ENTOMOLOGY

Spiders' Blood Pressure About Same as Humans'

➤ BLOOD pressure in spiders is about the same as it is in human beings, reports Dr. H. Homann of the University of Goettingen, Goettingen, Germany. But whereas a sudden doubling of blood pressure in a human being would be a most alarming symptom, in spiders it is a perfectly normal event, occurring whenever a spider sheds its old skin and emerges in a new one.

The spiders studied by Dr. Homann found it necessary to shed their skins whenever their weight doubled—ordinarily about four times in a lifetime. He weighed his spiders on a very simple spring scale of his own devising; it consisted of a single slender glass filament which indicated the small weight imposed on it by the degree of bending.

Blood pressure was measured by four different micro-methods equally ingenious. Two of them involved removing one of the spider's eight legs. That, however, did not bother the spider; loss of a leg is a commonplace matter to arachnids, and they grow a replacement by the time the next skin-change is due.

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GEOGRAPHY

Newly Named Peak Honors Artist-Photographer

➤ A NEW name has been added to the official map of the West: Jackson Peak, a 13,400-foot mountain in Wyoming's Wind River range. The name was bestowed in honor of the late William Henry Jackson, pioneer artist and photographer of the West.

In 1866, Mr. Jackson made sketches in the Rocky Mountain region, from which notable paintings were later completed. In 1870, he was with the Hayden expedition to the Yellowstone, as official photographer. In 1935, when he was past 90, he painted a series of four panels in the Department of the Interior building.

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MATHEMATICS

Millionth of an Inch Measuring Device Needed

➤ IF YOU want to do something big in a small way, here's your chance: develop a device for measuring down to a millionth of an inch or less.

Despite all the instruments scientists have for making ultra-fine measurements, they still need more, declares Dr. Haakon Styri, director of research for SKF Industries, Inc.

"New and better types of gauging equipment to make fast and accurate checks of the finer tolerances toward which industry is constantly advancing are in greater demand now than ever before," he explains.

A few decades ago, accurate measurements down to a ten-thousandth of an inch were considered the ultimate. But today, these measurements are made down to a few millionths, and industry would like to make them even smaller, Dr. Styri says.

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BOTANY

English Garden Planned For Blind Visitors

➤ NEW aid to pleasure for the blind is a garden for the sightless in Sunderland, England.

It has special four-inch curbs to guide the feet of blind visitors along the paths, and metal tags in braille identify the flowers and other plants.

Science News Letter, August 6, 1949

ZOOLOGY-PSYCHOLOGY

Company of Other Dogs Improves Pups' Appetite

➤ PRESENCE of his brothers and sisters around the dinner plate improves the appetite of a puppy.

This was found in tests conducted at the Division of Behavior Studies of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine.

The amount of food eaten by each of 10 puppies was measured when they ate alone and when they ate with their litter mates all around the same dish. Four of the puppies in one litter were young of a Chow father and Basenji mother. Six were from another litter and the result of a cross between an Irish Terrier and Dachshund.

The Chow-Basenji puppies ate 14% more when they had company than when they were solitary. The Terrier-Dachshunds ate 51% more with company. Company is more important to the appetite of some dogs than of others. The increase of amount eaten for individual dogs varied from 3% to 86%.

No barking, growling or fighting occurred around the family dinner table.

The tests were made at the time of the dogs' regular morning meal of ground boiled horse meat mixed with dog meal, milk, pablum and vitamins. The food was given to the dogs in a large pan, big enough to provide comfortable access by all the dogs in the litter.

Details of the experiment are reported in the JOURNAL OF GENETIC PSYCHOLOGY (March), by Drs. Sherman Ross and Jean Goodwin Ross, of Bucknell University, Lewisburg, Pa.

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IN SCIENC

ARCHAEOLOGY

"K Ration" of Ancient Greeks Was Pill-Sized

➤ THE K ration of World War II may have seemed a dreary repast to the average GI, but to the soldiers who fought wars from the days of ancient Greece to the sixteenth century it would have been a king's banquet.

