

natural sciences notes

ECOLOGY

Musk oxen increasing

The musk ox has increased so much in numbers in the last 38 years that it is becoming a problem on Nunivak Island, a national wildlife refuge off the Alaskan coast.

The long-haired, sturdy bovines, once nearly extinct, now number over 700 on the 2,000 square mile island. If the protected herd continues increasing, the animals will run out of food supply, according to the Bureau of Sport Fisheries and Wildlife.

Many oxen once ranged throughout the Arctic regions of North America and Greenland, but were killed for their fur and meat by explorers and Eskimos. The last native musk ox in Alaska was killed in 1865. The Nunivak Island herd was started in 1930 when the Federal Government brought 34 oxen from Greenland. Wildlife officials are considering relieving the population pressure by transporting surplus oxen to the Alaskan mainland, donating some to museums or zoos, or letting interested groups attempt to domesticate them.

SEISMOLOGY

Deadly earthquakes not major

The series of 34 earthquakes that hit the western portion of Sicily last month, killing some 300 people and injuring 1,000 more, were not major, according to scientists at the U.S. Coast and Geodetic Survey. The largest shock, occurring at 3:01 a.m. Jan. 15, was only about 5.7 on the Richter scale, which goes up to 8.9. A major earthquake has a magnitude of 7 to 7.9. A great earthquake has a magnitude of 8 or greater.

Thus, in spite of heavy loss of life and property, the Sicilian earthquake did not break the strange cycle of earthquake inactivity. There has not been a great earthquake since the 1964 tremblor in Alaska. This earthquake silence is the longest since seismologists began measuring 'quakes 70 years ago.

FORESTRY

Pine blight found in California

A needle blight on pine trees, first discovered in Tanganyika 10 years ago, has been found on forests in north coastal California, the U.S. Forest Service reports.

The red band needle blight, caused by the fungus *Dothistroma pini*, damages and kills young pines. The fungus spores are liberated only in the presence of water. They are then spread by splashing water or, when dried, become airborne and are carried in the atmosphere for great distances. The disease has struck previously in Chile, England and New Zealand.

MARINE BIOLOGY

Undiscovered sea animals

Sea creatures never before known may lurk in deep, nearly oxygenless basins beneath the Gulf of California, according to marine biologists at the University of Southern California.

During a recent cruise in the research vessel *Velero*

IV, scientists explored the basins, believed to be uninhabited, and found them teeming with life.

Samples of fish, crustaceans, bivalves and polychaete worms were taken from depths of 6,000 to 12,000 feet. Brittlestars, worms and sea pens were hauled from the relatively shallow Guaymas Basin where they were living beneath the oxygen layer.

"We are not yet certain, but probably there are species of animals among the bottom dwellers that never have been classified or studied," says cruise director Kristian Fauchald.

PALEONTOLOGY

Rare fish fossil found

An unidentified fossil of a fish, perhaps 165 million years old, has been found on the beach at Charmouth, on the coast of southern England.

The fossil, 14 inches long and looking somewhat like a bird, is now being studied by scientists at the British Museum.

Charmouth has been a favorite haunt of scientists since 1811, when a complete ichthyosaurus (an extinct marine reptile with a long snout) was discovered. Last year, the head of an ichthyosaurus was found by a 14-year-old girl.

AGRICULTURE

Reflected sunlight increases corn yield

A phenomenal yield of 377 bushels of corn per acre has been produced by channeling more sunlight onto the lower corn leaves with aluminum reflectors.

In the increased sunlight, plants grew more ears, were shorter and had thicker stalks, report Dr. J. W. Pendleton of the University of Illinois and D. B. Peters of the Department of Agriculture's Research Service.

During the past 10 years, farmers in the Corn Belt have increased corn yields from 55 to more than 100 bushels per acre through use of hybrid seed, fertilizer, irrigation and modern equipment. Scientists foresee even more dramatic increases with light management.

GEOMAGNETISM

Earth's dwindling magnetic field

Earth's magnetic field has been getting weaker for centuries, on the way to reversing itself, and will have virtually disappeared by the year 3991, according to a study by two U.S. Government scientists.

There have been several field reversals in earth's geologic past, but the most recent of them was about 700,000 years ago, so it has been difficult to connect these events with physical or biological changes on the planet.

Such changes would come about because the magnetic field, as it weakened to zero prior to building up again with the opposite polarity, would temporarily cease keeping out cosmic and solar radiation.

Dr. Keith L. McDonald of the Environmental Science Services Administration and Robert H. Gunst of the U.S. Coast and Geodetic Survey say for 500 years before and after the low point the field will not be strong enough to shield earth effectively from radiation.

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