1			
Lachnostachys albicans			
LAURACEAE			
Cassytha sp. 1			
MALAVACEAE			
Guichenotia sp. 1			
Thomasia sp. 1			
MYRTACEAE			
Baeckia sp. 1			
Baeckia sp. 2			
Beaufortia incana		Grey-leaved Beaufortia	
Beaufortia micrantha		Little Bottlebrush	
Calothamnus quadrifidus	Kwowdjard	One-sided Bottlebrush	
Calytrix leschenaultii			
Chamelaucium megalopetalum		Large Waxflower	
Eremaea pauciflora			
Eucalyptus albida	Durditj	White-leaved Mallee	
Eucalyptus astringens		Brown Mallet	
Eucalyptus dorrienii		Silver Mallet	
Eucalyptus extensa			
Eucalyptus falcate	Dulyumuk	Silver Mallet	
Eucalyptus flocktoniae		Merrit	
Eucalyptus incrassata		Lerp Mallee	

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Eucalyptus longicornis		Red Morrel	P1 TEC
Eucalyptus loxophleba subsp. gratiae	Djaawit	Lake Grace York Gum	
Eucalyptus obesa		Ninety Mile Tank Mallee	
Eucalyptus phaenophylla			
Eucalyptus sporadica			
Eucalyptus tenera			
Eucalyptus salmonophloia	Wurak	Salmon Gum	
Eucalyptus sheathiana		Ribbon-bark Mallee	
Eucalyptus uncinata		Hooked-leaved Mallee	
Eucalyptus wandoo	Wornt	Wandoo	
Leptospermum erubescens		Roadside Teatree	
Leptospermum incanum			
Leptospermum inelegans			
Leptospermum nitens			
Leptospermum spinescens			
Melaleuca acuminata			
Melaleuca adnata			
Melaleuca eurystoma			
Melaleuca haplantha			
Melaleuca marginata			
Melaleuca procera			
Melaleuca pungens (type 1)			
Melaleuca scabra	Wurru Bush	Rough Honeymyrtle	
Melaleuca scalena			
Melaleuca sp. 1			
Melaleuca sp. 2			
Melaleuca sp. 3			
Melaleuca sparsiflora			
Melaleuca subtrigona			
Melaleuca tuberculata			
Lomandra sp. 1			
and the second s			
Regelia inops			

INTRODUCTION

SURVEY METHODOLGY

RESULTS



FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Verticordia chrysantha			
Verticordia grandiflora		Claw Featherflower	
Verticordia insignis			
Verticordia mitchelliana		Rapier Featherflower	
Verticordia ovalifolia			
Verticordia picta		Painted Featherflower	
MALVACEAE			
Guichenotia sp. 1			
ORCHIDACEAE			
Caladenia discoidea		Dancing Orchid	
Caladenia falcata			
Caladenia flava		Cowslip Orchid	
Caladenia roei		Ant Orchid	
Ericksonella saccharata		Sugar Orchid	
Pterostylis recurve		Jug Orchid	
Pterostylis sp. 1			
Diuris corymbosa			
Elythranthera brunonis		Purple Enamel Orchid	
Lyperanthus serratus		Rattle Beak Orchid	
Thelymitra maculata			
PITTOSPORACEAE			
Marianthus bicolor		Painted Marianthus	
POACEAE			
Austrostipa elegantissima			
Austrostipa sp. 1			
*Avena fatua		Wild Oat	
Neurachne alopecuroidea		Foxtail Mulga Grass	
POLYGALACEAE			
Comesperma sp. 1			
PROTEACEAE			
Adenanthos argyreus		Little Woolybush	
Adenanthos cygnorum		Common Woolybush	

