November 2024

Alice Springs Field Naturalists Club Newsletter

Simpsons Gap [photo: Anne Pye]. See Page 6 for a historical snapshot of plants found at the Gap, by Des Nelson.

Meetings are held on the second Wednesday of the month (except December and January) 6.30pm at the Aviation Museum.

CONTENTS

PO Box 8663
Alice Springs NT 8071

www.alicefieldnaturalists.org.au

contact@alicefieldnaturalists.org.au

Alice Springs Field Naturalists Club

The next newsletter will be published on **1 February 2025**.
We appreciate all contributions, articles, and photos both local and from elsewhere.
Please have them to Lisa McLean lisamclean@outlook.com by **20 January 2025**.

ALICE SPRINGS FIELD NATURALISTS CLUB

Wednesday 13th November – 7.00pm. Lisa and Peter Nunn will be presenting their work, the Letter-winged Kite Project. Lisa and Peter have been running a private research project on the Letter-winged Kite for 6 years now. The ASFNC provided funding to help purchase critical equipment for getting the project started. This presentation will update the Club on the project.

Saturday 2nd November —Visit to Pitchi Richi to see what has come up since the fires. Led by Nel Woolcock, meet at the main entrance gate on Palm Circuit at 8.30am, and bring morning tea.

Meetings will be held at the Aviation Museum at 6.30pm.
The Club's end of year get together will be held on 8th December @ 8.30am, at the Telegraph Station.

AUSTRALIAN PLANTS SOCIETY—ALICE SPRINGS

Wednesday 6th November — 6.30pm. Ngalurrtju Conservation Partnership. Presented by Steve Eldridge, Operations Manager, AWC. Venue : Aviation Museum.

Alice Springs Field Naturalists Club Committee Members

President	Vacant	
Vice President	Vacant	
Secretary	Lisa McLean	0412 642 987
Treasurer	Neil Woolcock	0428 521 598
Property Officer	Jill Brew	0437 223 203
General Members		
Kylie Cowan		0418 477 450
Peter McDonald		0427 177 450
Wendy Mactaggart		0434 495 903
Public Officer		
Anne Pye		0438 388 012
Other Club Responsibilities		
Newsletter—Lisa McLean		
Facebook—Meg Mooney moon3@iinet.net.au		
Website—Kylie Cowan		

Positions Vacant

The positions of President and Vice President remain vacant. The committee will continue to work together to ensure Club activities continue. Your continued support is very much appreciated.

Thank you

Thanks to all contributors toward this month's newsletter: Peter & Jane Bannister, Deb Clarke, Casey Croucamp, Marg Friedel, Colin Leel, Des Nelson, Julie Taylor

Annual subscriptions are due

Family $35 / Family concession $30 / Individual $25 / Individual concession $20.
Past members living interstate—newsletter only—$10. Subscription year is 1 August—31 July. Westpac details: BSB: 035303 / Acc: 100981. Include your name as a reference on the transaction.

Phaneropterinae

Colin Leel

This is an undescribed species in an undescribed genus, from the subfamily Phaneropterinae. It is decently common through the desert and hopefully it will get a name soon! Similar colours to Terpandrus but much smaller and less spiny. Source: Matthew Connors

The subfamily *Phaneropterinae* is a group commonly called Leaf Katydids or Sickle-bearing Bush Crickets. As in most *Orthoptera*, the posterior (rear) legs are always much longer than other legs, being adapted to leaping.

Eggs!

Thanks to Peter and Jane Bannister who wonder if someone might know if these are moths' eggs?

They assumed these are moths eggs because they were found at the bottom of the door that attracts hundreds of moths every evening.

The top photo shows a big piece of this fluff attached to the heel of a shoe .

My Wild Life—Phill Mangion. Alice Springs Field Naturalists Club Speaker Night 9 October 2024

Report by Julie Taylor

Phill Mangion has been in Alice Springs for around 6 months as a wildlife ranger for the NT Parks & Wildlife Commission. His experience, enthusiasm and concern for reptiles began as a young child, with annual holiday visits to the Australian Reptile Park in NSW, as well as his earliest memory of being fascinated by a snake that found its way into his father's aviary. Phill has never forgotten the feelings of being upset that his father had killed it.

As a youngster, he kept a collection of snake skins he found and when he left home at 18-19 years old, the first thing he did was to get a pet python. That python stayed with him for some 15 years!

