

CSIRO goes to



Illustration: Brian Gosnell

Message received

The ingenious experiment that uses sound to monitor the oceans' temperature (see *Ecos* 66) has reported its first successful transmissions.

An underwater transmitter near Heard Island in the southern Indian Ocean sends sound waves around the globe, which are picked up at various recording stations. Sound travels faster in warmer water, and precise measurements of the travel times over several years will reveal whether average ocean temperatures are rising.

Scientists stationed aboard two research vessels made experimental transmissions from the sea off Heard Island this summer. These were successfully received by a range of listening stations in Bermuda, South Africa, Canada, India, Oregon, California, Christmas Island and elsewhere. Noise travels faster in the sea than in the air — it took just 3 hours for the signal to reach Bermuda.

The scientists carried out extensive biological surveys before, during and after the transmissions to see whether these had any effect on nearby whales, dolphins and seals. Happily, the animals appeared to behave normally during the transmissions and the researchers observed no adverse reactions.

The experiment, and the trans-Pacific collaboration it represents, looks set to continue. Watch this space.

As we head into winter, *Ecos* introduces its new look for the nineties. Hope you like it.

You might not notice — indeed, if the producers are successful, you'll be too scared — but the movie *Arachnophobia* includes some eight-legged stars as all-Australian as *Crocodile Dundee*.

Mr Russell Moran of the CSIRO Division of Entomology provided expert advice when the producers were looking for spiders large and menacing enough to scuttle, lurk and generally provide inspiration for leading actor Jeff Daniels's fear of spiders. Keeping company in the movie with South American bird-eating spiders is *Delena cancerides*, a common and quite harmless Australian huntsman... and a species regarded with affection by many householders.

However, the specimens of *Delena* featured in the movie didn't come direct from Australia, since our laws forbid the export of most kinds of wildlife. In fact, the spiders were collected in New Zealand, where they arrived by accident. And there's even greater irony in the situation: Australian redback spiders (*Latrodectus hasseltii*) that apparently came to Australia — again, by accident — late last century have since been accidentally introduced into New Zealand... where they are competing with the katipo, that country's native species of *Latrodectus*.



Write to Letters, *Ecos*, PO Box 225, Dickson, ACT 2602.

Toad-eaters

I read with interest your *Up Front* article 'Targeting toads'.

I live on an acreage block on the northern outskirts of Brisbane. We have quite a number of crows in the area — in fact they nest here.

I have observed, on a number of occasions, crows feeding on the inside of toads. They wrap their claws around the neck of the toad, forcing it to open its mouth, and then start feeding.

I had found from time to time dead toads in and around the yard and was curious as to what was killing them. I realise there are far more toads than crows in our area, but I was pleased to find they had a natural predator.

J. Denis Campbell
Narangba, Qld

Dr Hugh Tyndale-Biscoe of the CSIRO Division of Wildlife and Ecology comments: The behaviour of the crows that Mr Campbell describes is interesting.

In South America several predators have developed similar strategies for attacking toads by avoiding the poison glands on the shoulders and there have been observations similar to those of Mr Campbell for some Australian birds and mammals. In the case of mammal predators the toads are thrown on their backs and attacked from the belly.

However, as well as the shoulder glands, which secrete a strong poison, the eggs contained in the ovaries of females are also highly toxic and must be avoided by predators.

In the Northern Territory crocodiles have been observed eating cane toads without ill effect. They use a different strategy; they grasp the toads in their jaws and shake them vigorously before swallowing. The inference is that in the process of being shaken the toads eject most of the poison from their shoulder glands.

Other species such as goannas that live in areas where toads occur avoid them.



Illustration: Brian Gosnell