INTRODUCTION

SURVEY METHODOLGY

RESULTS

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Banksia corvijuga			P3
Banksia cirsioides			
Banksia incana			
Banksia sphaerocarpa var. caesia			
Banksia sp. 1			
Banksia sp. 2			
Banksia sp. 3			
Banksia sp. 4			
Banksia violacea		Violet Banksia	
Banksia xylothemelia			Р3
Conospermum sp. 1	Boyur		
Grevillea cagiana		Red Toothbrushes	
Grevillea eryngloides		Curly Grevillea	
Grevillea hookeriana		Red Tooth Brushes	
Grevillea hookeriana subsp. hookeriana		Black Tooth Brushes	
Grevillea insignis		Wax Grevillea	
Grevillea uncinulata		Hook-leaf Grevillea	
Hakea brownie		Grass-leafed Hakea	
Hakea cygna			
Hakea erecta	djanja		
Hakea gilbertii			
Hakea hastata			
Hakea incrassata		Marble Hakea	
Hakea lissocarpha	djanja	Honey Bush	
Hakea multilineata	djanja		
Hakea newbeyana			
Hakea nitida		Frog Hakea	
Hakea obliqua		Needles and Corks	
Hakea pandanicarpa subsp. crassifolia			
Hakea scoparia	djanja		
Hakea subsulcata			
Isopogon teretifolius subsp. teretifolius		Nodding Cornflower	
Isopogon sp. 1			

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Isopogon sp. 2			
Lambertia ilicifolia		Holly-leaved Honeysuckle	
Persoonia sp. 1			
Persoonia sp. 2			
Petrophile glauca			
Petrophile sp. 1			
Petrophile sp. 2			
Synaphea tripartita			P3
RHAMNACEAE			
Trymalium sp. 1			
RUTACEAE			
Boronia ternate		Blue Boronia	
Boronia ternate var. austrofoliosa			
Phebalium sp. 1			
SANTALACEAE			
Exocarpos sparteus			
Leptomeria sp. 1			
Santalum acuminatum	Wongup	Quandong	
Santalum murrayanum		Bitter Quandong	
SAPINDACEAE			
Dodonaea caespitosa			
SCROPHURIACEAE			
Eremophila lehmanniana			
STYLIDACEAE			
Stylidium breviscapum		Boomerang Trigger Plant	
Stylidium caricifolium		Milkmaids	
Stylidium squamellosum		Maize Triggerplant	P2
XANTHORRHOEACEAE			
Calectasia sp. 1			
Xanthorrhoea nana	Bor	Dwarf Grasstree	

FUNGI (12) WOORDA

CONTENTS

FAMILY, Genus, species, etc	Common name	Status
Pycnoporus coccineus	Scarlet Bracket Fungus	
Coltricia cinnamomea	Tough Cinnamon Fungus	
Fomitiporia robusta	Wood Layered Bracket Fungus	
Sclerderma sp.	Earthballs	
Clavarias sp.	Coral Fungus	
Pisolithus albus	Green Puff Ball	
Poronia erici	Dung Buttons	
Plicaria sp.	Flat Black Cup Fungus	
Tulostoma sp.	Stalked Puffball	
Geastrum triplex	Collared Earthstar	
Pisolithus sp.	Dog Poo Fungus	
Amanita ochroterrea		

LICHENS (7)

FAMILY, Genus, species, etc	Common name	Status
Teloschistes chrysophthalmus	Golden Eye Lichen (Orange on Bark)	
Usnea scabrida	(Pale Cream to Green on Bark)	
Xanthoparmelia isidiigera		
Xanthoparmelia tasmanica	(Granite Rock Lichen)	
Caloplaca cinnabarina	(Orange Granite Rock Lichen)	
Flavoparmelia rutidota	(Green Flat Lichen on Bark)	
Lecidea ochroleuca		

BIRDS (40) DJIYAT

(Ordered by the 'Birdlife Australia Working List of Australian Birds' spreadsheet)

