

ORNITHOLOGY

Bellbird's Nests and Egg Found for the First Time

► THE FIRST nests and the first egg of Trinidad's black-winged bellbird have been discovered in Trinidad.

Named 137 years ago by Georges Cuvier, famous French naturalist of the 18th and 19th centuries, the "bird with the fleshy beard" has managed to hide its nest, eggs and mating habits all this time.

The first nest was found by Dr. William Beebe, director emeritus of the department of tropical research of the New York Zoological Society, in Trinidad's tropical forest. Its discovery is described in *Animal Kingdom* (July-Aug.).

Dr. Wilbur G. Downs, director of the Trinidad Regional Virus Laboratory, discovered a second nest and the first egg of the black-winged bellbird 53 days later.

The bellbird, a native of Trinidad, has been identified as the bird with the fleshy beard because it has string-like outgrowths hanging from its throat. Similar bellbirds are found in British Guiana, Venezuela, Colombia and northern Brazil.

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PHYSICS

Atomic Tests Could Poison World's Air

► WITH GROWING apprehension that the gradual build-up of atomic debris from H- and A-bomb explosions will poison the world's atmosphere, a limitation on the test explosions conducted is being suggested.

It is probably not realistic to suggest that the United States, Russia and other countries should refrain from atomic explosions altogether. An agreement of this sort would be as unlikely as a compact to abandon atomic weapons.

A possibly practical idea was put forth by Dr. Pierre Auger, French physicist and head of the natural science section of the United Nations Educational, Scientific and Cultural Organization in Paris. Dr. Auger was French delegate to the United Nations Atomic Energy Commission.

En route to the UNESCO meeting now in progress in Montevideo, Dr. Auger suggested that the atomic powers might agree to limit their atomic "shots" in the interest of not creating too much radiation in the earth's air.

The United States and Russia, for instance, might limit each year their tests to ten each, Britain might have a quota of three, France two or so, and so forth. This would not create too much of a hazard, in Dr. Auger's opinion.

If tests are fired repeatedly without regard to the radiation danger, we may drift into a pollution of the air that it will be impossible to remedy.

Some of the debris of atomic explosions is very long-lived, as long lasting almost as natural radium and uranium. It goes on giving off radiation for thousands of years.

Other new elements manufactured in the gigantic blasts are shorter lasting and more intense.

From the standpoint of poisoning the world, the radioactive materials that explode over a few years are equally important. How many bombs exploded in a short time would be dangerous to the whole world is problematical, perhaps as few as 100, perhaps more.

These widespread effects are not the same as the direct radiation effects of the explosion. They are less immediate and more insidious.

Science News Letter, November 27, 1954

PHYSICS

Computer Used to Probe Protein Structure

► THE MANIAC, an electronic computer at Los Alamos Scientific Laboratory, is being used to learn more about protein structure, two scientists revealed at the National Academy of Sciences meeting in New York.

The computer "builds" artificial protein molecules at random from any of the 20 different amino acid building blocks, according to a specified code. The proteins resulting from the machine's computations are compared with those found in nature, Prof. George Gamow of George Washington University, Washington, and Dr. N. Metropolis of Los Alamos Scientific Laboratory, N. M., reported to the nation's top scientists gathered at Columbia University for their autumn meeting.

The two scientists are studying protein structure because they believe that the specific composition of each protein is determined by the particular order of the amino acids of which it is formed.

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VETERINARY MEDICINE

Sheep Disease Battle Won by Scientists

► A SEVEN-YEAR fight to rid the United States of scrapie, a deadly sheep disease, may have been successfully completed with the destruction of 117 infected sheep in Ohio.

The U. S. Department of Agriculture has reported that the destroyed animals represented the last known source of the disease in this country.

Scrapie is a virus that attacks sheep under about 18 months of age. Symptoms of scrapie start with a violent trembling of the ears, limbs and lips of infected animals. The trembling is followed by itching, a loss of weight and finally, the animal succumbs. There is no known cure.

The Agriculture Department cautioned, however, that the disease has a three-year incubation period in which no symptoms are evident. For this reason, it will be some time before it is known if the past years' quarantine and eradication program have been totally effective.

