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ACTHA Inc. News
Aug - Sept '14

Newsletter of the ACT Herpetological Association Inc.

ACT Herpetological Assoc. Inc. 2014 - 2015 Membership Renewal NOW OVERDUE, *thank you to those who have already renewed, if you haven't then pls see back page to renew before it's too late!*

A Grassland Earless Dragon hatchling on a 5 cent piece, *see page 6 for the full story!*

In this issue

Your Committee for 2013 - 2014

President	Dennis Dyer
Vice President	Ric Longmore
Secretary	Chris Harrison
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Newsletter Editor	Mandy Conway
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Conservation Officer	Joe McAuliffe
Committee Members	Iris Carter
	Greg Flowers
	Peter Child
Student Representatives	Angelique Harrison
	Sophie Sloane

* *Denotes Life Members*

Diary date

The *bi-monthly* meetings of the Association are usually held on the **third Tuesday of the month at 7.30pm**. Our usual venue is:

***Belconnen Soccer Club*, Hawker**
(cnr Belconnen Way & Springvale Drive)

Upcoming meeting

Tuesday, 19 Aug 2014

Were you able to identify the snake you came across on a walk or in your backyard? Always wanted to know more about the venomous snakes that inhabit Canberra and its surrounds? Then don't miss **Ric Longmore's** presentation at this month's meeting. Ric, one of ACTHA's founding members, will guide us through each species' general characteristics and preferred habitat, and is sure to impart many interesting stories of encounters he has had over the decades with his favourite reptile.

Frogwatch Spring 2014

Info from your friendly Frogwatch Coordinator, Anke Maria Hoefer

Only 80 days till census week & still so much to do!!

To address our changed funding situation and to document the earlier onset of the breeding season we are proposing a few changes:

1. Fewer training events
2. Earlier training events in early September as refresher and for regular spring monitoring preparation in late September for October monitoring preparation
3. No more new monitoring sites. We are still keeping our hopes up high for an 2014-2015 ACT Environment Grant to overhaul our web-based data entry platform.

OPC, Phillip has offered us the re-development at a substantially reduced price and is ready to start with the job as soon as we have "the nod". We are aiming to have the beast up and running before October. This will ensure that all survey data and recordings can be easily entered online.

Do we have your membership form??

As a member of GCG you are covered by our insurance during Frogwatch activities. Information provided will not be given to any third party. You can download the membership form from our webpage.

Have your contact details changed??

Stay in touch! If we do not have your current contact details on file, you may not receive important information from us. You can update your details by phone, email or post.

DGR status and donations

Thank you so very much to the kind people who donated to Frogwatch. I am deeply touched by your generosity and care. If you have donated but not received your tax receipt yet, please let us know!!

FW Ephemeral Revegetation Project

(2013-2014 ACT Environment Grant), is heading towards completion. There are only a few outstanding plantings, which will be tackled by **Orana Steiner School** Students (04-05/08, Kowen Forest), **CIT students** (21/08, Callum Brae Reserve) and the **Uriarra Village Landcare** group (24/08, Uriarra Village). Thanks to everyone involved in this project, especially the Waniassa Hills PS mob for their contribution, and Leo Mothes from Germany for a whole week of volunteering!!

Tadpole Kits for schools program

NSW site of things: great uptake on the first round for this new project (NSW Heritage Grant). EOI for the ACT wide version has been opened a few weeks ago and 50 of the 85 available kits were booked within 72 hours!!

Frogwatch Crowd Funding

Have I mentioned already that FW is running out of funding by the end of this year?? Crowd funding might be just the way to get out of this dilemma. We do ***NEED A KEEN VOLUNTEER*** happy to get the ball rolling and the appeal moving!! Interested?? **PLEASE** let me know!!

ACT and Region Frogwatch
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Turtles through indigenous eyes

By Geoff Robertson.

The main talk at ACTHA's 17 June 2014 meeting was titled 'Conservation of freshwater turtles in indigenous communities in Peru' and was given by ACTHA member and PhD Candidate at University of Canberra, Bruno Ferronato.

His audience was fascinated as he moved through a series of excellent slides illustrating how he and his companions travelled to his remote study site, the methods used in the project, the results, and his observations on the project. Part of his charm was his lovely Brazilian accent. We look forward to his return in April when he will talk on his PhD study on eastern long neck turtles in Canberra.

