



November 2014

## Alice Springs Field Naturalists Club Newsletter



Time to get back to the Sewage Ponds... The Waders have arrived!  
Common Greenshank. Photo by Pamela Keil

**Meetings are held on the second Wednesday of each month**  
(except December & January) at 7:00 PM at Higher Education  
Building at Charles Darwin University. Visitors are welcome.

### CONTENTS

*Meetings...p2   Trips/Activities...p2   Contacts...p2*  
*October speaker – Adam Yates - Beetles...p3*  
*July Speaker – Peter Latz – Introduced Species...p6*  
*A poem by Meg Mooney ...p8*

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## NEWSLETTER

The deadline for the next newsletter is **Friday 23 January 2015**.  
Please send your contributions to the club email [contact@alicefieldnaturalists.org.au](mailto:contact@alicefieldnaturalists.org.au)  
Please **send photos and text separately** as combining them causes formatting issues.

**Editor's Note:** Apologies for the late newsletter this month. The next newsletter will come out in February 2015. There are a few events to wind up this year, and then a bit of a break over the holidays. Any additional events between now and February that are not in this newsletter will be emailed out directly to members.

### ALICE SPRINGS FIELD NATURALISTS CLUB

Contact: [contact@alicefieldnaturalists.org.au](mailto:contact@alicefieldnaturalists.org.au)

**Sat 29 Nov Walk around Kyumba Park (near entrance to Pine Gap) Meet opposite Old Timers at 6.30am.** Leader: Cecily Sutton mobile 0412 501396 or email [cecsutton@gmail.com](mailto:cecsutton@gmail.com)

**Sun 18 Jan Shorebird Count at Alice Springs Sewage Ponds**

**Sun 1 Feb Spencer Hill Walk. Leader: Rosalie Breen**

**Wed 11 Feb Meeting 7.00pm at Charles Darwin University Higher Education Building lecture theatre.**  
Speaker: **To be Confirmed.**

### AUSTRALIAN PLANTS SOCIETY

Contact: APS Secretary [karlee.foster@opbg.com.au](mailto:karlee.foster@opbg.com.au)

**Wed 3 Dec APS Christmas Dinner** Please join us for our Australian Plants Society end of year **Christmas dinner on Wednesday 3<sup>rd</sup> December @ The Gillen Club, 6pm** Please RSVP to [apsalicesprings@yahoo.com.au](mailto:apsalicesprings@yahoo.com.au) by 30<sup>th</sup> November so we can book a table/s!

**Wed 4 Feb APS Meeting** at Olive Pink Botanic garden at 7pm.

### BIRDLIFE CENTRAL AUSTRALIA

Contact: [birdlifeca@gmail.com](mailto:birdlifeca@gmail.com)

**Wed 26 Nov Meeting. 7:00pm at Alice Springs Desert Park meeting room; Speaker: Pamela Keil:**  
Pam and Michael's Birding Adventures in Victoria: the sights and sounds of the Victorian Coast. All welcome to join. The talk will be followed by a BirdLife monthly meeting.

### Alice Springs Field Naturalists Club Committee Members

President	Barbara Gilfedder	8955 5452;	Public Officer	Rhondda Tomlinson	8953 1280;
Vice-President	Lee Ryall	8953 6394;	Property Officer	Rosalie Breen	8952 3409;
Secretary	<u>POSITION NOT FILLED AT AGM</u>		Minutes Secretary	Connie Spencer	8952 4694;
Treasurer	Neil Woolcock	8955 1021;	Website and Newsletter	Pamela Keil	8955 0496.

email address: [contact@alicefieldnaturalists.org.au](mailto:contact@alicefieldnaturalists.org.au)

**We do need a Club Secretary. The position is not very arduous. We write few letters.  
Please volunteer if you can help us out. Barb Gilfedder, President.**

## October Speaker – Adam Yates Beetles

Report by Lee Ryall

On the night of the blood moon, Adam Yates cracked open the complex and intriguing world of Coleoptera (beetles) for our October meeting. Radiating a passion that developed when he was a boy, Adam outlined the taxonomy and pointed to the black holes in our knowledge of these creatures. While estimates vary, there are probably over a million species of beetle. Some estimates go as high as four million. Most haven't yet been described and our understanding of the habits of those that have been described is sketchy and speculative. Beetles make up nearly one quarter of the animal kingdom.



