

The

Young Naturalist

VOL. 11 — NO. 4

PUBLISHED BY THE FEDERATION OF ONTARIO NATURALISTS



APRIL, 1969

A Letter from Algonquin Park

I am calling this a letter because I have been thinking that it would be a good idea for each of us to write a letter to *The Young Naturalist* now and then to let others know what is happening in our part of the country. Every locality is different and most of us like to think that where we live is special in some way or other.

I am happy to live in the Algonquin

Park area, which is different in many ways from other places in Ontario. For one thing, during one half of the year, from May to October, there are many thousands of people here, camping and canoeing and having a wonderful time living outdoors. But in the other half, from November to April, there are almost no people, and you can walk for miles and miles in any direction without

seeing or hearing a sign of any living thing except the animals that live here all the time. It is a wild and lonely place then, with all the lovely blue lakes and pleasant streams frozen over and buried deep under the snow.

During the winter season in the Park, it is hard to see how all the thousands

See ALGONQUIN — Page 2

When wolves kill a deer the news soon gets around, and meat-eating birds and animals come to share the feast.

Sketch by Paul Geraghty



ALGONQUIN — from Page 1

of animals, from mice to moose, can find enough to eat. Some of them, such as the Black Bear, Raccoon, and Groundhog, just go to sleep in a warm den and forget about it until spring. Others, like the Beaver, store enough in the fall to keep them eating through the winter. The rest are divided into two groups, those that live on vegetable food, and those that kill and eat other animals. Everything depends on plants, of course, because if the plant-eaters can't find enough to eat, the others will starve too. We don't need any better reason than this for keeping our forests in good condition.

I'll bet you couldn't guess the animal that is bothered least of all when the whole country is in a deep-freeze for about six months. It is the Otter. This wonderful animal is a large member of the weasel family, about three feet long and weighing 25 pounds or more. It moves about a good deal on land, but it has webbed feet and is more at home in the water, where it gets most of its food. Almost all other animals have to change their way of life in winter; they must eat different food, work harder, and often travel farther in order to stay alive. But the Otter follows its year-round hunting trails as usual. It can always find a soft spot in the ice where it goes down into the water, often swimming a long way and popping up through another hole. Down there it finds the same kind of food as in summer, and it doesn't mind coming out of the water to lie in the snow and eat a frog or a fish when the temperature is below zero. It really seems to enjoy the snow, rolling around in it just for fun, and always sliding down the hills when it travels. Whenever I watch one, I feel a little bit jealous and wish I could like getting covered with wet slush as much as an Otter does.

We have to remember that besides finding enough food to keep them alive in a climate where it is sometimes 30 or 40 degrees below zero, animals must also have food with high nourishment value to keep up their body heat as well as their strength. In March especially they need to be in good condition, because they must start making ready to look after the young which will be born during the next two or three months.



Sketch by Paul Geraghty

The Gray Jay needs food especially in March when it builds its nest, before other birds return.



Sketch by Paul Geraghty

The Red Fox does not waste food, and may bury for future use what it does not presently need.

Animals and birds learned long ago not to waste anything and not to miss a single chance to eat when they can. I have tested this by putting quite small pieces of frozen meat in trees at odd places in the bush. They are seldom there more than a day or two without attracting such animals as Fishers, Red Foxes, Martens, Gray Jays, and Ravens,

although you wouldn't think the smell of a little piece of frozen meat would go very far.

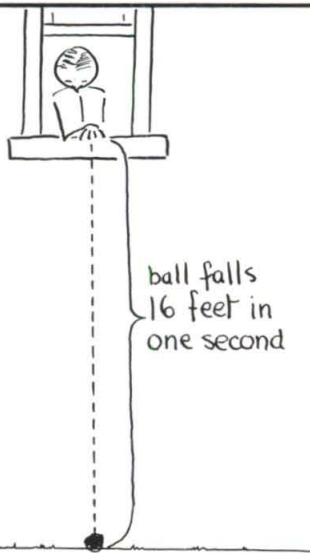
I simply must tell you about something I saw last December that will illustrate this. One day I saw a dead Red Fox beside the road. It had been killed by a car, and the Ravens had eaten most of it. The next day at the same place I saw a live Fox burying something in the snow just at the edge of the woods. I stopped the car and watched. It had snowed in the night and the bits and pieces of the dead Fox were nearly covered. When the live Fox finished pushing the snow in place with its nose, it came back and looked around until it found a piece of Fox skin with the fur on and carried it away and buried it. Then it returned and looked around for more. This does not mean that Foxes make a habit of eating each other; it just means that with another two or three months of winter ahead this Fox couldn't afford to let anything go to waste that might give it a little nourishment later on. I enjoyed watching the beautiful little animal work, and thought it was very smart.

