

The

Young Naturalist

This is Young Naturalist Year: 1966-67
Do you have a Young Naturalists Club in your town?



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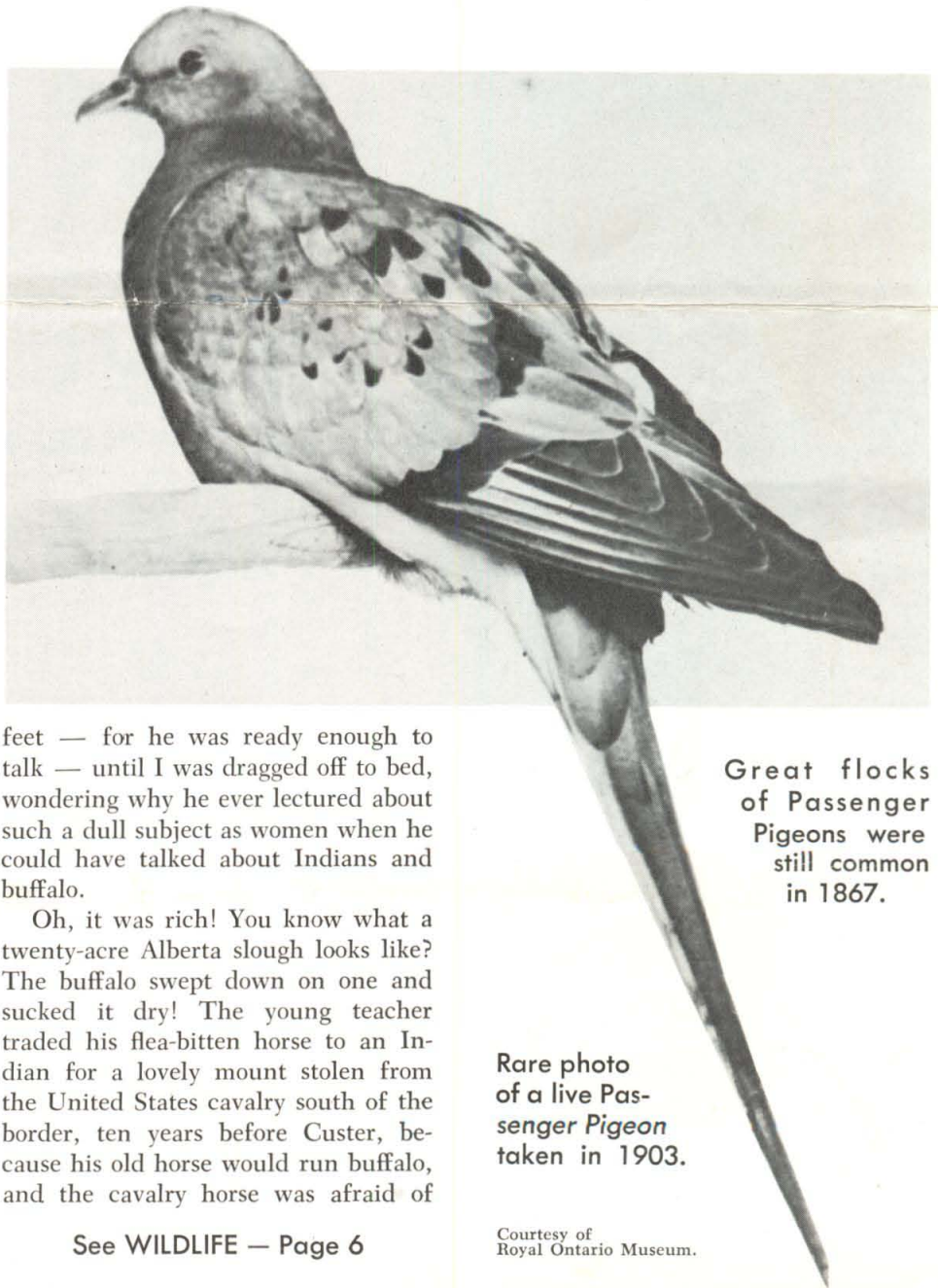
Gordon Mackenzie

WILDLIFE IN 1867

Part 1 — of two parts

The lips of those who observed nature in 1867 are silent now but you do not have to be very old to have heard them speak. In the days before television there used to be "live" entertainment. [Nowadays you can pull off the Audubon lecture series in Toronto's Eaton Auditorium, and it will make money, but the Women's Institute of Smith's Corners, who have to hold their meetings in the Parish Hall, just couldn't swing it.] There were comic lecturers in the tradition of the great American humorists who would come to small towns for twenty-five dollars and expenses, and fill the Parish Hall at twenty-five cents a head. One way to cut expenses was to invite the visitor to stay in a home; in fact, there often was no hotel.