As a way of being outdoors and closer to 'creatures', Phill began volunteer-work at the Zoo in Dubbo where he cleaned the enclosures of Black Rhinoceros (*Diceros bicornis*). But he was more excited by the wild reptiles that found their way into the enclosures from outside the zoo, such as large Gould's goannas (*Varanus gouldii*) and even very small water skinks (*Eulamprus sp*.).

He joined the Australian Wildlife Rescue Organisation (WIRES), did a course and became a busy volunteer catching snakes, goannas, and native birds, and caring for the injured creatures during the day. To support this passion for reptiles he took a night job in Woolworths until his next 'real' job at the Canberra Reptile Zoo.

The path to becoming a herpetologist led Phill through different jobs in different locations.

It is his firm belief that reptiles are not well-appreciated by the general public. He seeks to change that and loves to instill knowledge into others especially kids, teaching them about not being scared, telling them what to do if they see a snake and letting them handle young snake or lizard specimens as a way to get them interested.

Phill answered our questions as he showed his slides, eg. a 'monitor' is the same as a 'goanna'. We saw the Gould's Goanna (or Sand Goanna - same as the ones he chased in the Black Rhino's enclosure!); Lace Monitor (*Varanus varius*) (the second largest in Australia - the Perentie (*Varanus giganteus*) is biggest); Tiger Snake (*Notechis scutatus*), Northern Water Dragon (*Gowidon temporalis*) (the "tat-ah" lizard - we have a similar one in central Australia); Frill-necked Lizard (*Chlamydosaurus kingii*), and others.

A trip to Darwin to look at more reptiles and visit Crocosaurus Cove made an impression on Phill because it has other reptiles beside crocs and, when the Canberra Reptile Zoo closed down, Phill made his way back to Darwin for a new job at Crocosaurus Cove. More slides showed many of the reptiles he cared for: Green Tree

Stimson's python (*Antaresia stimsoni*)

Northern brown snake (*Pseudonaja nuchalis*)

Mulga snake (*Pseudechis australis*)

Baby Pig-nosed Turtle (*Carettochelys insculpta)*

Python (*Morelia viridis*), Kimberley Rock Monitor (*Varanus glauerti*) (a gorgeous stripey creature that chases water skinks for food), Rough-scale Python (*Morelia carinata*) (with Phill speaking about breeding and eggs), Stimson's Python (*Antaresia stimsoni*),
Central Bearded Dragon (*Pogona vitticeps*), and a freshwater Whip Ray (*Urogymnus dalyensis*). We saw his picture of a baby Pig -nosed Turtle (*Carettochelys insculpta*) fresh out of its shell (a threatened species that has a soft shell, they live in river systems, lying dormant until the wet season when they hatch. Found in only two places in the world, the Northern Territory and somewhere in PNG.)

While Phill loved zoo-keeping and showing people about reptiles he was much more excited by the times he travelled out, through the Barkly Tablelands chasing Spencer's goannas (*Varanus spenceri*) and Perenties to return as specimens for display in Darwin. So next, he decided to become a snake-catcher working for Parks & Wildlife in the Top End. His photos showed some of the snakes he caught: Northern Brown snake (*Pseudonaja nuchalis)* (the Western Brown (*Pseudonaja mengdeni*) is more common in central Australia), Carpet Python (*Morelia spilota*) up a tree, and on one of his call-outs, he managed to locate a python under a pile of towels in a bedroom. He once found a Sea Krait (*Laticauda colubrina*) (silver with black stripes) washed up on shore amongst rocks and sand. These are very rare with only two sightings in Australia. They are more common in Indonesia. Sea Kraits come on to land, so are different to sea-snakes which need fresh water (eg. when it rains) but live in the sea, eat fish and are highly venomous. He showed a spiny anteater (*Tachyglossidae*) found in the backyard of a home in Larapinta and a Black-tailed Monitor (*Varanus tristis*) (or Black-headed Goanna) which live in people's roofs.

Before re-locating to Alice Springs, Phill also did some work with *Biodiversity Australia* where he removed reptiles from natural habitat areas being destroyed, and re-locating them to safe areas.

