

# ANTENNA



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## REGIONAL REPORTERS NEEDED

Please share any interesting websites, research or science activities that you come across.

All contributions welcome.

Email the Editor: [rachel.morison.90@gmail.com](mailto:rachel.morison.90@gmail.com)

## ATTENTION: YOUTH ANZAAS '09

The deadline for Youth ANZAAS 2009 applications is now **FRIDAY 15 MAY**. The conference will be held in Melbourne from Sunday 5 July to Friday 10 July. For more information go to: [www.anzaas.org.au/youth.html](http://www.anzaas.org.au/youth.html)

This will be a fabulous experience for Science Students in Years 10-12. Apply now.

## MI5 Set to Recruit Science Chief

MI5's website says "The role will involve working with senior intelligence staff to combat terrorism and support counter-intelligence operations.



The UK government's chief scientific adviser, Professor John Beddington, told BBC News: "There is a really important role in providing scientific and technological advice on addressing problems agents in the field will face." [The chief science adviser] has a role to frustrate terrorism to prevent espionage hurting the UK, protect our critical national infrastructure and to frustrate the proliferation of weapons of mass destruction.

Dr Sally Leivesley, former British Home Office scientific advisor told BBC News: "The appointment of a chief scientific adviser is an acknowledgement of the emerging threat of chemical, biological and radiological attack by terrorists and also the security threat to computer systems. This means that large science labs around the world can be co-ordinated in the event of an incident."

## Every Cloud Really DOES Have a Silver Lining

While wet weather may make us feel gloomy, it sharpens the memory and improves our recall. Australian researcher Professor Joe Forgas said 'It seems counter-intuitive but a little bit of sadness is a good thing. 'People performed much better on our memory test when the weather was unpleasant and they were in a slightly negative mood. On bright sunny days, when they were more likely to be happy and carefree, they flunked it.'



## Meltdown! A Solar Superstorm Could Send Us Back into The Dark Ages - And One is Due in Just THREE Years

The catastrophe, when it comes, in late September 2012 will be beautiful at first. The skies over the world will be alive with fire.

Within an hour, large parts of the world will be without power affecting global communication internationally. Within 24 hours the civilised world will be plunged into chaos.



Solar storms do not normally cause much concern. Swarms of electrically charged subatomic particles from the Sun periodically buffet the Earth and its surroundings, causing health worries for astronauts and the owners of satellites, whose delicate electronics can be fried.

But down on the surface, cocooned under an ocean of air, we rarely notice more than the pretty lights in the sky, created as the electrically charged particles from the Sun sweep into the Earth's own magnetic field to generate the Northern and Southern Lights.

But every now and then, the Sun is convulsed by a gigantic tempest: 50,000-mile-wide eddies of boiling hydrogen plasma on its surface ejecting a billion-tonne, malevolent blob of crackling-charged gas into space at a million miles an hour.

This last happened on the morning of September 1, 1859 when human civilisation did not depend on a gargantuan super-network of electric power and communications .... But it does now. Electric power is modern society's 'cornerstone technology', the technology on which virtually all other infrastructures and services depend. A huge solar storm would cause massive power surges, destroying our electricity grid. Humanity *would* recover, but it would take decades.

A seemingly innocuous event, one which apparently poses no direct threat to human health at all, would have an effect on our world comparable to that of a small nuclear war. This real threat which, according to New Scientist, remains one of the most potent, yet least recognised, threats to the future of human civilisation.

<http://www.dailymail.co.uk/sciencetech/article-1171951/Meltdown-A-solar-superstorm-send-dark-ages--just-THREE-years.html>

## Sexual Deceit Helps Lady-Boy Lizards Mate

Young, male lizards desperate to mate, access females and avoid attack from older males by pretending to be one of the girls, a new study says.

According to the study published in the Proceedings of the Royal Society B, young male Augrabies flat lizards (*Platysaurus broadleyi*) hide their colours so as to imitate plain, brown females.



*The Augrabies Flat Lizard (Platysaurus broadleyi) (Source: Martin Whiting)*

"The adult males are extremely colourful and territorial and the females are a plain brown," says Associate Professor Scott Keogh, of the School of Biological Sciences at the Australian National University.