One such I remember, in my boyhood, was a man named Snyder, whose comic lecture was entitled 'A Woman's Tongue,' and who stayed at our place. The reason I remember him was that, in a sort of previous incarnation, he had been a missionary, and had signed on as a teacher with the McDougall family, who were the pioneer Methodist missionaries to the Stoney Indians of Alberta. He went with them by wagon in 1866, a year before Confederation, across the prairie through the wilds of southern Alberta, full of warring Indians and millions of buffalo that were in the midst of their spring trek from wintering ground in the Missouri Badlands to the bald and verdant Alberta plains. I sat at his



feet — for he was ready enough to talk — until I was dragged off to bed, wondering why he ever lectured about such a dull subject as women when he could have talked about Indians and buffalo.

Oh, it was rich! You know what a twenty-acre Alberta slough looks like? The buffalo swept down on one and sucked it dry! The young teacher traded his flea-bitten horse to an Indian for a lovely mount stolen from the United States cavalry south of the border, ten years before Custer, because his old horse would run buffalo, and the cavalry horse was afraid of

Great flocks of Passenger Pigeons were still common in 1867.

Rare photo of a live Passenger Pigeon taken in 1903.

See WILDLIFE — Page 6

Courtesy of Royal Ontario Museum.

Savagery in the Sand

One September day, on a deserted beach in Killbear Provincial Park on the fringe of Georgian Bay's 30,000 Islands, I found myself a witness to an instance of seeming savagery associated with the struggle to perpetuate the species in the insect world.

Lounging on the sand, content in the warmth of the September sun, I became aware of movement within inches from my face. It appeared, at first, that a huge water spider was pulling a slightly smaller, glossy black insect over the sand. Closer observation revealed the opposite. The black insect was in reverse gear, labouriously dragging the heavy spider grasped in its jaws. Each undulation in the sand was a hill to the struggling insect. Its legs worked frantically; while climbing some slopes it actually "spun its wheels", churning sand but getting nowhere.

The spider was dead or paralyzed,

its legs folded neatly. This seemed odd, for one expects predatory spiders to look after themselves. In any event the insect, having somehow bested its quarry, was now determined to take it where it was needed. The rest of the drama was played out within a foot or so of my nose.

The black insect at last left its prize and went a few inches to a spot where it began to dig, dog fashion. Sand flew from its busy feet and soon it uncovered a tiny cavity in the earth. It then returned to the spider, and once more took it in tow. They disappeared into the cave, industrious insect and immobilized spider. By now I had guessed that the glossy black insect was what is known as a hunting wasp. The spider had been paralyzed by the wasp's sting, and now it would serve as a feeding nursery for the wasp's offspring.

A little more than thirty minutes

passed before the wasp re-appeared. Again, like a dog burying a bone, she used her feet to pull down sand and block the cave mouth. Scurrying about, she removed all traces of her activities. Even the most inquisitive of ants would be fooled by her deception. The job of concealment done, she flew away.

What would become of the spider? If the wasp followed the custom of its cousins that prey on caterpillars, bees and grasshoppers, she laid at least one egg in the spider's body. In due course the egg would hatch and the larva would feed on the tissues of the spider.

In order for a wasp to be born, a spider had to die. This small incident, typifies the unending struggle between species, that is life on earth.

Amid the beauty in the Killbear Park scene, nature continued in her unrelenting savagery.

COLIN A. HAXELL

A Large Wolf Spider from Southern Ontario

On April 16, 1966 Mr. George Matthews who lives in Muncey, Ontario, found an active spider that lived in his backyard among boxes, crates and hives of bees. It was a large one, as spiders go, and being concerned about its effect on the bees, he collected it in a jar in order to find out what it was. Dr. C. D. Dondale of the Entomological Laboratory at Belleville identified it as a wolf spider with the scientific name *Lycosa aspersa*. As you can see in the photograph, the body is about an inch long and the span of

the legs reaches two inches. Its hairy body is grey with vague bands of darker grey around the legs. The specimen is preserved in the Department of Zoology, University of Western Ontario.

On April 19 I visited Mr. Matthews and looked at the spider's hiding place. It was a burrow dug beneath a board lying on the bare ground. The burrow was circular in cross-section and one-half inch in diameter, and it extended straight down into the clay soil for four inches. Mr. Matthews said that if the board was turned over while the spider was away from its burrow, it would scuttle back to the burrow and down out of sight. At other times, when the board was turned over the spider could be seen perched in the mouth of the burrow with its front legs resting on the edge.

