

Newsletter of Echidna Care

Puggleg Post



ANTIPODEAN SUMMER 2001/ 02

Echidnas in their habitats – Bushfires

by Peggy Rismiller

Summer is the time when we as humans are most aware of bush fires. However fires caused by lightning strike or carelessness can occur at any time of year. Ecologically we recognise hot and cool fires. Hot fires can totally incinerate an area leaving only ash and bare mineral earth. The intense heat can influence life beneath the ground surface. Cool fires often move rapidly and characteristically



Echidna 4 months after a bush fire near Port Stevens, NSW. The oval shaped ear opening is visible where the animal lost its spines. Tiny black points on the head are the start of new spine growth. (Photo courtesy J. Holloway)

leave standing organic material behind. Depending on the speed and intensity of cool fires, resulting conditions below the surface are different from those of a hot fire.

Every year in Australia thousands of kilometres of native bush burns. Fires change habitat. Our native vegetation is well adapted to fire, with seed germination and life starting anew even in the hot, smouldering ash.

We are not alone!

Bush fires that started near Sydney a few days before Christmas have burnt more than a half a million hectares of everything from remote pristine bush land to farming properties. Some fires are still alive as I write this in early February.

The media were very quick to report that despite the extent and ferocity of the fires no lives had been lost. I presume the life the media talks about is of the homo sapien kind - that certainly is good news but I have real problems with that sort of reporting. What about the hundreds of thousands of mammals, birds, reptiles and insects that would have been destroyed not to mention the countless number of flora species ● -Ed.

But

what about the wildlife that lives there? Birds can fly away. Fast moving marsupials go bounding out of the area. What happens to animals like the lizards and small mammals? In particular,

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how do echidnas cope with bush fires?

Echidnas live in all types of habitats around Australia. Throughout its lifetime, an echidna does not have a single 'home den', but uses a variety of shelter sites. Shelters include self-dug burrows, tree root hollows, natural caves, excavations under rocks and even rabbit warrens. Depending on the depth of the shelter, all can provide life saving protection from both hot and cool fires. These shelters may be shared with other wildlife, including reptiles or small mammals, both as daily shelters and in times of emergencies, such as fires.

In its daily routine, an echidna can cover a lot of area and travel through parts of its home range where shelter sites are far and few. If a fire comes through in this situation, the echidnas only chance of survival is to dig in. Sandy or soft soils provide a perfect opportunity for an echidna to use its amazing rotational digging ability to disappear straight down into the ground. Sometimes the ground is so hard that the animal cannot completely bury itself. It will dig as deep as possible and then wiggles its spines adding a protective layer of soil between its skin and the surface above. Can these animals survive a passing bush fire?

Amazing stories about echidnas surviving

bush fires have come in from around the country. Ray "Whimpey" Reichelt, owner of the educational facility Little Desert Lodge near Nhill, Victoria was fighting a bush fire one day when he and other fire fighters saw "a blackened bush move". The black bush turned out to be an echidna. Every time the fire truck passed near by, the animal was sprayed with water. When the fire was under control, Whimpey returned to check on the echidna. It was alive, but all the spines had been melted down to blackened stubs on its back. He watched the animal over the next 24 hours until it got up and walked away through the ash, disappearing down a rabbit warren. Six months later he spotted what he believed to be the same animal. Between the dark rounded masses on its back were new perfectly formed spines showing through.

Echidna Watcher John Holloway photographed a strange looking echidna shortly after a bush fire near Port Stevens, NSW. This animal had no old spines left on its head and there were bare patches on several other parts of the body. Many of the remaining old spines were 'burned off' at an angle. New spines were growing through healed skin. We have observed echidnas in fires on Kangaroo Island with similar burns and melted spines. Observations have taught us that echidna spines exposed to a

bushfire show a characteristic signature or melt pattern. These echidnas were survivors of fire.