Fungus-eating Ladybird Beetle; *Illeis galbula*

What defines a beetle? A beetle is an insect, but not a bug. Beetles constitute 75% of all insects. Almost without exception, beetles have two pairs of wings: the top pair, known as elytra, is hardened and protects the rear pair which often fold underneath when not in use. Beetles have three parts to their body- head, thorax and abdomen, and have mouths designed for chewing, often sporting ferocious mandibles. This contrasts with bugs which have long piercing, sucking tubes as mouthparts. The life cycle of a beetle involves four stages. The adult lays eggs which hatch into larvae. When grown, the larvae pupate, undergo complete metamorphosis, and emerge as the next generation of adults.



Beetle Larvae: Left – Mealworms are a type of beetle larvae; Right – *Anthrenus verbasci* larvae  
Larvae and adults come in all sorts of shapes and colours as well as varying in size from the *Titanus giganteus*, 150mm long, to miniscule leaf litter inhabitants who measure half a millimetre or less. And there may be even smaller, as yet undescribed beetles...

Adam focussed particularly on the species which occur in Central Australia, where there are two main sub-orders: the Adephaga and the Polyphaga.



### Adephaga

The Adephaga comprise mostly predators and there are over 40000 known species. They are distinguished from the polyphaga by having notopleural sutures -joints in the covering along the thorax or chest region.

Families in the Adephaga include the Carabidae (ground beetles), many of whom have chemical defences. Some aim noxious jets from their backside to warn off would be hunters. This family includes the common stink beetles- two of which obligingly turned up when we took a break to look at the eclipse of the moon.

Other carabids live in ant nests. With antennae like indoor plant leaves, two of these have been found locally- in Adam's pool and in an ant nest at Alcoota. Another species of ant loving beetle from a different family has specialised antennae which allow the ants to carry the beetle around.

The salt pans support tiger beetles with the cheetah-like habit of running down their prey. The larva of this species hangs around in a vertical burrow, plugging the hole with its head, waiting for prey to approach. The pounce is a spectacular backflip as the entire creature throws itself up and out onto its struggling victim.

The Dytiscidae are aquatic beetles- predatory divers. The example we saw had delicate green fringes on its legs. These beetles can all leave the water and fly. They are attracted to light and so are likely to turn up at campsites near waterholes.



Example of antennae that look like an indoor plant

[alexanderwild.com](http://alexanderwild.com)



*Homeodytes scutella risadytis*

Some distance to the west of Alice Springs, stygobitic (living in underground water systems) beetles inhabit the calcareous aquifers of the Ngalia basin. These mysterious blind creatures survive in a low oxygen environment, feeding on tiny crustaceans.

### Polyphaga

The polyphaga are distinguished from the adepaga by the lack of notopleural sutures as well as by their wide-ranging dining habits enjoying variously plants, fungi, detritus, animals, dung...

Rove beetles with their short elytra are members of the family of Staphylinidae which is part of the large group of primitive Polyphaga known as the staphyliniforms. The gleaming red and black Devil's Coach Horse lives in

carcasses feeding on maggots. Most rove beetles thrive in damp conditions so are not common in Central Australia. The Paederines secrete a toxic chemical which can lead to severe skin blistering.

The Scarabeiforms are also a primitive group of the Polyphaga, feeding on fungus, dung and nectar. They have what appears to be a club on one of their antennae, and a jagged sawtooth edge to the front foreleg, probably used for digging. The dung beetles, both native and the immigrants beloved of pastoralists, belong to this group. Many have the iridescent green shiny look that is also found on the Christmas beetles (genus *Anoplognathus*) which munch happily on eucalypts.



Egyptian Scarab worship

The stag beetles (Lucanidae) come in a fashionable range of colours, but although a *Lamprima aurata* was collected here by Ian Archibald, its status as a resident or tourist is uncertain.



Golden Stag Beetle

Click beetles belong to a large group (the Elateriformes) that have a peg under the thorax. In true click beetles (Elateridae) the peg is large and clicks into place, often with enough force to launch the creature into the air. Other peg-bearing beetles lack the ability to click and include carpet beetles (Dermestidae) and jewel beetles (Buprestidae). There is a species of carpet beetle (*Athrenus verbasci*) which has joyfully adopted life in museum collections, the woolly-looking larvae having a taste for the dry and dusty. Other jewel beetles fly into bushfires and crawl over still smoking wood. This particular black jewel beetle (*Merimna atrata*) is common in the Alice Springs area.

Whereas it seems that beetles of some sort may have evolved before the appearance of dinosaurs, the Phytophagia (plant eaters) evolved along with flowering plants. These are sometimes stunningly beautiful animals, many of which lose their colouring after death.