The project was undertaken after he had finished his masters degree and before coming to the University of Canberra almost three years ago now. Its aim was to study the remote turtle species and biology and their sustainable use by an indigenous community. For the project he had successfully applied for funding to the Rufford Foundation, Cleveland Metroparks Zoo and Cleveland Zoological Society.

Above: The location.

His study sites were in Asháninka Native Communities of Santa Rosa de Chivis and San José de Azupizu in Puerto Bermudez Province, Pasco State in Peru, some 300 m above sea level in the Amazon catchment. His first set of slides showed the journey to get to the study site starting from Lima with a seven hour bus trip followed by an eight hour drive to the nearest town of 3000 people on the other side of the Andes. From there he took a two hour boat trip. By the time Bruno reached the village the audience felt that they had travelled a long way. Bruno's study took nine months and each month the team travelled twice to the site for stays of six to ten days each time.

The biological study aimed to measure species occurrence, population structure and density, diet and reproductive biology. The research sites, near where the team camped and which were some distance from the villages, were oxbow lakes, that is U-shaped bodies of water formed when a wide meander from the main stem of a river is cut off, creating a free-standing body of water.

Camping beside an oxbow lake.

For the audience, learning about the methods used to study the turtles was fascinating, but first we were treated to a lesson on how to catch your turtle. The team had brought rubber dinghies but these quickly developed holes. The local people rescued the study by strapping logs together, although balancing on these long narrow rafts was challenging. The team then dropped their nets into the oxbow lakes but they didn't catch turtles. The locals then showed them how to identify turtle habitat, certain vegetation spots at the edge of the oxbow lake. They then caught their turtles.

Setting nets to catch turtles near fallen trees and other snares in the lake which was preferred habitat. To set the net the team needed to balance on narrow tied-together rafts.

(Turtles through indigenous eyes, cont'd...)

Three species of turtle were caught in the nets: Yellow-spotted River Turtle (*Podocnemis unifilis*), Geoffroy's Side-necked Turtle (*Phrynops geoffroanus*), and Gibba Turtle (*Mesoclemmys gibba*). A tortoise species was found in the vicinity of the villages; the Yellow-footed Tortoise (*Chelonoidis denticulata*).

The Yellow-spotted River Turtle is a medium-size turtle and the male has bright yellow spots on its face and a small neck. The numbers caught were few, and the team has since put together the information to have it listed as not abundant in the region.

Above: Yellow-spotted River Turtle

Geoffroy's Turtle is a long-necked turtle with bright orange colouring.

Above: Geoffroy's Side-neck Turtle

The Yellow-footed Tortoise has bright patches of yellow on its legs and head, and can grow to a large size. Bruno said that there were instances of gigantism in this tortoise and very large animals have been recorded in other areas in the Amazon basin.

Above: Yellow-footed tortoise.

The Gibba Turtle was a smaller turtle and less attractive than the other species in the study. The dietary study showed that the animals varied from vegetarian to more mixed diets, although there was some overlap of diet between species.

Above: The Gibba Turtle.

The team measured the size of the turtles and counted the number of catches. They had to check the nets frequently because if a turtle is caught in a net for three hours it drowns. Diet was measured using a stomach flush, that is using a syringe to pump water into the stomach forcing the animal to vomit. The food remains were collected for later analysis in the laboratory in Lima. This has been the first dietary study of freshwater turtles in Peru. To discover nests they looked for turtle trails in the sand or other evidence of their existence. Nests tended to be small and there was strong evidence that populations of all species were rapidly declining.

It seems likely that animals were plentiful in the 1980s but had dropped severely since. Turtles were an important part of Asháninka diet but tended to be eaten only in certain seasons or for feasts. Both animals and eggs were eaten. However, sinister factors were at work. Commercial interests in the past had resulted in the wholesale taking and sale of live animals and eggs. Clearing the land for farming had led to a decline of other meat food sources for the Asháninka such as deer, tapir, peccaries, and the silting up of the water ways. As other food sources declined the turtles became a more targeted food source. The Yellow-spotted River Turtle seems to have been the preferred food source, and some of the people would not eat the Gibba Turtle because it was considered to have a bad smell.

(Turtles through indigenous eyes, cont'd...)

Above: A focus group gathering.

Possibly the most fascinating part of the talk was his interaction with the Asháninka who were traditional horticulturists, hunters, fishers and gatherers, with individuals specialising in different occupations. However, some occupations such as hunting were declining as traditional food sources disappeared.