Science News Letter, November 27, 1954

IN SCIENCE

MEDICINE

Electronic Machine Aids Circulation Diseases

► AN ELECTRONIC machine for aiding victims of small blood vessel disease, such as the Buerger's disease that attacked the late King George VI of England, was shown to doctors at the Southern Medical Association meeting in St. Louis.

The machine was developed by Dr. James F. Lyons of Miami, Fla. He reports that it shows promise of opening up new collateral blood vessels in feet or hands where lack of blood supply due to stopped blood vessels threatens gangrene.

He describes the machine and its operations as follows:

"Each pulse wave from the heart is electronically timed, and at the right moment, is reinforced by externally applied pressure of short, measured duration and intensity. This external pressure forces blood through any small vessels still patent; and, by causing rhythmic dilation and contraction in them, it results in gradual, permanent, enlargement of these vessels."

Science News Letter, November 27, 1954

BIOCHEMISTRY

Try Speeding Up Rate Of Cancer Shrinkage

► SPEEDING UP the rate at which cancers shrink when deprived of the hormones they need for growth is being investigated by scientists at the Public Health Service's National Cancer Institute, Bethesda, Md.

Dr. Roy Hertz, chief of the Institute's endocrinology branch, reported these efforts to the Third Pan American Endocrinology Conference in Santiago, Chile.

When ovaries are removed from certain patients with breast cancer, Dr. Hertz said, the tumors shrink "remarkably and their progress is temporarily arrested." In males, removal of the testes causes a regression of cancer in the prostate gland.

These effects result from the fact that tumors of the breast and prostate gland need the same hormones for their growth as do normal tissues.

Dr. Hertz reported experiments, on laboratory animals, with various means of accelerating the shrinking process. Starvation, the feeding of special diets, vitamin B deficiency, exposure to cold and heat are among the methods already tried.

None of these have altered the shrinkage rate, Dr. Hertz has found. He hopes that further tests on laboratory animals will make it possible to find ways of speeding up the "already favorable effects seen in human patients after hormonal deprivation."

Science News Letter, November 27, 1954

CE FIELDS

CHEMISTRY

Mucic Acid Is Found In Peaches and Pears

➤ MUCIC ACID, a substitute for cream of tartar in baking powder, has been isolated for the first time from fresh fruit.

The only other known natural occurrences of the acid is in putrified blood and in sugar beet juice.

From almost four and a half pounds of ripe peaches or pears, only a tiny trace, approximately one-tenth of a gram, was isolated by E. F. L. J. Anet and T. M. Reynolds in New South Wales, Australia.

Their report, in *Nature* (Nov. 13), indicated that apricots, passion fruit and blackberries also contain mucic acid.

The method of isolation makes it almost certain that the acid, a white, crystalline oxidation product of milk sugar, was present in the fruit in a natural state.

Science News Letter, November 27, 1954

PHYSIOLOGY

Taste and Sniff to Detect Impurities

➤ TRAINED TASTERS and sniffers can track down impurities in packaged food. The human tongue and nose are in many cases the only effective tools for isolating off-tastes and off-odors.

L. C. Cartwright, director of product evaluation for Foster D. Snell, Inc., New York, said, "Some pollution is of such low concentration that chemists not only do not know where to start in their analysis, but also find that their tests are not sensitive enough."

Mr. Cartwright and his associate, Patricia H. Kelley, reported to the sixteenth annual Packing Institute Forum in New York recent successes with the taste-smell method.

Educated palates have traced the strange taste of a shipment of Scotch whisky to the sherry barrels in which the liquor was aged.

The "phenolic" taste in a certain brand of coffee turned out to be creosote. Detective work showed that the flooring of the warehouse where the green beans were stored was giving off the contaminating chemical.

The "medicinal" taste of a liquid sugar product was found to be caused by small deposits of tarry material in the crevices of the 55-gallon shipping drums.

Mr. Cartwright said the interest in application of the taste-panel method has increased greatly in the past ten years. His tasters have been working on from five to 20 contamination problems simultaneously in past months.

The panels, usually consisting of from five to ten members, are presented with code-

marked samples in the tests. In repeat tests, the code labels are changed. This serves, he said, to eliminate panelists whose reports are inconsistent and to recheck accuracy of first judgments. Supplementary chemical analysis is used when feasible.