The wolf spiders are so called because they actively seek their prey by running over the ground in pastures or by lurking under stones and rub-

bish in fields and at the edge of woods. There are several kinds to be found in southern Ontario. *Lycosa aspersa* is the largest of them. It is also a rare spider in Ontario, for while it is comparatively common in the United States, only a few specimens have been found in scattered localities in southern Ontario.

The female overwinters in its adult stage and then lays its eggs in a round silken sac which she can carry around. When the young have reached the proper stage of maturity, the female rips the sac open with her jaws and the young spiders come out. These youngsters climb on the back of their parent and are carried about for some time, then scatter to live on their own. The spider Mr. Matthews found was an adult female, so it had doubtless survived the winter and would soon have produced a sac full of eggs.

W. W. JUDD

The body of the Wolf Spider is about an inch long.

Photo by W. W. Judd



Club News



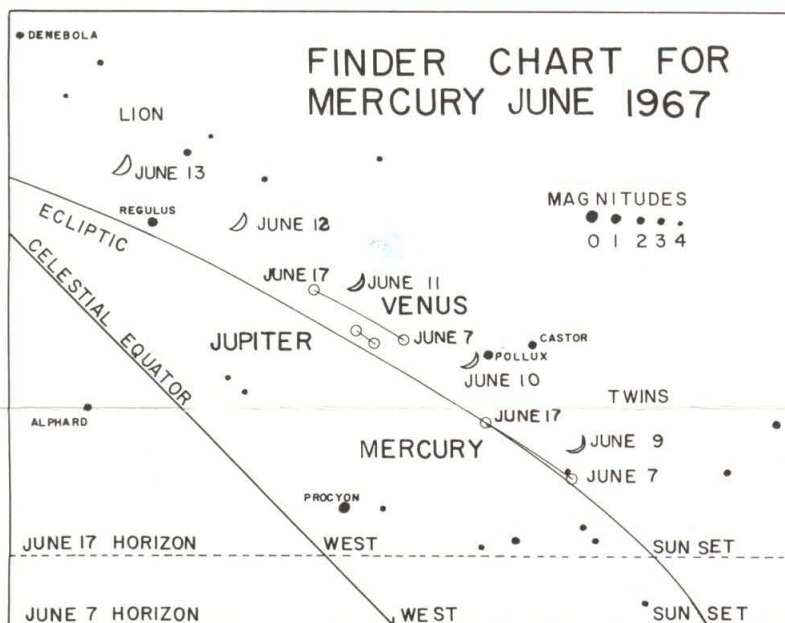
The Toronto Junior Field Naturalists Club held its final regular meeting of the 1966-67 season on May 6th, when Robert M. Bateman of Burlington, a former leader of the club's Mammal Group, gave an illustrated talk entitled "A Naturalist Photographer in Dark Africa".

Elections were held for the 1967-68 Executive, and each club member received a copy of *Flight*, the club's magazine. About 150 members at-

tended the Annual Field Day on May 27th, at the Palgrave Conservation Area, always a popular event.

Plans are being made in London, Ontario, which may result in the formation of a junior club there. The Mellwraith Field Naturalists Club, in co-operation with the London Board of Education, is sponsoring field trips for science teachers, who may become junior club leaders in the future.

BARBARA WILKINS



Mercury - Our Smallest Planet

Of all the planets in our solar system Mercury is perhaps the most difficult to see, although it is nearly as bright as the brightest star. It has been reported that the great Polish astronomer of the sixteenth century, Copernicus, never succeeded in catching a glimpse of the elusive planet. So, be prepared for the challenge that this month offers you.

To help locate Mercury, use the accompanying finder chart at sunset. It is necessary to have an unobstructed view of the western horizon. Venus, the brightest object in the sky after the sun and moon, will be easily seen in the twilight. Nearby is Jupiter, about one-seventh as bright as Venus, but still brighter than any star. A few degrees away, northward, are the

bright stars Pollux and Castor. They are, incidentally, the famous Gemini Twins, after which the American two-man space program was named. Now look below Castor, about half-way down to the horizon, and you will find Mercury. Be sure that you have not identified the bright star, Procyon; it is several degrees southward of Mercury, directly beneath Jupiter. On June 9th, the one-day old crescent moon will assist in the discovery of Mercury.