The team ran what they called focus group sessions. A group of villages would gather around and they would be asked a question about the importance of turtles to them. The group would discuss the question, sometimes disagreeing with one another. Additional questions were asked to explore information that came up in the session. From this conversation an understanding of the traditional knowledge of turtles emerged. In addition, other sources of information were informal conservations with locals during the field campaigns.

Apart from the value as food, the turtles had medicinal value. The egg shell was turned into a powder and was used against fungal infection, while turtle fat could be applied as a remedy for rheumatism. Eating tortoise hearts was considered to lengthen life, although they were used sparingly. The team inquired about taboos and their role in protecting animals. There were no taboos that could be detected, except it was considered unhealthy for children to eat turtles as this caused tiredness. Some sites were considered off limits because they were considered to be enchanted, and one site was considered to be inhabited by a large mythical anaconda.

In return for the cultural material that the team received, they presented the Asháninka children and adults with an environmental education program, feeding back to them the cultural and scientific findings. This fulfilled one of the aims of the project, i.e. to rescue the traditional knowledge on freshwater turtles. The team did many programs on radio which reached many of the community.

Above: Bruno, at right, talking on community radio.

The talk was followed by many questions. Dennis Dyer thanked Bruno for his insightful and fascinating talk and said that he looked forward to his next presentation.

Grassland Earless Dragon Captive Breeding Program

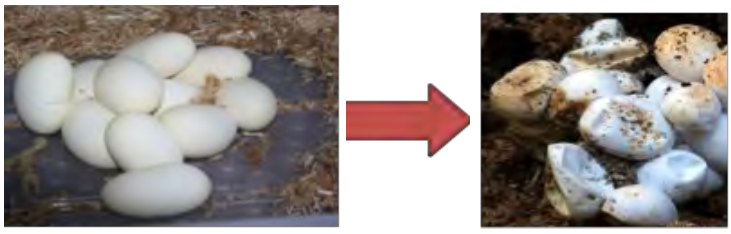
By Geoff Robertson.

At ACTHA's 17 June 2014 meeting members were treated to two talks. The first presentation, by Lisa Doucette, Institute for Applied Biology, UC, provided an update on the Grassland Earless Dragon (GED) (*Tympanocryptis pinguicolla*) Captive Breeding Program.

For those unfamiliar with GED, it is a small dragon, snout-vent length of 5 cm, body mass 5 - 8 g, habitat temperate native grasslands and it requires natural burrows for refuge and egg laying. There are two distinct populations, one confined to some Canberra-Queanbeyan grasslands and the other distributed more widely around the Cooma and southern Monaro region.

During the recent drought years the Canberra-Queanbeyan populations of this endangered dragon crashed. It seems possible that of the eight known sites occupied by the dragon before the drought, only four sites contained dragon populations post drought. However, remnant dragon populations seem to be making a recovery. The population crashes helped to promote the conclusion without captive breeding assistance the GED could go extinct.

An additional concern is that oviparous (egg laying) species of reptiles will potentially experience added adverse pressure during climate change as higher temperatures reduce egg and hatchling viability. One pair of Lisa's slides showed healthy versus desiccated eggs, (*below*).



Healthy eggs Desiccated eggs

Permission was given to establish a breeding colony at the University of Canberra. The project was also mandated to investigate effects of temperature on egg and hatchling viability.

Above: Appealing eyes!

The colony commenced in May 2012 with eight animals collected from five Travelling Stock Reserves on the Monaro Tablelands. From these eight animals, only one clutch was laid in October 2012, and only one hatchling was produced.

Permission was given to collect eight more animals from ACT sites in May 2013. Five egg clutches were laid in October – November 2013 in the breeding colony (4 NSW, 1 ACT). Serendipitously, permission was given to collect further eggs found in artificial burrows located at field sites in ACT. In all, 60 hatchlings were hatched in captivity.

Lisa's studies have involved both intensive research of GED in the field as well as in captivity and she has pondered greatly on their behaviour. Much has already been learnt.

The first lesson learnt was to ensure that breeding individuals were in good condition before the start of the season. Observations of wild animals suggested that the body mass of individual GED was high in June before winter brumation but lower in spring (November). Feeding regimes were adjusted in the breeding colony so that body mass was lower in spring as animals are active and preparing to breed, comparable to field caught individuals.