Consider the "K ration" developed and prescribed by an ancient Greek army engineer and supply officer, Philon of Byzantium, in the year 150 B. C.

Actually, this "K ration" was a pill about the size of an olive, made up of a mixture of sesame, opium poppy, honey and squill.

The GI of old—and the citizen of besieged cities as well—was allowed one such pill at 8 a.m. and another at 4 p.m. Philon wrote that this diet prevented any "serious suffering from want of food."

An account of the use of the pills is revealed by Dr. Pan S. Codellas, of the University of California Medical School, in the BULLETIN OF THE HISTORY OF MEDICINE.

Dr. Codellas relates that there was an even fancier "K ration" pill recommended by Philon. Almonds were added to the ingredients of the first pill. Philon said this one was "good for armies, for it is pleasant, filling and does not cause thirst."

Dr. Codellas said the ancient "K ration," which found favor as late as the sixteenth century, packed quite a nutritional wallop. Honey provided carbohydrate, sesame provided protein, the squill was a general tonic, and the opium deadened hunger pains.

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WILDLIFE

Study Shows That Deer Are Highly Prolific

➤ ONE explanation of the rapid comeback deer are able to stage when they are given protection and a good range was placed before the meeting of the American Society of Mammalogists in Washington by Dr. Ralph S. Palmer of Vassar College. Twins and triplets are commonplace among them, and a doe may have her first fawn when she is herself only a year old.

Dr. Palmer cited the record of one tame, though unconfined, doe in Maine: She was born in 1934 and had a single fawn in 1936. Kept under observation through 1948, she was known to have borne seven sets of twins and four of triplets, in addition to two other fawns that failed to survive—a total of at least 29 offspring.

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E FIELDS

ETHNOLOGY

New Version of Iroquois "Constitution" Found

➤ A NEW version of what was perhaps the first "Constitution" of a government in the New World, a sort of Indian Magna Charta, has been traced to its source by Dr. William N. Fenton, Smithsonian Institution ethnologist.

Dr. Fenton studied microfilms of the document in the library of the American Philosophical Society in Philadelphia. The original copy of the document was loaned to the society and has since been returned to its Indian owners on the Grand River Reservation of the Iroquois in Ontario, Canada.

This copy of the "epic of the Iroquois," Dr. Fenton found, is a fairly recent one. It was produced by an educated Mohawk Indian, one Seth Newhouse, about 1885. The Indian ethnologist worked with scientists at the reservation and wrote his version of the document under his Indian name, Dayodekane.

The epic tells of the legendary Iroquois lawgiver, Degandawida, and the wanderings of his disciple, Ayonwhatha, better known as Hiawatha. Degandawida, as founder of the famous five nations of the Iroquois, is credited with developing one of the great original political systems of the world.

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NUCLEAR PHYSICS

Static Fighting Device Called Radiation Hazard

➤ A WARNING regarding the proper use of static eliminator devices made of polonium, a highly radioactive metal, has been issued by the Atomic Energy Project at the University of California at Los Angeles.

Dr. Fred Bryan and Louis Silverman of the U. C. L. A. Medical School atomic research group, pointed out that serious radiation hazards may develop in the area around the devices.

Polonium is used in eliminating static electricity produced by belts and pulleys, paper passing over metal rolls and film over metal and plastic rolls. This radioactive metal emits alpha particles to form a conductive layer of ionized air between the dielectric material and a portion of the machine which is grounded.

A survey of certain industrial plants in the Los Angeles area revealed dangerous radioactivity in shelves and closets in which static eliminator devices were stored. Hands of an employee who handled the equipment were found to be highly contaminated even after repeated washing with soap and water.

The radiation of polonium, Dr. Bryan pointed out, does not penetrate the skin, but an internal hazard may develop from radioactive particles absorbed by inhalation or hand-to-mouth contact.

