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# eLys

An informal newsletter  
for research on  
Freshwater Turtles in  
Australasia

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**No. 4: November, 2014**

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**W**elcome to the forth issue of **eLys**, a newsletter communicating the results of recent research on freshwater turtles of Australasia and some of the impacts that research is having on policy and management.

In this issue we have a lead article by Alistair Freeman on the recent rediscovery of the red-bellied turtle, widespread in southern New Guinea, on the tip of Cape York, disturbing news of Raymond Hoser's foray into turtle taxonomy, some more news on recent publications and discoveries, and an exciting job opportunity.

Please continue to send in short snippets of news, research highlights, new publications, conference reports, successes in science and technology communication with the community, indeed anything at all that you think would be good to share with colleagues.

Short and punchy is the go, rough and ready if it helps -- send to [eLys@canberra.edu.au](mailto:eLys@canberra.edu.au). Very keen to hear from you.

Ask interested colleagues to subscribe using our simple [subscription form](#).

### ASH Newsletter

For more news on Herpetology from the [Australian Society of Herpetologists](#), visit their [news site](#).

### For Global News

For global news on turtles and tortoises from the [Turtle Survival Alliance](#), view their [newsletters](#).

## Elusive *Emydura subglobosa* captured on Cape York

The redbellied turtle *Emydura subglobosa subglobosa* is widespread in the swamps and lentic waters of New Guinea, but is found also in the Jardine drainage of Cape York. Despite some recent searching, specimens could not be found, and there were fears that it had gone locally extinct in Australia.

**Good News! The redbellied turtle has been found alive and well in the Jardine.**

Read on to learn from Alistair Freeman about how this discovery was made.



After  
an

*Emydura subglobosa subglobosa* from the Jardine River showing the bright red coloration of the ventral surfaces, the characteristic postocular stripe that extends forward to the nostrils, the petite lower jaw, and the leading and trailing black spots on the iris. Photo: ABC.

absence of 18 years the Jardine River turtle (*Emydura subglobosa subglobosa*) was recently rediscovered in the far north of Cape York.

Indigenous land and sea rangers, Origin Energy staff, and staff from the Threatened Species Unit of EHP as well as the evergreen **John Cann** used traps to sample a range of habitats in and around the Jardine River.

One week into the survey and the first Jardine River turtles were captured much to the joy of all those involved. Over the subsequent few days of the survey, turtles were captured at a total of four sites out of over 50 that were surveyed up and down the river. Three of the sites appeared to have very low numbers (with 2-3 individuals captured) while one site had over 20 individuals.



Typical habitat of *Emydura subglobosa* in the Jardine catchment. Photo: Alistair Freeman.

Two weeks later TSU staff member **Alistair Freeman** returned to the area to begin the process of permanently marking and measuring the turtles with the assistance of rangers from the Apudthama Land and Sea ranger group. A productive week was spent catching turtles, assessing habitat, discussing management options with the rangers, as well as meeting the local traditional owners of the area.



Processing turtles with Apudthama rangers. Photo Daniel Sebasio.

During these discussions poaching (for the pet trade), climate change (and associated changes to the length and intensity of dry seasons) and feral pig predation (on nests) were all identified as potential threats to this Jardine River turtle population, however, at this stage the relative degree each of these threats pose to the turtle is largely unknown.





A large female. Photo: Alastair Freeman

The rediscovery of this turtle has created a great deal of interest both in the media and amongst local traditional owners who have identified it as an important totem for the clan group from the area where they occur. This is reflected in the strong support amongst the local indigenous land owners and ranger group, who wish to see this turtle managed and conserved for the future.

Alastair Freeman  
Threatened species Unit  
Dept. Environment and Heritage Protection  
Atherton

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## Great Job Opportunity

### Turtle Post-Doc Available at the University of Western Sydney

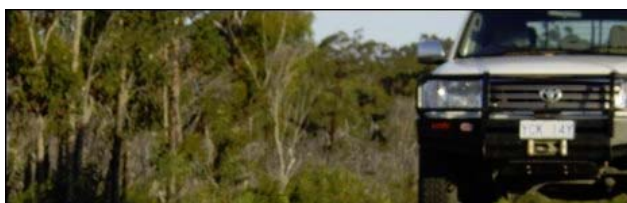
We seek a talented and dedicated Postdoctoral Research Fellow to undertake research into the ecology and conservation of Murray River turtles.

