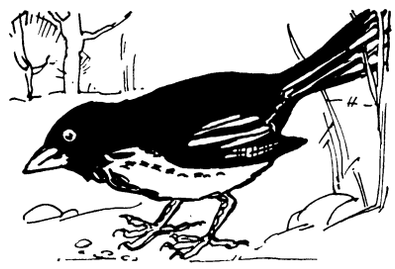
ORNITHOLOGY

NATURE RAMBLINGS



Towhee

➤ HE IS dodging in and out among the undergrowth, and if you do not get a good look at him, you will surely call him a robin. For his back and tail and head are dusky, and the sides of his breast are the terra-cotta red of the American robin's. And he has a brisk, cheerful, tail-flicking way of hopping about that makes you think of that most familiar of our birds of spring.

But if you look a little closer, you can see that his duskiness above is deeper than that of a robin, and that the red does not run all over his breast, but gives way to a wide apron or bib of white underneath. Along his wings also, when they are folded, is a betraying line of white that marks him as not a robin.

The towhee is a bird of many aliases. "Ground robin" is a popular name, and justified by his deceptively robin-like appearance. And, since he is frequently mistaken for an oriole, he might well be called a "ground oriole," too, though he is not. The other name by which this bird is commonly known is "chewink." The two names, towhee and chewink, are intended to represent the bird's characteristic call—an interesting illustration of how differently two people can hear the same syllables. Other names by which he is known include swamp robin, joree, bush-bird and turkey sparrow.

Like many another bird of the forest edges, the towhee is a useful servant of man in his destruction of insects and their larvae. The towhee gets in his good work at the strategic moment, for his scratching about in the dead leaves of springtime turns up the six-legged destroyers by the dozens and hundreds, just at the beginning of insect breeding time and before they have a chance to lay their eggs. Thus parent insect and brood are destroyed at one gulp, and a stitch in time saves many times nine.

The towhee's way of scratching on the ground is peculiar, and an aid in distinguishing it from other birds. The towhee scratches by using his feet alternately, after the manner of a hen. Another unusual characteristic of the towhee that some bird watchers have noted is an apparent nonchalance when his nest is approached. It could be that this is the bird's way of deceiving the intruder—a deliberately assumed role!

Science News Letter, April 28, 1951

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TECHNOLOGY

Hydrogen-Free Ozone by New Electrolytic Method

➤ HYDROGEN-FREE ozone of high concentration is obtained by the electrolysis of perchloric acid in an improved process described at a meeting of the Electrochemical Society, Washington, D. C. A low temperature electrolyte and a refrigerated anode are used.

The obtaining of ozone, a form of oxygen used in bleaching and in water and air purification, from low-temperature perchloric acid by electrolysis is not new. The method described is an improved process to obtain greater yield and higher energy efficiencies. New uses for ozone are proposed if it can be obtained in sufficient quantities. An important one is as a liquid fuel in rockets.

The improved process is the work of four research men at the University of Washington, Seattle, including E. I. Lash, R. D. Hornbeck, E. D. Boelter, and Dr. G. L. Putnam. They stated that "Since the ozone current efficiency increases very rapidly with decrease in temperature, and since ozone production occurs only at the anode surface, the control of anode temperature is of prime importance."

A recently completed study made by them demonstrated that the temperatures of platinum metal anodes in perchloric acid are three to 20 degrees Centigrade warmer than that of the electrolyte, under optimum conditions for ozone production. Ozone concentration is a function of the anode temperature, they stated. Lowering the anode temperature increases the concentration and the energy yields. Equipment giving the desired results was described.

Science News Letter, April 21, 1951

AVIATION

Television Would Guide

➤ EXPERIMENTS IN flying conducted at the University of Illinois indicate that pilots of speedy planes can get along without windows or windshields, using instead pictures of what is ahead, produced on the instrument panel by television or by an optical system.

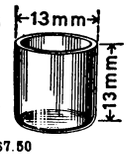
The windowless cabin for the pilot is not proposed for ordinary planes but for those designed to fly faster than sound, so-called supersonic craft. Windshields now used mar the sleek surface of such planes, producing drag, friction and heat.

The experimental work is a research project financed by the Office of Naval Research and carried out at the university's airport. It is under the direction of Dr. Stanley N. Roscoe of the university staff. In the work, a small plane of the university's fleet is used. Windows are covered, and pictures for the pilot's guidance are provided by a periscope.

Eleven pilots have flown the plane with covered windows and various screen sizes and image magnifications. Results show that with a screen eight inches square, and low magnification giving a wide angle of outside visibility, a pilot can fly just about as well as with windshield vision.

Science News Letter, April 28, 1951

CARGILLE MICRO BEAKERS



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