While you are looking for Mercury, you might observe the eastward motion of the moon among the stars. The day after the moon was near Mercury, it may be found beside Pollux; the next day it is above Venus and Jupiter. During the next two days the moon

travels through the 'mane' of Leo the Lion, just above bright Regulus.

While the moon is moving eastward, the stars are moving westward. Early in June Procyon is easily visible above the horizon at sunset; on June 17 Procyon stands only half as far above the horizon as it did on June 7th. By the end of the month Procyon will have passed out of the evening sky altogether and will be visible in the morning sky immediately before sunrise.

What is Mercury, the object of our search? It may seem obvious from the difficulties one has in locating Mercury, that it is close to the sun. Indeed, it is about 36 million miles away from the sun, one-third of the earth's distance from the sun. Its proximity to the sun means that it must be in rapid orbital motion — 30 miles per second, or nearly twice that of the earth in its journey about the sun. This great speed earned the planet its name. At this rate Mercury takes only 88 days to travel once around the sun. Recently astronomers learned that a Mercury-day is about 60 earth-days long. At noon the temperature on Mercury might reach 600°F and fall at night to -300°F.

Because Mercury is much fainter than Venus in spite of being closer to the sun, we may deduce that Mercury is quite small. While Venus is the same size as the earth, Mercury is just a little bigger than the moon (about 3100 miles in diameter, or the breadth of the Atlantic Ocean). Its surface may also be pitted with craters similar to those on the moon and Mars. The small size of the planet means that a person weighing one hundred pounds on earth would weigh only twenty-seven pounds on Mercury.

I would be interested in reading the reports of your observations. Be sure to include: the name and location of the observer, date and time of the observations, and weather conditions. A sketch of the path of Mercury after June 17th, until it returns into the glare of the sun would be most interesting. Send the reports to: Astronomy c/o William A. Sherwood, David Dunlop Observatory, Richmond Hill, Ontario.

W. A. SHERWOOD

Blackbirds

OF CANADA

It sometimes surprises people to learn that this family includes some of our most beautiful birds. This is a group unique to America (the famous English blackbird is really a thrush, related to our robin). Orioles and meadowlarks have very pleasant songs; most *black* blackbirds do not. Some of the blackbirds, especially redwings and grackles, have increased greatly in recent years, to the point where they have begun to do harm to crops. Much modern research by wildlife scientists is aimed at relieving this damage. But the blackbirds remain one of our most colorful and interesting bird families.

