Plant Bites Bug

If a bug bites a plant, that's old stuff, but if a plant bites a bug, that's news. Good news, too, for the bug that gets bitten is the larva, or "wiggler" of the pestiferous mosquito.

In a report to *The American Naturalist,* Prof. Robert Matheson of Cornell University, tells of his investigations on various plants that are enemies of breeding mosquitoes, including one species of water-weed that actually swallows and digests their young. This is the bladderwort, or Utricularia. On its underwater roots there are thousands of tiny hollow green globes, each opening at one end in a little mouth fringed with hair-like appendages.

These globes are under internal tension, and when a "wiggler" brushes against one of the hairs the mouth suddenly flies open and sucks the luckless insect in. Within the bladder it quickly dies and is digested as though it were in an animal's stomach.

Prof. Matheson has also found that other genera of water plants, particularly the attractive members of the Chara family, in some way kill off most of the mosquito larvae that may find their way into the ponds they inhabit. Some of them even seem to discourage the female mosquito from laying her eggs at all.

Just what these plants do to the "wigglers" he has not found out, but he is inclined to believe that the action is due largely to the innumerable tiny bubbles of oxygen given off by them during the daylight hours. The oxygen either destroys the food they seek in the water, or else is swallowed and acts directly on the larvae themselves, Prof. Matheson conjectures.

Botany
Science News-Letter, April 26, 1930

Roman Factory at Cologne

A pottery works that flourished during the days of Roman occupation of the Rhineland about the year 50 A.D., is among the archaeological finds turned up by the Wallraf-Richartz Museum in Cologne, under the directorship of Dr. F. Fremersdorf. All stages of the manufacture of the wares were discovered, from the raw clay fresh from the pits to finished pieces, as well as vessels that were damaged in the firing and therefore discarded. Some 120 cases of pottery have been removed to the museum for scientific study.

One very important class of earthenware sold by the merchants of Cologne during Roman times consisted of lamps of all forms and sizes. The finds include both oil lamps and candlesticks, variously glazed and ornamented. A prize piece is a beautifully preserved lamp shaped like a human foot.

It was also discovered that two types of ware, which had formerly been considered importations from northern Italy or southern France, were manufactured in Cologne. One is a green-glazed type of pottery, the other a pattern of beaker decorated with hunting scenes.

Archaeology
Science News-Letter, April 26, 1930

New Magazine

The photoelectric cell and the vacuum tube, developments that have made radio and talking motion pictures possible and have found many industrial applications, are the sole subjects of a new magazine, "electronics." Its title begins with a small e, not because of modernistic topography, but because e is the symbol in physics for the charge of the electron, fundamental to matter and electricity.

The new magazine is edited by O. H. Caldwell, formerly editor of an electrical and a radio trade magazine and Federal Radio Commissioner from 1927 to 1929.

Physics
Science News-Letter, April 26, 1930

Hydraulic Laboratory

A great national hydraulic laboratory, the first duty of which will be to discover scientific principles essential to the construction of Boulder Dam, will be built at the U. S. Bureau of Standards if President Hoover signs the bill recently passed by Congress. No opposition is expected at the White House.

Boulder Dam will be nearly twice as high as any dam now in existence and will contain more than three times the concrete in the immense Muscle Shoals Dam and power house. Engineers do not know every detail of the building of such a huge dam so unlike anything man has ever created. Experiments must be conducted and ideas tried in the laboratory first to be sure they work before construction is begun.

The engineers must find, for example, how to design spillways which, if ever used to their capacity, will have to absorb about seven times the power in the falls at Niagara. These spillways will be like huge funnels with rims 150 feet and shafts 50 feet in diameter down which the water will fall more than 500 feet.

IN VARIOUS

Problems of flood control on the Mississippi are now being studied by the Water Experiment Station of the Mississippi River Commission at Vicksburg. Functions of this laboratory and the one for Washington will not overlap, it has been explained, and there will be more than enough work for both.

The Bureau of Standards laboratory will become a national research institution in a field which has been only slightly investigated in the United States and in which private concerns are not prompted to pioneer because much of the large hydraulic construction is carried on by the government. It will cost $350,000.

Hydraulic Engineering
Science News-Letter, April 26, 1930

Angleworm Big as Snake

If you happen to be in the Philippine mountains some day, and see an angleworm as big as a small snake, colored bright blue with pale yellow spots and bandings, don't blame it on something you have eaten (or drunk) in the last village. It's real, and it's there, although it is a zoological rarity. Dr. M. Michaelson, of Hamburg, Germany, has just reported to the Philippine *Journal of Science* on specimens collected in Luzon some time ago and forwarded to him by a fellow-countryman, W. Schultze, formerly an entomologist at the Bureau of Science in Manila. The specimens when living were over a foot in length and nearly an inch in greatest diameter. They are of a species new to science and have been named *Pheretima ophioides.*

Zoology
Science News-Letter, April 26, 1930

Parrot Fever Work

The U. S. Public Health Service's investigation on psittacosis or parrot fever, which has been suspended for a month on account of sickness of many members of the Hygienic Laboratory staff who contracted the disease, will be resumed shortly at the Baltimore Quarantine Station, just outside the city of Baltimore, Surgeon General Hugh S. Cumming has announced.