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Dromaius novaehollandiae	Waitj	Emu	
Leipoa ocellata	Ngawoo	Malleefowl	
Turnix varius varius	Mooroolang	Painted Button-quail	
Phaps chalcoptera	Moyitj	Common Bronzewing	
Ochyphaps lophotes whitlocki		Crested Pigeon	
Aquila audax	Warlitj	Wedge-tailed Eagle	
Falco cenchroides		Nankeen Kestral	
Cacatua pastinator pastinator	Manatj	Western Corella	
Eolophus roseicapilla roseicapilla		Galah	
Glossopsitta porphyrocephala		Purple-crowned Lorikeet	
Barnardius zonarius zonarius	Doornaat	Australian Ringneck, Port Lincoln Parrro	
Merops ornatus	Birrongawu	Rainbow Bee-eater	
Aegotheles cristatus cristatus	Yaartj	Australian Owlet Nightjar	
Chalcites lucidus plagosus		Australian Shining Bronze-cuckoor	
Hirundo neoxena cateri	Boodi-boodi	Welcome Swallow	
Rhipidura fuliginosa pressi		Grey Fantail	
Rhipidura leucophrys leucophrys	Djidi-Djidi	Willy Wagtail	
Eopsaltria australis griseogularis		Western Yellow Robin	
Pachycephala pectoralis		Golden Whistler	
Pachycephala rufiventris rufiventris		Rufous Whistler	
Colluricincla harmonica rufuventris		Grey Shrike-thrush	
Drymodes brunneopygia		Southern Scrub-robin	
Pomoatostomus superciliosus ashbyi		White-browed Babbler	
Calamanthus cautus whitlocki		Shy Heathwren	
Gerygone fusca fusca		Western Gerygone	
Smicrornis brevirostris occidentalis		Weebill	
Malurus pulcherrimus		Blue Breasted Fairy-wren	
	*		

INTRODUCTION

SURVEY METHODOLGY

RESULTS

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Daphoenositta chrysoptera		Varied Sitella	
Dicaeum hirundinaceum hirundinaceum		Mistletoebird	
Melithreptus brevirostris leucogenys		Western Brown-headed Honeyeater	
Gliciphila melanops		Tawny-crowned Honeyeater	
Lichmera indistincta indistincta		Brown Honeyeater	
Lichenostomus virescens		Singing Honeyeater	
Lichenostomus cratitius occidentalis		Purple-gaped Honeyeater	
Phylidonyris niger gouldii		White-cheeked Honeyeater	
Anthochaera carunculata woodwardi		Red Wattle Bird	
Strepera versicolor		Grey Currawong	
Cracticus tibicen dorsalis	Kulbardi	Australian Magpie	
Cracticus torquatus	Kwadalang	Grey Butcherbird	
Pardalotus striatus substriatus		Striated Pardalote	





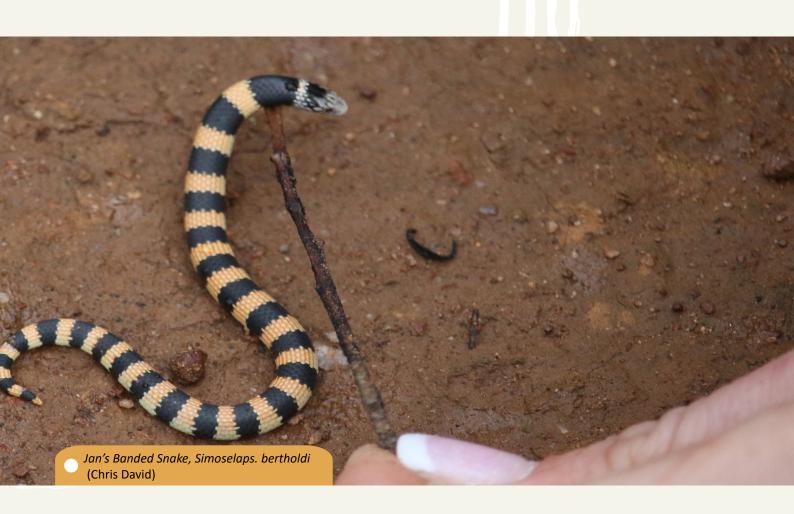
FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Crenodactilus occilatus	Bibdool (general)	Clawless Gecko	
Delma australis		Marble Faced Delma	
Delma fraserii		Frazer's Delma	
Morethia obscura	Djidong (general)	Shrubland Snake Eyed Skink	
Tiliqua occipitalis	Dilit	Western Blue—tounged Lizard	
Tiliqua rugosa rugosa	Yooran	Bobtail	
Pagona minor minor	Badart	Dwarf Bearded Dragon	
Varanus gouldii	Karda	Gould's Goanna	
Anilios australis		Southern Blindsnake	
Simoselaps bertholdi		Jan's Banded Snake	