No correlation is found between sex and acuteness of sensory organs, but experiments seem to show that "technically trained people are better panelists."

"It is not that the scientifically minded have better taste buds," Mr. Cartwright said, "but they do have a stronger motive to judge correctly and they are better in verbalizing their perceptions."

Science News Letter, November 27, 1954

PUBLIC HEALTH

Unlighted Gas Jets Blamed for Deaths

➤ PEOPLE TURN on gas jets without lighting them. That is a common cause of accidents involving gas poisoning which take about 1,400 lives annually in the U. S.

Metropolitan Life Insurance Company statistics show that more than half the accidental gas poisoning fatalities in and about the home involve gas ranges or gas heaters.

Other leading causes of gas poisoning include leaky connections or other defects of cooking or heating equipment, incomplete combustion in gas stoves or heaters in poorly ventilated rooms, and running automobile motors in closed household garages.

In the gas poisoning accidents that occur outside the home, automobile exhaust fumes were the leading cause of death. Cars or trucks parked on streets or highways with the motor running accounted for many of these fatalities.

Science News Letter, November 27, 1954

MEDICINE

Stomach Acidity Found By Chemical Method

➤ AN EASIER and safer method of determining whether there is acid in the stomach has been devised by Dr. A. A. Goldbloom of New York Medical College.

Ordinarily tests for stomach acidity are made by having the patient swallow a long rubber tube. Stomach juices are aspirated through this for chemical analysis.

With the new method, the patient swallows a cation exchange indicator called quininin. When in the stomach in the presence of acid, this chemical forms a compound that is excreted by the kidneys and causes fluorescence of the urine.

If there is no acid in the stomach, there will be no fluorescence.

At the National Gastroenterological Association's meeting in Washington, Dr. Goldbloom reported use of this test on 95 patients aged 80 to 100 years for whom swallowing a stomach tube would be hazardous. About a third of so-called normal aged people, the test showed, have no acid in their stomachs.

Science News Letter, November 27, 1954

NUTRITION

Vegetable Color Is Clue to Value

➤ REMEMBER to include green vegetables in your daily meals. They are important because of the nourishing factors they contribute, particularly vitamin A and vitamin C, and they are good sources of minerals.

The intensity of the vegetable's color and the part of the plant from which it comes are clues to its food value, nutritionists of the U. S. Department of Agriculture say.

In general, they state, the greener the vegetable the richer it is in vitamins and minerals. Dark-green leaves may carry several times as much of some nutrients as green stalks (asparagus), green fleshy pods (snap beans), or green immature seeds (shelled peas or lima beans).

In a new bulletin, "Green Vegetables for Good Eating," the nutritionists give many pointers and recipes.

Cook green vegetables quickly for best quality, they advise. Use a cover on the pan to speed cooking, and cook until vegetable is just tender and still slightly crisp. Long cooking makes the vegetables limp, and changes color and flavor.

Science News Letter, November 27, 1954

PHYSIOLOGY

Teen-Agers Need Sleep

➤ WHEN JUNIOR and Sister reach their teens, it is difficult for Mother and Dad to enforce early bedtime. Home work, parties, other activities crowd days and evenings.

The teen-agers feel so grown up that they will often resist an early bedtime even when sleepy and tired.

The sleep of the adolescent, however, is important, for it, as much as his food, is the basis for his general well being, advises the U. S. Children's Bureau.

A good rule is to have bedtime early enough so that the child, even in his teens, does not have to be waked in the morning.

The advice is contained in the Children's Bureau's new booklet, "The Adolescent in Your Family."

Adolescents should have a chance for all the rest and sleep they will take. Any adolescent who seems "lazy," sleeps "too much," or doesn't seem to build up energy from the rest he gets has something wrong with him, and what it is, physical or emotional, needs to be discovered.

Teen-agers often exasperate their parents by seeming to have plenty of energy for the things they want to do, and to be "too tired" when asked to do something they feel no enthusiasm about.

No wonder boys and girls have these spurts of energy and corresponding periods of lackadaisical flopping. They are likely to do what they do so hard that they really do have periods of exhaustion. Fatigue can be forgotten while something exciting is going on, and only really felt later.

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