GED requires intense UVB to process calcium efficiently. Unlike other dragons who bask for long periods, GED bask for short periods and hence UVB needs to be more intense than, for example, bearded dragons. Hence captive GED are treated to higher UVB levels than other captive- dragons. Great care needs to be taken to establish appropriate substrate conditions for egg laying. Here the correct moisture level, soil texture and soil depth need to be ensured. Lisa watched one pregnant female holding off on egg laying. She placed a rock in the enclosure and the female immediately dug a hole under the rock and laid her eggs there. She gave many other examples of habitat requirements in a breeding program.

(GED captive breeding program, cont'd...)

Two forms of apparently unusual reptile behaviour were observed. The first was that a low portion of males breed. Only two of 8 males fathered offspring in the captive breeding colony but mated with several females. The second was female aggression. Lisa gave examples of males cowering in the presence of females and hiding from them, while one female dragged a male around the enclosure. Hence pairs in the colony are selected for breeding - what Lisa called 'appropriate pairing of males and females'.

Nest guarding behaviour was also observed. Once eggs are laid and covered, females return to the nest site each day to ensure that eggs are left undisturbed. Here we momentarily digress. Lisa observed that in the field females were laying eggs in the artificial spider burrows. Clearly the burrows were unsuitable for hatching eggs and so with permission Lisa carefully removed the eggs and hence this is the reason so many hatchlings were hatched in captivity. After eggs were carefully and tediously removed from the artificial burrows, the following day Lisa observed that the female returned and refilled the burrows with soil, no doubt thinking that the nest still contained the eggs. After that Lisa refilled the burrows with soil whenever she removed the eggs.

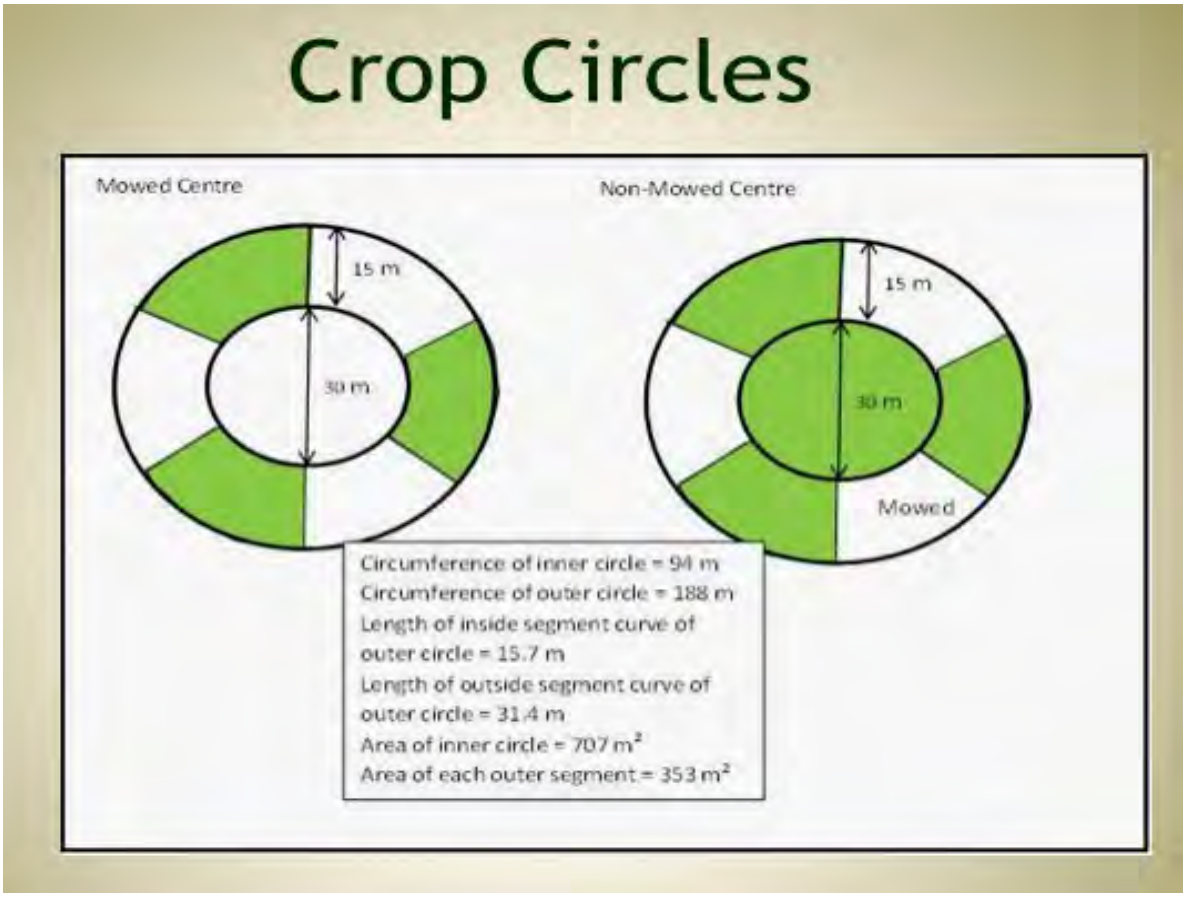
Lisa showed slides of the brilliant colours that males developed during the breeding season. NB Hardcopy News recipients, Pls visit our Website to view these images in full colour!