FROGS (2)

FAMILY, Genus, species, etc	Common name	Status
Linodynastes dorsalis	Banjo Frog	
Myobatrachus gouldii	Turtle Frog	

MAMMALS (9, * 4 FERALS)

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Trachyglossus aculeatus	Nyingarn	Echidna	
Pseudomys occidentalis		Western Mouse	
Phascogale calura		Red-tailed Phascogale	
Trichosurus vulpecula	Koomal	Brush-tailed Possum	
Macropus fuliginosus	Yonga	Western Grey Kangaroo	
* Vulpes vulpes		Fox	
* Felis catus		Cat	
* Oryctolargos cuniculus	walyo	Rabbit	
* Mus domesticus		House Mouse	



INSECTS (134)

CONTENTS

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
ACARINA			
Acarina msp. 01		Red Furry Mite	
ARANEAE			
Araneidae msp. 01		Tiny Black Orb-weaver Spider	
Cryptothelidae msp. 01		Warty Crab Spider	
Desidae Badumna sp. msp. 01		Black Lace-web Spider	
Desidae <i>Badumna sp.</i> msp. 02		North Tarin Rock Lace-web Spider	
Desidae <i>Badumna sp.</i> msp. 03		Tarin Rock Lace-web Spider	
Desidae <i>Badumna sp.</i> msp. 04		Lace-Web Spider	
Gnaphosidae msp. 01		North Tarin Rock Sac Spider	
Gnaphosidae msp. 02		North Tarin Rock Flat Sac Spider	
Gnaphosidae msp. 03		North Tarin Rock Creekline Sac Spider	
Gnaphosidae msp. 04		Creekline Sac Spider	
Gnaphosidae msp. 05		White-striped Wasp Mimicking Spider	
Gnaphosidae Supanna albopunctata		Wasp Mimicking Sac Spider	
Heteropodidae msp. 01		North Tarin Rock Grey Huntsman Spider	
Heteropodidae msp. 02 female		North Tarin Rock Huntsman Spider	
Heteropodidae msp. 02 female		North Tarin Rock Creekline Huntsman Spider	
Lycosidae msp. 01		North Tarin Rock Wolf Spide	
Mygalomorphae <i>Aganippe sp.</i> msp. 04		Old Twig Entrance Burrow	
Mygalomorphae <i>Chenistonia sp.</i> msp. 02		Wishbone Trapdoor Spider Burrow	
Mygalomorphae msp. 01		Trapdoor Spider Burrow	
Mygalomorphae msp. 03		Turret Trapdoor Spider Burrow	
Nicodamidae msp. 01		Red-and-Black Spider	

