

Anticholesterol drugs work in healthy folks

People with slightly above average amounts of cholesterol in their blood and no history of heart disease can benefit from the cholesterol-reducing drug lovastatin, a Texas study shows.

A separate study demonstrates that another cholesterol fighter, pravastatin, reverses plaque buildup inside the carotid arteries of people who have had a brush with heart disease but whose cholesterol is normal.

The studies bolster previous findings that these chemically related drugs can delay or prevent cardiovascular problems in healthy people who have cholesterol readings a doctor wouldn't consider unusual (SN: 10/5/96, p. 215). The research complements evidence that the natural constituents found in soy and certain other plants can also lower near-normal cholesterol (see p. 348).

In the Texas study, researchers gave lovastatin to 2,335 people and an inactive substitute to 2,081. Most of the volunteers were men, their average age was 58, and none had a history of heart problems.

After about 5 years, 97 people getting the inactive pills had suffered heart attacks, compared to only 57 of those taking lovastatin, the researchers report in the May 27 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*. Those getting the placebo also endured slightly more occurrences

of unstable angina, a tightening of the chest caused by blocked blood flow, says study coauthor John R. Downs, an internist at the Wilford Hall Medical Center at Lackland Air Force Base in San Antonio, Texas.

The men and women entered the study with cholesterol readings averaging 221, slightly higher than most doctors consider optimal but representing only the 51st percentile for adults in the United States.

"It's an extremely important study," says Frank M. Sacks of Harvard Medical School in Boston. "It extends the benefit of primary prevention of coronary disease from the small segment of the population that has [high cholesterol] to a much larger section of the population that has average to mildly elevated cholesterol."

In the other study, which appears in the May 12 *CIRCULATION*, researchers in New Zealand and Australia tested 522 people with normal cholesterol readings but a history of heart disease. Half received pravastatin, half took a placebo, and all ate a low-fat diet. Four years later, arterial plaque had diminished in the pravastatin group but thickened in the placebo group, report the researchers, led by scientists at the University of Auckland in New Zealand. —N. Seppa

Australian site jumps forward in time

Prehistoric Australians have taken a chronological roller-coaster ride at the Jinmium rock shelter in the past few years. What once looked like a surprisingly ancient occupation site in northern Australia, with implications for explaining modern human evolution, now appears to date back only a short way into the Stone Age, a new study finds.

Previous thermoluminescence dating at Jinmium yielded ages of 50,000 to 75,000 years for quartz sands found near buried circular engravings and ages of 116,000 to 176,000 years for lower, artifact-bearing deposits (SN: 9/28/96, p. 196).

However, a related dating method, known as optically stimulated luminescence (OSL), now indicates that the oldest Jinmium layers date to 22,000 years ago at most, report geoscientist Richard Roberts of La Trobe University in Melbourne and his colleagues.

Both techniques estimate the time elapsed since minerals such as quartz were last exposed to sunlight, taking into account their radioactive exposure while buried. Some Jinmium quartz grains have inflated ages because they received little or no exposure to sunlight before burial, Roberts' group contends in the May 28 *NATURE*.

For example, weathering of buried bedrock releases quartz grains that have had little or no exposure to the sun. OSL allows for the dating of single quartz grains and the detection of those that show signs of insufficient bleaching from the sun, the scientists say.

The oldest thermoluminescence ages for human occupation of Australia now come from two other sites dated at 50,000 to 60,000 years old. Roberts' team is using single-grain optical dating methods to verify these measurements.

"Personally, I believe that Jinmium's age lies somewhere in between the [thermoluminescence] results and the OSL estimates," remarks archaeologist Paul S.C. Taçon of the Australian Museum in Sydney. It remains possible that humans reached Australia more than 60,000 years ago, he adds.

A widely recognized geologic disturbance within the Jinmium deposit may have affected age estimates produced by both dating methods, Taçon asserts.

The circular engravings at Jinmium resemble those at other Australian sites dated as early as 40,000 to 50,000 years ago, according to a study directed by Taçon and published in the December 1997 *ANTIQUITY*. —B. Bower

Romantic display gets tree planted

A three-wattled bellbird wagging and booming to impress a female may be the best friend a tropical fruit ever had.

Male bellbirds pick conspicuous perches to strut their stuff, often in gaps in the forest canopy. Such sunny spots make the perfect nursery for certain tree seedlings, notes Daniel G. Wenny of the Illinois Natural History Survey in Mount Carroll. One such tree species, an avocado relative called *Ocotea endresiana*, produces fruit that attracts bellbirds, which then drop a high percentage of the seeds on the ground beneath these gaps in the canopy.

Scientists have long discussed the notion that vertebrates might in some cases disperse seeds to a prime location instead of just dropping them at random. However, researchers rarely manage to demonstrate such directed dispersal, observes Douglas J. Levey of University of Florida in Gainesville. A study of bellbirds that he and Wenny published in the May 26 *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES* represents the first documented example of directed dispersal for tropical trees, Levey says.

Wenny and his colleagues trailed birds that had just eaten *Ocotea* fruit through the cloud forest in Monteverde, Costa Rica. When the birds finally spit up or excreted the seed, the researchers combed the forest floor to find it. "That was the really frustrating part," Wenny says.

The team compared the success of seed planting by five bird species. "A seed that's dispersed by a bellbird has a better chance of surviving as a seedling," says Wenny. These seedlings were only half as likely to catch a fungus disease, perhaps because bellbirds perch in relatively sunny spots.

The finding intrigued another bellbird researcher, Nat Wheelwright of Bowdoin College in Brunswick, Maine. "What makes it doubly fascinating is that it's driven by the peculiar mating system of a polygamous tropical bird species that dashes off of its perch for maybe 10 or 20 percent of the day, grabs a little fast food, and hustles back," he says.

When a female shows up, the male waggles his wattles, three stringy growths dangling from his bill. During the shaking display, the wattles engorge with blood and triple in length.

The males "do kind of a 'dry heave' behavior where they open their gape and gasp," Wheelwright explains. "They swell up larger and larger, and then they let out this thunderous call." The sound carries several kilometers, yet males call right into the ear of the female. "She'll actually recoil—it will blow her back." —S. Milius