Adam mentioned many more beetles, and even the already converted among us learned a deal from his talk. In their range of interactions with people, not only are beetles sometimes pests, sometimes removalists of pest and rubbish, poisonous or in some cases edible, viewed as gods or even adopted as jewellery, they are dazzlingly beautiful and utterly fascinating. The night offered was a privileged glimpse into the ancient world of beetles which exists all around us.



Top Left: Lady Beetle; Top Right: *Athrenus verbasci*; Bottom Left: Stag Beetle Earrings; Bottom Right: Jewel Beetle – *Themognatha westwoodi*

## July Speaker – Peter Latz: Long-term Risks from Introduced Species

report by Michael LaFlamme

Peter Latz shared his concerns about the direct and indirect effects of introduced species on natives, from his lifetime of observing their ecological interactions.

### Cane Toad Story

Peter loves cane toads because they are good tucker for people and birds: the Chinese cultivate them and know that thorough cooking neutralises the poisons; crows eat their insides; and curlews eat their tongues. The *goanna* population that earlier crashed from eating raw cane toads has rebounded with smarter *goannas*, and there is no evidence for species extinctions due to the cane toad.

### Buffel Story

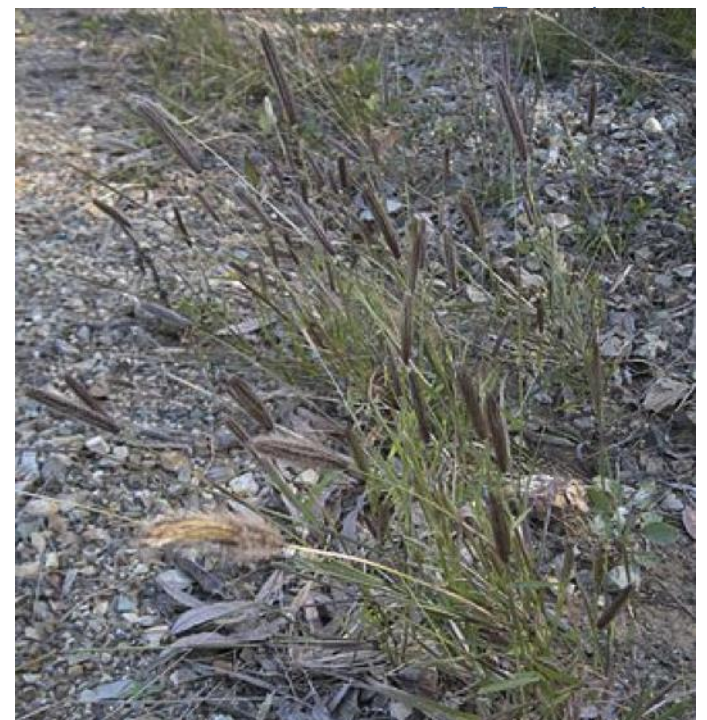
Since *Mparntwe* was created by the *yipirinya*, Alice Springs has been a biodiversity and nutrient hot-spot due to our volcanic uplift of minerals that eroded to leave rich soils. Our native grasses are highly nutritious, and seeds were used by local Arrernte. Bilby flourished in the rich soils, living on bush onion and perennial grasses. Peter said, “Bilby were thick on the Tanami, it looked like it was plowed!” Pastoralists recognised that cattle recovered faster from periods of drought in Alice Springs because the native grasses were so nutritious. Unfortunately, overgrazing by cattle, goats, donkeys, horses and rabbits reduced the local diversity of native plants that were adapted to browsers. As a result, when drought occurred animals were forced to move to higher ground to find remaining forage. For example, in 1961 during a long drought, Peter observed a horse grazing near the top of Simpsons Gap. The eradication of native species by hoofed grazers also caused extensive dust storms that reduced visibility of townsfolk to two metres.

The importance of native species to ecosystems was well-established when in the late 1960s-70s CSIRO chose to rebuild our degraded local native grasslands with non-native species. They gathered grass species from around the world and established trial plots at AZRI and Simpsons Gap to identify which non-natives could become

established. Those introduced grasses would face little ecological competition in Alice because few native



*Eragrostris cylindriflora*



*Chloris vigrata*



*Melinis repens*



*Dichanthium sericeum*



*Heteropogon contortus*

grasses remained. CSIRO found that four species of buffel from different ecosystems were the most virulent colonisers. They were fire tolerant and set massive amounts of seed after a rain. Buffel species were chosen as the preferred ground cover and promoted to pastoralists.