Dr. George W. McCoy, director of the Hygenic Laboratory, and Dr. Charles Armstrong, who had been conducting the investigations until he fell a victim to the disease, are now making arrangements for the resump-

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tion of the work in the new location. The removal of this part of the Hygienic Laboratory's work was made on the recommendation of a special committee appointed by the Surgeon General to study the situation after eleven persons working at the laboratory had been stricken with the disease.

The fact that most of those who became ill had not been anywhere near the rooms where the psittacosis studies were going on, and had no contact with the infected parrots or with the cultures of the germs suspected of causing the disease, has added to the mystery and danger of this particular disease.

The question of a carrier state was brought up in this connection, and will be investigated when the work is resumed at the Baltimore Quarantine Station. A virus which was obtained just before the work was suspended is thought to be the cause of the disease. Confirmation of this will be part of the work. The susceptibility of other species of birds and animals to this disease which attacks both man and parrots will also be studied.

Public Health
Science News-Letter, April 26, 1930

Why a Chicken Jerks

Why does a chicken jerk its head when it runs? No, this isn't a riddle. It's a psychological problem, and the answer is, so that it can see better.

Experiments which explain this peculiar behavior of barnyard inhabitants were reported by Dr. Knight Dunlap and O. H. Mowrer, of Johns Hopkins University, speaking before the Southern Society for Philosophy and Psychology. Slow motion pictures of chickens, ducks, pigeons, and starlings were shown.

Contrary to all appearances, the chicken's head does not really move back and forth. The head jerks forward only. The body catches up. Then the head jerks forward again, and so on, Dr. Dunlap explained. If a chicken is hooded, its head no longer tries to keep one jump ahead of its body.

The obvious function of this jerking is to cut off vision during a part of the head movement, he said. This prevents blurring and gives the chicken a succession of clear pictures.

When swimming, ducks and swans do not jerk the head, but the entire body moves forward smoothly. Investigations of the walking motions of water-fowls are not completed, Dr. Dunlap said, but ducks appear to have a kind of head movement which is in some respects just the opposite of the chicken's.

Animal Psychology
Science News-Letter, April 26, 1930

Night Landing

An aviator coming to earth through a dark sky can see a landing field covered with whitewashed crushed stone 15 times as well as he can see one paved with asphalt, aviation lighting engineers of the General Electric Co. report. To light both fields equally well, 15 times as much light is required for the asphalt as for the rock, they point out.

Many surfaces have been tested and given a reflection factor. The stone reflects 75 per cent. of the light it receives and the asphalt reflects five. For Portland cement the figure is 30 per cent.; for crushed stone, 25; crushed slag, gravel and clay soil 20; sandy soil, 10 to 12; cinders, five to 10; black soil, five to eight; and asphalt, five.

Aviation
Science News-Letter, April 26, 1930

Rehabilitation

A practical way of helping girls with not-too-serious mental diseases to get back into the workaday world has been devised by the Vocational Adjustment Bureau of New York. Dr. Emily Burr, director of the bureau, explained how the project works.

Many girls suffering from various mild nervous disorders are capable of returning to work after treatment in a state hospital, but a sudden change from sheltered hospital environment to the strain of everyday life and industrial competition is too great for most of them, Dr. Burr evplained. To bridge this trying and often devastating gap, the bureau conducts a laboratory workshop, where the girls may experiment for themselves at different lines of work, and may get used to employment conditions again.

Out of about 400 individuals who have been given a chance to fit themselves for work in the experimental shop, approximately one-third are now making a living and are considered in psychological terms to be "making fair industrial adjustments."

Psychiatry
Science News-Letter, April 26, 1930

Barkbeetles Blamed

Blue stain is one of the most troublesome of timber ills in the South. A variety of it that attacks standing trees is found to depend for its entrance on an insect, one of the barkbeetles, in somewhat the same way as malaria and yellow fever have been traced to the guilty carrying activities of mosquitoes. Blue stain is due to the growth of certain fungi which discolor the wood and lower its market value; and it now appears that some of these organisms are active agents in the killing of pine trees.

The hooking up of the barkbeetle and the blue stain fungus, each of which has been well known for some time as a serious pest in its own right, has been the work of three scientists in the U. S. Department of Agriculture, Dr. F. C. Craighead, R. M. Nelson and J. A. Beal. Dr. Craighead called especial attention to the fact that an onset of blue stain in a tree almost invariably followed a mass attack by small beetles, of the genus *Dendroctonus,* boring holes through the bark and mining galleries in the living inner bark tissue in which to lay their eggs. The blue stain started from these borings and in a short time the tree died, presumably through choking up the sap-carrying tubes.

Mr. Nelson and Mr. Beal demonstrated that the blue stain fungus can be planted in the wood of the tree through wounds, such as the barkbeetle bores. They made artificial cultures of the fungus on sterilized rice paste, and brought this paste into contact with the wood of undiseased trees in various ways. From some trees they removed squares of bark, replacing them with poultices of the culture-paste. Other trees had holes bored in them and filled with the paste, and in still others the paste was planted by means of a grease gun. Typical blue stain infections developed as a result of all three types of inoculation.

Whether the association of barkbeetles and blue stain is accidental, or whether the beetles get any benefit from the fungus, is something not yet determined. Dr. Craighead has pointed out that other beetles belonging to the same zoological group depend entirely for food on certain fungi that grow in their burrows. Or it may be that the benefits derived by the barkbeetles are less direct; perhaps the best conditions for rearing their young are found in trees of just the stage of "deadness" induced by the fungus.

Entomology
Science News-Letter, April 26, 1930