ZOOLOGY

Slow Growth Responsible For Female Longevity

THE FEMALE of a species lives longer than the male because she grows more slowly. This new explanation of the greater longevity of females was furnished by experiments with rats reported by C. M. McCay and Mary F. Crowell of Cornell University at the Boston meeting of the American Society of Zoologists.

They found in the course of their experiments, begun three years ago, that an animal that grows slowly will live longer than one that matures rapidly. The growth of the animal can be retarded, with subsequent longer life, by restricting the calories it is fed.

In a group of animals fed a normal diet and growing at the normal rate, the males had much shorter life spans than the females, but in the slow-growing group the males and females lived almost exactly as long as each other.

Science News Letter, January 6, 1934

PALEONTOLOGY

Fossil Crocodile Found in Kansas

KANSAS once had crocodiles. Solid evidence to this effect has been found by Dr. M. G. Mehl of the University of Missouri, who described his discovery before the meeting of the Paleontological Society. Dr. Mehl's discovery consists of a fossilized crocodilian skeleton, its skull and some other parts missing. From the parts that remain, the original length is estimated at about twelve feet. The skeleton was uncovered near Salina, Kansas.

Science News Letter, January 6, 1934

PHYSIOLOGY

Turtle Hearts Beat After Liquid Air Freeze

YOU CAN'T make it too cold for a turtle's heart. Not even the terrific frigidity of liquid air can stop it.

At the meeting of the American Society of Zoologists in Boston, E. Alfred Wolfe and Richard A. Torgesen of the University of Pittsburgh told of their experiments with the tough hearts of these sluggish reptiles.

As is well known, the heart of a turtle will keep on beating for hours after its owner has been killed and the organ itself removed from its body. Such excised hearts were immersed in liquid air, at a temperature of 192 degrees Centigrade below freezing, for 3, 5, 7 and 10 minutes respectively. Then they were placed in a cold physiological solution and allowed to thaw out gradually. The hearts resumed their beats within a few minutes. At first the beats were irregular and slow, but within a few minutes more they were pulsing regularly, though somewhat more slowly than other turtle hearts that had not been given such a drastic chilling.

As all the hearts gradually slowed down during a three-hour period, it was noted that the ones given the longest freezing became "tired" first. Hearts exposed to freezing for more than ten minutes did not resume beating at all.

Science News Letter, January 6, 1934

CHEMISTRY

Germicide Not Weakened By Organic Material

A NEW chlorine compound that kills disease germs and other micro-organisms in the presence of certain living tissues was reported by Dr. Franz C. Schmelkes and his associates, Henry C. Marks, Isabelle B. Romans, Elizabeth S. Horning and Albert F. Guiteras, of the Wallace and Tiernan Products research laboratories, Belleville, N. J., at the meeting of the Society of American Bacteriologists.

The new product is called Azochloramid—short for the long chemical name N-N-dichloro-azodicarbonamidine.

One big advantage of the compound is that, unlike other germicides, it does not rapidly break down chemically and lose its effectiveness in the presence of organic material, milk and such body fluids as serum and pleural exudate. Indications are that the new compound will prove a better germicide and disinfectant under these conditions than iodine or Dakin solution.

A further desirable property of the new germicide is its bright yellow color which persists as long as the compound is active. Azochloramid is also substantially odorless and tasteless.

Another important characteristic of Azochloramid is its ability to kill germs without seriously injuring body tissues.

Unlike other antiseptics, Azochloramid is not markedly group specific. Clinical investigations of the difficult mixed infections emphasize the value of this property.

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IN SCIEN

BOTANY

Plants' Stored Food Adds Length Only

FOOD stored by a tree or shrub in its woody parts is subsequently used for growth, but only for growth in length —the formation of new shoots and leaves. It is not used to increase the thickness of the trunk or branches. Growth in thickness is accomplished only from food that has been made in the leaves a short time before.

This discovery was announced before the meeting of the American Society of Plant Physiologists by Dr. W. E. Loomis of Iowa State College at Ames. Woody plants do not grow thicker in spring until they have developed their leaves, Dr. Loomis said; and such growth in thickness can be stopped at any time in the season by stripping off the leaves or cutting off the lines of transport of food from leaves to trunk.

Science News Letter, January 6, 1934

ORNITHOLOGY

Bird Size of Bee Found in Haiti

A BIRD no bigger than a good-sized bee, found in the Haitian highlands, is described in a new publication just issued by Dr. Alexander Wetmore, assistant secretary of the Smithsonian Institution. It is known as the Hispaniolan vervian hummingbird. In spite of its tininess it is quite pugnacious, as indeed most hummingbirds are, and does not hesitate to dart to the attack of birds as big as a mockingbird if it objects to their presence.

Among the other remarkable birds found in Haiti Dr. Wetmore and his companion, Frederick C. Lincoln of the U. S. Biological Survey, found a species of woodpecker that lives in community "apartment houses" instead of in solitary dwellings, after the fashion of the woodpeckers familiar in the North. They favor trees with hard trunks, and a whole group of them—a dozen pairs or more—will dig their nests out close together.

