

## WILDLIFE

# Whooping Crane Alert

## See Front Cover

► SOUND RECORDINGS of the whooping crane's cries for radio, and photo shots of the birds for television, are the newest weapons the United States Government will use this fall to help protect the world's last surviving whooping cranes.

The rarest and tallest of American birds migrate from their breeding sites in Canada each fall, cutting across the Dakotas, Nebraska, Kansas, and Oklahoma, to settle down for the winter at the Arkansas National Wildlife Refuge in Texas.

Last fall wildlife experts counted three new whooping cranes, bringing the world total to 24, one of which is shown on the cover of this week's SCIENCE NEWS LETTER.

In an effort to protect these two dozen cranes and increase their numbers, William T. Krummes of the U. S. Fish and Wildlife Service, disclosed that the service has prepared a program for radio that includes sound recordings of the crane's cries, made last spring in Texas, together with the birds' description, and a plea to those living along the crane's migratory route to help protect them.

A number of these radio programs have already been distributed to stations along the crane's flyway from Canada to Texas.

Similar television pleas, which will combine the sound recordings with film photos, are being prepared and will be issued either this fall or next spring.

The increase in the whooping crane's population will not be known this year until all the birds have settled down in Texas, which is expected sometime in November.

Then, by counting the number of rusty colored birds amid the white whooping cranes, a tally will be made by the wildlife people. Mr. Krummes pointed out that the parents have white feathers, and that the new youngsters have rusty plumage. By the following year, the youngsters' feathers have become white.

Because the whooping crane does not make a non-stop migration, but halts along the way to feed and rest, it is hoped that the new radio and television campaign will better inform the public, thus helping to protect the birds during their journey.

Whooping cranes are protected by law along their migratory route.

Science News Letter, September 25, 1954

## PHYSICAL CHEMISTRY

# Rain Three Weeks Old

► RAIN THAT falls has been aloft as moisture about three weeks on the average.

Deep wells often produce water that is more than 50 years old.

Rain mixes with the ocean water to a depth of only about 150 feet.

These facts, presented to the American Chemical Society meeting in New York by Dr. W. F. Libby, University of Chicago chemist, were discovered by studying the amount of tritium, triple-weight hydrogen, in various waters. Tritium is probably an ingredient of the H-bomb.

Tritium is generated in small quantities in the upper atmosphere by action of cosmic rays from outer space. As tritium is formed in the atmosphere, it combines chemically with oxygen to make water that then falls as rain or snow. Due to radioactivity, a sample of tritium decays at such a rate that half of it disappears in 12.5 years.

Dr. Libby measures the tritium content of water by its radioactivity and thus tells its ages. Water over about 50 years assays little tritium.

Wines of known vintage were used by Dr. Libby to check to see that radioactivity due to tritium decreases according to theory. The studies of wine also gave assurance that cosmic ray activity in the upper atmosphere has been fairly constant for the past decade.

Volcanoes, like the Larderello fumarole in Italy, release ancient water, more than half a century old. Some hot springs, however, release rain water. Deep wells produce ancient water.

Rains over the continents are richer in tritium than rains over oceans.

Tritium contents show that rain mixes into the ocean to a depth of only 150 feet from the surface.

Science News Letter, September 25, 1954

## BIOCHEMISTRY

# Milk Used to Study Protein Synthesis in Body

► USE OF a milk-producing animal to study protein synthesis was recommended at the American Chemical Society meeting in New York by a team of scientists from the National Institute for Medical Research, London, headed by Dr. T. S. Work.

By injecting amino acids labeled with radioactive carbon, Dr. Work said, information can be obtained on the body's utilization of the injected material. The lactating animal is particularly convenient since the rate of milk formation is high, and samples of protein can be obtained at regular intervals without disturbance of the normal physiological state.

Science News Letter, September 25, 1954



**"BLACK DEVIL"**—This photograph shows the *Melanocetus johnsoni*, or "black-devil," a strange tropical fish caught off California. Largest of its kind captured anywhere, it fits into a man's hand.

## MARINE BIOLOGY

# Strange Tropical Fish Found Off California

► A STRANGE tropical fish, whose only living adults are females, has been found off the coast of California.

The fish, a small "black-devil," was the first to be captured this far north in the eastern Pacific, it was announced by Dr. Carl L. Hubbs, professor of marine biology at the University of California's Scripps Institution of Oceanography.

Almost five inches long, the captured female is the largest specimen of its kind to be collected anywhere in the world.

The black-devil and its relatives are unique among fishes because all the free living adults are females. The male, after reaching the length of an inch or so, attaches itself to a female. The blood streams of the two merge, and the male then loses all identity, becoming a limb of the female.

Known scientifically as *Melanocetus johnsoni*, this little black fish inhabits deep water. It was captured off San Diego, in water about two-thirds of a mile deep.

To help seeing in the dark depths, the black-devil is capable of producing living light. An organ, looking like a wooden match-stick, protrudes from its forehead, and the tip is responsible for giving off luminescent light.

The light is thought to attract other creatures that are swallowed by the black fish's wide mouth. Dr. Hubbs described the fang-like little teeth of the black-devil as being capable of depressing inward, thus allowing the fish to grab its food.

Science News Letter, September 25, 1954