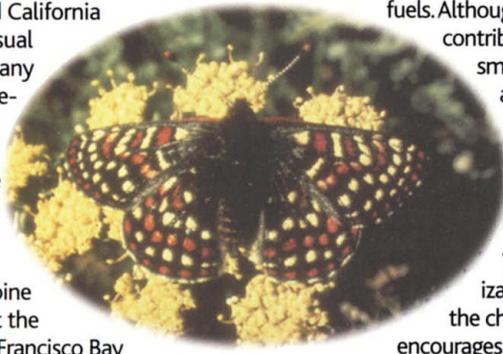


Grazing for Butterflies

Conservationists have long fingered cows as the cause of many environmental problems, from eroding riverbanks to overgrazed grasslands. But hungry bovines may now help save an endangered California butterfly. In an unusual deal, a power company is using grazing to restore and maintain prime butterfly habitat in exchange for being allowed to build a new generating plant.

In 1998, the Calpine Corp. bought land at the southern tip of San Francisco Bay to build the new energy plant. Then came years of negotiations over government permits, as the company considered how it could mitigate potential damage to prime habitat for the bay checkerspot butterfly, an endangered species. One idea came from Stuart Weiss, a California-based environmental consultant who started studying the insect 2



decades ago as a student at Stanford University. He published a 1999 *Conservation Biology* article on the butterfly's troubles.

Weiss says that one threat to the butterfly comes from nitrogen oxides, common air pollutants produced by burning wood and fossil fuels. Although best known for contributing to unhealthy smog, nitrogen oxides also fertilize the naturally nutrient-poor serpentine soils that make up a large chunk of the bay area's ecosystem, Weiss notes. The fertilization is a problem for the checkerspot because it encourages nonnative grasses to invade serpentine soils and displace the small native wildflowers that its caterpillars use for food. To keep the invading plants at bay—and offset the impact of the new plant's nitrogen emissions—Weiss suggested that the company consider cows. The hefty grazers, it turns out, prefer to eat the invading grasses, helping native plants return to overrun lands.

The company and government scientists liked the idea. Last April, Calpine donated 53 hectares to the Land Trust of Santa Clara County—including about 6 hectares of "really prime serpentine habitat," says Weiss, who is overseeing grazing activities.

It is too early to document any results, but biologist Cecilia Brown of the U.S. Fish and Wildlife Service says the arrangement is a creative use of grazing to enhance habitat. And Calpine environmental consultant Steve DeYoung says the deal will be seen as "landmark mitigation." It has already become a model for new power projects nearby.

Attractive Field

"More men would want to study engineering if more women went into the field."

—Kristina Johnson, Duke University dean of engineering, at a 24 July congressional hearing on boosting the number of women in science and engineering. The hearing, before a Senate Commerce science subcommittee, was the first Senate hearing on the topic since 1980.

Animal experimentation is in the United Kingdom to stay—but scientists and government officials should work harder to find alternatives and trim wasteful regulation, concludes a recent report from a special House of Lords committee.

British scientists used about 2.7 million animals for experiments in 2000—about half the number used 25 years ago, reports an 11-member panel that spent 16 months examining the issues. More than 80% of the lab animals are rodents, and nearly two-thirds are used in biomedical research, the panel found.

But "more could be done to find new methods of research and testing which don't involve animals," says committee chair Trevor Smith, a professor of politics at York University. To help, the panel wants the government to establish a new na-

tional center to promote the "three r's": reduction, refinement, and replacement of animal experiments.

The U.K.'s animal welfare regulations also need streamlining, the panel says. British researchers typically wait 31 weeks to receive approval for animal research licenses, the report found, compared with 17 weeks in Germany and 6 weeks in the United States. To speed things up, the committee recommends an online application system and shorter forms.

Finally, researchers should become more outspoken on the value of animal experiments, the panel says. "Scientists need to come out of the siege mentality" created by sometimes violent attacks by animal-rights activists, says Smith. If they don't "fight their case," he adds, "they're acting almost in collusion with these terrorists."

Animal Action

Bald Discovery

Earth teems with undescribed beetles and bacteria, but it's not often that scientists discover a new species of bird. Brazilian researchers, however, say they've spotted a new kind of parrot in the nation's Amazonian forests—one with a bald, intensely orange head.

Renato Gaban-Lima and Marcos Raposo, graduate students at the University of São Paulo, Brazil, were collecting specimens in 1999 when they bagged several of the small (23-cm) green parrots. Other ornithologists had long ago tagged the birds as immature vulturine parrots (*Pionopsitta vulturina*), which have bare black noggins as adults. But after a closer look, Gaban-Lima and his colleagues realized that several of their orange-headed

specimens were already sexually mature. And they could find no immature vulturine parrots that showed any hint of orange. They also noticed that, in the wild, the orange-headed birds flocked together, rarely mingling with their supposedly black-headed elders. So in this month's issue of *The Auk*, the scientists declared their parrot a new species, *Pionopsitta aurantiocephala*.

Although some ornithologists would like to see genetic evidence before embracing the new find, avian systematist Shannon Hackett of The Field Museum in Chicago, Illinois, calls it "good detective work." But parrot expert Michael Parr of the American Bird

Conservancy in The Plains, Virginia, worries that environmental threats might close the window on further finds. For instance, the forests of the middle Tapajós and lower Madeira rivers, where the newly discovered bird lives, are fast falling to loggers and ranchers.