This position is part of a newly funded three-year ARC linkage project grant to conduct research into the decline of Murray River turtles. Turtles are a major ecological component of the Murray-Darling, Australia's major river system. They are declining alarmingly with potential dire consequences for water quality, biodiversity, and river health. The successful applicant will be part of a world-class research team that unites a diverse range of industry partners, indigenous groups, and non-government organisations (NGOs) from three states. We will identify and quantify causes of declines in turtles along the whole system, with the aim of developing practical management options to overcome it. This will be the first river-wide study of turtles, achieved by combining cutting-edge genetic and ecological techniques with a citizen science program.

The successful applicant will be administered through the School of Science and Health at the Hawkesbury campus, University of Western Sydney. The incumbent will be based in the Water and Wildlife Ecology Group, but will also have the opportunity to be a school based member of the Hawkesbury Institute. There are excellent opportunities for collaboration with ecologists associated with the research program at both institutions.

Applications will be called for late October/early November, so please regularly check the [UWS jobs site](#) for details.

## Eastern Long-necked Turtle does quite well in the 'burbs



In a recent paper on the factors influencing occurrence of a freshwater turtle, *Chelodina longicollis*, in an urban landscape, **Danielle Stokeld** of the Department of Land and Resource Management



with the NT Government, and her colleagues, report that the species occupied 85% of the 55 wetlands they surveyed and found no evidence that wetland occupancy was influenced by the variables they measured. Relative abundance was, however, highest at wetlands with low water conductivity and heavy

metal pollution, and in wetlands furthest from rivers.

They conclude that *C. longicollis* is resilient to urbanisation and likely to persist in urban landscapes, possibly because of the creation of new wetlands in Australian cities. However, long-term studies focussed on demographic parameters, or survivorship, may elucidate as yet undetected effects of urbanisation. Although no specific management recommendations are necessary for *C. longicollis* in urban areas at this time, this species may be in decline in non-urban areas as a result of climatic changes and wetland drying.

Their advise caution before drawing generalised conclusions on the impacts of urbanisation on turtles, as the effects are likely to be species-specific, dependent on specific ecology and life-history requirements. Further studies are required to ascertain these relationships for a wider array of species and over longer time spans.

For further information, refer to the source:

Stokeld, D., Hamer, A.J., van der Ree, R., Pettigrove, V. and Gillespie, G. 2014. Factors influencing occurrence of a freshwater turtle in an urban landscape: a resilient species? Wildlife Research 41:163-171.

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## Turtles Fall Foul of Fencing



**Turtles are commonly found dead at the fence, having died from dehydration, or having fallen prey to foxes.**

Conservation fences have been used as a tool to stop threatening processes from acting against endangered wildlife, yet little is known of the impacts of fences on non-target native species.

In a study conducted by **Bruno Ferronato** with the Institute for Applied Ecology, a pest-exclusion fence was intensively monitored for 16 months to assess impacts on a reptile community in south-eastern Australia.

Bruno registered 1052 reptile records of six species along the fence. Encounters and mortality were



greatest for eastern long-necked turtles (*Chelodina longicollis*), whereas impacts on lizards (*Tiliqua rugosa*, *T. scincoides*, *Pogona barbata*, *Egernia cunninghami*) and snakes (*Pseudonaja textilis*) were more moderate.

Several *Chelodina longicollis* were recaptured at the fence and many of these were later found dead at the fence, indicating persistent attempts to navigate past the fence.

Bruno conservatively estimated that the fence resulted in the death of 3.3% of the turtle population and disrupted movements of 20.9% within the enclosure. Movement disruption and high mortality were also observed for turtles attempting to enter the nature reserve, effectively isolating the reserve population from others in the wider landscape.

Of 98 turtle mortalities, the most common cause of death was overheating, followed by predation, vehicular collision, and entanglement. Turtle interactions were clustered in areas with more wetlands and less urban development, and temporally correlated with high rainfall and solar radiation, and low temperature. Thus, managers could focus at times and locations to mitigate impacts on turtles.

We believe the impact of fences on non-target species is a widespread and unrecognized threat, and suggest that future and on-going conservation fencing projects consider risks to non-target native species, and where possible, apply mitigation strategies that maintain natural movement corridors and minimize mortality risk.

