



# eUpdate

## School of Biological Sciences



Springtime is here and the September e-Update is once again filled with stories of success, welcomes, media and events. An exciting event being organised by our academics and alumni is the *Royal Zoological Society of New South Wales'* annual forum – [Zoology on the table: the science, sustainability and politics of eating animals](#). Earlybird registration is now open for this controversial forum, to be held on 7 November 2015.

Speaking of spring, Birdlife Australia has published a report on the [State of Australia's Birds](#). The report relies on the observations of citizen scientists, including volunteers from our undergraduate community (shout out to you, Nikola Markovina). To recruit for your own research projects, post opportunities to the new [SOBS Volunteers](#) facebook page.

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## Need volunteers? Post to facebook!

A new [facebook page](#) has been created to connect you to a pool of eager volunteers. If you need an extra pair of hands, in the field or in the laboratory, please post to this [SOBS Volunteers](#) page. These opportunities enrich the skills, confidence and practical know-how of our undergraduate community.

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## INTRODUCTIONS

### Henrique Braz

Dr Henrique Braz is a postdoctoral research fellow visiting the Thompson lab. He is here on a fellowship funded by the *National Council for Scientific and Technological Development* (Brazil).

Henrique completed his undergraduate, masters and PhD degrees at the University of São Paulo, Brazil. “In 2005, after my undergraduate degree, I started work at the Butantan Institute,” Henrique explained. “My interest in snakes began here as

consequence of their trainee program in captive maintenance of snakes aimed at venom extraction.”

Maintaining his focus on snakes but moving to reproductive biology, Henrique’s master’s research (2007-2009) explored the phenotypic consequences of the interaction between embryonic stage at egg-laying and the incubation temperature in snakes.

His PhD research concerned the evolution of viviparity in squamate reptiles. “I used the South American water snakes (genus *Helicops*) as a model-system to test several hypotheses on the evolution of squamate viviparity. For example, whether it is correlated to cold climates, whether it is an irreversible phenomenon, etc.”

At the University of Sydney, Henrique will continue studying the evolution of viviparity. “Although snakes are highly diverse and account for nearly one-third of reptilian viviparity, studies on the uterine morphology of squamates have been largely concentrated on lizards. I will therefore again use *Helicops* as model.” Here however, he will focus on eggshell and uterine morphology of oviparous and viviparous species. “I have always been deeply excited about biological diversity in general. Trying to understand how such diversity has been generated is what made me go adventuring into the biological sciences.”



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## Rani Dos Santos Cocenza

A Brazilian undergraduate student, Rani is studying in the School of Biological Sciences for two semesters. She joins us as part of the Brazilian government's exchange program - [Science Without Borders](#). "I am doing an internship with Professor Ben Oldroyd and Dr Nadine Chapman on a project about the bees," Rani said.



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## CONGRATULATIONS

### Smart Ideas

Peter Banks and Catherine Price are part of a trans-Tasman team that has won a grant to protect New Zealand's native wildlife. The New Zealand Government Smart Ideas grant is worth nearly \$1 million and builds on odour deception research previously carried out by the [Behavioural Ecology and Conservation Research Group](#).



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### Wildlife grant

Sarsha Gorissen, PhD candidate from the [Reptile](#)

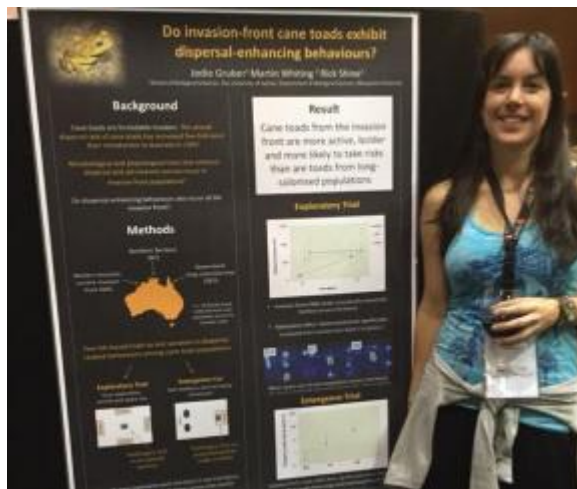


[Ecology Lab](#), has won a University Student Grant from the Australian Wildlife Society. This grant, worth \$1000, is for her project entitled, "Conserving the endangered fauna of highland swamps." For more about this grant see [here](#).



