

ICHTHYOLOGY

Two Pairs of False Eyes Mark New Fish Genus

EQUIPPED with two pairs of huge "false eyes" and bright orange-pink in its body color, a hitherto unknown kind of fish brought up from the ocean depths of Puerto Rico by the Johnson-Smithsonian deep sea expedition last winter has been given separate generic rating and the scientific name *Johnsonina eriomma*, in honor of Eldridge R. Johnson of Philadelphia, sponsor of the expedition. The eye-spots, which are only body decorations and of no use for seeing purposes, are each a full fifth of the fish's body-diameter in length. One pair is on the creature's head, the other pair on its sides near the tail.

Two other strange fish species new to science were brought back by the expedition. One, a bottom-dweller, is enclosed in shell-like armor that bristles with sharp quarter-inch spines. This species has been named *Peristedion bartschi*, in honor of Dr. Paul Bartsch of the U. S. National Museum, director of scientific work of the expedition. The other new species is a member of the "lantern-fish" group. These fishes are permanent dwellers in the dark, deep waters; they probably have no knowledge that there is anything but water in the world, for they are never found near shore or on the bottom.

Science News Letter, April 14, 1934

MEDICINE

Superior Antibodies Protect Adults From Diseases

WHY DOES Johnnie get scarlet fever when his papa does not?

This subject of the effect of age upon our bodily reactions has been newly approached by Dr. Leona Baumgartner of the Yale School of Medicine, who reported her studies to the American Association of Immunologists. Dr. Baumgartner investigated the relationship of the age of an individual to his ability to produce antibodies.

"It is by virtue of these so-called 'antibodies,' common examples of which are the well known antitoxins for diphtheria and lock-jaw, that our ability to resist bacterial diseases is supposedly enhanced," Dr. Baumgartner explained.

In her experiments, rabbits of widely different ages were inoculated exactly as human beings are given "typhoid shots." The adult rabbit produced more antibodies than the young rabbit and

slightly more than the very aged rabbit. Moreover, various experiments with the antibodies produced by this method of immunization showed that those antibodies produced by the adult animal differed qualitatively from those produced by the young and the aged animals. The speed of the reaction of the adult was decidedly greater than that of the young and slightly greater than that of the aged.

This demonstration of a change in the quality of the antibody produced at different ages is a concept new to those who are interested primarily in studying the mechanisms by which the body protects itself. Its probable relation to the resistance which adulthood seems to bring to certain diseases is interesting.

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ORNITHOLOGY

Woodpecker Lives As Parasite on Insects

WHEN insects live parasitically on birds, that's hardly news—ask anybody who has ever kept pigeons or poultry. But when a bird lives parasitically on insects—

H. G. Deignan, Washington ornithologist who has studied the bird life of Siam, Indo-China and other little known lands of southeastern Asia, tells this one. There is a species of rufous woodpecker that lives all through that warm corner of the great eastern continent. One subspecies of the group, thus far known only from Siam, inhabits the thickets of giant bamboo most of the time. But during the nesting season it forsakes its usual feeding ground and takes to the thick jungle. Here, high in the trees, a certain genus of ants make great lumpy nests among the branches. The material of these nests, made apparently out of wood pulp chewed up by the jaws of the insects, is of about the consistency of papier maché.

The woodpecker drills into these as one of our own native woodpeckers might into a rotten tree, and makes its own nest within the ant nest. Not only that, but all during the time Mrs. Woodpecker sits on her eggs, she does not need to travel an inch to find her meals. She simply helps herself to the ants and their larvae and pupae that fill the swarming galleries about her. Mr. Deignan says that this is the only case known to him of a bird living parasitically on insects.

Anyway, it's a pretty soft life for the rufous Siamese woodpecker.

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IN SCIEN

ZOOLOGY

Ho-Hum! Live "Teddy" Has Yawny Spells, Too

See Front Cover

KOALA, his proper name is; "native bear," Australians have nicknamed him, though he is closer kin to our American opossum than to any bear. But he is the living prototype of the "Teddy bear" that has become a world-wide toy, persisting since the days of the First Roosevelt. Pioneers of the Australian bush hunted him for his soft, saleable skin, just as mercilessly and as recklessly as our own pioneers wiped out some of our own native animals; until now his principal refuge is the semi-domestication of Koala Park near Sydney, established and maintained by Noel Burnet.

Koala is a most popular little fellow: good-natured and gentle as most of the smaller marsupials are, with appealing "human" tricks and mannerisms. He would be in great demand for a pet, without question, except that his feeding habits will probably always keep him confined to his native land. For Koala apparently can live only on the leaves of one species of eucalyptus trees. Repeated attempts to transport him overseas have only resulted in starvation.

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CHEMISTRY

Lord Rutherford Finds Triple Hydrogen Weight

THE WEIGHT of science's newest baby, the triple weight hydrogen isotope, has been determined by Lord Rutherford, the British physicist who discovered it a few weeks ago as a result of smashing double weight hydrogen atoms. It is 3.0151 on the chemical mass scale on which the common oxygen atom weighs just 16. If three ordinary hydrogen atoms come together to make the triple hydrogen atom, there is a loss of weight presumably released as energy equivalent to nearly 8,000,000 electron-volts. Lord Rutherford's estimate is published in *Nature*.