For further information, refer to the source, soon to appear.

Ferronato, B., Roe, J.H. and Georges, A. (2014). Reptile bycatch in a pest-exclusion fence established for wildlife reintroductions Journal for Nature Conservation, in press, or contact [Bruno](#).

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## Turtles come under Hoser's purvue

*Australasian Journal of Herpetology* 24:3-11.  
Published 30 August 2014.



### A taxonomic revision of the Giant Long-necked Terrapin, *Chelodina expansa* Gray, 1857 species complex and related matters of taxonomy and nomenclature.

RAYMOND T. HOSER

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Received 20 June 2014, Accepted 24 June 2014, Published 30 August 2014.

Turtles are again the focus of the proliferation of names without scientific foundation via rigorous peer review, this time, in the self-published works of **Raymond Hoser**. *Pelochelys* is one target, a genus of poorly known softshelled turtles of Asia, extending into the Australasian region as *Pelochelys bibroni* and *Pelochelys signifera*. Those Australasian taxa were not affected, but Hoser has a new genus listed and several new species listed, my favorite being *Pelochelys cliveparmeri*. Most Australians would see the irony in this.

However, in his most recent document, Hoser visits *Chelodina expansa*, and muddies the waters in what is quite a complicated affair. **Kate Hodges'** recent publication on the phylogeography of *Chelodina expansa* is based on mitochondrial gene variation, which alone is not a good foundation for nomenclatural change. What Hoser would not know is that *C. expansa* has been subject to rampant mitochondrial exchange between species and introgression. Her nuclear markers recover *C. expansa* as a well defined clade, with *C. oblonga* (formerly *rugosa*) as its sister taxon. The mitochondrial signal is all over the shop, with evidence of historical exchange of mitochondria with *C. canni* and contemporary and historical exchange with *C. longicollis* (Hodges, submitted). So drawing from the mitochondrial data in support of major nomenclatural change, including new species, an new genus and a new subgenus is not defensible.



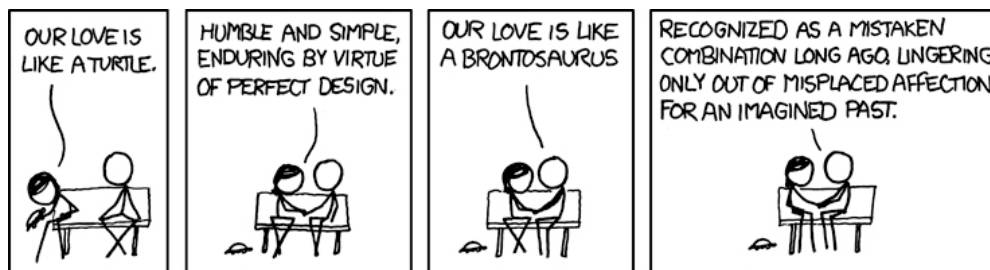
*Chelodina expansa* from Fraser Island. Photo: Arthur Georges.

The rampant nomenclatural changes made possible by modern printing dissemination technologies, and people willing to work to the word of the International Code of Zoological Nomenclature but not its spirit, is potentially destabilizing our taxonomy and bringing the discipline into disrepute. We are faced with the prospect of dealing with a plethora of taxa, a few of which may be real, named but effectively remaining undescribed.

Ways of handling this issue have been suggested, and put into practice. The first is to follow Kaiser et al., as resoundingly endorsed by the Australian Society of Herpetologists, and collectively agree not to use the Hoser names, citing the Kaiser principles for doing so. The hope is that useage will ultimately resolve any nomenclatural conflicts, and ultimately come under application of the Code based on longterm usage. It requires a collective decision by scientists to disregard the names that appear in documents like those under the banner of Australasian Journal of Herpetology and Australian Biodiversity Record.

The second option is to follow the lead of the TSFG checklist and place the Hoser names in junior synonymy as unavailable names. Paradoxically, if placed in a synonymy, they are acknowledged as available, so it is not clear how this will resolve nomenclatural conflicts should one of Hoser's names subsequently apply to a species or genus when the taxonomy is done. Perhaps this is something we have to live with, but we are still left with the responsibility of working through the self-published quagmire.