## Student prize

At the Behaviour 2015 meeting in August, PhD student Jodie Gruber (Shine lab) won best poster. Her research asked the question, "Do invasion-front cane toads exhibit dispersal-enhancing behaviours?" The answer, yes. Read the poster [here](#).



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## NOTICES

### RiAUS Video Blog Competition

It could be about your own research and career, your favourite discovery, your science hero or something you think is just darn fascinating – be creative, create a video blog about it and you could win prizes. Entry details [here](#).



### Work Health Safety - Training

Safety Health & Wellbeing offers a suite of [training](#) during the year. Upcoming

courses include:

- Biosafety - 24th Sept and 21st Oct
- Managing staff with mental health concerns - 1st Oct
- Working with Chemicals - 16th Oct
- Chief Warden training - 19th Nov

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## MEDIA

### Clippings from the newsroom

Dr Camilla Whittington's research into the pouches of pregnant seahorse dads was reported on widely last month.

The so called 'Frankenvirus' from the Siberian permafrost also captured the public's imagination – only to be squashed by Professor Eddie Holmes rational explanation of the improbability of its age and the negligible-risk to humans.

[Read more >](#)

**SEAHORSES**

THE SEAHORSE IS ONE OF THE STRANGEST CREATURES IN THE OCEAN. IT MOVES UPRIGHT THROUGH THE WATER, ALMOST LIKE A SWIMMING CHESS PIECE. A SEAHORSE FAMILY IS FAMOUS FOR BEING THE ONLY ONE IN THE ANIMAL KINGDOM IN WHICH THE MALE IS RESPONSIBLE FOR PREGNANCY

**R**ESearchers from the University of Sydney have found male seahorses play as much a part in nurturing embryos during pregnancy as female mammals – something which wasn't known before. The study was co-authored by Dr Camilla Whittington from the School of Biological Sciences, and published in the journal *Molecular Biology and Evolution*.

Previously their role, other than as pouch provider, was largely a mystery. "Surprisingly, seahorse dads do a lot of the same things human dads do," Dr Whittington said. Researchers found male seahorses were able to deliver nutrients to their developing embryos, particularly energy-rich lipids, and calcium to allow them to build their tiny skeletons. It is likely these nutrients are secreted in the brood pouch and then absorbed by embryos.

**What is a seahorse?**

**L**IKE their cousins the sea dragons, they often rely on keeping still and look like floating bits of plant matter in the ocean. Seahorses are not strong swimmers and can sometimes die of exhaustion if they are caught in storm-tossed seas. A seahorse is any one of about 40 species of aquatic animal belonging to the order Gasterosteiformes, a group of fish that has bony plates covering their body. The name means "bony-bellied animals". They are members of the family Syngnathidae, which includes sea dragons and pipefish. They have a distinctive shape and a body covered with bony segments rather than scales. The animal's profile resembles a horse's head with large bulbous eyes that move independently of each other. They have only small fins and cannot move well through the water, instead anchoring themselves to objects in the ocean. Seahorses have a tail that is prehensile (capable of grasping things).

**Pregnant males**

**M**ALE seahorses have a brooding pouch at the base of their tail, or what looks like the belly, into which the female will lay her eggs. The male fertilises the eggs and carries them around, nurturing them until they are large enough to hatch, then expels them through an opening in the pouch. Sea dragons have a brooding patch to which the eggs are stuck until they hatch.

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## Events

**Head of SOLES Seminar Presentations, 24 September 2015, 9am-10:45am – Law Foyer**



**25 September 2015, 9:30am and 11:30am – Great Hall**

**Graduation**



**6 November 2015, 5-8pm – Botany Lawn**

Alumni Garden Party: So long and thanks for all the fish



**7 November 2015, 9am-5pm – Australian Museum**

Zoology on the table: the science, sustainability and politics of eating animals



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