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CE FIELDS

ASTRONOMY

Big Telescope Sees Spot Discovered by Amateur

A CONSPICUOUS spot on the surface of the planet Jupiter has been discovered by a Berlin amateur astronomer and confirmed by observations made through the great refracting telescope of the Potsdam Observatory, the central bureau for astronomical telegrams at Copenhagen has been informed.

Learning of the discovery by the amateur named Kutscher, Dr. R. Müller and Prof. W. Münch observed the planet with a telescopic magnification of 300 diameters. Dr. Müller reported:

"In spite of very bad seeing we could recognize a diffuse spot in the dark northern equatorial belt, which projected to the south and to the north of the dark belt as a conspicuous arch-like formation, so that one had in all the impression of a globular object. Under most favorable conditions of seeing further details would probably stand out."

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ARCHAEOLOGY

Indian Hot House Remains Excavated at Macon

REMAINS of a round building which agrees in most particulars with written accounts of the "hot house" of Creek Indians has been discovered in a mound at Macon, Georgia. The "hot house" or ceremonial house served the Indians as a sort of combined temple, state house, men's club, and hotel.

Excavation of Indian mounds in and near Macon is being directed by Dr. A. R. Kelly and James A. Ford, representing the Smithsonian Institution. The work was begun as a CWA project under Smithsonian direction.

The hot house discovered at Macon had been burned at some unknown time in the past, it is inferred from the finding of charred roof beams. The building is of stiff red clay, with a sunken fireplace in the center and a square smoke hole over it. The building differs from those described in writings, in that it had a row of seats round the wall

modeled in clay and separated by narrow clay ridges. In the descriptions known of such buildings there were beds on a raised platform in place of the clay seats. If Indian men slept in the club house at Macon, they must have stretched around the fire.

A raised dais for three important persons stood opposite the door and the front end toward the fire was shaped into what appears to be an eagle's head.

Remains of an important Indian character, whose identity is lost, were discovered in the center of another Macon mound. His body was prepared for burial by removing the flesh and arranging the bare bones in their anatomical position but tightly wrapped in skins. A log tomb enclosed the burial.

Dr. John R. Swanton of the Smithsonian says that the excavations shed much new light on Indian days in the Southeast. The mound settlements are believed to be prehistoric, though their precise age is yet undetermined.

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AGRICULTURE

New Type of Terracing Checks Erosion Better

LAND terracing of a new type, more effective in checking soil erosion than the terrace style now used, is described by Prof. F. L. Duley of the Kansas State Agricultural College at Manhattan, Kans., in a report to *Science*. It gains its effectiveness by the simple device of reversing the structure of the "orthodox" terrace.

Terraces, as now built in an endeavor to prevent the washing away of farm lands, consist of a broad, shallow trench or channel, with a parallel wide, flat-topped raised zone, the terrace proper. These are thrown in concentric lines around the slopes of hillside fields.

In a test of an area terraced in the usual way, with the channel on the uphill side of the terrace, it was found that the run-off of water and the soil losses through erosion were actually greater than they were on unterraced lands of the same slope. But when the channel was cut on the downhill side of the terrace, both run-off and erosional wastage were materially reduced.

"Further tests are needed to prove the practicability of this type of terrace in the field," comments Prof. Duley, "but the results so far indicate for it a great superiority over the so-called Mangum or broad-base terrace that has been used so widely in the past."

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PALEONTOLOGY

Turkey-Sized Dinosaur Found in Arizona

IF ALLEY-OOP, comic-strip caveman, had really lived when dinosaurs ramped the earth, he could have celebrated Thanksgiving Day in style. For there were little dinosaurs as well as big ones; one of these, just about the size of a turkey, was described before the Paleontological Society by Prof. Charles L. Camp and Dr. V. L. Vanderhoof of the University of California. The remains of this small saurian, which ran about on its hind legs, like a bird, were found in northern Arizona by a party under the leadership of Dr. Ansel Hall of the U. S. National Park Service.

The age of the new small dinosaur species is set as Jurassic, which means roughly some 150 million years ago. This is just too bad for Alley Oop, for that Neandertaloid gentleman belongs to the much later Pleistocene, only a hundred thousand years or so ago at most. And, accommodating cartoonists to the contrary notwithstanding, there were no dinosaurs in caveman times.

Other papers at the session of the Paleontological Society disclosed a record of much activity and many discoveries of interesting and important fossil records in the West. They included new links in the line of descent of horses, an extinct rabbitlike animal, the skull of a gigantic extinct bison, and a possible ancestor of the zoologically puzzling modern pronghorn antelope.

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BOTANY

Sweet Clover From China To Make Sweeter Hay

A NEW variety of sweet clover, lacking the bitter taste that makes most sweet clovers unpalatable to livestock, has been discovered in China and tested out under American conditions at the Wisconsin Agriculture Experiment Station at Madison. Success with the new crop is reported by Prof. R. A. Brink of the genetics department, in a communication to *Science*.

The plant is an annual, reaching a height of from 15 to 34 inches, with small yellow flowers and smooth seeds. The original propagation stock was sent to the United States by plant explorers of the U. S. Department of Agriculture, working in China, Manchuria and Korea.

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