Noongar Name	Common name	Status
	North Tarin Rock Jumping spider	
	Platform-web Spider	
	Black Gum-Footed Tangle-web Spider	
	Tangle-web Spider	
	Tarin Rock Tangle-web Spider	
	North Tarin Rock Painted Native Cockroach	
	Black and White Native Cockroach	
	Black Bush Cockroach	
	Black Bush Cockroach	
	Black Small Bush Cockroach	
	Bush Cockroach	
	Bush Cockroach	
	Black Yellow-banded Bush Cockroach	
	Mandibulate Termite Soldiers	
	Nasute Termite Soldiers	
	Jawed Soldier Termite	
	Tarin Rock Nasute Termite Soldiers	
	Shrubland Jawed Soldier Termite	
	Cone-headed Soldier Termite	
	Valla and Di a Cantinada	
	Yellow and Blue Centipede	
		North Tarin Rock Jumping spider Platform-web Spider Black Gum-Footed Tangle-web Spider Tangle-web Spider Tarin Rock Tangle-web Spider North Tarin Rock Painted Native Cockroach Black and White Native Cockroach Black Bush Cockroach Black Small Bush Cockroach Bush Cockroach Bush Cockroach Bush Cockroach Sush Cockroach Bush Cockroach Bush Cockroach Bush Cockroach Soldier Termite Soldiers Nasute Termite Soldiers Jawed Soldier Termite Soldiers Shrubland Jawed Soldier Termite Cone-headed Soldier Termite

INTRODUCTION

SURVEY METHODOLGY

RESULTS

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Scolopendridae msp. 03		Grey Centipede	
Scolopendridae msp. 04		Red-headed Blue-legged Centipede	
Scolopendridae msp. 05		Orange-headed Centipede	
COLEOPTERA			
Buprestidae msp. 01		Old Wing Case of Jewel Beetle	Т
Cantharidae msp. 01		Red and Green Soldier Beetle	
Carabidae Scaraphites sp. msp. 01		Tarin Rock Ground Beetle	
Cerambycidae msp. 01		North Tarin Rock Bardie Grub	
Chrysomelidae <i>Paropsisterna tessellate</i>		Black with Pink Tiled Leaf Beetle	
Curculionidae <i>Catasarcus sp.</i> msp. 01		Tarin Rock Weevil	
Curculionidae msp. 02		Tarin Rock Hilltop Weevil	
Elateridae msp. 01 larva		Tarin Rock Yellow Wireworm	
Passalidae msp. 01		North Tarin Rock Stag Beetle	
Scarabaeidae <i>Colpochila sp.</i> msp. 01		Tarin Rock Scarab Beetle	
Scarabaeidae msp. 02		Tarin Rock Chafer Grubs	
Scarabaeidae msp. 03		Tarin Rock Brown Chafer Beetle	
Tenebrionidae msp. 01		Blue Log Darkling Beetle	
Tenebrionidae msp. 02		Hilltop Black Darkling Beetle	
COLLEMBOLA			
Entomobryidae msp. 01		Black 3 Gold-banded Springtail	
Entomobryidae msp. 02		Small White Springtail	
DERMAPTERA			
Earwig msp. 01		North Tarin Rock Earwig	
Earwig msp. 02		Tarin Rock Black Earwig	
DIPTERA			
Culicidae msp. 01		White Banded Legged Mosquitoe	
Micropezidae msp. 01		Stilt Legged Fly	
Phoridae msp. 01		Litter Fly	