The fine picture that our artist has drawn shows how all the resources of the forest are brought together and distributed among many different animals. Here in Algonquin Park we are proud of the fact that we have some completely natural country, where wolves and deer and all other animals live together as they have done for thousands of years. In the picture we can see how it all works out. Deer live in winter by eating the twigs of many kinds of trees and shrubs. Deer are the natural food of wolves. When wolves kill a deer the news soon gets around, and all the other meat-eating mammals and birds come to share in the feast. The two birds in the picture, the Gray Jay and the Raven, need food especially in March because they both make their nests in this month, long before most of the birds that nest here have started to come back.

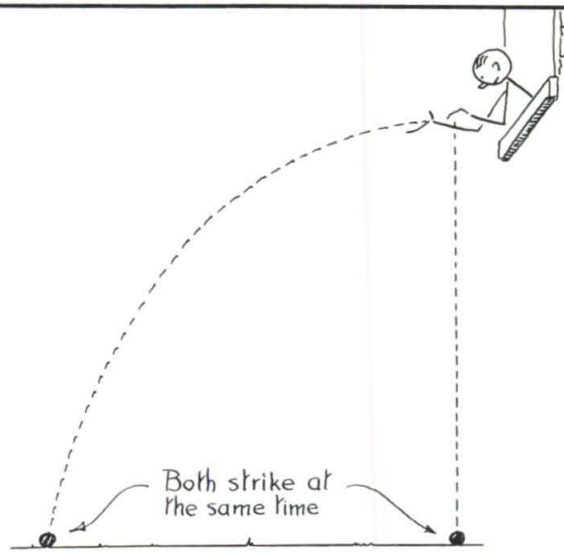
This is a system that will look after itself forever if we give it a chance. The soil grows plants, some animals eat the plants, other animals eat those that eat plants, and when the animals themselves die they go back to the soil to help grow more plants.

RUSSELL J. RUTTER

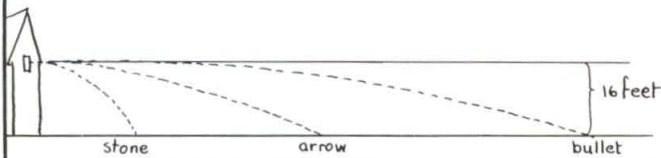
WHAT CAUSES WEIGHTLESSNESS?



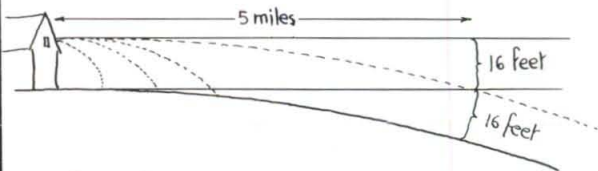
Galileo and Newton discovered this



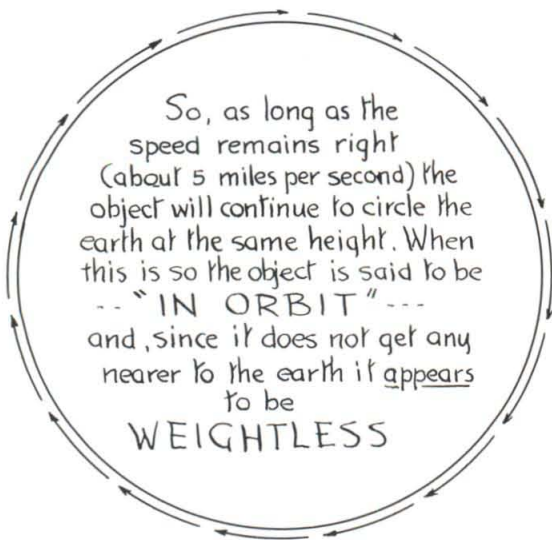
----- and this --- therefore -----



If, from a height of 16 feet, we throw a stone, shoot an arrow and fire a bullet, all horizontally, they will each strike the level ground 1 second after being started. The faster each is moving, the farther it will travel in that one second. In each case, however, the distance fallen will be the same — 16 feet



If an object were shot horizontally at the enormous speed of about 5 miles per second, it would be 5 miles away from its starting point when it had fallen 16 feet. But in 5 miles the earth's surface would also have curved "downward" a distance of 16 feet, so the object would still be 16 feet above the earth -----