A third option is to petition the ICZN to use its plenary power to rule under Article 81.1 that all issues of the Australasian Journal of Herpetology are unavailable for nomenclatural purposes. A submission to this effect has been made to the Commission. In the meantime, while we wait what could be years for a decision from the Commission, the taxonomy without Hoser's names should be used. A favourable ruling would send a strong signal that the approach taken by Hoser, and Wells before him, is not acceptable.



Taxonomists find Love!!

I think most herpetologists now agree that business as usual, working through these documents -- adopting names if they come to hit the mark, sinking them into synonymy if they do not -- is not a sensible option. If nothing else, this approach feeds the escalation of the problem by providing rewards for poor behaviour, and it has opportunity costs -- the effort required to appropriately deal with the proliferation of unsubstantiated names greatly exceeds the effort required to produce them.

Our efforts would be better directed at more constructive endeavours.

For the time being, my recommendation is to state in turtle papers that "*the documents circulated under the banners of Australasian Journal of Herpetology and the Australian Biodiversity Record are not regarded as publications for the purposes of nomenclature*" and, optionally, refer to the lead provided by Kaiser et al., 2013.

Arthur Georges

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## Time to Think turtle



### Australians urged to 'Think Turtle' and be on the lookout during Turtle Month

Australians are being urged to be on the lookout for turtles during November to help researchers better understand how best to protect these native creatures as they leave the safety of the water to lay their eggs on dry land.

The University of Western Sydney is launching Turtle Month to raise awareness about the incredible danger facing female turtles as they make the

transformation from graceful aquatic survivors to slow and defenceless landlubbers, that are easily hit by cars and trucks or killed by foxes.

As part of Turtle Month, the University is calling on people to download the TurtleSAT app, which gives users the chance to log turtle sightings which will help researchers develop new protection strategies.

The TurtleSAT app is a simple tool with a big impact. TurtleSAT can record your location and the species of turtle spotted in the wild. Users of TurtleSAT are giving Australian scientists the edge in tracking where turtles are active and nesting.

"Female turtles are up against it when they leave the safety of the water to lay their eggs," says **Dr Ricky Spencer**, from the UWS School of Social Science and Health.

"Drought and urban development may have taken away all the old nesting spots, roads and cars are often in their way, and once the eggs are finally laid, foxes and other predators sniff them out and eat almost all of them before they've had a chance to hatch."

"The good news is everyone can help. By downloading the TurtleSAT app and keeping your eyes open during Turtle Month, people can help us learn more about these mysterious creatures. By recording any dead or alive turtles into TurtleSAT you are directly saving the next turtle that may try to cross the road. TurtleSAT will be used to identify 'hotspots' and implement strategies to save creatures that date back to the dinosaurs.""

For those without a smart phone there is an easy to use [TurtleSAT website](#) to record sightings once people get home or to work.

TurtleSAT is a collaboration of the University of Western Sydney, The University of Sydney, NSW Department of Primary Industries, Invasive Animals CRC, The Field Naturalist Society of South Australia, Fish Fuel Company and the Barbara Hardy Institute at the University of South Australia.

**HOT OFF THE PRESSES** ..... TurtleSAT goes national.





From November, TurtleSAT will allow users to report turtle and nest sightings from all over Australia. Turtle Survey and Analysis Tools (TurtleSAT) was launched on World Turtle Day in May 2014 and focused on south-eastern Australian species of freshwater turtles. Now, users will be able to select their region of Australia; distinguish between a long- and short-necked turtle, and then be given a list of species that occur there. This modification will aid conservation agencies throughout Australia. TurtleSAT manager, Ricky Spencer, says the ultimate aim is to get TurtleSAT to a full offline App and field guide of Australian turtles. "No matter where people are in Australia, they can click on the TurtleSAT App and a fully interactive field guide will supply information on the species in the area. That is where we need to get to with TurtleSAT". TurtleSAT is a community mapping tool that provides real-time locations of turtles (alive or dead) and nests.

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### ***PNG LNG Funds Turtle Research***

#### ***ExxonMobil PNG Limited Supports Program to Protect Habitat of Endangered Turtles***

A program led by the University of Canberra and the Institute for Biological Research at the University of Papua New Guinea is working to conserve the habitat of an endangered pig-nosed turtle species, known locally as Piku.



Landowner Frank John and his family, releasing hatchling turtles.