"Young males purposefully only develop colours on their belly, so they reach sexual maturity by still looking like a female."

Imitating a female allows the juvenile lizards to mate with females, without being detected and driven away by the larger, territorial, adult males, who will chase and bite their young rivals.

<http://www.abc.net.au/science/articles/2009/03/03/2506127.htm>

## Pink Dolphin Draws in Tourists to Lake Calcasieu in Louisiana

Charter boat captain Erik Rue photographed the albino mammal, when it first surfaced in Lake Calcasieu, an inland saltwater estuary, north of the Gulf of Mexico in southwestern USA.



*Pinky the rare albino dolphin has been spotted in Lake Calcasieu in Louisiana, USA Photo: CATERS NEWS*

The dolphin, which also has reddish eyes, was swimming with a pod of four other dolphins, with one appearing to be its mother which never left its side. Comments from the US National Oceanographic and Atmospheric Administration (NOAA) and the Whale and Dolphin Conservation Society suggest it's real.

<http://www.news.com.au/travel/story/0,28318,25165588-5014090,00.html>

## Archaeologists Think Lava from Ancient Greek Volcano Carried by Tsunami to North Sinai

Egyptian archaeologists discovered white stones of pumice that they believe a tsunami in ancient times carried 850 kilometers across the Mediterranean to north Sinai.

The pumice was discharged by a volcanic eruption in the ancient Greek island of Santorini in the 17th century B.C. Traces of this solidified lava foam that floats have been found in Crete and southwestern Turkey, but Egypt's archaeologists believe it also reached this site in the Sinai desert, about 7 kilometers south of the coast..

The Santorini explosion was devastating. It sunk most of the island and killed over 35,000 people of a thriving Minoan community.

The head of Egypt's Supreme Council of Antiquities, Zahi Hawass said "Geologists will help us study how...natural disasters, such as the Santorini tsunami, affected the Pharaonic period."

<http://hnn.us/roundup/entries/37217.html>

## Inbreeding Was Major Cause of Fall of Spanish Habsburg Dynasty

The powerful Habsburg dynasty ruled the Spanish empire from 1516 to 1700 but when King Charles II died in 1700 without any children from his two marriages, the male line died out and the French Bourbon dynasty came to power.



Gonzalo Alvarez at the University of Santiago de Compostela, reports genetic evidence supports historical evidence that the high frequency of inbreeding (mating between closely related individuals) within the dynasty was a major cause for the extinction of its male line. The simultaneous occurrence of two different genetic disorders (combined pituitary hormone deficiency and distal renal tubular acidosis), could explain the king's complex clinical profile, including his impotence/infertility, which led to the extinction of the dynasty.

<http://www.sciencedaily.com/releases/2009/04/090415075148.htm>

## Forensic Scientists Improve DNA Analysis With Mummy-Inspired Bone-Baking

University of New Haven forensic scientist Dr. Heather Coyle analysed Mummified bones found in the Gobi desert and discovered that the DNA within them could be surprisingly easily extracted.

Standard DNA procedure for bones is to freeze them. When Coyle and her team re-examined the mummy remains they realized the Gobi desert created a natural bone baking process.

"It makes the bone more brittle so it makes it easier to grind and break open more cells, so we are accessing more DNA to begin with". Coyle hopes her new technique will help solve several cold case files.

[http://www.sciencedaily.com/videos/2008/0201-baking\\_out\\_dna.htm](http://www.sciencedaily.com/videos/2008/0201-baking_out_dna.htm)

## Native Ant May Stop Toad in its Tracks

In a paper published in Functional Ecology, Professor Rick Shine of the University of Sydney reveal that meat ants, which are common across northern Australia, are deadly predators of baby cane toads killing up to 90% of baby cane toads near the water's edge. Because the cane toad evolved in South America where large, predatory ants do not exist it has not evolved traits or behaviours to deal with this threat. The meat ant has huge potential as an environmentally friendly, low-risk solution to the toad plague because it poses no threat to native frog species.



*(Source: University of Sydney)*

<http://www.abc.net.au/science/articles/2009/03/31/2530686.htm>