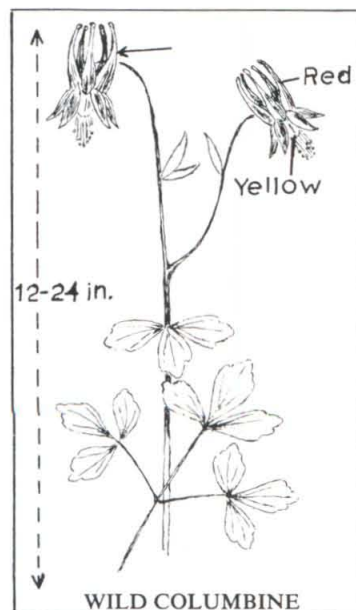
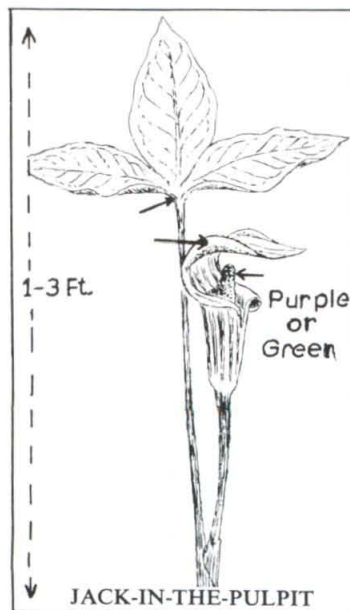
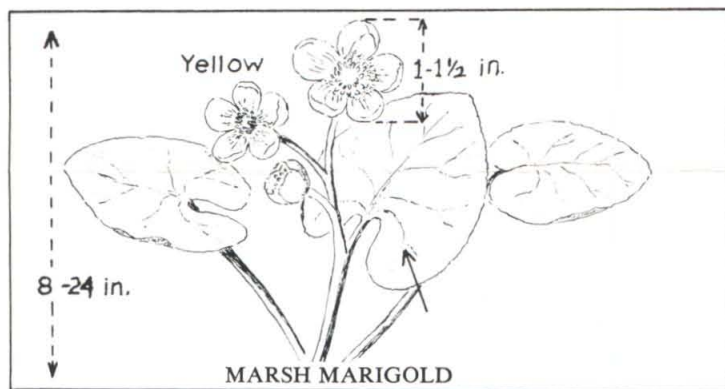
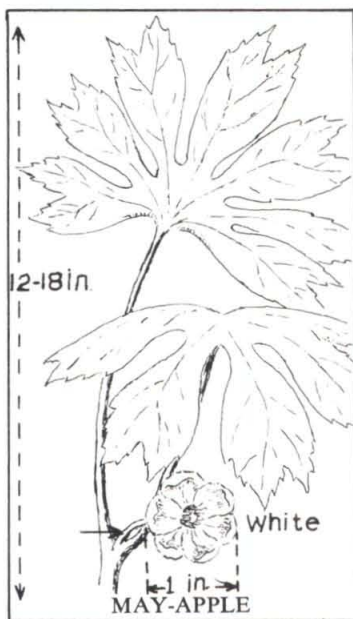
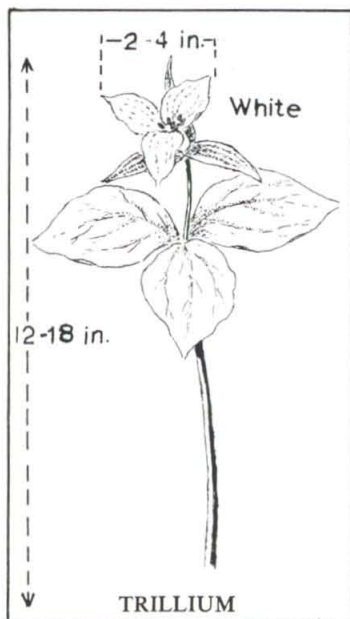


So, as long as the speed remains right (about 5 miles per second) the object will continue to circle the earth at the same height. When this is so the object is said to be -- "IN ORBIT" --- and, since it does not get any nearer to the earth it appears to be **WEIGHTLESS**

Of course, in an orbiting spacecraft, the vehicle itself, and everything inside, including the astronauts, are all travelling at orbiting speed, and therefore act as if they had no weight. This is why flashlights, pencils, cameras and astronauts were seen floating about the cabin when the pictures were shown of the Apollo 8 moon mission.



