

ZOOLOGY

New Tiny Sea Creature Described by Smithsonian

A TINY sea creature, new to science and named in honor of President Roosevelt, has just been described in a new Smithsonian Institution publication by Clarence R. Shoemaker of the U. S. National Museum scientific staff. It recalls the President's carefree fishing trip in what turned out to be the last peacetime year, on the cruiser Houston, lately lost in action against the Japanese off the coast of Java.

The little animal has been given a name out of all proportion to its quarter-inch size: *Neomeganphopus roosevelti*. It belongs to the zoological group known as the amphipod crustaceans, which are relatives of shrimp, and more distant kin of lobsters and crabs. Although it is of insignificant size individually, it swarms in such uncountable billions that it is an important item in the diet of fish in Magdalena bay on the coast of Lower California, and thus plays its part as an important economic species, since the fisheries of Magdalena bay are rated among the best on the Pacific coast, for both food and sport.

The new species was collected on the 1938 Presidential cruise, by Dr. Waldo L. Schmitt of the Smithsonian staff, who was with the expedition as naturalist.

Science News Letter, April 4, 1942

ZOOLOGY

Ten New Mammal Groups in Natural History Museum

See Front Cover

TEN LIFELIKE groups of North America's rarest big game animals have just been completed for a new exhibit hall in the American Museum of Natural History and will be given their final inspection by officials of New York City and trustees of the Museum on Wednesday, April 8. Subsequently they will be thrown open to the public.

The new Hall of North American Mammals has been under construction for six years, while taxidermists have prepared the mounts of the great animals by modern, sculpture-like techniques. In the meantime artists visited the actual spots where the animals had been collected, to make sketches for the preparation of the realistic backgrounds against which the groups are displayed.

Some of the animals were obtained through the cooperation of the Cana-

dian government and the U. S. National Park Service, which permitted the collection of specimens in areas where ordinary hunting is rigidly prohibited. In some instances the animals could have been found nowhere in unprotected areas.

One of the rarest of the animals shown, a species which most people never do see at all, is the white mountain sheep, a snowy-fleeced relative of the bighorn sheep. It lives on high mountains in Alaska; the Museum's new group is shown against background representing the upper slopes of Mt. McKinley.

The ten groups in the new hall comprise Alaska brown bear, grizzly bear, bighorn sheep, white mountain sheep, Grant caribou, Osborn caribou, muskox, mountain goat, bison, Alaska moose.

Science News Letter, April 4, 1942

RADIO

Best Wavelength Predicted For Short-Wave Radio

AUTOMATIC recordings of electrical conditions in the upper atmosphere have made it possible to predict with accuracy the best frequency (or wavelength) to use in short-wave radio communication between given points, for a given season of the year and a given time of day. This announcement was made at a meeting of the Washington Academy of Sciences by Dr. T. R. Gilliland, of the National Bureau of Standards.

The automatic multi-frequency recorder is a development of the technique used by Dr. Gregory Breit and Dr. M. A. Tuve in the United States and Prof. E. V. Appleton in England about 16 years ago to investigate the ionosphere or electrically conducting layers of the upper atmosphere. Their method was to send up short pulses of high-frequency waves of different wavelengths and measure the echo time or time for the waves to go up and back.

These layers change greatly from day to night and from summer to winter and according to the number of sunspots on the sun, and greatly affect short-wave communication.

Automatic recordings have now been made in several parts of the world for almost one complete sunspot cycle of 11 years. It is this accumulation of records that now makes it possible to specify the best wavelength to use under any particular circumstances.

Science News Letter, April 4, 1942

IN SCIENCE

CHEMISTRY

Bridal Clothes of Bread And Milk Are Foreseen

BRIDES of tomorrow may adorn themselves in going-away suits of bread and milk, if research under way at the Department of Agriculture proves successful.

Synthetic wool fibers have already been made from milk casein, and now it appears that wheat gluten is another protein ideally suitable for production of synthetic fibers.

Chemists at the Department's western regional laboratory have already produced good fibers from the wheat gluten, and if a new use for the resulting wheat starch can be found, the process will be practical.

Science News Letter, April 4, 1942

MEDICINE

Ready-Made Spare Parts For Skull Now Available

READY-MADE spare parts for repairing defects in human skulls are now available, Dr. Claude S. Beck, of Western Reserve University School of Medicine, reports (*Journal, American Medical Association*, March 7).

They are metal plates made of the alloy, vitallium, which doctors have found most satisfactory for repair of skull and other bone defects. Heretofore plates used to repair skull defects, for example to replace a piece of skull removed in case of tumor, have been specially cast from a pattern of the skull defect. Dr. Beck had "the idea of using plates made up in various sizes and kept in stock so that the surgeon could use them when needed."

The plates might be useful in the care of war wounds, he points out. If the wound is not infected, the plates might be put in at the first operation.

"Almost any defect can be repaired by plates whose measurements are 6, 10, and 14 centimeters in length and 2 or 3 centimeters in width," Dr. Beck states.

The plates have a gentle curvature which may be altered by means of pliers. They are attached by vitallium screws.

