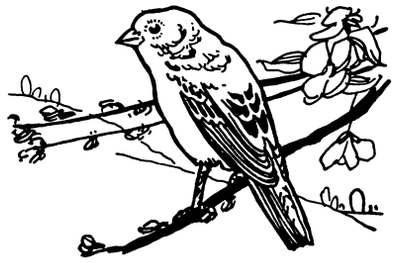
ORNITHOLOGY

NATURE RAMBLINGS



Indigo Bunting

➤ IF YOU are walking along the edge of the woods, or across brushy pasture, and see a flash of blue winging through the air, look twice before you decide that it is a bluebird. It may be that somewhat less abundant but equally beautiful bird, the indigo bunting.

There is no danger of confusing the two birds, if you can get a fair look at the indigo bunting. The indigo bunting has no red underneath, as the bluebird has, but is blue on both breast and back. The only feathers he has that are not blue are the large dark ones of his wings and tail, and even these are blue edged. This is his summer garb; in winter, he has a general sparrow-like appearance.

His mate keeps her sleek but inconspicuous brown dress the year round. She has not a single distinctive feature to allow instant identification, and in coloring she most resembles a plain little brown striped sparrow.

The song of the indigo bunting is a beautiful, sustained trill, not unlike that of a canary. Indeed, one of the less familiar names for this bird is blue canary. The bunting is very fond of singing, too, and will frequently stage a recital in midsummer, long after most other birds have become silent.

The persistence of his sweet, simple song when other birds are quietly seeking relief from the heat is one of the surprises of this bird. Many and many a highway can be traversed in the heat of day without hearing one bird utter even a short note, except the indigo bunting.

Indigo buntings are not as well known, perhaps, as bluebirds, even though they are often mistaken for them. This is because they are rather more shy of humankind and prefer to live in the tangled thickets and broken woodlands, remote from habitations. But for the nature lover they are worth patient seeking, for they have few peers and no superiors in beauty among our native birds. There is a jewel-like brightness about their deep blue feathers that surpasses the bluebird's blue.

Science News Letter, May 19, 1951

INVENTION

Now No Kindling Required To Light Fire in Furnace

➤NO KINDLING is required to light the coal fire in a furnace with an electric igniter which earned for William D. Hall, Elkins, W. Va., patent 2,549,806. All that is necessary is to push the spear-shaped head of the device into the center of the coal bed and turn on the electricity.

This penetrating head, on the end of a pipe, is made of a ceramic material, and within it is an electric coil. After the coal is sufficiently heated by the electric coil, a stream of air from a blower is sent through the pipe to build up the flame resulting from the heater.

Science News Letter, May 19, 1951

TECHNOLOGY

Clean Coal by Airflow

➤ CLEANING COAL as it comes from the mines by airflow instead of water gives a product with several advantages, the American Mining Congress meeting in Cleveland was told by W. C. McCulloch, Roberts and Schaefer Company, Chicago. In the process the airflow equipment separates dust and refuse from the coal by air from a blower.

The operating principle of the airflow can be described in a few words, he said. The coal and refuse particles entering at the upper or feed end are stratified by means of pulsating air. After the layer of refuse is formed it travels forward into pockets from which it is withdrawn. The upper layer of coal continues to travel over the slowly moving bed of refuse and is removed at the opposite end. Dust created by the pulsating air is sucked into an overhead hood and is recovered in a filter or cycle dust collector.

Air cleaned coal has many advantages over wet-washed coal, he stated. It does not freeze in shipments in cold weather. In wet weather in open cars, it sheds the rain and arrives at its destination with only its surface wet. Important also, it is more amenable to oil treatment for holding down the dust.

Successful methods of preventing stream and air pollution from the discharge of waste water and gas from mechanical coal-cleaning plants were discussed by F. P. Calhoun, Rochester and Pittsburgh Coal Company, Indiana, Pa. Marketable coal from waste water can be recovered by settling tanks, screens, thickeners and filters, he said.

The tiny particles called "superfines" present a special problem, he indicated. It is these superfines that make streams black or gray. The only way they can be removed is by thickening followed by filtration or evaporation, he stated.

The recovery of dust from fine coal drying plants is a much greater problem, he declared. This fine dust is suspended in the discharge gas. Tests conducted on wet gas scrubbers show it is possible to remove up to 98% of the solids by this method. Electric precipitators to remove the dust are considered rather dangerous due to possible short circuits in the presence of dense coal dust accumulations.

Science News Letter, May 19, 1951

CHEMISTRY

Measure Oxygen in Oil That Causes Deterioration

➤ THE PREVENTION of the formation of undesirable substances in oil, gasoline and other petroleum products by air or oxygen in any form was a subject of discussion at the meeting of the American Petroleum Institute, Tulsa, Okla.

Hydrocarbons, like all other materials, are altered to a certain extent by the atmosphere, and oil companies for years have been carrying out research to find means of retarding the combination of petroleum products with oxygen, it was stated by Morris Dundy and Ervin Stehr of the Texas Company, Beacon, N. Y.

In order to evaluate the results of such investigations, satisfactory means of measuring the extent of oxidation are required, they said. They described a new method in which analysis is effected by heating a sample of the product at elevated temperatures in a quartz tube containing carbon black and an inert gas, under which conditions the oxygenated material is converted to carbon monoxide.

This carbon monoxide is converted to carbon dioxide which can be absorbed by reagents and weighed. From carbon dioxide weight, the percentage of oxygen in the sample can be calculated.

Science News Letter, May 19, 1951