One question started a discussion about native reptiles dying after eating cane toads (*Rhinella marina*): eg. Mulga Snakes (*Pseudechis australis*) are dying out in the Top End of the Northern Territory but Red-bellied Black Snakes (*Pseudechis porphyriacus*) have made a bounce-back in Queensland. Northern Brown Snakes are less likely to eat toads. Phill says sometimes there are individual snakes within one species that will not be fussy eaters and eat toads whereas others will be fussy and only eat a specific food item. Mulga Snakes notoriously will eat anything. That in the end, a Darwinian process of selection will mean that reptiles that eat cane toads will die and the others will live.

Leaflets with information about Common Snakes of Central Australia will be available at the next Field Nats session.

Further to Phill's talk...

Deb Clarke

Amongst the many interesting topics covered with such flair in Phill Mangion's talk was the evolving relationship between Top End reptiles and cane toads. I was reminded of a photo I took of a snake eating what I thought was a large frog in Kakadu National Park in 2005. I mentioned the sighting to Phill at the end of the talk and emailed him my photo for identification.

He responded saying: "The snake is a harmless Keelback snake / freshwater snake (*Tropidonophis mairii mairii*). Interestingly this is one species of snake found in Australia that is capable of eating cane toads! The frog I'm pretty certain is a Northern snapping frog (*Cyclorana australis*)".

I then asked Phill why it is that the Keelback Snake can eat cane toads?

Phill replied: "The Keelback snake came to Australia very late in the sense of evolutionary history and shares common ancestors from southeast Asia. the southeast Asian snakes eat poisonous toads no worries. Keelbacks in Australia have evolved around

Tropidonophis mairii mairii and *Cyclorana australis*

Death Adder *(Acanthophis antarcticus).*

eating toads with a similar toxin and can eat cane toads without dying."

While hunting for my 2005 photos I came across yet another snake photo. I took this one in 2008 at Redbank Waterhole. Again I sent it to Phill and he confirmed that **YES** it was in fact a Death Adder (*Acanthophis antarcticus*). Needless to say, I didn't know that when I was photographing it so close. It was so still for so long I thought it must be sleeping or dead but apparently it was in 'ambush position'. Silly, lucky me.

Fellow Field Naturalist Wendy Mactaggart, currently house sitting in North Coast NSW rainforest, had an equally Lucky 'Non-Strike' recently.

She sent in this photo with accompanying text:

'I had this close encounter a couple of nights ago. Apparently, they are Night Tigers (B*oiga irregularis*)and usually hang out in trees. These appear to be mating.... on the lounge room floor.

Phill may know more about what's going on!! My foot was about to land amongst the lovemaking.'

So I sent Wendy's photo to Phill and he identified the definitely mating couple as:

"Banded Tree Snakes/ Night Tigers/ Banded Tree Snakes (*Boiga irregularis*)*".*

Apparently Wendy was not in too much danger as Phill explained :

"They are rear fanged (colubrids) so when they bite they need to chew forward to get the venom fang. They rarely bite and even more rarely envenomate. Their venom is considered to be of low toxicity to humans and they are classed as harmless due to this. The venom causing only mild local swelling.

Thanks again to Phill for his enthusiasm and knowledge!

Banded Tree Snakes/ Night Tigers/ Banded Tree Snakes (*Boiga irregularis*)

1970-71 snapshots of plants at Simpsons Gap

Des Nelson (with additional notes by Marg Friedel)

Rocky Gap [photo: Bec Duncum]

My diary records that, on 8th December 1970, 13 people attended an afternoon meeting at CSIRO Alice Springs to discuss a study of the Simpsons Gap property. Simpsons Gap Station had been run by Bob and Vicki Darken from about 1950 until 1970, when it was taken over by Parks and Wildlife. I suggested Peter Latz as an office bearer, which was supported by the group. This was the start of a long-term study, published in 2005, by Peter Clarke, Peter Latz and Dave Albrecht.

Survey work began 10 days later, on 18th December, when Peter, Clyde Dunlop and I went to Simpsons Gap to record plants at Rocky Gap, 4.8 km northwest of the homestead. The season was very dry, and there were sand drifts and dust haze in places. My diary notes similar conditions elsewhere in the region: “dust pall thick over the ranges”, some areas “very dry and bare” and at Simpsons Gap “water very low”. We drove in as far as possible, then walked over rocks to two small waterholes. Peter dug up grasses to plant at AZRI, Clyde collected insects, and I caught “a frog”, later given to Bobbi Low of CSIRO.