ExxonMobil PNG Limited, operator of the PNG LNG Project, has committed K2.5 million over five years (from 2011-2015) to support the Piku Project. Piku is only found in southern New Guinea, including the Kikori Delta and Gulf region of PNG, and the Northern Territory of Australia. The meat and eggs of the turtle have long been a key source of food for people living in the Kikori delta, but increased harvesting has led to decline in species population.

ExxonMobil PNG Limited Managing Director **Peter Graham** said ExxonMobil is committed to protecting the country's unique environment for future generations.

"We invest in programmes like this because it supports and encourages environmental protection," said Graham. "The Piku Project is a good example of how community-led conservation initiatives can lead to real results," he added.

Program funding has supported a range of activities including community outreach efforts to raise awareness about the turtle, along with monitoring to help understand how the turtle lives and the threats it faces. The program also has a capacity-building component to increase technical expertise in conservation science Papua New Guinea, which includes a master's degree scholarship for a student from Divine Word University.

University of Canberra Professor **Arthur Georges** said that the program is about more than protecting an important turtle species.

"It is about building community awareness of the need for environmental sustainability more generally and protecting the turtle's habitat for future generations. The pig-nosed turtle is a species of value to local communities and a project like this builds a broader commitment behind conservation."

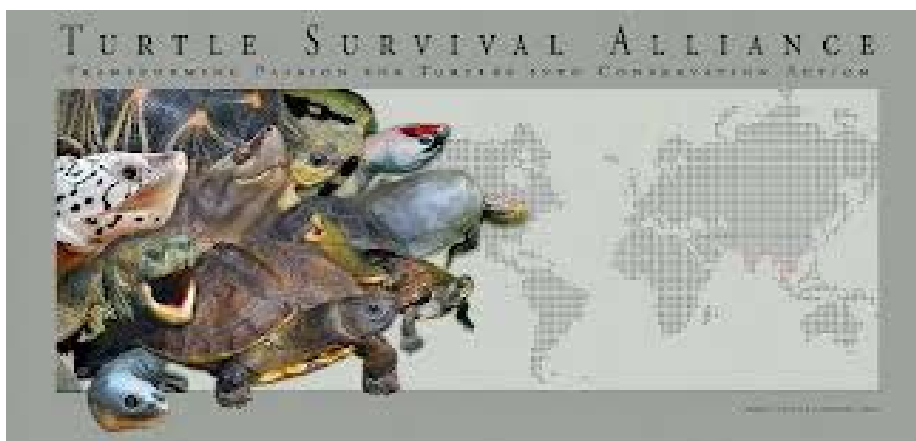
In conjunction with the project, a children's book entitled *The Adventures of Piggy on the Kikori* has been distributed to over 10,000 school children in the country. A second book, *Monty and the Lake Kutubu Invasion*, has been published and will be distributed to children throughout the Kikori drainage area over the coming months.

Earlier this year the Piku Project team also established an exhibit at the Port Moresby Nature Park, and are also selling the books there. This exhibit is a showcase for the rare turtle as well as a protected breeding ground that provides hatching turtles a head-start on life. The hatchlings are then released into their natural habitat once they are large enough to defend themselves against common predators.



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## Turtle Survival Alliance Meeting -- Orlando



The  
12th  
Annual

symposium on the Conservation and biology of Tortoises and Freshwater Turtles was held in Orlando lat August with 268 participants from 18 different countries.

The event, sponsored by Zoo Med Laboratories brought together some of the best "turtle minds" in the world.

Australia was represented by Carla Eisemberg, Sean Doody, Gerald Kuchling and Arthur Georges.

**Carla Eisemberg** spoke on her recent work in Timor Leste on the *Chelodina mccordi* recently discovered there by Colin Trinder. In her talk, *Projetu Lenuk Lorosa'e -- Chelodina mccordi timorlestensis*: Conservation and Environ-mental Education Program in Timor-Leste, Carla reported that human harvest is the main threat in the area the species is most concentrated, a small area of lacustrine habitat near the eastern tip of the island in Lake Iralalaro (Lauten District). Habitat modification by fire, buffalo and cattle, and nest predation by pigs and dogs may also be factors. Carla's focus is on building community awareness of the conservation status of this critically endangered species and to engage local people in the monitoring and ultimately the research to fill knowledge gaps impeding management.



