Top Ecologist Slams CSIRO

A group of retired CSIRO scientists have been formally warned against publicly criticising the organisation after Dr Hugh Tyndale-Biscoe, an honourary research fellow with CSIRO Sustainable Ecosystems, criticised the organisation for abandoning its historical role of "research for all Australians" in favour of becoming "an institution that… does consultancies for clients".

Speaking at the launch of a new edition of his classic textbook *Life of Marsupials*, Tyndale-Biscoe said that a recent meeting on the kangaroo genome included no current CSIRO research in a field it had once pioneered. He said that of 35 CSIRO Wildlife and Ecology scientists whose work was referred to in his book, "20 retired or resigned voluntarily, 13 have been made redundant before the age of 60 and only two are still employed in the Division on short-term contracts".

Tyndale-Biscoe noted that three scientists with "outstanding talents" were "surplus to requirements" despite the fact that "their combined salaries were less than that being paid by CSIRO to one communicator with no scientific background. One has measured hormones in the blood of animals at a dilution of one part per billion; one has modelled how fast foot-and-mouth disease could spread in feral pig populations in Australia; and one has done more than anyone else to develop ways to restore endangered marsupial species to their former habitat."

Tyndale-Biscoe wrote the world's first textbook on marsupials in 1973. He began the new edition of *Life of Marsupials* in 1998, but quickly found that the volume of research conducted in the meantime was so great that his plan for a quick rewrite turned into a 7-year project. However, he fears that future editions may require fewer changes as research in the area has been drastically cut back, particularly at CSIRO.

But Dr Andrew Johnson, Chief of CSIRO Sustainable Ecosystems, denied the claims, saying that "CSIRO has significantly increased its investment in environmental research over the last decade".

The western barred bandicoot (*Perameles bougainville*) once inhabited much of western and central Australia but is now restricted to two islands off Western Australia. Its survival depends on intensive research, which is itself endangered by funding cutbacks. Photo: Ederic Slater

Tyndale-Biscoe's criticisms of science policy were not restricted to CSIRO management. Tyndale-Biscoe compared the views of the Minister for Science to those of his Soviet counterpart Nicolai Bukharin, who said: "The first step in the planning of science must be the neutralisation of the intellectual and emotional opposition of scientists to the very term 'planning'."

Tyndale-Biscoe is the latest in a growing list of former CSIRO staff to criticise its leadership. He says that one senior CSIRO administrator approached him at the launch and asked him to autograph a copy of the book, saying: "I agree with everything you said." Tyndale-Biscoe had not expected such a response, but now says: "As soon as you stick your head above the parapet everyone says, 'I agree, I agree'."

Royalties from the new edition of *Life of Marsupials* will support the Australian Academy of Science's fund for research on endangered vertebrate species.

Intimacy Online

Long distance relationships could get a whole lot steamier thanks to a new technology demonstrated for the first time in April. Called "Intimate Transactions", the device allows people to feel each other's presence over the Internet, adding long-distance touch to sight and hearing.

Left: Users put their body into online communication.

Cleaner Shrimps Dance to Advertise

Cleaner shrimps advertise their services by performing a "rocking dance" that attracts potential clients in need of the shrimp's parasite-eating services.

Like cleaner fish, cleaner shrimps eat parasites that prey on much larger fish. The relationship is mutually beneficial, as the shrimps get a regular food supply (and are not eaten by potential predators) while the "clients" are freed from painful and energy-sapping parasites.

However, as with business transactions, there is not much point offering a good service if no one knows you are there. This has led to speculation about whether cleaner shrimps advertise.

Shrimps have been observed rocking from side to side, apparently to make themselves more noticeable to potential clients. "It appears as if they are signalling to potential client fish: 'Hey! I'm a cleaner. Come over and be cleaned," said Justine Becker, a PhD student at the University of Queensland, School of Life Sciences.

Becker observed that captured unfed shrimps were far more likely to put on a dance at the sight of a potential client than those that had been given a meal, and that clients were more likely to swim up to dancing shrimps.

These cleaner shrimps dance to advertise their services to fish.

Becker's supervisor, Dr Lexa Grutter, has previously shown that cleaner fish persuade their clients not to eat them by performing a tactile dance and massaging away the threat (*AS*, September 2004, p.8).

To avoid confusion with other forms of interspecies communication, Becker and Grutter defined "advertising" using a market definition: "The placement of persuasive messages in time or space by individuals (or groups) who seek to inform and/or persuade members of a particular target market about their services".

For behaviour to be considered advertising, the shrimps needed to be competing with others and there had to be a cost involved. Becker and Grutter speculated that one cost would include both the energy required to dance and the fact that if clients could see a shrimp dancing, so could potential predators.

The shrimp are transparent and would be easy to miss were it not for their coloured spot and bright yellow line. Even so, at 3 cm long they're small in the wide ocean. "They've even used the rocking dance for me a few times," Becker said. "So looking for dancing shrimp makes it easier to spot them as otherwise they are extremely difficult to find."

A live demonstration was conducted in Melbourne and Brisbane in April. Users of the technology stand on a "body shelf" platform and lean against a backing support. In front of them a screen displays a character in a virtual universe. Movement of feet on the swivelling platform, and the rolling of a back against the tilted support, causes the character to move through its environment.

A second character, independently controlled, moves through the same virtual world. Up to this point Intimate Transactions resembles any interactive computer game, except that characters are controlled with the feet and torso rather than the hands.

However, the participants also wear vibrating belts. The more closely their characters approach the more intensely the belts vibrate. Prof Jeff Jones of the Australian Cooperative Research Centre for Interaction Design said the presence of the belt "makes the experience more intimate".

It would be equally possible to use hands to control the movement of characters but Jones said that Transmute Collective, the artists who collaborated on the design of the project, rejected the pragmatic choice and decided that leaving out the hands was a "way of engaging the rest of the body" and emphasised the artistic nature of the experience.

"The potential uses are diverse, ranging from interactive artwork to full body contact computer games to immersive and interactive meetings," Jones said.