RANDOM SAMPLES

edited by CONSTANCE HOLDEN

Bion Monkey Dies After Return to Earth

NASA officials breathed a sigh of relief on 7 January, when a Russian capsule carrying two monkeys landed safely on the steppe in Kazakhstan. But joy turned to dismay when one of the animals died suddenly the following day.

The monkeys, part of a U.S., Russian, and French mission called Bion 11, were strapped into seats for 2 weeks and covered with electrodes to measure the effects of weightlessness, in particular on their nervous systems and mechanisms of the inner ear.

Officials say the monkeys seemed healthy when they were recovered from the capsule and flown back to Moscow. But shortly after a series of tests, including bone and muscle biopsies, one of them, a female, died. The cause? "I have no idea," and neither does anyone else at this point, says Joan Vernikos, director of life sciences at NASA.

People for the Ethical Treatment of Animals (PETA), a Virginia-based animal-rights group that has opposed the Bion mission as cruel and of little scientific value, was quick to jump on the disaster as proof of its argument. A panel of scientists and ethicists chosen by NASA dismissed the activists' concerns last summer. Now panel members will gather again to investigate the death.

The monkey's demise could have a big political impact on NASA's hopes for a Bion 12, a virtually identical mission slated for launch in early 1998. The analysis of one Bion supporter: "It's dead."

Bigness Not Always a Plus, Mollusks Say

Bigger is better, or so the fossil record would seem to say. The dinosaurs got bigger and ruled the planet for 180 million years. After they went, mammals evolved from rat-size to mammoth-size. Nineteenth-century paleontologist Edward Drinker Cope immortalized this evolutionary push toward bigness in Cope's Rule: Over time, the average body size within a genus of animals will tend to become larger.

But late 20th century paleontologist David Jablonski of the University of Chicago says that among mollusks at least, Cope had it wrong.

To see whether a trend toward bigger mollusks existed 75 million years ago, Jablonski rummaged through fossil collections to come up with almost 1100 species of clams, oysters, and snails from the Gulf and Atlantic Coastal Plain of North America that evolved within 191 genera over 16 million years. In this week's issue of *Nature*, he reports a three-way split. One-third of the genera did indeed get bigger, but one-third got smaller. Among the rest, the size range within the genus broadened. While bigness may have lent an advantage to predators or in defense, other, countervailing forces are also at work, says Jablonski. Smaller is better, for example, when it's advantageous to reproduce early and often.

W. R. NORMARK/USGS

Big, but not best. Giant clams.

"The world is more complicated than Cope imagined," says paleontologist Douglas Erwin of the National Museum of Natural History in New York City. Such findings, he says, are making paleontologists "a lot more careful" about claiming to see trends where none may be: "It's easy to believe you see a trend; it's much more difficult to show one exists."

Evidence for Gulf War Syndrome?

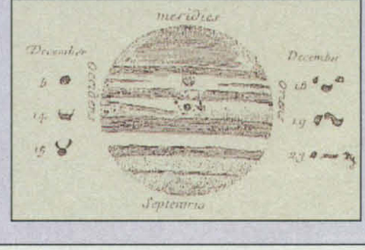
The controversy over Gulf War syndrome just got another boost: Three studies released at a Washington, D.C., press conference last week suggest that symptoms reported by some Gulf veterans may stem from exposure to certain combinations of chemicals. The findings are at odds with the conclusions of another report, also issued last week, by a blue-ribbon White House panel which concluded that stress may be the main culprit.

The three studies, led by epidemiologist Robert Haley of the University of Texas Southwestern Medical School in Dallas, examined 249 Navy reservists who served in the Gulf. Sixty-three (25%) reported symptoms falling into three categories: memory and sleep problems; confusion and dizziness; and muscle pains and fatigue. These "syndromes," say the researchers, correlated with a combination of side effects from the anti–nerve gas agent pyridostigmine bromide (PB), insecticide exposure, and/or possible exposure to chemical weapons. Tests of brain structure and nerve function in 23 afflicted vets showed significantly more abnormalities than in a group of 20 healthy vets.

The researchers say the syndromes resemble "delayed neuropathy," caused by organophosphate pesticides. And they note that in prior research they showed that high-dose cocktails containing PB and two insecticides caused nerve damage in chickens. "We've taken the breakthrough step" toward explaining some vets' illness, Haley claims.

"Yes, there is a Gulf War syndrome. In fact, there appear to be several," says George Lundberg, editor of the *Journal of the American Medical Association*, which published the studies on 15 January. But others aren't convinced. The subjects were volunteers, they came from the same unit, and only a few were tested, notes White House panel member Philip Landrigan of Mount Sinai School of Medicine in New York City. Says epidemiologist John Bailar of the University of Chicago: "Many people have come up with plausible hypotheses that failed under further study. ... It is way premature to get excited about this one."

Blast from the past. Since 1994, when comet Shoemaker-Levy plunged to its spectacular demise on Jupiter, astronomers have been curious as to whether any records exist of such impacts in the past. A Yokohama engineer and amateur astronomer, Isshi Tabe, hit pay dirt while digging through old manuscripts in the library of the Paris Observatory. The drawing below was made by the famous 17th century astronomer Giovanni-Dominique Cassini, who recorded how a spot on Jupiter—much like the dark bruises Shoemaker-Levy left on its gassy surface—varied over 18 days following its appearance on 5 December 1690. "I was really surprised," says Tabe, who says he didn't think such detailed drawings were done before the 1800s. Junichi Watanabe, public information officer at Japan's National Astronomical Observatory in Tokyo, says "The variation over time looked very much like that of Shoemaker-Levy 9. It was really exciting." A letter on the find will appear next month in *Publications of the Astronomical Society of Japan*.



NATIONAL ASTRONOMICAL OBSERVATORY OF JAPAN