Carla also presented a poster on Using Biological and Social Data to Identify Priority Areas for Conservation of *Carettochelys insculpta* in PNG. Her spatial analysis identified seven priority areas within the Kikori lowlands. Two of these are quite substantial, on the coast at Turuvio Island, and upstream in the Serebi river area. This will assist local communities and authorities in setting priorities for protected areas, taking into account the dynamic nature of the environment in the Kikori.

**Gerald Kuchling** spoke on the Long-term Effects of Predator-proof Fencing on the Last Self-sustaining Wild Population of the Western Swamp Turtle *Pseudemydura umbrina*. The Ellen Brook Nature Reserve was fenced in 1991 to protect the turtles from predation by the European Fox, coupled with some artificial incubation of turtle eggs and release into the enclosure. Following the exclusion of foxes and cats, the native bandicoots built up in numbers and were found to excavate nests and eat the eggs. Furthermore, fragmentation of turtle home ranges by the fencing seems to have had a detrimental effect on them, with 50% of long term residents lost over just 4 years. Sadly, even with headstarting and protection of adults, Gerald reports that 24 years of fox exclusion using fencing at Ellen Brook has not yielded lasting increase in the last self-sustaining wild population of *Pseudemydura umbrina*.

**Arthur Georges** gave the keynote address on his exploits in Papua New Guinea, first introducing the island and its dynamic and recent orogenesis, its special place in the region as a conduit between south east Asia and the Australian region, as a magnifier of diversity as it invades, as a museum of biodiversity in the face of the aridification of the Australian continent, and as a cradle, generating new diversity that subsequently invades northern Australia. He then covered his experiences in the Transfly, and finished with the recent work undertaken in the Kikori on *Carettochelys*. The biggest challenge is learning how to achieve enduring change in support of conservation in the region. A brief account of the talk appears in the most recent TSA Newsletter, [Turtle Survival](#), which is available to members of the [TSA](#).



Anders Rhodin grapples with a mean Florida dropbear on a conference field trip.

Next year's meeting will be in Tucson Arizona, so stay tuned.

For further information, go to the [TSA webiste](#) and maybe join up.

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### New Type Specimens lodged with PNG Museum



Branderhorst's Snapping Turtle, *Elseya branderhorsti*, from the Transfly region of Papua New Guinea.

time of global biodiversity decline, documenting the species we have could not be more important. This is especially so in one of the world's megadiverse nations, Papua New Guinea.

For this reason it is great to see that two specimens of a large turtle species from the Transfly region of



the Western Province have just been lodged with the National Museum and Art Gallery of PNG. These are the first confirmed specimens of Branderhorst's Snapping Turtle (*Eseya branderhorsti*) to be lodged with the museum.

Acting Museum curator, **Jim Anamiato**

, was delighted to receive the specimens. "It is so pleasing to see these important specimens lodged with the National Museum in PNG rather than with an overseas museum", he said. "Lodging type specimens with the Museum will increase its standing internationally, and encourage researchers from overseas to visit the museum and its collection"

The way scientists document biodiversity can be quite involved, but one thing they all agree on is the need to attach species names to a specimen held in a registered museum. For *Eseya branderhorsti*, this has presented somewhat of a problem.

The species was first described in 1914 by a Dutch scientist **Peter A. Ouwens**, then Director of the Java Zoological Museum and Botanical Gardens. He published his brief description in the journal *Contributions a la Faune des Indes Néerlandaises*, but unfortunately prepared this description from a live animal that was subsequently lost.

Much confusion followed, such that all museum collections in the world have mixed up the identities of Branderhorst's snapping turtle with another PNG turtle, the New Guinea snapping turtle, *Eseya novaeguineae*.

Lodging these specimens with the PNG National Museum and Art Gallery puts an end to this confusion because we now have museum specimens on which to hang the hat of *Eseya branderhorsti*. It is the job of turtle taxonomist **Scott Thomson**, currently visiting the Institute for Applied Ecology at the University of Canberra, to formalize this in a scientific publication setting one of them as, what scientists call, a "Neotype".

The turtles were passed to the Piku Team operating out of the Kikori region, and funded by PNG LNG. The Piku team passed them on to UPNG for safe keeping, then on the National Museum for posterity.