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Sarcophagidae msp. 01		Flesh Fly	
Syrphidae msp. 01		Hover Fly	
Syrphidae msp. 02		Hover Fly	
Syrphidae msp. 03		Tarin Rock Hover Fly	
HEMIPTERA			
Eurybrachyidae msp. 01		North Tarin Rock Tailed Planthopper	
Flatididae msp. 01		North Tarin Rock Leafhopper	
Geolastocoridae Nerthra sp. msp. 01		Dry Shrubland Toad Bug	
Margarodidae msp. 01		Banksia Cottony Cushion Scale	
Margarodidae msp. 01		North Tarin Rock Peacock Bug (female)	
Reduviidae msp. 01		North Tarin Rock Black Assissin Bug	
HYMENOPTERA			
Apidae <i>Apis mellifera</i>		European Honey Bee Hive	
Braconidae msp. 01		Tarin Rock Red and Black Wasp	
Formicidae <i>Camponotus sp.</i> msp. 04		Creekline Sugar Ant	
Formicidae <i>Camponotus sp.</i> msp. 05		Tarin Rock Sugar Ant	
Formicidae <i>Camponotus sp.</i> msp. 10		Red-legged Sugar Ant	
Formicidae <i>Camponotus sp.</i> msp. 11		Black and Yellow Wood Sugar Ant	
Formicidae <i>Camponotus sp.</i> msp. 02		North Tarin Rock Sugar Ant	
Formicidae <i>Crematogaster sp.</i> msp. 14		Small Black Twig Ant	
Formicidae <i>Iridomyrmex purpurea</i>	Koorat	Meat Ants	
Formicidae msp. 07		Tarin Rock Black Ant	
Formicidae msp. 08		Tarin Rock Black and Red Ant	
Formicidae msp. 12		Tiny Black Ant	
Formicidae <i>Mymercia sp.</i> msp. 01		Red and Black Bull Ant	
Formicidae Mymercia sp. msp. 06	Kilal	Tarin Rock Bull Ant	
Formicidae <i>Rhytidoponera sp.</i> msp. 03		Black-headed Ant	
Formicidae Rhytidoponera sp. msp. 13		Small Black-headed Ant	
Ichneumonidae msp. 01		Long Ovipositor Parasitic Wasp	

INTRODUCTION

SURVEY METHODOLGY

RESULTS

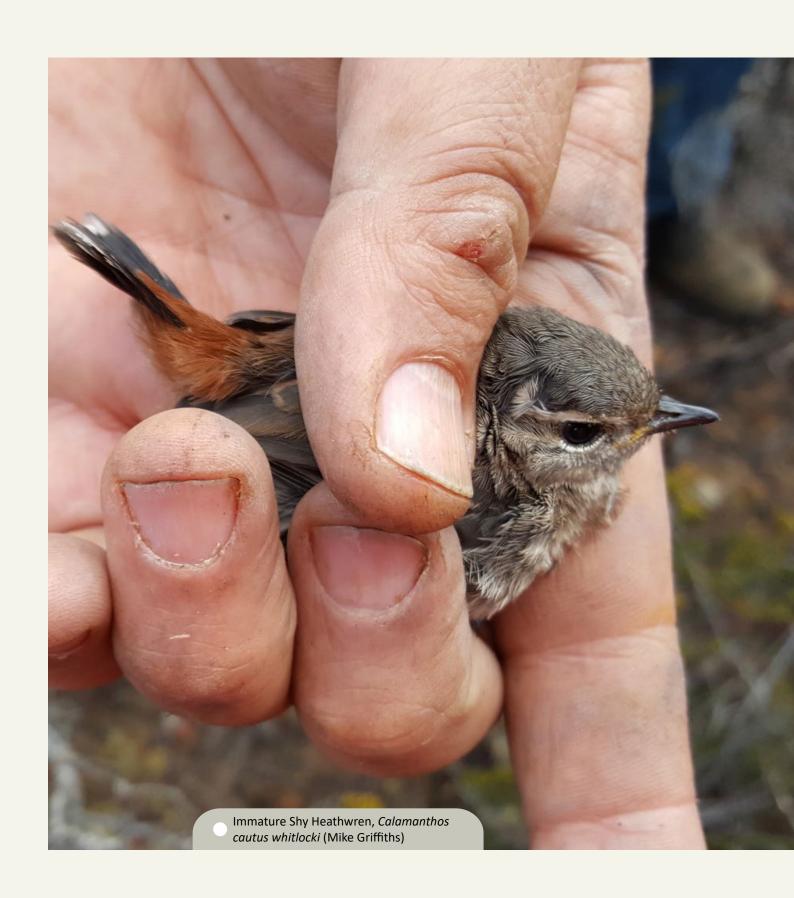
FAMILY, Genus, species, etc	Noongar Name	Common name	Status
LEPIDOPTERA			
Cossidae <i>Endoxyla sp.</i> msp. 01		North Tarin Rock Mako (or witjuti) Grub Pupae Case	
Geometridae msp. 01		North Tarin Rock Looper Moth	
Gracillariidae msp. 01		Leaf Miner Moth	
Gracillariidae msp. 02		Tarin Rock Leaf Miner Moth	
Gracillariidae msp. 03		Yellow Leaf Miner Moth	
Noctuidae msp. 01		North Tarin Rock Litter Armyworm	
Notodontidae msp. 01		Melaleuca Web Moth	
Pyralidae msp. 01		Grey Beaked Moth	
Pyralidae msp. 02		Tarin Rock Beaked Moth	
MANTODEA			
Mantidae msp. 01		Orange and Black Mantid	
NEUROPTERA			
Chrysopidae msp. 01		Tarin Rock Lacewing	
msp. 01		Brown Lacewing	
ORTHOPTERA			
Acrididae <i>Coryphistes sp.</i> msp. 03		Grey Bark Grasshopper	
Acrididae <i>Goniaea sp.</i> msp. 08		North Tarin Rock Dead-leaf Grasshopper	
Acrididae <i>Goniaea sp.</i> msp. 12		Tarin Rock Dead-leaf Grasshopper	
Acrididae <i>Goniaea sp.</i> msp. 14		Hilltop Dead-leaf Grasshopper	
Acrididae msp. 01		Black with 2 White Stripes Grasshopper	
Acrididae msp. 02		Black with White Spots Grasshopper	
Acrididae msp. 04		North Tarin Rock Short-horned Grasshopper	
Acrididae msp. 05		Short-horned Grasshopper	

