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Our latest scientific publication

Wotherspoon, D. and S. Burgin, (2011) Allometric variation among juvenile, adult male and female eastern bearded dragons *Pogona barbata* (Cuvier, 1829), with comments on the behavioural implications. *Zoology* 114:23-28.

Abel Archaeology

NEW

Abel Ecology Pty Ltd is pleased to announce that Dr Graham Knuckey has joined us to practise as 'Abel Archaeology', specialising in Indigenous (Aboriginal) heritage consultancy. Graham trained at UNE in Armidale NSW, and has experience since 1985 in museum research and in university research and lecturing. Since the early 90's he has been involved with commercial consulting in indigenous archaeology both in northern NSW and across Qld. His experience includes working within the mining sector, with large infrastructure companies, with national, state, and local government

authorities on the one hand, and with Aboriginal groups, historical societies and/or action groups, land owners and/or the general community on the other.

We look forward to providing our clients another service that fits well with our existing business structure, which includes:

- ~ Abel Ecology for bushfire and ecological assessments
- ~ Abel Earthcare for bush regeneration
- ~ Abel EarthScape for lawn turf installation and landscaping

Please call us to talk about your needs for archaeological services.

Abel News

Australian Museum Eureka Prizes - Science Photography Prize

The New Scientist Eureka Prize for Science Photography is awarded to an Australian/s over the age of 18 for a single photograph taken in the past 2 years that most effectively communicates an aspect of science.

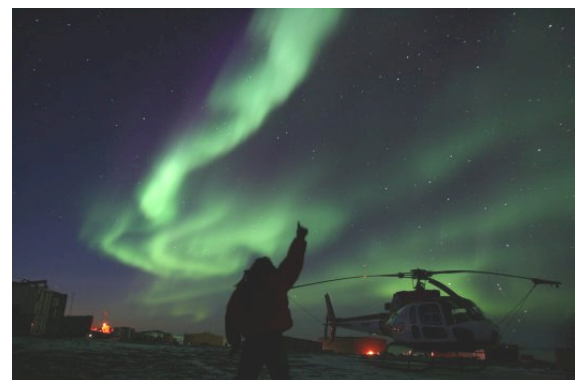
See some spectacular photos at

<http://www.australianmuseum.net.au/Top-25-Science-Photography-Prize?page=1&assetID=>

One our team, Mitch Hollier did his Honours project in Antarctica.

His photo, adjacent, of the Aurora Australis was a finalist; one of the best 25 entrants.

Mitch is a marine biologist but also has a special (almost) life-long interest in frogs and reptiles.



"Whilst researching the effects of elevated CO₂ on marine algae at Davis Base, Antarctica, the Aurora Australis bathed us in all its splendour one night in early 2009. The photo illustrates the nature of science in an extreme environment; extreme in both its remoteness and its beauty. There was no manipulation of the photo."

© Mitch Hollier

Scrub Turkey recipe

Well! The turkey story in our last newsletter certainly provoked a lot of response!



© AD Wotherspoon

For more, see http://www.wires.org.au/images/stories/factsheetspdf/Brush_turkey.pdf

The appropriate follow up will be found at the web site of All Recipes Australia New Zealand

<http://allrecipes.com.au/recipes/turkey-recipes.aspx>

However, there is one hero to mention. Following the Brisbane floods in January television news showed a male scrub turkey that had raked all flood debris from three properties into a single large mound as a nest. The home owners came home to find that most of their cleanup outside had already been done, and that included the front footpath!

Water from thin air

In many parts of sub-Saharan Africa, people are forced to travel long distances and spend hours at a time collecting the water needed for cooking and drinking from far away streams or wells. But the residents of Cabazane, South Africa have found a much less labour intensive alternative. They use gravity and let water come to them.

In many parts of sub-Saharan Africa, people are forced to travel long distances and spend hours at a time collecting the water needed for cooking and drinking from far away streams or wells. (Photo credit: Bernard Pollack)

With the help of a team of scientists lead by Jana Olivier from the University of South Africa's School of Agriculture and Environmental Studies, featured on AlterNet last month, the residents of Cabazane are using nets strung up across a nearby mountain pass to harvest water from the air.

Built at an altitude of 1,600 meters, steel cables held by wood posts support the two layers of shade clothe nets used to catch tiny droplets of water from the passing mountain fog near Brooks Nek Pass. The drops of water create run-off that is caught in gutters built at the bottom of the nets. This water is then carried by tubes down the side of the mountain and to the village. With each square meter of netting providing up to five litres of water per day, Cabazane can collect hundreds of litres on a good day.

And, most importantly, coming from the clouds, the water is very clean-an especially valuable commodity in area previously suffering from water shortages. The nearest stream to the village is two kilometres away and contaminated by animal use. Residents who used the stream were often exposed to water-borne diseases. Once dams were used to collect water in the area, but extreme drought has even dried up this source.

Water from thin air continued ...

Nandi Ntsiko, a resident of Cabazane, in the Alternet article, "having piped water was a pipe dream for us. We were forced to share drinking water with animals in this stream. The situation was dire."

Now the villagers not only have a steady supply of clean water, they have enough of it to store in newly constructed tanks. The netting also provides the additional benefit of being completely gravity-driven. No electricity is needed to power this innovation,

making it affordable and environmentally friendly, and the technology is simple enough that maintenance is relatively easy.