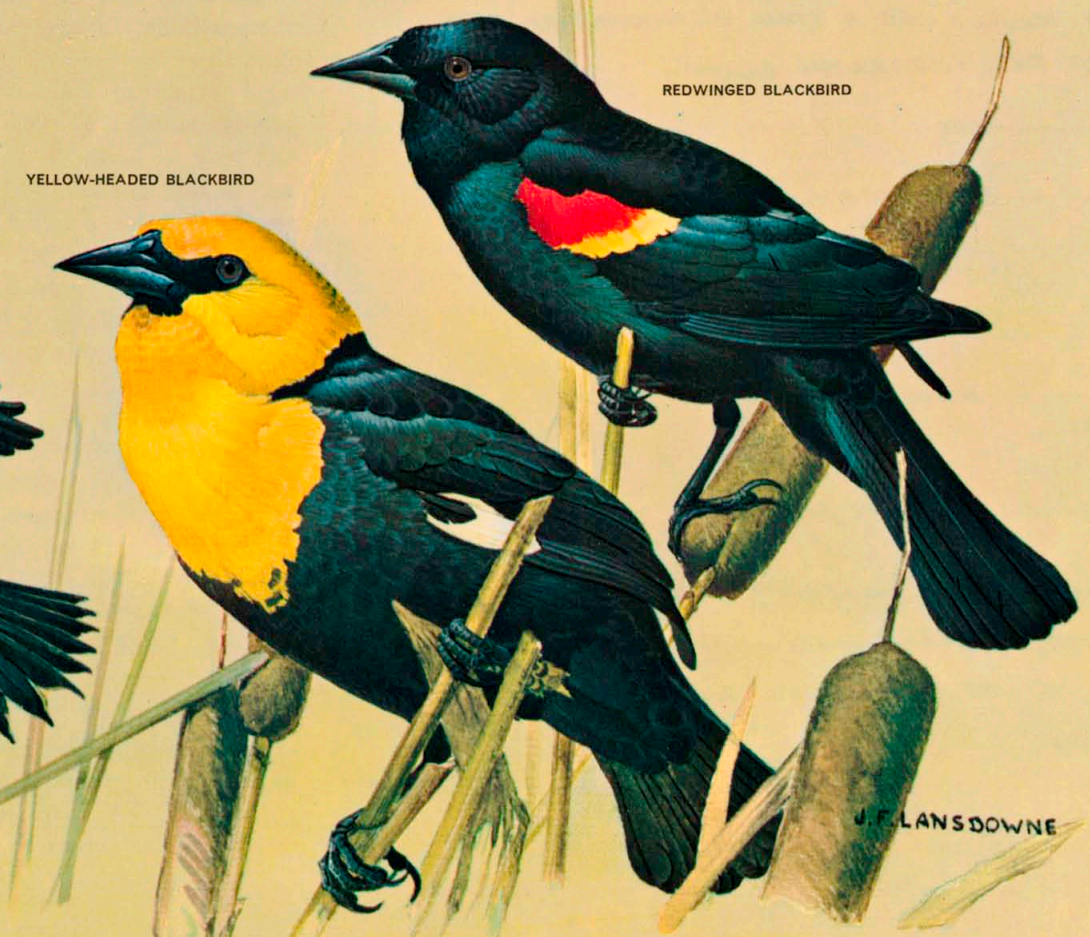
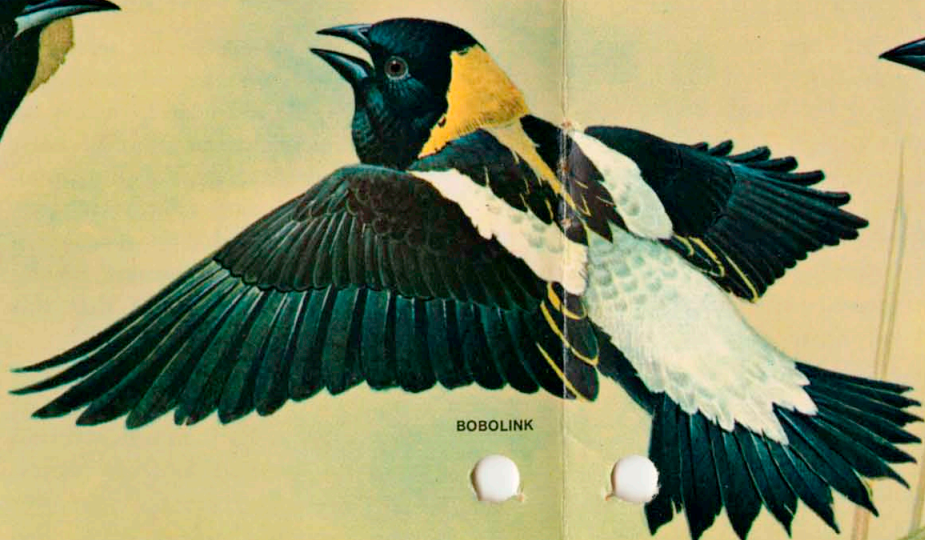
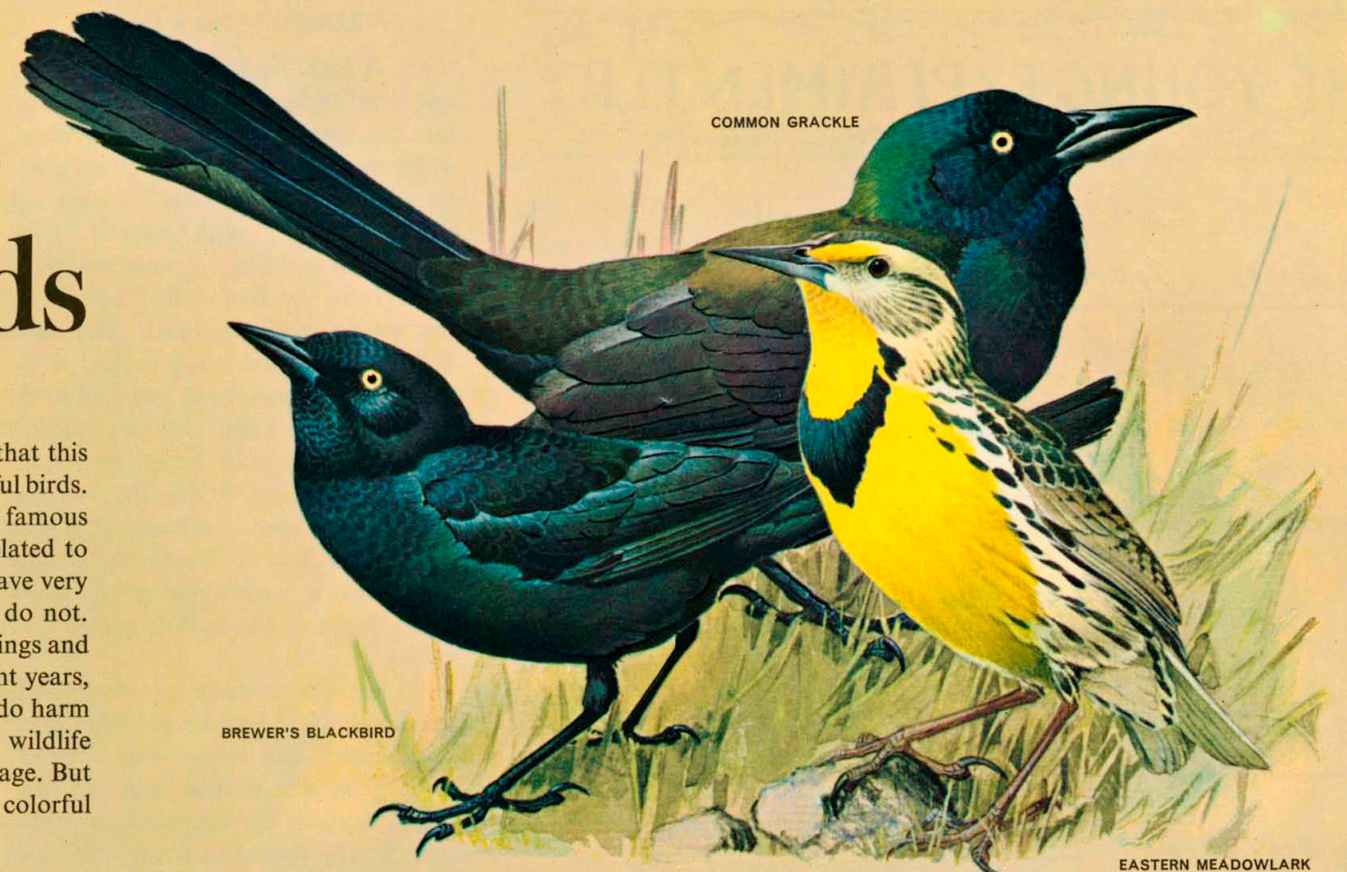
The rich whistling notes of the BALTIMORE ORIOLE are heard nearly everywhere east of the Rockies where there are shade trees. The male COBIRD ducks its household responsibilities by the simple expedient of laying its eggs in other birds' nests. BULLOCK'S ORIOLE, a western species, is rather like the Baltimore, but has an orange face and a large white patch in the wing. Restricted to southeastern Canada, the small ORCHARD ORIOLE has an attractive sparrow-like voice, quite unlike those of its relatives.