Science News Letter, April 4, 1942

CE FIELDS

NUTRITION

Army Using Dried Foods By Millions of Pounds

DEHYDRATED vegetables by millions of pounds will constitute part of the Army's vast shipments of supplies to our troops in Australia and elsewhere overseas. Quartermaster purchases of 18 million pounds of seven "bulk" vegetables have been announced, with more to follow.

The vegetables to be handled in dehydrated form all contain large percentages of water when fresh; they are potatoes, sweet potatoes, onions, carrots, cabbages, beets and rutabagas. Elimination of excess water from potatoes alone will, it is estimated, save the army shipping space equivalent to two whole freighters.

Dehydrated vegetables were tried out by the first A.E.F. in 1917-18, but the dehydration industry was still in its infancy then and results were not satisfactory. Great improvements in technique during the past couple of decades are expected to insure success this time.

Science News Letter, April 4, 1942

CONSERVATION

Save Water as Well as Tin For War, America Is Urged

AMERICA, gravely concerned with saving rubber, tin, aluminum, oil and other military necessities, must be no less earnest in saving its great resource of pure water, Rep. Karl E. Mundt of South Dakota urged before the Izaak Walton League of America meeting in Chicago.

Water, the Congressman reminded his hearers, has been a matter of military importance since the earliest recorded wars. Walled cities of antiquity, defying assaults of their enemies, could be brought to sue for peace by cutting off their aqueducts. And only the other day Hong Kong and Singapore were brought to the same humiliating fate by the same means.

By wasting water supplies needed for human consumption or industry, worse

still by polluting their sources, Americans become their own enemies, Mr. Mundt warned. He continued:

"While engaged in this nation-wide conservation effort of the things immediately useful in our drive for victory, America should also give serious thought to the less obvious values accruing from the even more far-reaching effects of wise conservation of all the natural resources of this country. It is from the woods, waters, and wildlife of America, combined with our natural metallurgical resources, that America must get the raw materials from which to make the fighting tools of modern war. The waste or abuse of our natural resources should today be equally condemned whether it be the products of the oil well and the copper mine or the products of timber, the virtues of pure water, the sanctity of bird refuges, or some other aspect of the League's comprehensive program to take less of today in order to save more for tomorrow."

Science News Letter, April 4, 1942

GEOLOGY

100% Pure Nitrogen Gas Flows In Eastern Wyoming

PURE NITROGEN gas flows from a recently drilled well in an eastern Wyoming ranch, Harold Cook, consulting geologist of Agate, Nebr., reports (*Science*, Feb. 27). This is believed to be the first nitrogen gas well ever struck.

The well was being drilled for water, Mr. Cook reports, when it began to yield gas at a considerable pressure at a depth of only 156 feet. A sample was taken and sent to the laboratory of the U. S. Geological Survey at Casper, Wyo., for analysis. J. G. Crawford, chemist of the laboratory, found it to be 100% nitrogen.

Nitrogen, which is mixed with oxygen in ordinary air, has no fuel value. However, because it is inert, combining with other elements only under special conditions, it is used in making artificial atmospheres where it is desirable to exclude oxygen, and thus has considerable value in many industrial operations, such as rubber storage. At present, nitrogen is obtained by extracting it from the air, usually as a byproduct in liquid air manufacture.

Since an apparently large supply of pure nitrogen, all ready to use, may have value in the present war emergency, the new-found well has been shut down and closed, to conserve the gas until possible uses are developed.

Science News Letter, April 4, 1942

FORESTRY—RESOURCES

U. S. Cork-Producing Possibilities Studied

EXPERIMENTS in planting cork oak, from which cork is stripped, are planned by the Department of Agriculture, if the Forest Service can get acorns from the Mediterranean region (*Journal of Forestry*, March).

Normally this country imports about \$10,000,000 worth of cork every year from Spain, Portugal and North Africa. Parts of the Southwest—southern California, Arizona, New Mexico and Texas—have a similar climate, and the Department believes cork should do well here.

From a few cork oaks planted in California more than 70 years ago, good first-yield cork has been gathered under supervision of the Agricultural Extension Service of the University of California.

Several native trees already produce a kind of cork suitable for several types of products, such as heat insulation and packing material. These include Southwestern fir, which produces a soft pure cork, and the more common Douglas fir, with its corky outer bark. White fir also offers some possibilities.

Science News Letter, April 4, 1942

DENTISTRY

Boxing Gloves, Golf Balls Newest Thing for Teeth

BOXING gloves, celluloid mouth bits, even golf balls, may be useful in preventing the common dental condition in children known as malocclusion, or faulty meeting of the upper and lower teeth, according to Dr. Leland R. Johnson, Chicago dentist. Dr. Johnson addressed the 78th annual midwinter meeting of the Chicago Dental Society.

Boxing gloves may be tied on a youngster's hands at night to prevent thumb-sucking, a frequent cause of malocclusion, according to Dr. Johnson, while to prevent "mouth breathing," another cause, a small celluloid mouthpiece can be held between the lips while the child is reading or studying.

The habit of many children of sleeping with their faces on their hands or fists may cause malformed jaws. It can be prevented, Dr. Johnson said, by preventing children from sleeping on their stomachs. The cure consists of sewing a row of golf balls in the front of the child's pajamas, thus keeping the child sleeping on his back to avoid discomfort.

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