

ZOOLOGY

Wine Colored Shark Has 20 Rows of Teeth

A WINE COLORED shark with 20 rows of teeth, its whole underside shining with a ghostly light at night, is only one of the strange monsters of the deep described in a new Smithsonian Institution technical publication on sharks and rays, written by Dr. Henry W. Fowler of the Philadelphia Academy of Sciences.

The name of the weird shark is *Isistius braziliensis*, and it is found in tropical waters the world around. In common with many other marine animal species, it produces phosphorescent light. In this particular species the luminous parts are confined to the underside of the body. It will keep on shining for several hours after it is dead.

The biggest sharks, says Dr. Fowler, are the most inoffensive. These monsters, known as basking sharks, are either so goodnatured or so stupid that they never molest anyone, and if attacked they only try to get away. They cannot even swim very fast.

Usually rated as the most dangerous are the tiger sharks or carcharodons. These are found in almost all warm seas, though fortunately they are nowhere abundant. These are the real "man-eaters" that sometimes appear off our own southern coasts.

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WILDLIFE

"Wart" Disease of Deer Suddenly on Increase

A SUDDEN increase in the widespread incidence of "warts," a serious tumor-like disease of the deer, throughout much of the big game country during recent months, has caused widespread alarm among game managers. Cases of infection have been discovered from Oregon to Maine and south to Georgia.

The growths are fairly prevalent in the Carolina deer and scattered cases have been found in surrounding states. A few infections have been reported from the Pacific Northwest. In Maine numerous instances of infection have been recorded from the Isle au Haut, some from Argyle township, two from the region around Cherryfield, one from Mt. Desert Island and yet another from the Gacomgomac Lake area. In that state, at least, "warts" are not new; concern was

expressed several years ago when dead deer were found heavily infested with the growths.

The "warts" commonly assume the size and shape of an ordinary tumor, appearing more often in multiple form than singly. Usually the head and neck are most heavily infected. The body and legs, however, are not free from attack and quite often deer dead of these tumorous growth have their bodies and limbs literally covered. Sometimes the animals' sight is materially impaired, and not seldom the hearing is completely destroyed by growths in the ears.

The manner in which the warts are transmitted is unknown. Although the contagion is more or less taken for granted, they may not be directly transmissible. An intermediate host may be necessary; it is quite possible that some vector, perhaps the common wood tick, is responsible for the spread of the disease. As yet, however, even the causative organism has escaped detection.

Bucks and does are equally susceptible, and though the white-tailed deer are primarily concerned, it is suspected that mule deer and Pacific black-tails are equally vulnerable. Infected animals ultimately succumb to the disease.

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MEDICINE

Warns Against Chewing Poison Ivy Leaves

WARNING against chewing poison ivy leaves in an attempt at desensitization to the poisonous principle of the plant appears in a report by Dr. Seymour H. Silvers, of Brooklyn, N. Y. (*Journal, American Medical Association*, May 17).

He reports the case of a woman who, having had ivy poisoning from contact with the plant for seven years, had been advised by her physician and friends to chew the leaves of the plant with the idea of preventing further attacks. As a result she had a severe eruption on her face, lips and around her mouth, and her tongue and cheeks were so sore she could not eat properly for two days.

Protection against ivy poisoning is frequently attempted by injecting gradually increasing doses of the poisonous principle, something like the desensitization treatments for hay fever. While it is possible to try giving this treatment by mouth, Dr. Silvers states, "it is unwise to suggest the chewing of poison ivy leaves, for the dosage cannot be controlled by this method and untoward reactions may result."

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GENETICS

"Synthetic" Wheat Hybrid Resembles Common Species

COMBINING two dissimilar relatives of wheat to obtain a "synthetic" hybrid plant closely resembling the common cultivated species is the genetic feat accomplished at the University of Saskatchewan by Dr. E. J. Britten and Prof. W. P. Thompson (*Science*, May 16).

Ordinary cultivated wheat has 42 chromosomes in the nuclei of its cells. It is commonly believed that it originated as a natural hybrid between two other species with lower chromosome numbers.

To test this theory, Dr. Britten and Prof. Thompson hybridized a 14-chromosome species of wheat (emmer) with a wheat-like grass having only seven chromosomes to the cell. This hybrid plant had 21 chromosomes to the cell, but was completely sterile. The experimenters then treated the hybrid intensively with a solution of colchicine, making daily injections with a hypodermic needle. This eventually resulted in the formation of heads of grain that had wheat's chromosome number, 42, and were fully fertile. In external characters, also, the artificially produced plants showed considerable resemblance to ordinary wheat.

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PHYSICS

Produce Temperatures Hotter Than the Sun

SAMPLES of what the interiors of the hottest stars may be like are produced in the laboratories of the National Bureau of Standards, Dr. F. L. Mohler, Bureau physicist, told a meeting of the Society of the Sigma Xi in Washington. By suddenly discharging 40,000 kilowatts of electrical energy through a quartz tube with one-tenth inch bore, a spark was obtained lasting only five millionths of a second, but nearly 50 times as bright as the sun while it lasted, and having a temperature of 45,000 degrees Fahrenheit. New understanding of the properties of matter at extreme temperatures is expected to result from these studies.