The normal color pattern of birds is strangely reversed by the BOBOLINK, which is dark below, light above. It sings on the wing.

Note: All birds illustrated are males, in spring (breeding) plumage.

The COMMON GRACKLE is the largest of the family in Canada (13"). Its glossy head, big bill and long, wedge-shaped tail identify it. We have two meadowlarks, eastern and western. They look very much alike but can be readily identified by their songs. This is the EASTERN MEADOWLARK. BREWER'S BLACKBIRD is a westerner, all iridescent black with a purplish head in spring. The female is grayish, and has dark eyes.

The colonial-nesting YELLOW-HEADED BLACKBIRD is a striking feature of prairie pothole marshes. A white flash in the wing is very conspicuous as the male flies. It requires some imagination to call its discordant, rasping voice a "song". The REDWINGED BLACKBIRD is one of Canada's best known and most abundant birds. Once strictly a marsh dweller, it has recently moved into meadows and fields for nesting.

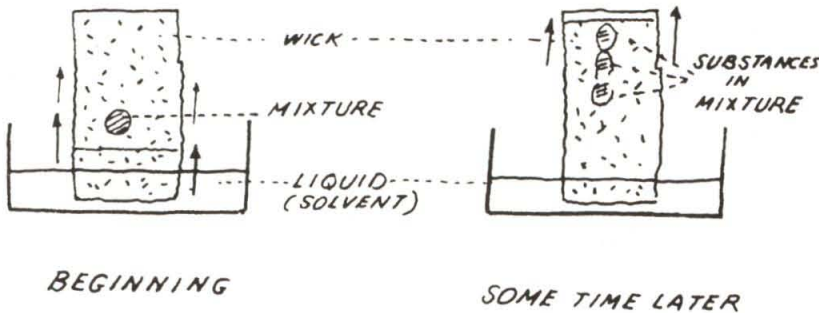


J. F. LANSLOWNE

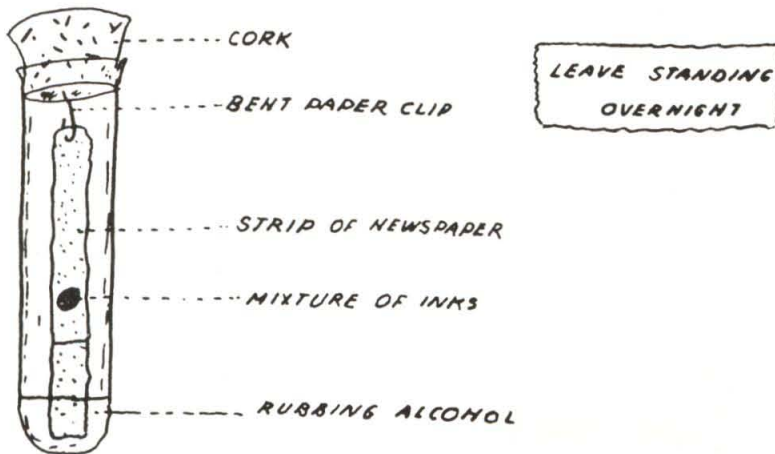
THE YOUNG EXPERIMENTER

PAPER CHROMATOGRAPHY

SUBSTANCES IN A MIXTURE MAY OFTEN BE SEPARATED BY PLACING A SPOT OF THE MIXTURE ON A PIECE OF ABSORBENT PAPER AND USING THE PAPER AS A WICK TO SOAK UP A LIQUID



THE AMOUNT OF SEPARATION DEPENDS ON THE NATURE OF THE SOLVENT AND THE WICK. COLOURED INKS OF BRUSH PENCILS MAY BE SEPARATED USING RUBBING ALCOHOL AS A SOLVENT AND A STRIP OF NEWSPAPER AS A WICK. SET UP THE APPARATUS BELOW.



HOW GOOD IS THE SEPARATION? WOULD OTHER SOLVENTS (WATER, VINEGAR, WATER-ALCOHOL SOLUTIONS) BE BETTER? IS THE ORANGE DYE MADE UP OF ONE OR SEVERAL DYES?

WILDLIFE — from Page 1

them. A high Anglican dignitary could not stand Indians in war-paint peering into the tent while he was undressing, so he made himself a peek-proof shelter under a wagon, only to wake up in the morning with himself, vestments, bed and baggage saturated with blood from the fresh-killed buffalo in the wagon over his head. The nut! Who ever minded being peeked at by a real Indian brave? All you had to do was raise your hand and say, "How!" Besides, you would have been safe, even in Montana where the Indians hated white men, because each tent and wagon flew its Union Jack! Outside, at night, wolves and grizzly bears quarrelled over the buffalo guts. What a life!

At home in Ontario my own grandfather, who had kept his muzzle-loader loaded with ball in previous seasons, so as to be able to deal with the Fenians, could, in the year of Confederation, finally empty it at the wild turkeys behind the barn, and load with shot for the great flocks of passenger pigeons that swarmed in from the south, then and for more than ten years after. He didn't even need to shoot! He knew a place where they swept over low, and you could get them with an old buggy whip. In those days there were no deep-frozen packaged meats in supermarkets. Fresh pigeons meant a glorious change from salt pork — sowbelly as they said — and it was not for nothing that the nearby Canadians called any stew, of any meat, a *tourtière*, after *tourte*, their word for pigeon. Just when you were so full of longing for something fresh that you were almost ready to sacrifice the old red rooster, along came the pigeons.

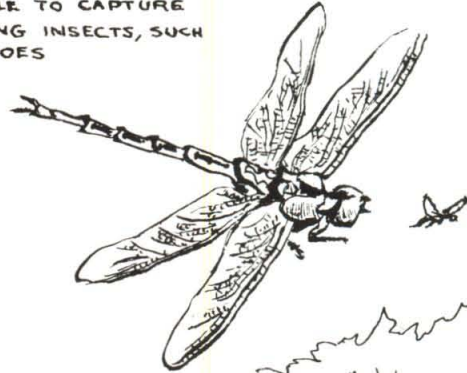
We can say, if we like, that buffalo and pigeons were destroyed by the railways. At Confederation the original provinces already had railways, and it was the promise to extend them westward that brought the West to join up. Given railway express, the commercial pigeon hunters could follow the big pigeon flocks around the country, catching them with their nets and expressing them to market.