In the first years of this experiment, cattle would eat nutritious native grasses during wet times, and fall back on buffel during drought. However, buffel is a genetically variable plant and easily hybridises, so the four buffel species brought together here for the first time became genetically novel subspecies that were larger but less nutritious than their parent species. Now, cattle graze native grasses to the ground to gain nutrients, which enables buffel to grow without competition on the bare soil. This process has gradually created a buffel monoculture. For example on a recent drive out of Alice, Latz observed only three native grass *individuals* in a field of buffel.

The central Australian pastoral industry is now vulnerable to a buffel monoculture, because a fungus or insect can destroy all forage. In addition, because the new buffel subspecies are less nutritious than natives, cattle eat native species first. This process of preferential grazing accelerates colonisation by buffel, and is also enabling the spread of several unpalatable introduced species: *Eragrostis cylindriflora*, *Eragrostis minor*, *Chloris virgata*, *Melinis repens*, *Bothriochloa ewartiana*, *Dichanthium sericeum*, *Dichanthium annulatum*, and *Heteropogon contortus*. When cattle overgraze native grasses and buffel in dry times, they will not eat these species. They will be free to mature, set seed on the newly bare ground, and expand their range with the next rain. If our nutritious native grasses are gradually replaced by lower-nutrient buffel and unpalatable species, cattle will not be able to grow in Central Australia. A transition from grassland to wasteland occurred 50 years ago in the deserts of North America, where inedible cacti replaced native grasses. We are on track for a parallel process here.

In the past, short-term financial and social incentives influenced political, scientific, and industry decision-making. Peter Latz' talk illustrated the value of long-term observation by independent naturalists, to identify and understand the novel ecological changes we are experiencing.

*I kneel*

*among thousands of flowers  
their rays of yellow, white  
my favourite the lilac -  
and the poached eggs*

*I lean down*

*to see from their level  
how it looks to be one flower  
in so many, one piece  
in this season's pattern -  
like no other -  
in the swale between red dunes*

*to have a winter with the right rain  
grow from seed  
that sat in sand for years  
reach about two hand-heights  
then open out its petals  
at the same time  
as countless others*

*scarlet chats and whiteface  
among the blooms  
overhead the tweedling of songlarks  
scratchy chirps of woodswallows*

*as I kneel in all this beauty  
I could be praying*



*Meg Mooney*

**Happy Holidays!**

**We hope everyone enjoys  
the festive season  
and we see you all again  
in the New Year!**



**ALICE SPRINGS FIELD NATURALISTS CLUB INCORPORATED**  
**Minutes of the general meeting held at the Higher Education Building**  
**Charles Darwin University – Wednesday 8 October 2014**

Following a presentation by Adam Yates on Beetles  
Thanks to Lee Ryall for note taking and Ian & Wendy Mann for supper

**Meeting opened** at 8:50pm

**Present/Apologies:** as per attendance book (16 members, 1 visitor & 9 apologies)

**Previous minutes** accepted by the meeting.

**Correspondence In/Out**

- Michelle Rodrigo      thank you for being last month's speaker

**Treasurer's Report**

Balance as at 31 Aug 2014	\$3,317.32
Plus Income to 30 Sep 2014	<u>92.71</u>
	3,414.31
Less expenditure to 30 Sep 2014	<u>0.00</u>
Balance 30 Sep 2014	<u><b>\$3,410.03</b></u>

Report accepted by the meeting.

**Past Outings/Activities**

**General Business**

- Neil Woolcock has organized the change of signatories at the bank. Five committee members are permitted to sign cheques – must be 2 signatures on each cheque – Neil Woolcock, Lee Ryall, Barb Gilfedder, Rosalie Breen and Connie Spencer.
- Neil has also arranged for him to view the ASFNC Westpac account online.
- November Newsletter contributions to be sent to Pam Keil. Deadline Wednesday 22 October. Lee Ryall to proof read and distribute.
- Sat 27 Sep – Eastside walk to Mt Bond led by Cec Sutton. 6 participants.
- Fri 3 Oct – short early morning Eastside walk led by Cec Sutton. 3 participants.

**Future Outings/Activities**

- Sun 12 Oct 14 – APS twilight wander around OPBB followed by a BBQ
- Sat 1 Nov 14 – Bike ride/walk to The Knoll on Simpsons Gap Bike Track. Leader Connie Spencer.

**Sightings**

- Pam – baby perentie at the Desert Park also flowering Honey Grevillea attracting many species of Honeyeaters.
- Ian Mann – Honeyeaters eating flying ants

**Next Meeting** – Wed 12 Nov 2014 – Speaker: Peter Nunn on *Black-breasted Buzzards*. Scribe: Pam Keil if here, otherwise Lee Ryall. Supper: Connie Spencer

**Meeting closed** – 9 pm