We often think of echidna spines as protection from predators. Perhaps they really represent an adaptation, helping the animal cope with all natural happenings within their habitats. There is more to understanding how echidnas cope with bush fires than the obvious role of the spines. An echidnas ability to lower its body temperature, slow down its metabolism and reduce breathing may provide additional 'fire protection'. The phenomenal healing abilities of echidnas are of interest to medical research.

Certainly not all echidnas survive every fire. However, monotremes have evolved with Australian habitats, and natural occurrence of fires, over the past 120 million years. Capability of echidnas as a species to cope with fire shows how this animal has adapted to living in balance with its habitat.

A funny thing happened...

two local policemen picked up an injured echidna and put it into a box on the back seat ... guess who dug its way out of the box and got itself nicely hidden by wedging itself under the drivers seat. The police had to spend two hours pulling the car apart and putting it back together again after extracting the echidna ! *anonymous web posting*

from your editor...

Belated New Year greetings Puggle Posters.

This year started on a good note for me in my favourite place - the bush; The Coorong to be precise. The Coorong starts about 100 kms South East of Adelaide in South Australia and is a one hundred kilometer long inland salt lagoon separated from the Southern Ocean by a peninsula of gleaming white mountains of sand dunes.

A group of us went there for a 5 day cultural field trip and stayed at Camp Coorong where the *Ngarrindjerri people share their history and culture with students, educators and community groups.

We learnt to identify bush tucker and bush medicine plants. We wove baskets (some better than others!), went cockling along the wild ocean beaches, visited many significant Ngarrindjerri historical sites and tried to get our tongues around the challenging Ngarrindjerri words.

But I was on a mission of my own. I wanted to find out about the echidna population in the area its place in the local culture.

Mostly low scrub and sandy country there were masses of echidna signs everywhere. Hundreds of trails of nose pokes and diggings lead me a merry dance through the bush but I never caught sight of one single spine let alone an entire echidna.

Throughout Australia the echidna has been a traditional food source for the Aboriginal people. Although echidna is still eaten in some communities consumption is usually restricted to special occasions.

At birth an Aboriginal child is bestowed with their own totem animal or bird. It is then their lifetime duty to ensure the survival and well being of that creature.

I was hoping to find someone who had an echidna as a totem but if they existed they were as elusive as the echidna itself.

Talking of echidnas being on the menu (all echidnas avert your eyes from this point on...)

It is said that the famous British officer, Captain William Bligh once ate echidna drawing a picture of the animal to take home with him before dining on it.

Here is an Aboriginal recipe for echidna but don't try this at home! Cover a dead echidna in mud then bake in hot coals. Discard the shell of mud, simultaneously removing the quills. Enjoy the chicken-like flesh.

But enough of that.....Cheers...Joy W

**Ngarrindjerri is a term that collectively describes the many Aboriginal peoples who live in a large section of South Australia that includes the Coorong. These people share a common creator ancestor, Ngurunderi as well as similarities in language.*



Ngarrindjerri woman Yvonne Koolmatrie is one of only a few women in Australia who do sculptural weaving. She has woven this delightful, but prickly, echidna which currently resides in the South Australian Museum in Adelaide.

Real echidna spines were used but they were taken from echidnas that had been killed on the road. Yvonne believes echidna numbers are depleting so rapidly that to kill one of these creatures just for its spines would be sacrilege.

Dreamtime echidnas

Traditional stories from indigenous peoples around the world attempt to explain the unexplainable. The Australian Aboriginal peoples' Dreaming stories have been told and retold for thousands of years. The stories teach all that is understood about the land, spirituality and laws for survival

There are numerous tales about how the echidna got its spines, none of them particularly kind - here are two of them...

The Echidna and The Robin

Echidna was a very old man who, living apart from his people, seldom left the shelter of his bark hut. No one knew where he collected his food. He was too old to hunt, yet in some way he prospered. Echidna actually lived on the flesh of the young men whom he would kill after coaxing them to his camp on some pre-

text. For a long time he had kept his secret, but, like all things, it was finally revealed.