FAMILY, Genus, species, etc	Noongar Name	Common name	Status
Acrididae msp. 06		Short-horned Grasshopper	
Acrididae msp. 07		North Tarin Rock Short-horned Grasshopper	
Acrididae msp. 08		North Tarin Rock Grasshopper	
Acrididae msp. 09		Tarin Rock Short-horned Grasshopper	
Acrididae msp. 10		Short-horned Grasshopper	
Acrididae msp. 11		Woodland Short-horned Grasshopper	
Acrididae msp. 13		Black and Yellow Hind Leg Grasshopper	
Gryllidae msp. 01 female		North Tarin Rock Field Cricket	
Phasmidae msp. 01		North Tarin Rock Stick Insect	
Tettigoniidae msp. 01		Tarin Rock Long-horned Grasshopper	
Tettigoniidae <i>Pachysaga sp.</i> msp. 02 SCORPIONIDA		Giant Bush Cricket	Priority Taxa
		Forest Coursian	
Scorpionidea <i>Cercophonius sp.</i> msp. 01 Scorpionidea <i>Cercophonius sp.</i> msp. 02		Forest Scorpion Forest Scorpion	
		Forest Scorpion	
THYSANURA			
Lepismatidae msp. 01		Two Eyed Silverfish	
msp. 01		North Tarin Rock Silverfish	

INTRODUCTION

SURVEY METHODOLGY

RESULTS



REFERENCES

Bamford, M., Inglis, R. and Watsom, K. (2009). **Mammals of the Avon Region**. Dept. of Environment and Conservation, Bently, WA.

BirdLife Australia Working List of Australian Birds, spreadsheet version 1.2, (BirdLife Australia, 2014).

http://www.birdlife.org.au/documents/BWL-BirdLife Australia Working List v1.2.xlsx

Brown, A., Dixon, K., French, C and Brockman. G. (2013). Field Guide to the Orchids of Western Australia: The definitive guide to the native orchids of Western Australia. Simon Nevil Publications, Perth, Australia.

