

# natural sciences

## ORNITHOLOGY

### Parrots to get Federal aid

The Forest Service and the Fish and Wildlife Service announce a joint project to try to assure the survival of the Puerto Rican parrot.

Between 50 and 200 of the birds survive, all within the 28,000 acre Caribbean National Forest. Wildlife researchers believe that the species will be extinct within a decade even if left alone.

The first phase of the project will be to determine what missing ecological factor is responsible for the parrot's decline and what is needed to reverse it. Studies will be made of reproduction and nesting, food requirements, migration habits and other factors.

It is generally known already that what the parrot needs most is usable forest habitat and freedom from human interference. The foot-high birds once were abundant, but loss of forest, introduced predators such as mongooses, hunting, and capture of the young for pets have reduced them to their present state.

Heading the study will be Dr. Cameron B. Kepler of the wildlife bureau, with Dr. Frank Wadsworth of the Forest Service's Institute of Tropical Forestry.

## REPTILES

### Alligators thrive on atomic heat

The Savannah River is about the northern limit of the range of the extinction-threatened alligator, but at least in one spot he is thriving there. Responsible for this is a kind of water pollution which is being increasingly studied with the advent of nuclear power plants: thermal pollution (SN: 8/17, p. 164).

The Atomic Energy Commission's Savannah River Plant is on a 315-square-mile site whose extensive wild tracts are closed to the public and any development. The University of Georgia has established an ecology laboratory on the site. A team there under Dr. John M. Legler of the University of Utah is studying alligators in a 2,800 acre reservoir used to hold reactor cooling water. The reservoir has proven an ideal alligator habitat because of its elevated water temperatures.

The reptiles' movements are being followed using sonar transmitters attached to their backs. It is hoped that enough of the alligator's breeding and living habits can be learned to aid management efforts in the Everglades and other unprotected ranges where the animal is being poached into extinction.

## COELENTERATES

### Fossil relatives of jellyfish found

Three species of a new genus of fossil jellyfish, creatures 425 million years old, are reported by Rutgers University geologists in the Oct. 4 SCIENCE. The specimens, found in Delaware Water Gap, Pa., are the only known representatives of the family *Dickinsoniidae* found outside Australia.

The find was made on a spring field trip by a sophomore geology major, Paul Truex, who spotted traces of the two-inch asterisk-shaped fossil in a road cut. Since then a search of the literature has indicated that the

specimens comprise three new species related most closely to Australian finds some 20 years ago. However, the Pennsylvania finds come from Early Silurian strata and are some 225 million years younger than the pre-Cambrian Australian fossils.

In reporting the discovery Dr. Helgi Johnson says his group is not yet able to say how closely related the two groups of fossils are. The three species are named *Rutgersella truexi*, *R. delawarensis*, and *R. kittatinnyensis*.

## MOLLUSCS

### Pigtoe mussel life cycle detailed

The missing link in the life cycle of the Tennessee River's most important commercial shellfish, the pigtoe mussel, has been found to be the redbfin shiner. The Tennessee Valley Authority reports that the discovery may lead to commercial hatching of the mussels.

Working under a TVA contract, Prof. Paul Yokley Jr. of Florence State College in Alabama has been able to rear the mussels in the laboratory for the first time. Previously the mussels' host fish, to which the newly-hatched organisms attach themselves for the first few weeks, was unknown. Prof. Yokley found that the shiner, a common small-stream fish, is the host.

The mussels are valuable for their shells, formerly used to make pearl buttons and now used in the Japanese cultured pearl industry to initiate pearl formation. Since a peak in 1960 the mussel fishery has fallen off by 80 percent, because of overharvesting and because the TVA lakes have changed the mussels' river habitat.

However, there are still about 175 miles of the river suitable for mussel growing. These areas and certain lakes might be stocked with young mussels if commercial hatching is as feasible as it appears to be.

## INSECTS

### Mosquitoes go for body odor

One municipal mosquito control official has said that insecticide fogging in suburbia is done to please the taxpayers, not control mosquitoes, which it doesn't to any extent. The trouble primarily is that mosquitoes can breed too fast in too many places. Enough bug spray to kill many of them would be an ecological disaster, killing birds and valuable insects.

The answer to the problem may come from studies of mosquito attractants being conducted in Gainesville, Fla., by Agricultural Research Service entomologists. It has been found that yellow fever mosquitoes, for instance, are attracted to a broth made of human skin bacteria. Apparently the attractant factor results not from live bacteria but from the decomposition of dead bacteria. Another attractant identified is L-lactic acid, found in sweat. This substance's attractiveness to the insects is enhanced by carbon dioxide.

Other attractants being investigated are those which lure females to favorable egg-laying sites and to mates. Among the former are odors produced by bacteria isolated from hay.

If the active factor in such attractants is isolated, the insects could be lured to high concentrations of insecticides or induced to lay eggs in the wrong places.

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