The Aboriginal men, horrified when they found out what was happening, surrounded Echidna and wounded him so many times that his back was a bristling mass of spears, and his legs and arms were broken and distorted.

Nunkito, the wife of Echidna, was so distressed when she heard about the punishment of her husband, that she gashed her scalp with a digging stick until the blood flowed down and stained her body. That is why, when Nunkito became a robin, she had a red breast.

Meanwhile, Echidna, though badly wounded, had crawled into a hollow log, where he stayed until his wounds were healed.

When he came out his hands and feet were changed into strong, useful claws, and his legs, though badly distorted, were still able to carry him from place to place. But neither he, nor his wife, could pull the spears from his body.

One can often see Echidna, crawling slowly and awkwardly along the ground, his back bristling with spears of long ago. And should he be disturbed, Echidna, with his powerful digging claws, will quickly bury himself in the soft earth, for he still remembers the punishment he once received.

From Legends Of The Dreamtime, by Charles P. Mountford

“Echidna actually lived on the flesh of young men...”

How the Echidna Got His Spines

Once there was a great drought, but somehow, Echidna seemed to be thriving while all the other animals were dying of thirst. Everyone believed that Echidna had a secret store of water and that he was keeping it for himself.

Bimba-towera, the Finch, was told to follow Echidna wherever he went, to find the location of the hidden reservoir.

"But he'll see me," Bimba protested. "He won't go near the water if he sees me watching him."

"Sooner or later he must drink," they told him. "He can't go without water for ever. That's when you'll find where he keeps the water."

Bimba followed his instructions. Everywhere that Echidna went, Bimba was close behind. The wily little anteater knew very well why he was being followed. He said nothing but began to burrow into the earth with his

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strong claws. Soon he was lost to sight. Bimba cautiously put his head into the hole but withdrew it in alarm as the soil collapsed.

He reported his failure to the animals, who were at a loss to know what to do next. Not one of them was equipped for burrowing beneath the earth, and it looked as though Echidna would keep his secret while everyone else perished.

Then Tiddalick the Frog offered to help. He was a cunning fellow. He had shrunk in size since the day he had swallowed all the water in the land and then disgorged it (a different story) and had been thirsty ever since. He was as eager to find where Echidna kept the water as anyone and much more cunning than Bimba in concealing his movements.

He made no attempt to follow the anteater, but browsed among the reeds, taking no notice of Echidna. For most of the time his back was turned. Seizing his opportunity when Tiddalick seemed to be engrossed in catch-

ing a fly, Echidna darted to his waterhole. It was concealed by a large flat stone, which he lifted and prepared to lower himself into the depression.

In spite of his apparent inattention, Tiddalick had been watching Echidna's every move. Immediately the stone was raised, he covered the intervening distance in a single bound and dropped head first into the hole.

Echidna started back as the water splashed up onto his face.

"What are you doing here?" Tiddalick asked before Echidna had time to open his mouth. "This waterhole belongs to all the animals. You have no right to come sneaking up and stealing it when we're not looking."

By this time all the animals had arrived. The first thing they did was to slake their thirst, after which they turned on Echidna and threw him into a thorn bush. When they left, Echidna dragged himself free, but was never able to remove the spines from his back. ■ From *This is the Dreaming: Australian Aboriginal Legends*, by Jean Ellis



We're Looking for Caring People to Adopt us..

For many years Earthwatch and Echidna Care have provided a major avenue for community support of Dr. Peggy Rismiller's field work on Kangaroo Island. Many of the people who have become directly involved with this work have shown a strong interest to continue their support by sponsoring individual echidnas. Last year Echidna Care helped set up Adopt an Echidna. The response to this program is helping directly with field work, continual monitoring of individuals and community outreach programs. Later this year some of the sponsors will visit Pelican Lagoon for a special field workshop. We hope to have more people joining the program.

