

# AMAZON: Natural compounds may hold clue to curing cancer

FROM B6

Ironically, it was a foreigner who inspired Varella to begin his search. Robert Gallo, a U.S. researcher and leading AIDS expert who co-discovered the virus behind HIV, asked Varella during a trip to the Amazon in the early 1990s if anyone was researching the medical potential of the forest.

Among the natural products being used to fight cancer today is Taxol, a chemotherapy drug that comes from the bark of the Pacific yew tree.

David Newman, head of the Natural Products Branch of the U.S. National Cancer Institute, said several promising cancer drugs derived from natural sources as varied as deepwater sponges and microbes are going through clinical trials.

Often the natural compounds are tweaked or mimicked to better fight cancer cells.

"It's a detective story and a jigsaw puzzle, but you don't know how many pieces there are or what the picture looks like," he said. "In one teaspoon of soil from the Amazon, you find over a thousand microbes that have never been isolated."

Out of an estimated 80,000 species of flower-bearing plants in the Amazon, only about a fifth have been identified.

Newman said progress in Brazil has been greatly hampered by the inability of companies to patent a natural product under legislation passed in the 1990s, leaving no incentive to invest in research.

He cited the example of a Brazilian viper snake whose venom proved vital to the development of blood pressure drug captopril in the 1970s, a find that might not have happened under today's laws.

Further analysis of the promising compounds found by Varella's team has been held up while the university waits for access to a nuclear-magnetic resonance ma-



Brazilian researchers walk near the Cuieiras river after collecting plants in Brazil's Amazon rainforest. A kilogram of samples from a tree can produce "an extract that lasts 10 years," a scientist says.

chine that can isolate the active elements.

"We're still a long way from discovering an actual medicine that could cure a type of cancer, but we have strong signs that some plants have substances that inhibit the growth of tumours," said Mateus Paciencia, a bearded 34-year-old botanist.

Their main hope is that growing concern over the environment and increasing government efforts to slow the destruction of the Amazon by ranchers and loggers will turn the tide in favour of sustainable forest industries, of which they say their work is a prime example.

"There is nothing more sustainable than this," said Paciencia. "We take a kilogram worth of samples from a tree that weighs a tonne and get an extract that lasts 10 years."

As he hung from a tree trunk, Ferreira said his relationship with the forest had been transformed by his job. He used to cut down trees with a chainsaw and sell

the lumber in the city of Manaus, about 80 kilometres down river from the research site.

"I think we'll find a medicine, and it won't take too long," he said. "If I deforest, I'm killing not just one plant but destroying a lot of other plants as well. So the job we're doing here is much better."

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