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CE FIELDS

ORNITHOLOGY

Starling Invasion Reaches Rocky Mountain Region

STARLINGS, long a major pest in the East, have apparently become firmly established in the Rocky Mountain region. S. W. Gadd, Colorado Springs ornithologist, states that Colorado was entirely free of them until the winter of 1938-39. Then a group of about 75 was discovered on the South Platte watershed north of Denver. Now they are spreading into the city in large numbers.

"Recently I found a flock of starlings at the Johnson reservoir, just south of Colorado Springs," says Mr. Gadd. "It is safe to predict that starlings will soon become a major worry in the Pike's Peak region and the eastern Rockies generally."

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PHYSICS

Urges U. S.-Supported Scholarships in Physics

A THOUSAND undergraduate scholarships and 500 graduate fellowships in physics in American colleges, supported by funds from the Federal Government, are urged as the best solution to the critical shortage of physicists in defense work, in a leading article in the May issue of the *Review of Scientific Instruments*. The article is signed "G. P. H.," the initials of Dr. Gerald P. Harnwell, director of the Randal Morgan Laboratory of Physics of the University of Pennsylvania and editor of the *Review*.

"This is predominantly a technical war," he states, "and the training of scientists must not be throttled, or there will not be personnel to fill key positions. The production of brains is the most essential industry and it is idle to subsidize courses for machinists and stifle the brains to design new machines. The most advanced student is the most obvious asset, but if there are no elementary students there will be no advanced ones. If we can look five years ahead for a two-ocean navy, we must look the same period ahead in education. This is about the interval needed to train adequately

the physicists who will then be even more essential than they are now."

If the government scholarship program is adopted, the writer urges, "subversive influences would have to be guarded against and political interference, lowering of standards, etc., could not be tolerated, or the whole program would defeat its own purpose, and the final state of physics would be worse than the first." He thinks that the problems could be solved if the general supervision of the scholarships was in the hands of the National Academy of Sciences, the American Council on Education or some similar group. The details of administration should be handled by the colleges and universities "who have for so many years been disbursing their own funds in a suitable way and for the same general purpose."

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PHYSICS

200,000,000 Electrical Particles in Every Breath

TWO hundred million particles in every breath a person exhales are the reason that the breath is visible on a very clear, cold morning.

Discovery of these particles, each nearly 100 times as big as an air molecule and which were previously unknown to science, was announced by Dr. George R. Wait, of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington. The majority of the particles, he finds, are electrically charged, either positively or negatively.

Such particles, he said, are common in the air over chimneys, and the exhausts of automobiles. Perhaps those in the breath, he suggests, are the "smoke" of the fires of life itself, the constant burning in the body which keeps up its temperature.

On a cold morning, the moisture in the breath condenses around these particles. Consequently, it would be expected that in an open, snow-covered countryside, or in a desert, where the air is normally free of them the breath would be invisible. Even under such conditions, when the temperature is low, it can be seen, and this is explained by Dr. Wait's discovery of the particles in the breath itself.

The particles from the lungs, in a room where several people are assembled, quickly capture smaller ions, or broken air molecules, already present. He suggests that perhaps they play some part, as yet unknown, as carriers of disease-bearing microorganisms.

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MEDICINE

Drugs Offer Four to One Chance of Gonorrhea Cure

THE sulfa drugs, sulfathiazole and sulfapyridine, offer a four to one chance for cure of gonorrhea in men within five weeks after beginning of treatment, the U. S. Public Health Service announced. The statement is based on findings in eight clinics cooperating with the Public Health Service and the American Neisserian Medical Society, a national organization of doctors specializing in gonorrhea treatment and research.

Of the two sulfa drugs, sulfathiazole is more effective in gonorrhea than sulfapyridine, clearing up symptoms faster and having fewer toxic effects. Symptoms disappeared within one week in 61% of the patients treated with sulfathiazole, but complete cure takes five weeks.

Treatment of gonorrhea by drugs is now so effective that the Public Health Service officials believe the disease can be eliminated as a public health problem within several years if an adequate nationwide program were developed.

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PALEONTOLOGY

Skull of Giant Rodent Found in Montana

THE SKULL of a giant rodent, representing a hitherto unknown genus of extinct animals, is described (*Science*, May 16) by Dr. George Gaylord Simpson of the American Museum of Natural History. The specimen, together with a few fragmentary skeletal bones of the same animal, was found in the White River region of Montana last summer by Kenneth Briggs, of Baker, Mont., who sent it to the Museum for study.

The skull has a length of 160 millimeters, or 6.3 inches. This is considerably greater than the skull length of the California golden beaver, largest existing North American rodent, which averages around five inches.

The find was made in a stratum of Oligocene geologic age, but the animal shows kinship to a group of smaller rodents hitherto known only from the previous age, the Eocene. It therefore probably represents a line of survivors, the largest but last of its tribe.

Dr. Simpson has given the animal the zoological name *Manitsha tanqa*, which is Sioux for "big gopher."

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