Piku program leader, Professor **Arthur Georges**, said "At this time of global biodiversity decline, it is all the more critical to properly document our species so that they can be factored in to conservation planning. Lodging these specimens is an important part of this process"

This is particularly so", he added, "when the original specimen collected in the 1800's has been lost".

For further information, contact **Jim Anamiato** on [janamiato@museumpng.gov.pg](mailto:janamiato@museumpng.gov.pg).



**Acting Curator of the PNG National Museum, Jim Anamiato, holds the Neotype of *Eseya branderhorsti*, while standing in front of the museum's spirit collection where the animal will be housed.**

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## **New Radio-tracking Study Begins -- *Eseya irwini***



**Alistair Freeman does a final check before release. Photo: Henry Stoetzel.**

In a new study, radio transmitters were placed on eight Johnstone River snapping turtles (*Elseya irwini* Johnstone) from the Atherton Tablelands.

Threatened Species Unit (TSU) staff from the Queensland Department of Environment and Heritage Protection (EHP), with the assistance of grade 12 Malanda High student Henry Stoetzel and James Cook University post graduate student Wytamma Wirth, placed the transmitters on four adult females and four adult males at a site west of the town of Malanda in the upper reaches of the North Johnstone River.



**Henry Stoetzel drags the canoe back to the release site for the turtles. Photo: Alistair Freeman**

For a number of years TSU technician, Alastair Freeman (with the help of a variety of volunteers) has been monitoring this turtle at four sites on the Atherton Tablelands.

This current radio tracking work is a logical next step in continuing this project, which aims to ascertain if the Johnstone River snapper is sedentary or if it ranges far along the river over the course of a year. The river experiences a monsoonal wet season of flooding and post wet season nesting period.

The information gathered in this study has obvious implications for habitat use and will help the government and communities manage for the conservation of this highly restricted turtle.

For further information, contact [Alastair Freeman](#).



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## Dietary Overlap in Shortnecks

Freshwater turtles are threatened globally; however, short-necked turtles in Eastern Australia have been particularly successful in exploiting natural and man-made permanent water bodies.

The catchments of eastern Australia offer a unique opportunity to compare the diets of species in habitats where both genera co-exist, but only one genus is usually locally dominant.

**Ricky-J Spencer** and his colleagues compared the diets of species of *Emydura* and *Myuchelys/Flaviemys* in inland and coastal catchments in eastern Australia to determine the breadth of diet.



The Manning River Turtle

They also conducted a more in depth study of the ecology and habitat preferences of the Bellinger River *Emydura* (*Emydura macquarii macquarii*) and *Myuchelys georgesi*.

Species of *Myuchelys* and *Emydura* are omnivorous. A high proportion of their food is from benthic macro-invertebrate communities in clear water. Terrestrial invertebrates and filamentous algae are present more in the diets of species inhabiting turbid water.

Competition between species of *Emydura* and *Myuchelys/Flaviemys* is likely to occur when in sympatry, because species of *Emydura* can adapt their diets to various habitats and water quality. *Myuchelys georgesi* is restricted to, but common in, the Bellinger River.

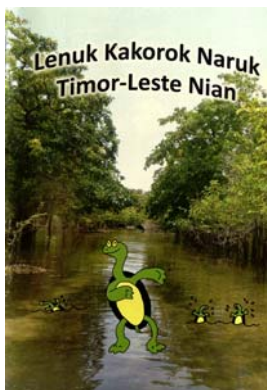
Interspecific competition may occur between *E. m. macquarii* and *M. georgesi* because of similar habitat preferences, diets and life histories. *Emydura m. macquarii* is not unique to the Bellinger River and hybridization with the endemic *M. georgesi* is regarded as a threatening process.

For further information, go to the source:

Spencer, R-J, Lim, D., Georges, A., Welsh, M. and Reid, A.M. (2014). The risk of inter-specific competition in Australian short-necked turtles. *Ecological Research* 29:767-777.

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## New Childrens' Book from Carla Eisemberg



A new exciting children's book about the unique and critically endangered *Chelodina mccordi timorlestensis* is getting ready to hit the primary schools of Timor-Leste.

The book entitled "Lenuk Kakorok Naruk Timor-Leste Nian" has successfully debuted at the local schools of Los Palos and Mehara. These schools are located at the Lautém district, where this turtle is known to occur.