Collecting water from fog is a technique that has been used for almost 30 years in some mountainous parts of Chile, and the project at Cabazane has been so successful that it's already been replicated in other dry areas of South Africa, including Venda and Limpopo.

More Water News

Willows worth \$2.4m in water

Removing willows growing in the stream bed of creeks and rivers could return valuable water resources to river systems, new CSIRO research has found.

A CSIRO study into the water use of willows found more than five and a half megalitres of water could potentially be saved annually per hectare of willow canopy area removed, where trees were in-stream with permanent access to water.

"One megalitre is one million litres - the volume of water used by three average households in a year. So the evaporative loss of one hectare of willows is enough for about 17 households each year," says project leader, Tanya Doody.

"A comparative study of native vegetation water use lining the same watercourse, showed willows could be replaced with native vegetation and the annual water savings would be maintained."

Funded by Water for Rivers - a public company established by the Commonwealth, New South Wales and Victorian governments to recover water for the Snowy and Murray Rivers - the project results have now been published in the Journal of Environmental Management.

Water for Rivers Project Director Phil Deamer says that an estimated 170 hectares of in-stream willows in rivers in northeast Victoria - and a further 50 hectares in the Yanco Creek, Murrumbidgee, Yass and Murray rivers - have been permanently removed so far.

"This removal has returned 1200 megalitres of water

per year that was previously lost to willows," Mr Deamer said.

"At an average market price for high security water of \$2,000 per megalitre in NSW and Victoria, the five and a half megalitres per hectare per year used by willows is worth over \$2.4m of water entitlement."

Willow removal programs have been in place in south eastern Australia for many years with removal commencing in the upper Snowy and the East Gippsland and lower Snowy area around 1999 with an aim to improve water quality, reduce willow roots obstructing water ways, and improve flows.

According to Ms Doody, the removal of willows leaves more water in streams, and replacing them with native vegetation like red gums, which have a lower evaporative loss and are more ecologically suited to Australian riparian areas, enables most of the water savings to be maintained.

"However, if the net overall benefit of willow removal from creeks and streams is to be properly evaluated, the various other benefits and disadvantages of removal must also be understood and included in decision making," Ms Doody said.

<http://www.ecovoice.com.au/eco-news/1624-water-savings-from-willow-removal>

Abel Earthcare provides cost effective solutions for management of development sites in a way that generates multiple benefits to both client and community.

2010 ESA 50th Anniversary conference Canberra

More than 700 leading international and Australian ecologists attended the Ecological Society of Australia's Annual Conference in Canberra to brainstorm issues critical to ensuring a healthy future for Australian biodiversity. Co-sponsored by CSIRO, the theme for the Conference was: Sustaining biodiversity - the next 50 years. "It is appropriate that the Conference will spotlight the work of ecologist in this the United Nations' International Year of Biodiversity as it is their science that underpins efforts to preserve Australia's ecosystems," said the Chief of CSIRO Ecosystem Sciences and Chair of the Conference Committee, Dr Mark Lonsdale. "We will be discussing

topics as diverse as the effect of climate change on the annual migration of bogong moths, progress in combating the facial tumour disease threatening Tasmanian devils and looking at sediment-dwelling species from Sydney Harbour using new DNA technologies." Dr Lonsdale said that the input of ecologists is also vital on topics such as urban expansion, irrigation, climate change and invasive species. Novel solutions such as a better understanding of indigenous Australians' ecological knowledge and the role urban communities play in biodiversity conservation will also be highlighted. "All of these discussions have become even more

urgent and important in light of the failure to achieve the 2010 Biodiversity Target to halt the decline in species diversity which the global community set in 2002," Dr Lonsdale said. "An address by Professor Ross Garnaut on Economics, climate change and biodiversity, should also provide much food for thought," he said.

Three scientists from Abel Ecology attended the conference to find that it was the best ever held, and we have been presenting papers at the ESA conference since 2002. The conference keeps us abreast of latest research and application to issues of relevance to our clients.

WIRES News

Wildlife Information and Rescue Service

www.wires.org.au

Danny spoke at a recent Blue Mountains WIRES meeting about the ecological impact of roadkill and implications for road design and urban planning.

WIRES has lots of good advice about how to remove a possum from your roof, possum boxes, protective netting for fruit trees, etc.

I love their magazine LiveWIRES.

Now here is a fundraiser to bring a smile!

Go to www.wineboxwarehouse.com.au/wires for specials that includes a favourite style of mine, sparkling shiraz, for \$13.99 a bottle. The blurb says it is perfect with TURKEY! (You didn't hear it from me).

Pleasure Walks

Blue Mountains picnic with a Wildlife wine

There is a vineyard in the Megalong Valley, Blue Mountains, called Dry Ridge www.dryridge.com.au

This is a stunning place for a picnic BBQ, as we did one Sunday afternoon.

Bring your picnic set, forage for goodies at Whisk and Pin at Medlow Bath and then get a supply of brilliant meat and olive oil from the neighbouring Megalong beef Angus

producer. Settle in with a wonderful wine at the Dry Ridge BBQ picnic area, and enjoy the view of the cliff lines, vines and cattle grazing. The wine label features a fascinating local butterfly that is tended by ants as a caterpillar. You may remember the 1983 30c stamp with the same butterfly.

(Just how old is Danny, now?)

Dryridge Estate 



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