**OF NOTE**

**ENVIRONMENT**

**Toxic cleanups get a boost**

Researchers have developed and field-tested a new technique that identifies specific soil microbes that can break down environmental pollutants. The bacteria could be used to clean up toxic-waste sites.

Eugene Madsen of Cornell University and his colleagues tested their technique at a coal tar waste site associated with an old gasworks. The researchers labeled a test sample of naphthalene—a common, seemingly benign coal tar component—with the isotope carbon-13 and released the chemical into the soil. The researchers then covered patches of soil with 250-milliliter glass jars. If a plot harbored soil bacteria capable of metabolizing the naphthalene, carbon dioxide that included carbon-13 built up in the jar over that soil.

Because these bacteria also incorporate carbon-13 into their DNA, Madsen and his coworkers could identify a specific strain of naphthalene-degrading bacteria. The findings will appear in an upcoming *Proceedings of the National Academy of Sciences*.

Although other researchers have isolated bacteria in the lab that can degrade specific toxic chemicals, the same bacteria usually die off when released at a cleanup site, says Madsen. The trick, he says, is finding which bacteria metabolize pollutants in their natural environment. The researchers plan to test their screening technique to find microbes that break down carcinogenic chemicals at coal tar waste sites. —A.G.

**BIOMEDICINE**

**SARS virus can spread in lab animals**

Virologists have found that ferrets and domestic cats can acquire and transmit the virus that causes severe acute respiratory syndrome (SARS). An independent group of researchers has determined that Chinese animal traders—particularly those dealing in wild mammals—have particularly high rates of past exposure to the virus.

Cats that researchers intentionally exposed to the virus didn’t become visibly ill, but the virus did replicate in the animals’ blood. Ferrets similarly infected did get sick, and one died. Both cats and ferrets housed with infected members of their species also acquired the virus, Albert Osterhaus of Erasmus Medical Center in Rotterdam, the Netherlands, and his colleagues report in the *Oct. 30 Nature*. Either species could be used to test the effectiveness of future vaccines or drugs, the scientists say.

In a separate study, researchers at the Guangdong Center for Disease Control in Guangzhou, China, tested blood from 792 people in Guangdong Province, where the SARS epidemic began last November. In the *Oct. 17 Morbidity and Mortality Weekly Report*, the researchers note that 13 percent of animal traders, but only 2.1 percent of medical workers and other volunteers in the study, had evidence in their blood of past exposure to the SARS virus. Exposure rates among animal merchants ranged from 19 percent in those selling cats to 73 percent in traders of masked palm civets. —B.H.

**ANTHROPOLOGY**

**Anklebone kicks up primate debate**

An anklebone excavated last year in southwestern Asia may put a controversial theory of primate evolution on firmer footing. The nearly 40-million-year-old fossil adds to evidence that anthropoids, a primate group that includes monkeys, apes, and humans, originated in Asia, according to a team led by Laurent Marivaux of Université Montpellier II in France.

The identity of comparably ancient primate remains, unearthed near the site of the new find in Myanmar, has inspired plenty of debate (SN: 10/16/99, p. 244). Some researchers classify these finds as remains of anthropoids, while others regard them as fossils of adapiforms, a group that includes extinct species related to lemurs and lorises.

On close inspection, the Myanmar anklebone resembles the bones of living and extinct anthropoids more than those of adapiforms, Marivaux and his coworkers report in an upcoming *Proceedings of the National Academy of Sciences*. The ankle fossil’s anatomy indicates that it supported a roughly 15-pound creature capable of moving deftly through trees using its arms and legs, the researchers say.

However, the new fossil also contains similarities to the ankles of lemurs and lorises and could just as easily have belonged to adapiforms, contends Gregg F. Gunnell of the University of Michigan. On the basis of fossil teeth found earlier in Myanmar and Thailand, Gunnell theorizes that all of the region’s ancient large-bodied primates, which weighed between 13 and 20 pounds, were adapiforms. He supports the traditional view that anthropoids originated in Africa. —B.B.

**OF NOTE**

**Biologically painful conditions, nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, naproxen, and COX 2 inhibitors offer considerable relief. However, these NSAIDs can cause heartburn and ulcers. Researchers now report that simultaneously taking an acid-blocking drug with an NSAID significantly lowers the occurrence of both complications.

Gastroenterologist James M. Scheiman of the University of Michigan Medical School in Ann Arbor and his colleagues randomly assigned 388 people taking an NSAID daily to also get an acid blocker called esomeprazole, one of a new generation of drugs known as proton-pump inhibitors. Another 197 people took an NSAID plus an inert pill. Everyone in the study was considered to be at risk of getting an ulcer, either because they were more than 60 years old or had a history of ulcers. Esomeprazole is marketed as Nexium by AstraZeneca of Wilmington, Del., which funded the study.

After 6 months, 5 percent of the participants taking an NSAID and the acid blocker had developed an ulcer, compared with 12 percent of those getting an NSAID and a placebo, Scheiman reported at a meeting of the American College of Gastroenterology in Baltimore last month. He predicts that the results will lead to changes in the use of NSAIDs for people at risk of ulcers. Some doctors already prescribe acid blockers for patients taking NSAIDs, he notes. —N.S.