For \$100 you can become an 'echidna parent'

Adopt an Echidna Programme was launched last year. We are looking for schools, organisations, companies or individuals to adopt us. "Official" Echidna Adoption papers will be sent to our new 'parents' and you receive a regular update about what we get up to. All adoption fees will be used for further research by Dr. Peggy to find out what makes us tick!

Echidna Care Inc. Adoption Agency

P.O. Penneshaw, Kangaroo Island South Australia 5222

Email: echidna@kin.net.au

Pelican Lagoon 2002 Calender

EW	Discovery Weekend	1-3 March 02
CVA	Conservation Volunteers work program	1-5 April 02
EC	Sustainable Resources and Balance Points	13-14 April 02
EC	Echidnas	2-5 May 02
CVA	Conservation Volunteers work program	27-31 May
EW	Earthwatch	15-28 June 02
EW	Earthwatch	13-25 July 02
CVA	Conservation Volunteers work program	5-9 August 02
EW	Earthwatch	17-30 August 02
EC	Biodiversity, a window in time	7-8 September 02
EW	Discovery Weekend	4-6 October 02
EW	Earthwatch 1	12-25 October 02
CVA	Conservation Volunteers work program	4-8 November 02
EC	Echidnas	9-10 November 02
EW	Students in Science	14-20 December 02

Australian contact phone numbers and addresses:

EW-Earthwatch Email earth@earthwatch.org.au

Phone 03 9682 6828 126 Bank Street South Melbourne Vic 3205

EC-Echidna Care Inc. Email echidna@kin.net.au

A/hours 08 8553 7174

Post Office Penneshaw Kangaroo Island SA 5222

CVA -Conservation Volunteers Australia (formerly ATCV)

Ph 08 8212 0777 130 Franklin Street Adelaide 5000

Workshop Details

Echidnas

May 4-5, 2002: 9-10

November, 2002 Echidna

Discovery workshop with Dr. Peggy at Pelican Lagoon, Kangaroo Island. Exploring a variety of echidna habitats and learning how the echidna fits into the living circle of these dynamic systems. Two days of experiencing the bush from the viewpoint of one of the planets longest surviving mammals.

Biodiversity

7-8 September, 2002

Some seasons Biodiversity is more obvious than others. September is an obvious time. Habitats and individuals stand out clearly in colour and form at this time of year. Explore what makes up the diversity and how it functions. Plants and animals are all part of the geography of life.

Additional Workshop and Participant Programs throughout the year:

There are a number of weekday workshop and participant programs with the Penguin Study Group. Birdwatching and bird survey programs with resident biologist are available upon request. Applications for the Pelican Lagoon Wildlife Artist in Residence program close 1 December of each year. The one week Work Experience in Field Biology Monitoring and Survey program takes applications for selected projects with current biologist; contact Dr. Peggy Rismiller for details at - echidna@kin.net.au.

Road Plan Threat to ACT Echidnas

This report is by Ian Warden and was published in the Canberra Times on 17 August 2001. [For our overseas readers ACT stands for Australian Capital Territory where the Nation's capital, Canberra, is located

One of Australia's faunal icons, the echidna, has ambled into the controversy over the route of the proposed Gungahlin Drive extension that would link Gungahlin to Belconnen Way.

Australia's leading echidna expert, Dr Peggy Rismiller, believes that if the proposed parkway dissects the woodland space of the Bruce and O'Connor ridges, the echidnas there might not survive.

She has written a letter warning of this to the National Capital Authority, and copies were sent yesterday to every Member of the ACT Assembly. With only a few sitting days left before it closes for the election, the Assembly could vote next week on the ACT Government's preferred route for the parkway. The matter seems certain to be an election issue.

In her letter Dr Rismiller, a research fellow with the University of Adelaide's department of anatomical sciences but based at the Pelican Lagoon Research Centre on Kangaroo Island in South Australia, says that because echidnas have a slow reproduction rate they never overpopulate. This means there are never very many echidnas in any echidna-hospitable place (she says every echidna

uses up to 200ha as a home range area) so that when echidnas are killed on stretches of road that pass through their neighbourhoods, it could mean the local population won't survive.

