lations of flies, providing the same food and living conditions for them all. After allowing a half-dozen generations to go by, the researchers measured the wing lengths—an indicator of overall body size—of flies from each locale. The results were striking, particularly in the females, says Gilchrist.

He and his colleagues saw an increase in wing size—to a 0.1-millimeter difference, or 4%—in the European flies collected from south to north. And they saw the same increase in the fruit flies from North America, even though the species had spent only a brief time on the continent. Indeed, Andrew Hendry of the University of Massachusetts, Amherst, who has recently completed a survey of evolutionary rates, says that the change "is as fast as I have ever seen. I think this will shake up a lot of people." The adaptive significance of the change is unclear. Still, says evolutionary biologist Jeff Mitton of the University of Colorado, Boulder, the fact that it occurred twice in similar environments makes for "a very clean and compelling story" in favor of natural selection.

The genetic basis of the change may be different in the European and North American versions of *D. subobscura*, however. Huey and his colleagues found that the European populations lengthened the part of the wing closest to the body, while those in North America extended the outer segment. The work shows that "there can be different ways of attaining the same outcome," notes Futuyma, and thus some aspects of evolution may still be random and unpredictable.

Schluter's team found that the sticklebacks they studied represent an even more dramatic case of parallel evolution. Originally of marine origin, the fish were trapped in coastal lakes formed some 10,000 years ago by a retreating glacier. The lakes are isolated from one another—indeed, two are located on separate islands along the coast—yet each of the three lakes wound up with the same two noninterbreeding varieties of stickleback, the bulky benthic type and the actively swimming limnetic type.

To understand the basis of the reproductive isolation, UBC's Laura Nagel, Janette Boughman, and Howard Rundle tested the mating preferences of the fish. They found that females choose males that look like themselves. For example, benthics mated with benthics, both from their own lake and the others, while shunning all limnetics. "Whatever it is that makes the benthics dislike the limnetics, it's happened over and over again," Schluter explains. That finding, adds Mitton, was "a real surprise" and shows that natural selection can yield new species.

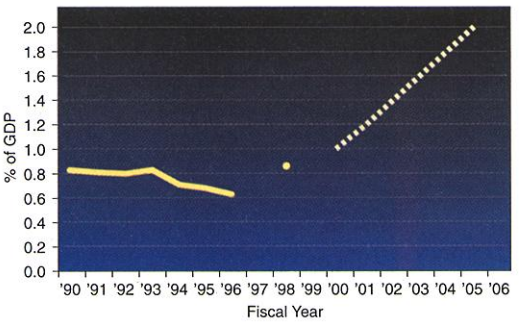
The more researchers probe the corners of nature's laboratory, the more evidence they are likely to find supporting the importance of natural selection, Mitton says. For example, he sees repeated patterns of evolution in some traits of the pinyon pines that he studies. These examples "say that natural selection can cause a population to change very quickly and hint that speciation could [occur] very quickly," he notes. And that makes him even more sure that Darwin was right after all.

–ELIZABETH PENNISI

SCIENCE FUNDING

Budget Doubling in View for Indian R&D

NEW DELHI—Indian scientists are cheering the prospect that the country's research budget could leap by 30% this year and then double over the next 5 years. Last week, Prime Minister Atal Behari Vajpayee announced that his government would hike R&D spending to 1% of gross domestic product (GDP) this year and to 2% by 2005, effectively linking science spending to the country's overall economic growth. (The prime minister pegs the current percentage at 0.86%; however, the most recent official estimate is only 0.66%.) The announcement surprised even his own science managers, who immediately set to work on plans to allocate the additional resources. Indian officials have long acknowledged that the country lags behind other democracies in funding science.



Up with science. Vajpayee has promised to boost R&D spending by tying it to a growing share of the country's GDP.

"By world standards, India's investments in R&D are wholly inadequate and subcritical," Vajpayee told some 3000 scientists in a keynote speech that opened the annual meeting of the Indian Science Congress in Pune. In addition, much of the spending has gone to support India's large defense establishment and sectors related to national security, notably space and nuclear power. The new policy is seen as a long-term commitment to a growing and more diversified portfolio, including basic research. "This means that [R&D's share of] the pie will only increase in years to come," says Science and Technology Minister Murli Manohar Joshi. He claims that it took him nearly 2 years to convince the prime minister to make what he described as a "historical announcement."

The news is expected to translate into a jump from $2.5 billion to $3.25 billion in R&D spending in the fiscal 2000 budget to be announced at the end of February. If Vajpayee keeps his promise, the budget would rise by some $500 million or more in each of the next 5 years in step with the GDP, which is growing at 6.5% a year. On Monday India's finance minister, Yashwant Sinha, solicited ideas from a group of scientists and said that the government would emphasize innovation and competition in any new spending plans.

The announcement was a "bolt out of the blue," says Valangiman Subramaniam Ramamurthy, head of the Department of Science and Technology in New Delhi. He and his counterparts will meet here next week to draft spending priorities that are expected to draw heavily from a 23-volume planning document prepared recently by the Technology Information Forecasting and Assessment Council, a quasi-government think tank. Ramamurthy told *Science* that a third of the new money is likely to be allocated to "blue-sky projects" and other basic research, with the rest going to applied technologies. He says "mission-oriented programs" are likely to be the main beneficiaries, in particular, bioinformatics, nanotechnology, smart materials, and the more efficient burning of coal. The increases are likely to be spread over several agencies, Ramamurthy said, citing such recent projects as the Ministry of Food's efforts to develop more efficient technologies for the sugar industry. Some experts say much of the new money could go to the defense and nuclear agencies.

Scientists applauded the news and immediately proposed their own candidates for greater support. Goverdhan Mehta, director of the Indian Institute of Science in Bangalore, made a plea for beefing up India's university system, which he says "has virtually collapsed." In their meeting with Sinha, scientists stressed tax reforms, greater industrial participation, and incentives for bioprospecting. C. N. R. Rao, president of the Jawaharlal Nehru Center for Advanced Scientific Research in Bangalore, whose recent call for a doubling of current spending levels in both education and science (*Science*, 12 November 1999, p. 1295) triggered a parliamentary debate on the country's R&D policy, is optimistic that the new policy will not be overturned. "I do not see why this government cannot keep its promise," he says.

–PALLAVA BAGLA

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