Plants noted were (original names and current names):

Acacia farnesiana	*Vachellia farnesiana*
Carissa lanceolata	
Chrysopogon fallax	
Citrullus colocynthis	
Crotalaria dissitiflora	
Cyperus bulbosus	
Datura leichhardtii	*Datura leichhardtii* subsp. *leichhardtii*
Enneapogon oblongus/lindleyanus	*Enneapogon oblongus* or *E. lindleyanus*
Eremophila elderi, specimen NT29096	
Evolvulus alsinoides	
Glycine canescens	
Grevillea wickhamii	
Heliotropium tenuifolium	
Hybanthus aurantiacus	*Afrohybanthus aurantiacus*
Indigofera colutea	
Leptochloa digitata	
Marsilea exarata	
Nicotiana gossei	
Oxalis corniculata	
Petalostylis labicheoides var. *cassioides*	
Podolepis canescens	*Podolepis aristata* subsp. *auriculata*
Rhagodia nutans	*Einadia nutans*

Rostellularia pogonanthera	*Rostellularia adscendens* var. *pogonanthera*
Rhynchosia minima	
Rhagodia spinescens	
Santalum lanceolatum	
Sarcostemma australe	*Cynanchum viminale* subsp. *australe*
Senecio lautus	*Senecio eremicola*
Sporobolus actinocladus	
Stemodia viscosa	
Themeda australis	*Themeda triandra*

On 27th March 1971, I drove with Peter Latz west across Roe Creek on the Hermannsburg road, crossed the next creek along, then drove north for one mile and parked in the shade of a big Ironwood. We climbed into the hills northeast of our parking spot to record plants.

Grevillea wickhamii [photo: Marg Friedel]

From a limestone area near the Ironwood, we found:

Helichrysum ambiguum	*Leiocarpa semicalva*

In a gully, high in the hills:

Abutilon leucopetalum	
Cassia sturtii	*Senna artemisioides* subsp. *sturtii*
Eremophila elderi (very common)	
Eucalyptus polycarpa var. *oligocarpa*	*Corymbia eremaea* subsp. *oligocarpa*
Eucalyptus terminalis	*Corymbia opaca*
Grevillea wickhamii	
Heliotropium sp.	
Jasminum lineare	*Jasminum didymium* subsp. *lineare*
Pandorea doratoxylon	
Ptilotus nobilis	
Ptilotus schwartzii or *P. calostachyus*	

On 23rd April 1971, I spent a long morning, finishing at 1 pm, climbing part of Mt. Gillen within the boundary of Simpsons Gap National Park, to survey plants on the north side for Peter. I used a tape recorder to record plants and locales and collected specimens of some I was unsure of:

NT30950 *Enneapogon oblongus*
Common on rocky mountain slopes.

NT30951 *Paspalidium clementii*
Fairly common on summit of mountain.

NT30952 *Paspalidium constrictum*
Infrequent near summit of rocky mountain.

NT30953 *Portulaca filifolia*
Rare, high on rocky hillside.

NT30954 *Cyperus cunninghamii*
Rare, near base of stony mountain.

NT30955 *Wedelia stirlingii.* *Apowollastonia stirlingii*
Infrequent in gully high on mountainside.

NT30956 *Lysiana ?exocarpi*
Parasitic on *Capparis mitchellii* near summit of mountain.

Enneapogon oblongus [photo: Marg Friedel]

After many dry years Simpsons Gap Station had been grazed bare on flats and along creeks, and cattle had been in the gullies looking for a feed. Buffel grass (*Cenchrus ciliaris*) was recorded as rare or infrequent, or not at all, in areas now dominated by it.

I once thought hillside plants were not threatened by buffel but ensuing years have changed my ideas. In 1984 I visited a small valley not far east of Undoolya Gap. It was a botanical dream with grasses, Sennas and many examples of *Gossypium sturtianum*. Some time later it was burnt out and subsequently became covered in buffel. Likewise a small stoney gully southwest of the rubbish dump was a haven of healthy shrubs of Sennas and *G. sturtianum*. There was no trace of these after buffel grass invaded.