GEDs lay 5-7 eggs in a clutch, typically 6. Hatchlings are only 22 to 27 mm in length but grow to breeding adult (50 mm) in length in less than a year. As a safeguard in the breeding colony, eggs were incubated separately (*image above*) to ensure optimum conditions. This cautious approach ensured that if any egg was infected by fungus, the remainder would be spared. So far there is no evidence of temperature-dependent sex determination. (In some other dragon species, the sex of the offspring is determined by the temperature at which the eggs are incubated.)

Above: Artificial spider burrow used to monitor wild populations of GED.

Two-thirds of the hatchlings from eggs collected from the wild will be returned to the sites from which the eggs came and the remainder kept at the University of Canberra for future breeding. Lisa released 18 individuals hatched from wild-caught eggs between 1-10 May 2014 in 6 plots. Individual hatchlings were radio-tracked (0.3 g transmitters) for 5 weeks and monitored twice daily to record survival and microhabitat selection. Four individuals were predated and 3 were returned to the breeding colony due to health concerns but are now fine and will be re-released in spring.

(GED captive breeding program, cont'd...)



Above: Crop circle design of GED release plots.

Around the release burrows, grass was cut in 'crop circle' like patterns, and artificial burrows of 15 and 25 cm depth created to study habitat preferences.

During and following her presentation, Lisa was plied with many questions. The audience was fascinated by her many insights and discoveries, many not mentioned here. One intriguing question concerned behavioural differences between the two sub-species. Lisa mentioned several during her presentation, although for the moment these are somewhat speculative. Dennis thanked Lisa for her impressive talk and said that he and the other ACTHA members would wait patiently to hear what happens in the colony over our next summer .

Above: A hatchling on a 5 cent piece.

Light reading: Russia has lost a satellite full of geckos

Felicity Nelson, ScienceAlert, 26 July 2014

The reptiles were sent into space to observe mating in zero gravity.

Russian research satellite Foton-M4 was launched on Saturday, 19 July '14, with a precious cargo of five geckos, insects and plants on board.

The orbiting geckos were expected to mate, allowing scientists from Russia's Institute of Medico-Biological Problems to determine the effects of weightlessness on reptile reproduction.

But the research stalled when scientists reported on Thursday that their gecko sex satellite had gone AWOL and was not responding to commands.

Video footage of out-of-this-world gecko sex is still reaching Earth but if contact is not re-established the geckos will die from hunger in a few months.

This is one of a number of recent calamities in the Russian space program.

The Guardian reported a Proton-M rocket carrying a satellite to provide internet in remote parts of Russia exploded minutes after lift-off in May and the Angara rocket launch was aborted at the last minute in July.

However, their previous attempt to send an ecosystem into space in 2007 was successful with all the newts, lizards, Mongolian gerbils, slugs, butterflies and spiders on board returning successfully to Earth.

The Russian government recently announced a massive $52bn investment in the space industry until 2020.

How do snakes react to microgravity?

Becky Crew, ScienceAlert, 28 July 2014

Snakes appear to lose their sense of 'self' when in microgravity, and can resort to attacking themselves or curling up and giving themselves a hug.

Research into how animals react in microgravity has been carried out for decades. Whether it's investigating how geckos have sex in their privacy of their very own spaceship, or just how much trouble these researchers are going to be in once their floating cats find their footing, animals can reveal a lot about how microgravity can affect both the body and the mind.

