

Bioprospectors hunt for fair share of profits

Rex Dalton, San Diego

Representatives of almost 200 nations convene in Malaysia this week to try to agree terms for sharing profits from natural molecules and organisms between indigenous peoples, scientists, governments and drug companies.

But as delegates gather in Kuala Lumpur to update the ten-year-old Convention on Biological Diversity, researchers and pharmaceutical companies worldwide are struggling to make bioprospecting for such compounds work.

Even in the United States, which has a sophisticated legal and governance system, benefit-sharing agreements have been slow to take shape. For instance, five years ago a federal court in Washington DC ordered the US National Park Service to develop a plan for sharing the bounty from valuable compounds discovered in its parks. But the

plan has yet to be published and critics are hitting out at the park service for the delay (see box below).

At this week's meeting, which runs until 20 February, delegates from developing nations — many of them rich in diversity — are expected to seek a new, binding treaty that would set stricter rules on benefit sharing. But Europe, Japan and the United States, which has yet to ratify the original convention, are expected to oppose such a move.

Everyone agrees that the existing convention is not working well. Researchers and pharmaceutical companies say it has created bureaucratic impediments to commercializing discoveries. Poor nations and local populations are demanding assurances that any commercial benefits will be shared.

These benefits can take years to realize, however, so companies are reluctant to commit themselves in advance to costly deals.

Faced with slim pickings and the prospect of complex negotiations over intellectual property rights, major drug companies have scaled back bioprospecting, leaving it to smaller biotechnology companies.

Bioprospecting is thought to hold special potential in tropical regions, home to most of the world's biodiversity. But promising natural compounds could be discovered anywhere. Last month, for example, a report by the United Nations University's Institute of Advanced Studies in Tokyo highlighted the bioprospecting potential of Antarctica.

The report said the continent's arid and salty conditions have led to the evolution of tough organisms that offer opportunities for the development of products such as industrial chemicals, drugs and genetic components. It called for a new regulatory framework between the 54 nations that have a say in governing Antarctica, warning that existing arrangements are threatening funding for bioprospecting expeditions and creating the potential for disputes that may mire discoveries in litigation.

Ironically, many scientists who originally supported the convention have been the ones damaged most by it, says Leonard Hirsch, a senior policy adviser at the Smithsonian Institution in Washington DC and joint leader of the US delegation in Kuala Lumpur. But he is optimistic that despite current disagreements, some course can be worked out to facilitate more bioprospecting.

Privately, one negotiator says that Europe may play a key role in determining whether talks begin on a new international treaty covering access and benefit-sharing: if it sides with the poorer nations, the convention may move towards a new treaty. ■



Snow business? Researchers hope to find valuable organisms in the icy Antarctic environment.

National park plan delayed

The US government started thinking about sharing the benefits of biodiversity after a famous, serendipitous discovery in the geysers of Yellowstone National Park.

In 1997, Yellowstone officials signed an agreement with the Diversa Corp., a company based in San Diego, that they hoped would lead to discoveries that returned revenue to the park. They were hoping for another *Taq* polymerase, the enzyme from Yellowstone's geysers (right) that is used in the polymerase chain reaction.

But the Edmonds Institute, a tiny environmental group based near Seattle, sued the National Park Service in 1998 over the deal, saying that it feared the commercial exploitation of the park. In March 1999, a judge refused to end the Diversa agreement, but ordered the

park service to develop a plan — called an environmental impact statement — that would serve as a framework for such benefit-sharing at all national parks. Diversa's deal was put on hold.

Five years later, the park service has yet to publish a benefit-sharing plan. Park officials say they hope to have a draft published this spring, and a final version complete by the end of the year. Meanwhile, the parks can't share in any benefits from bioprospecting on their land.

Entomologist John Varley, director of the Yellowstone Center for Resources and one of the park-service officials responsible for producing the plan, blamed the delay on the fact that no similar effort has previously been undertaken.

Beth Burrows, director of the Edmonds Institute, says she is "appalled" that the benefit-sharing plan isn't ready. "This really makes me



wonder about the quality of the oversight of the research agreements in the park," she says.

Eric Mathur, Diversa's vice-president of science, says it was a frustrating experience. "I see it as a lost opportunity," he says. Diversa has now shifted its search from the United States to Costa Rica and Indonesia. **Rex Dalton**