"During my 20 years of field and wildlife research and in the nearly 60 years' experience of my CSIRO colleague Dr Mervyn Griffiths, there is no evidence that echidnas become road-wise when their home range areas are cut by motorways. In our current world of decreasing native habitat and increasing predators, including the motor vehicle, this makes them vulnerable", Dr Rismiller writes.

In our rapidly changing environment, intact native habitat is a vital resource. The proposed dissection of the Bruce-O'Connor Nature Reserve by a roadway of any dimension would negatively impact the future and continued existence of the short-beaked echidna."

Philip Bell, an active opponent of the new road and the Canberran who showed Dr Rismiller around the ridge when she was here earlier this year for the Science Festival, wrote to Assembly Members yesterday to say the echidna population of the ridge was well known to Environment ACT, and to remind them 'that the echidna is not only a national icon but also the faunal symbol of Canberra Nature Park.

"Echidnas move very slowly," Mr Bell writes. "If they have to cross a busy road to get to a feeding ground, over a short time none will survive."

Des Ryan is editor of the South Australian suburban newspaper group, Messenger Press. To relax over the Christmas holiday break he drove from Adelaide to Melbourne, up to Sydney on to Canberra and back to Adelaide roughly 2,500kms [personally I'd go for a massage!]

The carnage he saw on the roads was so bad he wrote a column about it in his paper. "The section of road with all the road kills was between Canberra & Sydney", said Des. "I have never seen such carnage anywhere else. Apart from the dozens of dead kangaroos/wallabies, I saw four dead wombats and three dead echidnas - all fresh - which makes me think such a toll must be a nightly affair.

Now that's surfing!

This email was sent to Dr Peggy from Peter Williams the General manager of the Tasmanian Parks & Wildlife Service Division

Dear Peggy

I recently observed an amazing sight - you will not believe this. On the beach at Cloudy Bay, Bruny Island, (Tasmania) we spotted an echidna on the beach only a few meters from the water line. The echidna was perhaps 3/4 grown and not at all perturbed by our presence in that he/she walked right up to you. Echidna was left on the beach doing his stuff although just why he/she was on the beach was unclear at the time. On return an hour later the echidna was still there and we stopped to watch him/her for awhile and she proceeded to walk straight out thru the gentle surf - I had thoughts of headlines 'depressed echidna suicides while General Manager watches on', in my mind and was contemplating a rescue - well we rescue whales. While contemplating the logistics the echidna got into deeper water and was soon swimming strongly. After several minutes he caught a couple of waves and came back ashore. I did borrow Rons camera and we have photos to prove it! The speed of swimming was pretty good

and the echidna used all four legs to paddle away. He kept his snout at a raised angle - all the better for breathing. I guess it was a warm day 25C and the only thing lacking was an echidna sized surf board!



Also seen on [www](http://www.abc.com.au)

Surf and wind!

This story was posted to an ABC website— Funny story about an echidna I came across quite some years ago whilst in the Grampians. My partner and I observed that the little fellow had blood on his nose and thought we would pick it up and take it to the ranger but the little begger dug himself in. My partner, being industrious, though that a gentle prising with a piece of wood would extract the prickly creature. But - instead of extracting him from the ground the little fellow passed wind with such gusto and noise we fell on the ground laughing. We couldn't budge him because each time we tried he did the same thing. We ended up telling the ranger where he was and after he stopped laughing he said that the little bloke would be long gone and not to worry about him. Has anyone else heard of windy echidnas?

Echidnas have small mouths so they cannot yawn.



Echidna Quilt



One echidna fan was so inspired with the book *The Echidna, Australia's Enigma*, that she created a design for her craft, quilting. She sent this photo of her work (110 x 125 cm) and the following note:

Thank you for your wonderful book on echidnas. We quite regularly see an echidna on our property. I couldn't find any local information about them in our library, but finally discovered your book at the SA Museum last year. It is a fascinating read and really answered all my questions.