According to Jason G. Goldman at io9, most animals, including various mammals, frogs and turtles, react to the weightlessness of microgravity as if they were falling upside-down. This confusion often leads to repeated summersaults - they just keep rolling over and over, not sure why the behaviour that would normally put them on their feet is all of a sudden not working the way it's supposed to.

But some species of reptiles and amphibians display entirely unique behaviours in microgravity. Some snakes get confused and attack their own bodies in microgravity. Worm-like creatures called caecilians become immobile and lose muscle tension. Some species of tree frogs just keep trying to dive down into nothing, over and over.

"That tree frogs think that they're diving makes a great deal of sense," says Goldman at io9. "Caecilians may become limp simply because these animals, which live out their lives in the ground like earthworms, never have the possibility of falling, and thus never develop strong righting responses. But why would snakes attack their own bodies?"

To investigate this, in 2005 a group of scientists led by frog morphology expert Richard J. Wassersug from the University of British Columbia in Canada loaded a handful of western rat snakes (*Elaphe obsolete*) into a 'Vomit Comet', which is the rather playful nickname for a reduced gravity aircraft. "These are planes that fly in parabolas [sharp dips or curves]: as the plane moves over the top of the

curve, everything inside is temporarily weightless. At the bottom of the curve, the pull of gravity actually feels a bit stronger," says Goldman at io9.

Observing video footage, the researchers found that through three parabolas, the snakes routinely knotted their tails and kept the rest of their bodies completely still. But why would they do this?

It could have to do with the loss of something known as proprioception. Proprioception is the sense someone has of the relative position of neighbouring parts of their body, and the understanding of how much strength is being used in order to move them. In other words, it's a sense of self, and it could be that snakes lose this in microgravity.

That would explain why some snakes attack themselves in microgravity, and while Wassersug's team didn't see any of their snakes do that, they think that the knotting of the tails is the snakes trying to emulate what they'd do when they are stressed under normal circumstances - bunch up in a tight group with other snakes and lay still.

"In the absence of gravity, it appears as if snakes have a difficulty distinguishing self from non-self. The snake managed to relax, but only because it didn't realise that it was working to relax its own self!" says Goldman at io9. "At least, that's the hypothesis."

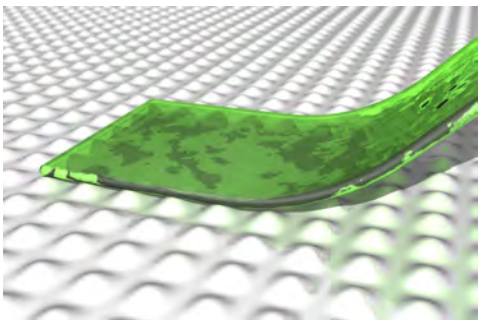
The researchers published their **findings in the journal *Zoology*.**

Even geckos can lose their grip

Source: Linkoping Univeritet, 9 July 2014

Not even geckos and spiders can sit upside down forever. Nanophysics makes sure of that. Mechanics researchers have demonstrated this in an article that can be of great industrial benefit.

Below: Thin film in contact with an uneven surface. Image by Stefan Lindstrom and others.



Geckos and spiders that seem to be able to sit still forever, and walk around upside down have fascinated researchers worldwide for many years. We will soon be able to buy smart new fasteners that hold the same way as the gecko's foot. But the fact is, sooner or later the grip is lost, no matter how little force is acting on it. Stefan Lindström and Lars Johansson, researchers at the Division of Mechanics, Linköping University, together with Nils Karlsson, a recent engineering graduate, have demonstrated this in an article just published in *Physical Review E.*

Still, it's a phenomenon that can have considerable benefits, for instance in the production of graphene. Graphene consists only of one layer of atom, which must be easily detached from the substrate.

In his graduation project at the Division of Mechanics, Nils Karlsson studied both the mechanics of the gecko's leg as well as the adhesion of its foot to the substrate. The gecko's foot has five toes, all with transverse lamellae. A scanning electron microscope shows that these lamellae consist of a number of small hair-like setae, each with a little film at the end, which resembles a small spatula. These spatulae, roughly 10 nm thick, are what adheres to the substrate.

"At the nano level, conditions are a bit different. The movement of the molecules is negligible in our macroscopic world, but it's not in the nano world. Nils Karlsson's graduation project suggested that heat, and consequently the movement of the molecules, has an effect on the adhesion of these spatulae. We wanted to do further analyses, and calculate what actually happens," explains Stefan Lindström.