He recommended that static eliminators be used only when suitable monitoring instruments are available and personnel properly trained to handle radioactive material.

Dr. Bryan declared also that a recently marketed brush, utilizing polonium strips for removing static charges and dust from film and phonograph records, poses a similar problem in homes where it is used.

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PLANT PHYSIOLOGY

Temperature Affects Rate Of Plant Killing by 2,4-D

➤ TEMPERATURE has a good deal to do with 2,4-D's effectiveness as a plant killer. Dr. Sally Kelly of the Vassar College botany department sprayed the chemical on leaves of three species of test plants—kidney bean, perennial rye and crab grass—at three temperatures, 41, 59 and 77 degrees Fahrenheit, under greenhouse conditions.

At the highest of these temperatures results were prompt and definite, but there was a decided lag at the two lower temperature ranges. When plants that had been sprayed at the lower temperatures were moved into the 77-degree room a week later, the killing effect immediately began, even though the leaves had been well washed with water before the transfer was made.

Details of the experiment are given in PLANT PHYSIOLOGY (July).

Science News Letter, August 6, 1949

BOTANY

New Strawberry Variety Said To Have "Wild" Taste

➤ IF YOU are one of the legion of strawberry fanciers who yearn nostalgically for the berries of yester-year, "that tasted like something", your deliverance may be even at hand. A new variety of strawberry has just been patented that is stated to have that old-fashioned wild strawberry flavor, with clear red color throughout and no tough, tasteless core.

Advantages are claimed from the grower's viewpoint, too: the fruit stems are strong and upright, making picking easier, and the plant is resistant to leaf spot.

The new variety was originated by the late Harlow Rockhill of Conrad, Iowa; plant patent 854 has therefore been issued to his executor and trustee, Robert A. Rockhill of Marshalltown.

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MEDICINE

Anti-Allergy Drugs Are Causing Serious Reactions

➤ EVIDENCE of serious reactions and even one death due to some widely used anti-allergy drugs has been presented in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (July 23).

Death resulted in a 16-month-old girl who was poisoned by accidentally swallowing an adult dose of a compound with the trade name of Thenylene hydrochloride, according to Drs. Hugh F. Rives, Berl B. Ward, and M. L. Hicks of Dubuque, Iowa.

This drug, and the others which gave severe reactions, are antihistaminic compounds used to check the action of histamine, a poison released by body tissues in allergic reactions. There are many on the market widely used for such allergies as hay fever, hives, and skin inflammation caused by reaction to drugs. Some have even been used to treat colds.

Unfavorable reactions occur in from 25% to 65% of the patients treated with antihistaminics, the physicians stated. Reactions are in the form of drowsiness, vomiting, diarrhea, headaches, nervousness, fainting spells, severe prostration and mental upsets.

Irritation of the brain seems to be responsible for these reactions, the report indicates. The physicians add that there is no effective antidote for these drugs. If the patient exhibits toxic reaction to the drugs, their administration should be stopped immediately and the individual symptoms should receive treatment.

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ASTRONOMY-ENGINEERING

New Instrument May Give Moon Trip Information

➤ A NEW device to help discover the "kind of things a man on a trip to the moon would need to know" is being developed by scientists at the Armour Research Foundation of the Illinois Institute of Technology in Chicago.

A metal sphere containing scientific instruments and designed to be hurled from a high-speed rocket at an altitude in the neighborhood of 70 miles over the earth was described by Dr. Severin Raynor. He said that the work on the upper-air research instrument is being supported by the Air Materiel Command, U. S. Air Force.

Heat measuring equipment, cameras to record readings from the equipment, and gyroscopes to stabilize the flight of the sphere, will be inside the new device which is nicknamed "cannonball."

A radio transmitter on the camera will help in tracking its flight to earth when the sphere drops, and a parachute device is planned to enable scientists to get the valuable film record made by camera.

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