A short black-fruited strain of buffel used to grow in small patches along creeks and rivers in the 1950s, probably brought to the area in camel saddles from the 1870s to the 1920s. From the 1930s, state and federal agencies imported varieties from the Indian sub-continent, the Middle East and Africa, and distributed them to pastoralists, leading to hybridisation and adaptation to local conditions. These newer robust strains overwhelmed the earlier, smaller strain in central Australia, as well as many of the diverse species native to places like Simpsons Gap. We can only imagine what this current wildflower season would have looked like in the absence of buffel.

With thanks to Dave Albrecht for assistance with plant names.

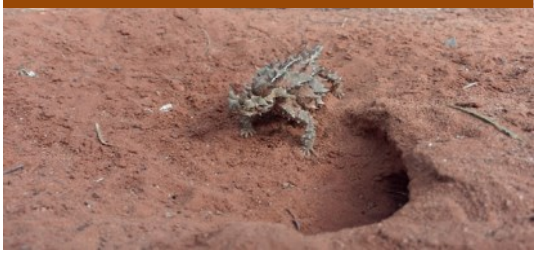
Further reading

Clarke, P. J., Latz, P. K., and Albrecht, D. E. (2005). Long-term changes in semi-arid vegetation: Invasion of an exotic perennial grass has larger effects than rainfall variability. *Journal of Vegetation Science* **16**, 237–248.

Friedel, M. (reported by Jill Kleiner) (2024). A history of buffel grass (*Cenchrus ciliaris*) in Australia. *Alice Springs Field Naturalists Club Newsletter* **March 2024**, 3-5. https://alicefieldnaturalists.org.au/24_03.pdf.

Thorny Devils

Casey Croucamp



Female outside a burrow

Male on right, female on left, showing typical size differences

When I told my family I was going to be studying thorny devils, many asked me "What's that?". The thorny devil (*Moloch horridus*) is a small, slow moving, cryptic reptile in the Agamidae family, widely distributed across arid Australia. They feed only on ants from the genera *Iridomyrmex* and *Crematogaster* (Pianka & Pianka, 1970; Withers & Dickman, 1995). They are well adapted to extreme environments, have a unique way of drinking water (they can stand in a puddle and direct water along their skin to their mouths, there are plenty of videos of this, it is very fascinating to watch) and use shrubs and burrows for shelter. There is surprisingly little known about the activity and behaviour of this iconic species because it is difficult to find them in the wild.

As part of my masters, I studied the captive population of thorny devils housed at the Alice Springs Desert Park (Desert Park). My supervisor, Associate Professor Christine Schlesinger is studying the ecology of thorny devils in the wild at Uluru-Kata Tjuta National Park, with help from the local community and Anangu rangers, and my research on captive animals will contribute to this broader study. We designed my study together, with the aim of its findings becoming a source of information for current and future field studies.

I am sure many of you have been to the Desert Park and have probably seen the thorny devils on display in the nocturnal house. If you haven't been, I highly recommend going, and you may see some of the individuals I studied on display. Did you know you can identify them based on their patterning? Originally, we thought we could only do this from their belly (ventral) patterns, which would mean picking them up to identify them during observations. However, before I started, I took photos of the bellies and backs of each of the thorny devils at the Desert Park. It turns out they also each had unique back (dorsal) markings which I found I could use to identify them. Some were quite similar so, as I was getting to know them, I sometimes had to check their belly patterns as well, but this was rare, and meant less stress on the animals I was studying.

The Desert Park only ever house a handful of individuals in the nocturnal house, while the rest (8 or 9 individuals) are in an off-display outdoor enclosure that mimics their natural environment. In the off-display enclosure, I used a mixture of camera traps and in-person observations to gain information about their behaviour and activity, and how these may be influenced by climate and weather.

Thorny devils are known to have a bimodal activity pattern, meaning they have two main activity peaks, one in late spring to early summer and one in autumn (Pianka and Pianka (1970) and Pianka et al. (1998)). These periods are associated with milder, intermediate temperatures and with mating (in autumn); and egg laying (in spring) (Pianka & Pianka, 1970). This bimodal activity was clearly evident in the captive thorny devils I studied. I was also able to show how daily activity patterns varied seasonally. The association between temperature and activity was clearest in autumn, winter and spring when thorny devils were most active during the warmest parts of the day. Autum activity peaked between 10:00 and 15:00. Winter activity peaked between 13:00 and 15:00, with no to little activity occurring before 10:00 and after 16:00 (most likely because it is too cold). Spring activity peaked between 15:00 and 18:00. In summer, there were multiple peaks of activity, probably due to multiple factors. The enclosure at the desert park has lots of vegetation for shelter; and the keepers routinely use misters to cool down the enclosure, artificially altering the environment. This may make the heat more tolerable and allow the reptiles to be active throughout the day. In the wild it may be too hot for thorny devils to be active in the open much of the time. This may result in activity being highest early or late in the day.

