ETHIOPIANS WHO CHANGED THEIR SKINS

Four mosquito fishes, originally the same color, which have lived for a time in tanks painted white and black, respectively.

ENTOMOLOGY

Ants Valiant in Defense Of Poison That Kills Them

WARLIKE courage on the part of a species of Puerto Rican ants, in desperate defense of poison deliberately set to kill them, is the story, ironic in its human implications, told by Dr. George N. Wolcott, entomologist of the Insular Experiment Station, Rio Piedras, P. R

Among the insect pests that cause trouble for coffee growers in Puerto Rico is a species of ant known locally as hormiguilla. To get rid of it, entomologists have been experimenting with poison bait consisting of ground meat mixed with the deadly compound thallium nitrate.

On one occasion a quantity of this poisoned bait had been placed by an ant-infested tree. When Dr. Wolcott visited the spot, he found it swarming with insects, many of which were dead.

At first he merely thought that the poison was working effectively. But closer inspection showed that an ant war was in progress. The hormiguilla swarm had been attacked by a horde of another ant species, called by the natives hormigas bravas, intent on robbing them of the apparently valuable meat. The hormiguillas were defending their "rights" to the "property" with considerable success, strewing the ground on most of the battlefront with lifeless bodies.

Here was a war disquietingly like a human war, Dr. Wolcott points out: both sides certain to lose, because the prize was not merely useless, but deadly to the victors.

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BIOLOGY

Privacy in a Goldfish Bowl If Fish Are of Right Color

Experiments Show That Fish Change Their Color To Match Background—Protection Against Birds

CAN A FISH hide in a gold-fish bowl?

Yes, if it is a white fish in a white fish-bowl, or a black one in a black fish-bowl, should be the answer of Dr. F. B. Sumner of Scripps Institution of Oceanography, University of California, at La Jolla, who has been making some new experiments in color change with fishes.

In earlier experiments he had found out that his fishes would not only change their color, or more properly speaking, shade of color, to suit the background on which they lived, but that if they were left for a month or two living against that background, more or less lasting changes would be made in the actual amount of coloring matter in their skins.

Then Dr. Sumner asked the question, what good does it do a fish to change its color or its spots? Is its marking a protection against enemies, for instance? Many people have thought so, and some have thought not, but nobody had tried to find out.

Two tanks, each eight feet by fifteen, were painted respectively black and very pale gray (called "white" for convenience) and both filled with water two and a half feet deep. Then several hundred Gambusia, "mosquito-fish," originally the same color, but half of which were now black and half "white," after a month's sojourn at Scripps Institution on backgrounds of those colors, were turned into the tanks.

As the fishes entered the tanks at one end, penguins were turned loose at the other. At once the chase was on, for the penguins were hungry and did not mind observers.

In the "white" tank where both black and white fishes could be seen, the penguin caught and ate three black fishes to every two white ones. In the black tank, where it was harder to see the black fish, the penguins caught three white to every black one.

Other experiments were made, in which the white or black fishes were given time to adjust themselves to their new background, sometimes for only a few minutes, sometimes even as long as overnight, until to the eye of the human observer they differed scarcely at all in appearance from fishes which had been continuously on that background. Even then, the birds chose predominantly the fishes of the lots not yet fully adjusted.

Dr. Sumner used about five thousand fishes altogether, and he found on an average that in the pale tanks, where the visibility was greater, about 61 per cent. of the fishes eaten were black, and in the black tanks 73 per cent. were white.

According to Dr. Sumner, these experiments are conclusive evidence that "ability of fishes to adjust their colors to their background is of vital importance to them, at least under attack by fish-eating birds."

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PHYSICS

Fly Balloons 21 Miles Up In New Cosmic Ray Study

TEN SOUNDING balloons designed to reach altitudes of 110,000 feet, or nearly 21 miles in the stratosphere, will be released from Fort Sam Houston, Texas, shortly in a new cosmic ray research program outlined by Dr. Robert A. Millikan, California Institute of Technology physicist.

Dr. Millikan and Dr. H. Victor Neher are ready to start their experiment, designed to detect the intensity of cosmic radiation at points far higher than can be reached in manned-balloon flights.

Each of the ten balloons will carry automatic recording cosmic ray electroscopes, a one-dollar bill plus instructions for returning the instruments. A five dollar reward then awaits the finder.

Simultaneously other phases of Prof. Millikan's cosmic ray research are under way. Dr. Carl D. Anderson, also of California Institute of Technology, is atop Pike's Peak taking measurements, while in Manila, P. I., army flyers are planning a series of flights at altitudes of 24,000 and 26,000 feet with automatic recording instruments from Prof. Millikan's laboratory.

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