This book was written by **Carla Eisemberg** (Charles Darwin University) and Fernando Perini (Universidade Federal de Minas Gerais).

To reach a broader audience, the book was written in Tetum, the most common dialect in Timor-Leste. This was possible thanks to the participation of Bertanizo Costa and Elda Guterrez, two undergraduate Environmental Science students from Charles Darwin University that were involved in the project not only translating this booklet from English to Tetum but also bravely volunteering on the monitoring program, when they searched for these turtles in the crocodile infested waters of the Lake Iralalaro.

The next phase of these project aims to distribute 13,000 copies of this book to all primary schools of Timor Leste. The book has been revised, approved and endorsed by the





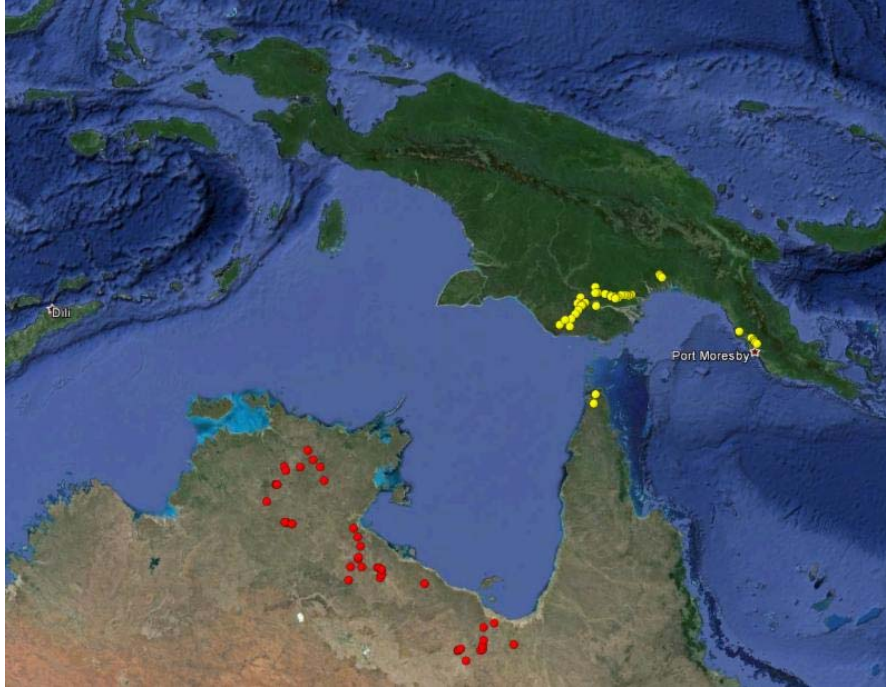
Timor Leste Department of Education and Department of Environment and it will be incorporated permanently on the new 6th grade curriculum.

For further information please email [Carla Eisemberg](mailto:Carla.Eisemberg@timor-leste.gov.tl).

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## Turtle Distributions -- Update



Sample output from the turtle distributional database, showing distributional records for *Emydura subglobosa*. Records shown in yellow for *Emydura subglobosa subglobosa* and red dots are for *Emydura subglobosa worrelli*.

New turtle records have been added for *Emydura subglobosa* by Alistair Freeman.

For further information, interrogate the [UC turtle distributional database](#).

If you have any observational data, please feel free to contribute.

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## People on the Move



**Dick Vogt** recently visited Australia from Brazil to continue his work on freshwater turtle vocalisations, a surprising new area of turtle biology pioneered by [Jacqueline Giles](#) and carried to new heights by Dick.

**Scott Thomson** is back in Australia until early next year, when he returns to Brazil. While in Australia, he is working on a range of questions on the morphology of living and extinct turtles, and completing his Masters thesis.



*Influence of Temperature on the Life History of Turtles:  
An exploration of the endocrine and maternal adaptations to incubation temperature*



**Fiona Loudon** submitted her thesis last month. Fiona is from the University of Western Sydney and is now starting a project, that will carry her to the end of



Frank Ben, London  
(R. Ben, N. J. Ben, J. Ben)

Submitted to the completion of a Doctor of Philosophy degree at the University of  
Western Sydney  
August 2014

the year, on freshwater turtle nutritional requirements and whether they are met on commercial turtle foods.

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