They refined the calculations, so they applied to a thin film in contact with an uneven surface. So, the film only contacts the uppermost parts of the uneven surface. The researchers also chose to limit the calculations to the type of weak forces that exist between all atoms and molecules -- van der Waals forces.

"It's true, they are small, but they are always there and we know that they are extremely reliant on distance," says Lars Johansson.

This means that the force is much stronger where the film is very close to a single high point, than when it is quite close to a number of high points. Then, when the film detaches, it does this point by point. This is because both contact surfaces are moving -- vibrating. These are tiny movements, but at some stage the movements are in sync, so the surfaces actually lose contact. Then the van der Waals force is so small that the film releases.

"So in reality, we can detach a thin film from the substrate simply by waiting for the right moment. This doesn't require a great deal of force. The part of the film that remains on the substrate vibrates constantly, and the harder I pull on this part, the faster the film will detach. But how long it takes for the film to detach also depends on the structure of the substrate and the film's stiffness," says Stefan Lindström.

In practice this means that even a small force over a long period will cause the film, or for that matter the gecko's foot, to lose its grip. Which is fine for the gecko, who can scoot off, but maybe not so good for a fastening system. Still -- in the right application, this knowledge can be of great industrial benefit.

Australian, American snakes evolved to look alike

Jacqueline Outred, Australian Geographic, 12 June 2014

Australian snakes evolved to have similar body forms as North American snakes, but they have quite different diets.

Above: The Australian Death Adder (Acanthophis pyrrhus) is physically similar to vipers in North America.
Image: Christopher Watson/Wikimedia

Australian snakes have evolved the same types of advanced body forms as their counterparts in North America, even though they've been on separate continents for millions of years, new research has shown.

"Australia has a death adder, a stout cryptically-coloured ambush predator that looks, for all practical purposes, like a typical [American] viper. But it's not related to vipers and is much more closely related to other Australian elapid snakes," says Dan Rabosky, evolutionary biologist at the University of Michigan and a co-author on the paper.

Studying the form and structure of a large number of preserved snake specimens, the researcher found that Australian snakes evolved and diversified to fill the same type of roles that different kinds of snakes occupy in North America, demonstrating the evolutionary theory of convergence.

Australian snakes have a unique diet.

Even though Australian snakes may have evolved with quite similar physical characteristics to North American snakes, they differ in one of the most important ecological attributes, say researchers: their diet.

"Most small snakes that live in sand or leaf litter in North America tend to eat arthropods like spiders and scorpions. But in Australia, those same snakes tend to be prefer lizards or other snakes; there is almost no overlap in diet between snakes that are otherwise very similar," Dan says.

While North America's snake population has evolved from many different groups, including rattlesnakes, garter snakes and king snakes, Australia's snake population has evolved from only one major group called the 'elapids' (which include cobras, coral snakes, mambas and kraits).

Snakes look the same but behave quite differently

The idea of convergence usually extends to the supposed function of animal features. "Most biologists tend to assume that convergence in the physical appearance for a group of organisms implies that they must be ecologically similar," Dan says.

Above: The American *Chilomeniscus stramineus* and the Australian *Simoselaps anomalus* look similar, but evolved on different continents over millions of years. *Image: Kate Jackson/Dan Rabosky*.

But this study shows that that assumption does not necessarily hold true. "Despite the extreme morphological similarity between Australian elapids and North American snakes, there are profound differences," Dan says.

Dan hopes this new research, published by the *Proceedings of the Royal Society B*, will shed light on the spectacular evolutionary diversification of this 'charismatic' group of snakes.

ACT Herpetological Association Inc.

2014 - 2015 Membership Renewal now due

Membership renewal runs from 1 July 2014 to 30 June 2015 and costs **$10** for a single or family membership. Herpetofauna is an additional **$12** for two issues.

Payment by our August meeting would be appreciated.

OR please make your cheque out to ACTHA Inc., fill in your details below and send it to:
ACTHA Membership Officer, PO Box 160, Jamison ACT 2614.

Surname: ***Given name (s):***
Address: ***State/Territory:*** ***Postcode:***
Telephone (h): ***Telephone (w):***
Email:

OR you could make a direct deposit to ACTHA's bank account:
St George Bank, BSB 112-908, A/c 040003311

PLEASE! *Don't forget to note your name so we can identify whose payment it is on our Bank Statement.*

Queries? please call Margaret on 02 6241 4065 (h).

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