Communal burrow use

Besides learning more about when they are active, I observed some very interesting behaviours that have not

been previously recorded. I observed the thorny devils climbing into bushes, sharing communal burrows, and males repeatedly walking over each other.

Male climbing on trunk of teatree (*Melaleuca glomerata*)

Climbing: I first noticed an individual climbing while going through camera trap images. Climbing is common in many species of Agamids (Dragon Lizards) but hasn't been recorded in thorny devils. Climbing was recorded a few times on camera images and witnessed twice during in-person observation, so I can only speculate as to why they would use this behaviour. Their main food source is ants, and I only ever saw them foraging while on the ground. I don't believe they would use climbing to search for prey. It could be a thermoregulation behaviour, but this would need more research. It could also be a behaviour restricted to captive animals confined to a small space. It is definitely an intriguing observation.

Communal burrowing: In the literature, it is only ever noted that burrows are big enough for a single individual and there are no notes of more than one individual using a burrow at the same time. In the enclosure there were multiple burrows that were maintained and used by multiple individuals. This behaviour may be due to the higher density of animals in a smaller space when compared to the wild. It could also be because wild individuals are hard to find so researchers have just not seen this behaviour. Either way, it is an interesting behaviour and shows that although they may be solitary in the wild, they can tolerate and share space with other individuals in captivity without displaying any obvious antagonistic signs. As well as communal burrowing, thorny devils were also observed aggregating in groups of two or more individuals on multiple occasions, both when they were active and interacting, and also when they were resting inside and out of burrows, or in shallow scrapes under bushes. Pianka and Pianka (1970) reported similar aggregations out of burrows on two occasions while observing wild thorny devils and thought they may be linked to mating activities.

Males walking over each other: Both myself and the keepers only witnessed males – never females – walking over other individuals, usually over other males. These males seemed not to care who or what was in front of them when they were moving around. It is possible that this behaviour is restricted to the captive environment where individuals are living in much closer proximity and with limited space compared to the wild.

Through this study, I was able to make many more observations than would have been possible in the same amount of time in the wild. The knowledge gained about the timing of activity in different seasons and how this relates to temperature, may help when planning field-based surveys. The comprehensive dataset on activity that has been compiled and the novel behaviours observed will serve as a useful comparison to activity patterns and behaviours observed in the wild. Please remember my study was of a captive population with constant access to water, food and shelter, activity and behaviour may vary slightly in wild populations.

One female climbed into a ruby saltbush (*Enchylaena tomentosa*) shrub during a rainy day. She was off the ground but still covered by the shrub from above.

I got to know the thorny devils during my study and each one had a slightly different personality. We hope to publish some of our findings in a journal so watch this space. If you want to find out more don't hesitate to contact me via email at casey.croucamp@gmail.com. I will be more than happy to answer any questions.

Pianka, E. R., & Pianka, H. D. (1970). The Ecology of *Moloch horridus* (Lacertilia: Agamidae) in Western Australia. *Copeia, 1970*(1), 90-103. https://doi.org/10.2307/1441978

Pianka, G., Pianka, E., & Thompson, G. (1998). Natural history of thorny devils *Moloch horridus* (Lacertilia: Agamidae) in the Great Victoria Desert. *Journal of the Royal Society of Western Australia, 81*, 183-190. https://terrestrialecosystems.com/wp-content/uploads/2018/03/Moloch-Piankaetal-1998.pdf

Withers, P., & Dickman, C. (1995). The role of diet in determining water, energy and salt intake in the thorny devil *Moloch horridus* (Lacertilia: Agamidae). *Journal of the Royal Society of Western Australia, 78*(1), 3-11. https://www.researchgate.net/publiccn/283863493_The_role_of_diet_in_determining_water_energy_and_salt_intake_in_the_thorny_devil_Moloch_horridus_Lacertilia_Agamidae