natural sciences

PEST CONTROL

Selective poison for dogfish

The term dogfish applies rather loosely to any shark which, when adult, does not exceed three feet or so in length. In Europe dogfish are esteemed as food and in fact are the main source of the fish in fish and chips.

Americans, however, have not yet gotten around to considering dogfish any more than a trash fish which arrives in schools to compete with more desirable species for food and to ruin nets and fishing tackle. Until the fish becomes marketable, a means of control is sorely needed.

Thor C. Tollefson, director of the Washington State Department of Fisheries, now reports work to develop a poison with an affinity for urea. Sharks maintain osmotic balance with the surrounding saltwater by concentrating urea in their tissues. A poison such as the one being sought would attach itself to the urea in the shark and the shark would die. Fishes which do not concentrate urea would go unharmed.

HERPETOLOGY

Dragons to be studied

Herpetologist Walter Auffenberg of the University of Florida, his wife and three of his four sons will spend a year in the Lesser Sunda Strait in Indonesia, living on the island of Komodo and studying the giant monitor lizards known as Komodo dragons.

The study is sponsored by the New York Zoological Society and the Charlotte Ordway Fondaras Wildlife Protection Fund. It is hoped that enough can be learned about the monitors that their continued survival can be guaranteed. Less than 1,100 of the dragons are believed to exist. They live on Komodo and on the neighboring islands of Padar, Rintja and Flores. While the Indonesian Government protects the lizards, next to nothing is known of their behavior and ecology. Komodo dragons reach over 10 feet from nose to tail and may weigh 250 pounds.

Except for man, Komodo dragons are at the top of the ecological heap in their homeland. While they freely dine on carrion, they are also aggressive predators and occasionally kill domestic animals.

MARINE ZOOLOGY

Cold water coral reef

Living coral is found only in tropical waters: That is an article of faith in marine zoology. All studies of coral so far indicate it is extremely sensitive to cold, unable to put up with even a minor drop in temperature.

It came as a surprise, therefore, to Drs. Ian Macintyre and Orrin Pilkey, to be confronted with several species of tropical reef-building coral in the chilly waters of Onslow Bay, N.C., near the Duke Marine Laboratory in Beaufort.

"Lobe star coral and starlet coral," says Macintyre, "previously were thought to be restricted to areas in which water temperature is never below 65 degrees." Yet in Onslow Bay bottom temperatures as low as 54 degrees F. have been recorded.

In only one other nontropical body of seawater—the Persian Gulf—have tropical corals been discovered. Macintyre notes that the Persian Gulf corals are unhealthy, while those found in Onslow Bay are in the pink of condition.

Pilkey points out that the bay has the lowest sedimentation rate along the East Coast from New Jersey to Cape Kennedy, and is in fact a closed, protected system. The researchers conclude that the corals are found all over the bay, rather than being freaks at one or two spots.

NUTRITION

Deer may starve full of food

The practice of feeding rich hay to deer when snow is on the ground may do them more harm than good, according to the January NATIONAL HUMANE SOCIETY NEWSLETTER. The newsletter quotes researchers from Virginia Polytechnic Institute in Richmond.

Deer normally feed on tender tips and shoots of trees. This fibrous matter passes into a large first stomach called a rumen, where it is converted by special bacteria into nutrients the deer can use (SN: 8/31, p. 218). Without the bacteria deer would starve to death.

In winter the browse becomes increasingly woody as all the tender shoots are eaten up and older twigs must be eaten. On this diet deer will accept hay readily. The comparative richness of hay, however, upsets the balance of the rumen microbes. These are reduced or eliminated by the development of too much ammonia (they are used to only very low ammonia levels because of the poverty of the deer's usual diet). Thus the deer is deprived of sufficient rumen bacteria and may die.

LINGUISTICS

Monkeys can't talk

The higher apes cannot talk, yet apparently possess all the physical equipment necessary to do so. In view of this paradox some learned men have tried to teach chimpanzees to say a few words. Their failure has been taken to demonstrate man's innate superiority in that he can formulate abstract sound symbols. It has been postulated that man bent animal organs designed for other things to the production of speech, and that if he can do it on a large scale, a chimp, with a little guidance, can on a small scale.

Not so, says Philip Lieberman of the University of Connecticut in Storrs, reporting in the December JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA. Man possesses the peculiar ability among primates to modify the cross-section of portions of the vocal tract while vocalizing. It is this constant modification that permits the finely regulated sounds of human speech. Monkeys lack this specially adapted pharyngeal region, which Lieberman says man may have evolved for the express purpose of producing speech.

"Man's remote ancestors (probably *Australopithecus prometheus*) also lacked the output mechanism that is necessary for the production of speech," Lieberman says. "Man may have acquired speech and speech-adapted mechanisms at a comparatively recent time."