Bougher, N. L. (2009). Fungi of the Perth Region and Beyond: A self-managed field book. Western Australian Naturalist Club (Inc.), Perth, Western Australia. http://www.fungiperth.org.au (16/01/2017)

Climate Statistics for Australian locations, (Bureau of Meteorology, 2015). Accessed 18/10/2015.

http://www.bom.gov.au/climate/averages/tables/cw 010140.shtml

Conservation Codes for Western Australian Flora, (Department of Parks and Wildlife, 2015).

https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/conservation code definitions.pdf

Corrick, M.G. and Fuhrer B.A. (2009). **Wildflowers of Southern Western Australia**. Rosenberg Publishing Pty Ltd, Dural, NSW.

Florabase Advanced Search, (Department of Parks and Wildlife, 2015).

https://florabase.dpaw.wa.gov.au/search/advanced

Florabase Swan Weeds – List of Weeds, (Department of Parks and Wildlife, 2015). https://florabase.dpaw.wa.gov.au/weeds/swanweeds/list

French, M. (2012). **Eucalypts of Western Australia's Wheatbelt**. Malcom French, Padbury.

Grein, S.B. (1995). **Native Vegetation Handbook for the Shire of Dumbleyung**. Department of Agriculture and Food, Book.

http://researchlibrary.agric.wa.gov.au/cgi/viewcontent.cgi?article=1011&context=nat_veg

Johnson C. N. and Isaac J. L.(2009). **Body Mass and extinction risk in Australian Marsupials: 'Critical Weight Range' revisited**, Austral Ecology, Vol 34: Issue 1, pp. 35-40 (Ecological Society of Australia)

http://onlinelibrary.wiley.com/doi/10.1111/j.1442-9993.2008.01878.x/abstract

Kitchener, D.J., Chapman, A., Dell, J., Johnstone R.E., Muir, B.G. and Smith, L.A. (1976). **Biological Survey of the Western Australia Wheatbelt: Preface to the Series and Part I: Tarin Rock and North Tarin Rock Reserves**. Records of the Western Australian Museum, Supplement No. 2, Western Australian Museum, Perth, Western Australia.

Rooney, B. (2011). Nyoongar Dictionary. Batchelor Press, Adelaide, SA.

Ryan, B (1999). Native Vegetation Handbook for the Shire of Lake Grace. Department of Agriculture and Food, Western Australia, Bulletin 4364, 130p http://researchlibrary.agric.wa.gov.au/cgi/viewcontent.cgi?article=1057&context=bulletins

Short, J., Rakai, L. and Ingram, J. (2013). Survey and protection of the red-tailed phascogale populations in the area between Cuballing, Wagin and Lake Grace. South West Catchments Council, Albany.

Syme, K, (2006). Survey of Fungi in the South Coast Natural Resourse Management Region. Department of Parks and Wildlife, Albany.

Store, G.M., Smith, L.A. and Johnstone, R.E. (1999). Lizards of Western Australia. I Skinks. Western Australian Museum, Perth, Australia.

Wilson, S. and Swan, G. (2010). A complete Guide to Reptiles of Australia. New Holland Publishers, Sydney, Australia, Fourth Edition.

Young, J.A. (2006). **Hakeas of Western Australia: A field and identification guide**. A.J. Young Publisher, Western Australia.

Van Dyck, S., Gynther, I. and Baker, A. (2013). **Field Companion to the Mammals of Australia**. New Holland Publishers, Sydney.

Australian Guide to Running a BioBlitz

http://www.ala.org.au/wp-content/uploads/2011/10/BioBlitz_Guidelines_WEB-final-201507.pdf

For more information and background on the 'BioBlitz' concept,

http://web.uconn.edu/mnh/BioBlitz



PO Box 311 | 269 Fitzgerald Street, Northam, WA 6401
P: 08 9670 3100 | E: info@wheatbeltnrm.org.au
W: wheatbeltnrm.org.au