Being a quilt maker, I then decided I had to make an "Echidna Quilt" (see photo).

The female echidna is in the

centre surrounded by leaf fabric, which has ants printed on it, then comes the echidna 'train' of eight males, and the puggle in its leafy nest. Leaves, weeds and grasses from our scrub have been enlarged and appliqued around the edge.

Thank you again for your wonderfully informative book, to Mike McKelvey for the great photos and for the inspiration for my quilt.

Sincerely, Deb N, McLaren Vale, SA

Echidnas snoring for science

Reported in the *Hobart Mercury* 27/4/00
by Andrew Darby

Tired echidnas have been helping scientists discover that human Rapid Eye Movement sleep, often associated with dreaming, may be millions of years older than previously thought.

The echidna is one of the earliest evolving mammals and was thought to be one of the few that did not undergo REM sleep.

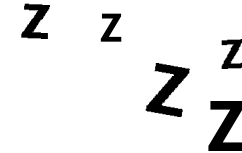
A joint study by the University of Tasmania and the University of California has found that it does - a discovery that could take the evolution of dreaming back tens of millions of years.

"The first true mammals turned up about 200 million years ago," said Professor Stewart Nicol of the University of Tasmania.

The scientists used less invasive - and less stressful - techniques than earlier studies, which may explain why the echidnas were able to enjoy REM sleep.

Despite admitting there was a "reasonable association" between REM sleep and dreaming, Professor Nicol refused to speculate on echidnas' dreams.

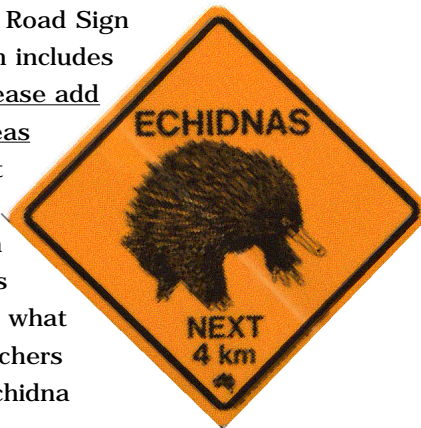
"We're getting into heavy philosophy here. It might be replaying the day, digging for ants, that sort of thing.



Warning! Echidnas Crossing



Echidna Care Inc have **Echidna Road Sign Kits** available which have been designed to help protect your local echidnas from becoming another road kill statistic. Put up warning signs on any roads your echidnas may have to cross so you can warn motorists of the danger (to the echidnas!). The Echidna Road Sign Kits cost \$A5 each which includes postage in Australia (please add an extra \$A5 for overseas orders) The kits consist of two yellow plastic signs, 19x19cms, with the wording "Echidnas Next 4Kms" and also what all good echidna watchers should have- "The Echidna Watcher's Guide".



Echidna Road Sign Kits are available from: Echidna Care Inc. Post Office Penneshaw Kangaroo Island South Australia 5222
Email: echidna@kin.net.au

Echidna Care Membership

Has your membership lapsed? Or would you like to make a research donation? Know someone who wants to join Echidna Care Inc? Membership fees for Echidna Care are for a 12 month period. There are several membership categories

- **Standard-Individual** \$15
- **Student/pensioner** \$10
- **Group Membership** \$25
- **Overseas** \$A25

Please send your fees or donations to:

Echidna Care Inc.
Post Office Penneshaw Kangaroo Island 5222 Australia

All Echidna Care membership fees and donations are used to purchase field research equipment for Dr Peggy Rismiller's echidna research on Kangaroo Island and for community education programmes.

Please pass this E-newsletter on to any person or group you think may be interested.
And if you are reading this as a 'pass-on' and would like to be included on our regular E-mailing list contact us direct at echidna@kin.net.au