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CE FIELDS

STATISTICS

Violent Death Claims Many More Men Than Women

BETWEEN the ages of 15 and 50 four times as many men as women die from violence. This being the main working period of life when men are most exposed to the hazards of industry and of civil life, it is not surprising to find that external violence is the cause of death more often than any other factor, statisticians of the Metropolitan Life Insurance Company point out. They found that practically twice as many men die from violence at this age as from tuberculosis.

Comparing deathrates among men and women at this age, they found that the deathrate among men from accidents, homicides and suicides was just three and a half times that among women from childbirth causes.

"We have heard much during recent years regarding the needlessly high maternal mortality rates in our country," the report stated, "but the question may well be raised whether the regrettably high maternal deathrate is not far exceeded in serious consequences for society and the family by the high and largely avoidable deathrate from violence of various sorts among male wage-earners."

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GEOPHYSICS

"Silent Lightning" Pours From Air to Earth

CEASELESS currents of atmospheric electricity, of the same birth as lightning but coming without flash or sound, pour from the atmosphere into the earth. How scientists study this "silent lightning" was demonstrated at the annual exhibition of the Carnegie Institution of Washington.

Molecules of the gases that make up the atmosphere may gain or lose an electron, through the action of radioactive minerals in the earth, cosmic rays and other causes. Cosmic rays alone account for about a fourth of all such electron additions or subtractions. Molecules thus affected become negative or positive "ions," and their drift through the atmosphere sets up the slow and silent, but none the less important, electrical discharges from air to earth.

Carnegie Institution scientists have discovered that the actual concentration of these charged molecules, or ions, is only a fraction of what was predicted on theoretic grounds. The ionization of the air is greatest over the seas and in other empty places, least over areas like great cities, where life is most concentrated and industry most active.

Other exhibits shown at the Carnegie Institution had to do with the development of plant societies, with the cellular "sociology" of certain cancerous conditions, with the atmospheres of the planets and the moon, the velocity of light, the accurately determined positions of thousands of stars, Mayan history and California earthquakes.

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PHYSIOLOGY

Coffee's Sobering-Up Effect Measured

COFFEE'S sobering-up effect, after one has had a drop—or several—too many has long been known in a general, rule-of-thumb sort of way. But now it has been subjected to experiments aiming at quantitative scientific measurement. These were reported by Dr. A. L. Winsor and Dr. E. I. Strongin of Cornell University, before the American Association for the Advancement of Science.

The persons tested were given varying amounts of alcohol, according to the degree of their resistance to its effects. The doses ran from 30 to 75 cubic centimeters of grain alcohol, diluted with twice the quantity of water—roughly the equivalent of one or two stiffish drinks of pre-repeal gin. Their degree of intoxication was measured in two ways: by the amount of secretion from one of the salivary glands, and by the number of errors made in trying to follow a moving object with a slender beam of light.

It was found that about a pint of coffee, made by a uniform method and moderately strong, was required to counteract the effects of the alcohol, if taken at the same time with it. Coffee taken after the alcohol had less effect in cancelling out the latter drug.

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GENERAL SCIENCE

Smithsonian Adds Third Of Million Specimens

HEAT rays of extra-long wavelengths, and their reactions upon striking the ozone layer in the upper levels of the atmosphere may have a peculiar significance in the earth's loss of heat to outer space, Dr. Charles G. Abbot, secretary of the Smithsonian Institution, informed his Board of Regents at their annual meeting. Among the forward steps in research conducted at the Institution was the development of an especially sensitive radiation-measuring device for detecting and recording these long wavelengths.

The acquisition during the year of over a third of a million new specimens for the U. S. National Museum was another item reported by Dr. Abbot; the exact count was 348,012. They included such diverse things as the skull of a bowhead whale, several important art collections, botanical specimens from all over the world, objects of South American, Philippine and African workmanship, and a number of meteorites.

At the National Zoological Park, over 1,300 animals were added, offset by 1,000 lost through death and exchange, leaving the Zoo's population at the end of the year at 2,496 animals.

Science News Letter, January 6, 1934

PALEONTOLOGY

Bird-Like Dinosaur Found in Arizona

PALEONTOLOGISTS at the University of California have discovered the fossil remains of a bird-like dinosaur which inhabited the sand dunes of northern Arizona about 80,000,000 years ago. This animal belonged to the Jurassic geologic period. It walked on its hind legs, and looked somewhat like a featherless ostrich.

The discovery of its remains was made by members of the party of Ansel F. Hall, Chief forester of the U. S. National Park Service, who led an expedition into the Monument Valley of Arizona some months ago.

The find is considered to be of great value, because it is unusual to discover fossil remains of these animals, owing to the fact that the delicate nature of their bones does not lend them to fossilization.

Science News Letter, January 6, 1934