Zoology

Some butterflies may be endangered

Some kinds of butterflies, for the first time ever, may be placed on the U.S. Government's list of threatened or endangered species. The Department of the Interior has announced plans to study 41 species of butterflies it considers in danger of becoming extinct, largely because of destruction of habitat or the insect's reliance on a specific kind of food. The Apache silverspot, for example, resident of Owens Valley, Calif., has suffered population setbacks as marshes in its range are pumped dry to supply Los Angeles with drinking water. The process of studying and evaluating a butterfly's status across the country could take months, an Interior Department spokesman says, but with scientists, lepidopterists (butterfly and moth specialists) and Government researchers pooling information, several of the 41 species thought in trouble may be pulled from the list.

When the list is finally approved, which may take up to a year, it will be illegal to capture even a single butterfly of a species listed as "endangered," with less stringent restrictions for those species listed as "threatened." Butterflies are the first insects the Government has even suggested might be facing extinction.

Monkey teeth studied for cavities

Rhesus monkeys raised on the kinds of foods most kids eat may develop teeth enough like a human's to serve as models for cavity prevention experiments. Assuming they do, Jill Caldwell, S. J. Challacombe and T. Lehner, of Guy's Hospital Medical and Dental Schools in London, report results of a cavity-vaccine experiment in the April 10 NATURE. The dentists' vaccine, largely strep mutants (bacteria) apparently reduced the rate of development and number of cavities in a monkey's teeth much more effectively than would the antibodies normally produced by saliva. How the serum injected into a monkey's arm gets into his mouth is still a question, but the team speculates that crevicular (gum) fluids mediate serum antibodies and blood leucocytes, inhibiting bacteria. The research shifts hypotheses about saliva's role in fighting cavities, and if rhesus monkeys prove effective models, cavity innoculations may ensue.

Living with a neurotic dog

Our fast-paced, dog-eat-dog world is apparently driving some mutts mad, or neurotic, at the least, David S. Tuber and David Hothersall, both from Ohio State University, report in the April PSYCHOLOGY TODAY. The psychologists are in private practice . . . diagnosing primarily dogs and cats. Their patients, most of them loved but misunderstood pets, are retrained, often along with their owners, so both "can live contentedly together." For example, for a dog deprived of the attention he'd grown up with as a college dormitory mascot, the doctors recommended short-term absences from his owner. A dog terrified of storms was "desensitized" by listening to tape recorded storms played at increasing volumes. For destructive pets, the psychologists suggest punishments such as hidden mousetraps for cats that claw or chew houseplants or furniture, and water pistols shot from ambush at offending dogs. When conflicts arise between pets and young children, the doctors encourage gradual cooperation between the two by rewarding both child and pet alone for tolerating simulated irritants (excessive petting, hair pulling), then putting the pair together and rewarding cooperation with candy.

Behavior

The androgynous strain

Sex-role differentiation has long since outlived its usefulness and only serves to prevent both men and women from developing as full and complete human beings. This charge is made by supporters of women's liberation, who claim that people should no longer be taught to conform to outdated standards of masculinity and femininity but should be encouraged, instead, to be androgynous (having both female and male characteristics). A psychologically androgynous individual, it is claimed, would be able to employ such so-called masculine characteristics as ambition, dominance and self-reliance as well as so-called feminine traits like affection, gentleness and understanding. The ability to respond with either masculine or feminine characteristics would help the androgynous individual in adapting to a variety of situations without regard for stereotyped sex role behavior.

Sandra L. Bem of Stanford University has attempted to test the hypothesis that androgyny can lead to greater adaptability or that sex role typing "can seriously restrict the range of behaviors available to an individual as he or she moves from situation to situation." More than 700 subjects took part in her study, which is reported in the April JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY.

A sex role inventory was used to score subjects according to masculinity, femininity and androgyny. Of those tested, 34 percent of the males and 27 percent of the females were rated as androgynous. They showed an equal endorsement of both masculine and feminine attributes. Masculine, feminine and androgynous individuals of each sex were then subjected to various situations. In an experiment designed to test for "independence from social pressure" (a behavior rated as significantly masculine), masculine males and females and androgynous males and females displayed the most independence. When asked to take part in a "significantly feminine behavior" (playing with a kitten), feminine and androgynous males and females displayed the greatest ability for overall involvement. It was the purely masculine and purely feminine types (especially feminine females) that showed the least adaptability from situation to situation.

"The current set of studies," concludes Bem, "provides the first empirical demonstration that there exists a distinct class of people who can appropriately be termed androgynous, whose sex role adaptability enables them to engage in situationally effective behavior without regard for its stereotype as masculine or feminine. Accordingly, it may well be—as the women's liberation movement has urged—that the androgynous individual will someday come to define a new and more human standard of psychological health."

The coffee—pot connection

Plenty of black coffee—that's what is often called for when it comes time for a drinker to sober up. Experimental evidence from animal studies now suggests that the same remedy might be used to help people high on marijuana come down. Hugh Laird and his colleagues at the University of Arizona in Tucson have found that caffeine, the stimulant in coffee, reverses the depressant effects of marijuana in animals. Both the brain waves and the behavior of rabbits given marijuana returned to normal following caffeine treatment. Two other stimulants, cocaine and methamphetamine, the researchers note, did not reverse the effects of marijuana but instead produced toxic effects in the animals. This finding suggests potential danger to people who mix marijuana with cocaine or methamphetamines.