C. H. D. CLARKE

R. W. McCauley

WATER INSECTS

THE DRAGONFLY CAN FLY AT SPEEDS OF 20-30 MPH, AND IS EASILY ABLE TO CAPTURE OTHER FLYING INSECTS, SUCH AS MOSQUITOES



THE ADULT DRAGONFLY EMERGES FROM THE NYMPH IN EARLY SUMMER. THE DISCARDED SHELL OF THE NYMPH REMAINS INTACT



WHIRLIGIG BEETLES DARTING AROUND ON THE WATER SURFACE ARE ALSO AT HOME BENEATH IT



WATER STRIDERS SKATE ON THE SURFACE



BACKSWIMMERS AND WATER BOATMEN HAVE PADDLE-LIKE LEGS, BUT THEY CAN ALSO FLY



DRAGONFLY NYMPHS ARE VERY AGGRESSIVE PREDATORS, SOMETIMES ATTACKING SMALL MINNOWS



JOHN BATEMAN

WOODLORE FOR THE NATURALIST

— John Macfie —

Provisions for a Canoe Trip

The canoe tripper's "grub" list must favour foods that keep and carry well. Recent improvements in dehydrated foods have made it possible to outfit almost completely with dried or "instant" foods. These light and compactly packaged provisions, available from a few specialty firms and outfitters, are worth considering if you plan to undertake a lengthy trip or one that involves a great deal of portaging.

Groceries from supermarket shelves, more easily obtained and less monotonous than the dehydrated kind, will serve for the average Ontario canoe trip of from four to ten days with a moderate amount of portaging. Food that comes from the store in flimsy packages should be re-packed in tins or plastic bags. A light wooden grub box in which regularly used utensils and opened food packages can be carried, is a very useful piece of equip-

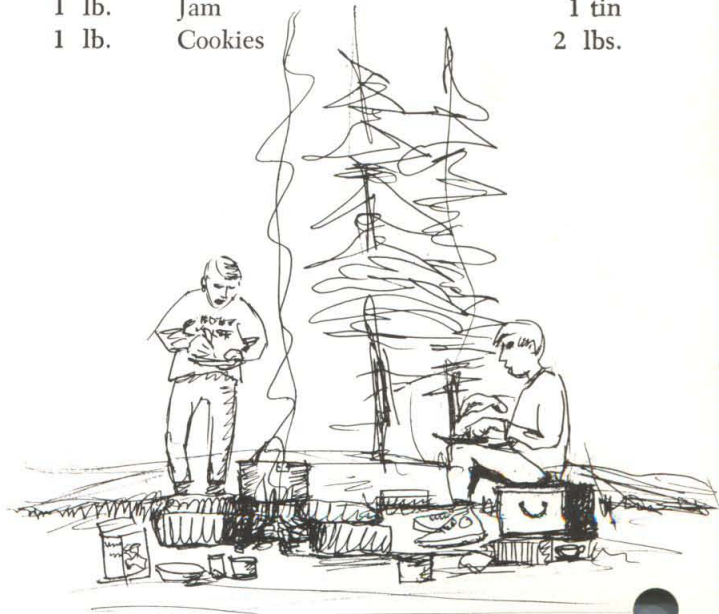
ment. Camp coolers are just a burden after you run out of ice. If you freeze your fresh meat before packing it, it will keep longer and act as a coolant for other food.

The following is given as an outline from which you can compile your own grub list, substituting to suit your own taste:

Grub list for two persons for one week

Milk (powdered)	2 lb.
Coffee	1 lb.
Tea	¼ lb.
Orange drink crystals	4 pkgs.
Instant chocolate mix	½ lb.
Beans (dried)	1 lb.
Bacon	2 lbs.
Cured or pre-cooked meat	2 lbs.
Canned meat	3 cans
Fresh meat	enough for 2 meals
Cheese	1 lb.
Shortening or oil	1 lb.

Lettuce or celery	1 head
Potatoes (dried)	1 lb.
Onions (dried)	1 pkg.
Bread (unsliced)	3 loaves
Butter (canned)	2 lbs.
Eggs	1½ doz.
Crackers	1 pkg.
Pepper	1 tin
Salt	¼ lb.
Sugar	3 lbs.
Biscuit mix	1 pkg.
Pancake flour	1 lb.
Flour (for frying fish)	1 lb.
Dried apples, apricote or prunes	2 lbs.
Raisins	1 lb.
Pudding	3 pkgs.
Instant rice	1 lb.
Rolled oats	1 lb.
Soup (dried)	4 pkgs.
Syrup	1 pt.
Jam	1 tin
Cookies	2 lbs.



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