

Australian laws frustrate bioprospectors

Australia's paranoia about the exploitation of its biological resources will come under the spotlight next month when the 9th International Symposium on Marine Natural Products is held near the Great Barrier Reef. It is the first time that the triennial meeting, July 5–10th in Townsville, Queensland, has been held outside Europe.

Presentations will include updates on the ecteinacidins (compounds isolated from tunicates that are currently in clinical trials and show promise in treating melanoma), the development of novel anti-HIV proteins from a cyanobacterium (blue-green alga) and conatoxins (compounds from cone shells that have biomedical potential).

But despite Australia's wealth of biodiversity—a 35,000 kilometer coastline and one of the world's largest Exclusive Economic Zones—and despite conference organizer Bruce Bowden's hopes that the meeting will generate overseas research collaborations for Australian scientists, access to the resources are so tightly controlled that many international researchers and companies have counted Australia out of the R&D equation.

Under a federal wildlife protection law enacted in 1982, scientific export permits are not issued if the material is being sent to a commercial company. Permits are only issued for transfers to government or edu-

cation agencies. This situation has proved to be a major embarrassment for some Australian researchers.

Melbourne University's Robert Capon, who works on the extraction of novel com-

pounds from Australian sea sponges, now finds himself keeping a low profile at international meetings when Australian bioprospecting potential is raised. "We've created a mindset in overseas organizations not to deal with

Australia," Capon told *Nature Medicine*. "If we act too bloody-minded we'll miss the whole boom in bioprospecting—it'll just pass us by." But although the situation is blocking potential collaboration, Capon and others are want a solution that enables Australia to retain rights both over the research and the resources involved.

The restrictive laws, which once led to an Australian pharmaceutical company seeking Ministerial exemption so samples could be tested overseas, have taken their toll on Australia's reputation within the pharmaceutical industry. Ron Quinn, professor of chemistry at Griffith University, Brisbane, is one of the few Australian scientists collaborating with an international pharmaceutical company, he works with the Swedish company Astra to isolate biologically active compounds from natural sources for a range of diseases. "The project has been unaffected by the wildlife protection laws because none of the resource

is taken out of the country," explains Quinn. In fact he goes so far as to say that the collaboration "would not have occurred if it wasn't for the current laws—they've forced everything to remain in Australia."

Aware that he is the exception to the rule, Quinn agrees that a nationally consistent approach to biological resources is needed and that uniform legislation is "taking a long time to come through."

However, having been at the sharp end of the laws, Bill Fenical, director of the center for marine biotechnology and biomedicine at Scripps Institution of Oceanography in California, has been outspoken in condemning Australia's bioprotectionist stance. Fenical was prevented from collecting further samples of a bright yellow coral which he had found to contain eleutherobin (a compound with potential activity against ovarian and breast cancer cells), by Western Australia's Department of Conservation and Land Management (CALM) despite Fenical's claims to have offered them a share of the royalties. "The bad feelings created, and the overall negative view of Australia's ultra-bio-nationalism, have diminished the degree of collaboration of scientists worldwide," says Fenical.

In an effort to find a solution, government officials have begun reviewing comments raised during public consultations on a paper released in December 1997, entitled *Managing Access to Australia's Biological Resources: Developing a Nationally Consistent Approach*. And a joint federal/states working party has yet to decide how to resolve conflicts arising from the 73 laws which affect access to the country's biological resources.

RADA ROUSE, BRISBANE

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University of Queensland Centre for Drug Design and Development

UK leads on science and technology bioethics

The US should follow the UK's lead in certain areas of science and technology where ethical decisions are key—such as the development of a national criminal database, reviewing gene therapy protocols, *in vitro* fertilization regulation and the use of genetic information by insurance companies—according to speakers at the Human Genome Project: Science, Law and Social Change in the 21st Century April meeting in Massachusetts.

This news should provide reassurance to the British Human Genetics Advisory Committee which is currently tackling issues such as prenatal screening and the differentiation between reproductive and therapeutic cloning, and to the Forensic

Science Service, which recently came under attack from a British forensics expert (*Nature*, 392; 859, 1998), but whose policies are being closely monitored as a model for the US system.

In discussing the advances in genetic screening technology that have enabled large DNA profile databanks to be established quickly and efficiently using PCR amplification of short tandem repeat loci, Barry Scheck—DNA specialist on O.J. Simpson's dream team and a defense lawyer for nanny Louise Woodward—praised the UK policy of profiling

those arrested for crimes that can carry a prison sentence.

Whereas the national US databank is still in an experimental stage and contains 150,000 profiles collected from eight states, from which there have been around 200 person-to-crime hits, the UK databank contains 311,000 profiles and has resulted in 21,000 hits. Profiles from arrestees who are not convicted (74,000 to date) are expunged from the databank.

Scheck advocates that the US moves to a system of arrest profiling instead of simply cataloging

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