life sciences

CONSERVATION

Zoologist says bears have got to go

The grizzly bear, over its whole range in the United States and Canada, is on the endangered species list, and in the United States it is almost nonexistent.

The journal BIOSCIENCE, published by the American Institute of Biological Sciences, is a fortress of conservation journalism. But in the December issue Dr. Gairdner B. Moment, a zoologist at Goucher College in Baltimore, Md., says that if it is worth saving grizzlies from extinction at all the job should be done elsewhere than Yellowstone National Park, where the largest part of the grizzly bear population in the United States resides.

Pointing out the conviction of most wildlife writers that the grizzly and man don't mix because of the bear's often instantly ferocious disposition, Dr. Moment says current National Park Service policy "to preserve and maintain natural populations of bears while providing for the safety of park visitors" is self-contradictory.

He says man has no moral obligation to prevent the extinction of other animals "without regard for the human cost. If it seems important to conserve the grizzly, there are other suitable habitats."

BOTANY

Parasite kills cacao tree

Cacao growers in the state of Bahia, Brazil, for several years have known of a tree which, when grown near cacao trees, has a detrimental effect on them.

Now this tree has been identified as a new species of the genus *Acanthosyris*. It has been found that the tree is a root parasite of the cacao tree and is capable of killing it.

Paulo de T. Alvim and Karl-W. Seeschaaf report from the Cacao Research Center in Itabuna, Bahia, that the new species, now named *A. paulo-alvimii,* affects cacao trees only when its roots touch the cacao taproot. When this happens the parasite's root sends a food-absorbing growth into the taproot. The cacao tree then starves to death.

The family Santalaceae to which the new species belongs is a widely distributed group of plants, most of them parasitic and attached to the host by similar growths.

DECONTAMINATION

Soil insects degrade DDT

Entomologists at the University of Michigan in East Lansing report that primitive soil insects of the class Collembola are able to metabolize DDT (dichlorodiphenyltrichloroethane) and break it down into DDE (dichlorodiphenyldichloroethylene).

Dr. James W. Butcher notes that DDE is much less toxic than DDT, and in fact is relatively nontoxic to beneficial soil organisms and warm-blooded animals. He suggests, therefore, that the minute insects could form a pesticide cleanup squad.

The breakdown of the poison is believed accomplished either by enzymes produced by the insects, such as those found in mosquitoes and houseflies, or by bacteria in the insects' intestines, or by both methods.

Dr. Butcher says that though the insects are abundant as it is, farming practices such as manuring and plowing under crop refuse could improve the soil environment and allow insect populations of hundreds of thousands per square yard to build up. Possibly, he says, DDT residues could be eliminated by such a concentration of Collembola before the poison is able to pollute the environment further.

It is possible that Collembola are able to metabolize other pesticides and that other soil insects, such as mites, have a similar capability, he says.

ATHEROSCLEROSIS

Muscle focus in artery hardening

Excess fat in the blood serum may well over-stimulate growth of smooth muscle in the wall of an artery and result in atherosclerosis, according to research at the University of Chicago.

In a report to the 22nd annual meeting of the American Heart Association, Dr. Vincent Chao Yang Kao of Chicago's Pritzker School of Medicine says that smooth muscle from monkey aortas was placed in tissue culture. This muscle is sandwiched between two other artery wall layers, the intima (inside layer) and adventitia (outer layer).

The muscle cells in tissue culture were exposed to blood serum from monkeys which was obtained after feeding the animals a high-fat diet for a month. Those cells exposed to the fat-laden blood showed greater growth rates than control cells.

The researchers believe that over-stimulation of smooth muscle by excess serum fat may result in proliferation of these cells and their migration among the cells of the intima. This destroys the intima's elasticity and leads to atherosclerotic disease.

DRUG APPROVAL

FDA admonishes industry

During the past fiscal year, the Food and Drug Administration received 406 applications for marketing of new drugs. It approved 59.

"I think it is significant that the number of applications found incomplete, or returned as not approvable, outnumbered those approved by five to one," Commissioner Herbert L. Ley Jr. said in his first speech since succeeding Dr. James L. Goddard last July. "More than 80 percent of the applications that were found not approvable lacked adequate information about manufacturing processes," he told a meeting of the Food and Drug Law Institute in Washington. And, he said, "I must tell you frankly that we have not seen the degree of improvement in the quality of clinical data from drug investigations that we would like."

In spite of industry protests that the FDA requirements for submitting new drug information (stiffer, more detailed regulations were instituted about two years ago) are cumbersome and costly, Dr. Ley apparently intends to follow his predecessor's policy of riding careful herd on the drug companies.