THIS MONTH: focus on WILDFLOWERS



In our locality there are many hundreds of plant species. Not many people know them all so you should always concern yourself with those plants which you see commonly around you. Not all plants will be found in the same area. Plants, like animals, live in different places or habitats. Some may grow in shaded woods; others in wet muddy places, and others in open fields. Where you find the plant is important for its identification. When you are looking at a plant you should ask yourself certain questions:

Where is the plant growing? In the bright sunlight or shade? Is the ground wet? . . . What month is it? . . . What is the colour of the flower? . . . Is it all the same colour? . . . Are there any leaves? . . . How many are there? . . . What do the edges of the leaves look like? (Are the leaves smooth at the edges or are they not?) . . . How many petals are there? . . .

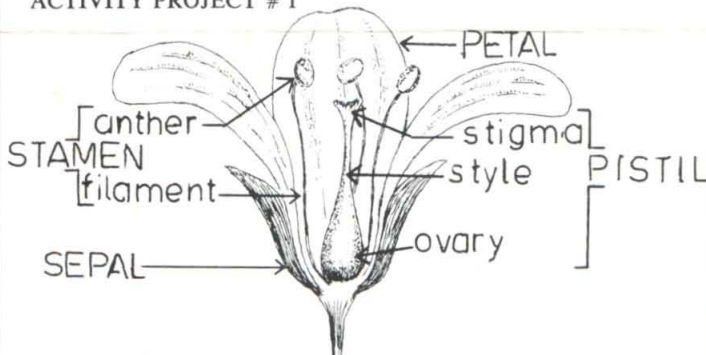
Most of our early spring blooming plants live in woods where the trees drop their leaves (deciduous). As they need sunlight for their blooming and food storing period it is necessary for them to flower early before the leaves of the trees grow and cut down on their supply of sunlight.

Most of our wild flowers are very fragile and should not be picked. Picking the flowers of the trillium for example will remove the food producing parts of the plant and the roots may die of starvation. If we would like to see our woods alive with beauty each spring we should leave wild flowers in their own home for all to enjoy.

ACTIVITY PROJECTS

We hope that you will participate in these projects and that you will provide us with information about some of the wildflowers living in your area. The results will be published in a later issue of the *Young Naturalist*.

ACTIVITY PROJECT # 1



1. Examine a common garden flower with a magnifying glass. Look for the different flower parts. Are all the parts always present?
2. What do you think are the functions of the different parts?

ACTIVITY PROJECT # 2

1. Record the date of the first flowering in your area of the large white trillium.
2. As part of a class project, participate in the "When Does It Happen?" research study as outlined to your teacher. Copy available on request.

The first three young naturalists to send in their complete results to the F.O.N. Office will receive for their school resource centre the book *Native Wild Plants*. Be sure to include names and address of your school. PLEASE MAIL ALL REPLIES AND RESULTS To: Mr. B. GRIFFITHS, c/o Federation of Ontario Naturalists, 1262 Don Mills Rd., Don Mills, Ontario.

EDITOR'S NOTE: This continuing series is designed to provide information and activity ideas for teachers who want to encourage their pupils to become actively involved in nature study as an exciting feature of their outdoor education program. Text by Barry Griffiths and Gerald McKeating, sketches by Don Foxall.

Club News



In the January "What Happened Here?" a cat was sneaking up to a pheasant. The pheasant saw the cat as it pounced, flapped its wings leaving their imprint in the snow. The cat skidded in the snow and walked slowly away. Robert Strang, Vradenburg, Public School, Agincourt; Richard Wood, Highland Heights Public School, Peterborough; and George Strathearn, Huron Park Elementary Public School, Midland were the winners of the book "A

Field Guide to Animal Tracks" for their school resource centre.

A Great-crested Flycatcher built the nest that was illustrated in the February "Who Built Me?" Dennis Klama, Lockview Public School, St. Catharines, Shirley Smyth, Walter Zadow Public School, Arnprior, and Cathy MacKellar, Three Valleys Drive Public School, Don Mills correctly identified the builder and won for their resource centre, "Bird Nests, A Field Guide."

GERALD McKEATING

Insects in Hibernation

Hibernation occurs in temperate or extreme cold areas where the temperature becomes so low that normal activities of insects are impossible. When the temperature falls appreciably, the majority of insects go into hibernation. The exceptions are the migratory insects

like the Monarch Butterfly that travel southward to avoid unfavourable winter conditions. Other insects have modified their habits to a semi-dormant existence.

Insects hibernate in all stages of development. Some hibernate as eggs,

See INSECTS — Column 3

INSECTS — from Column 2

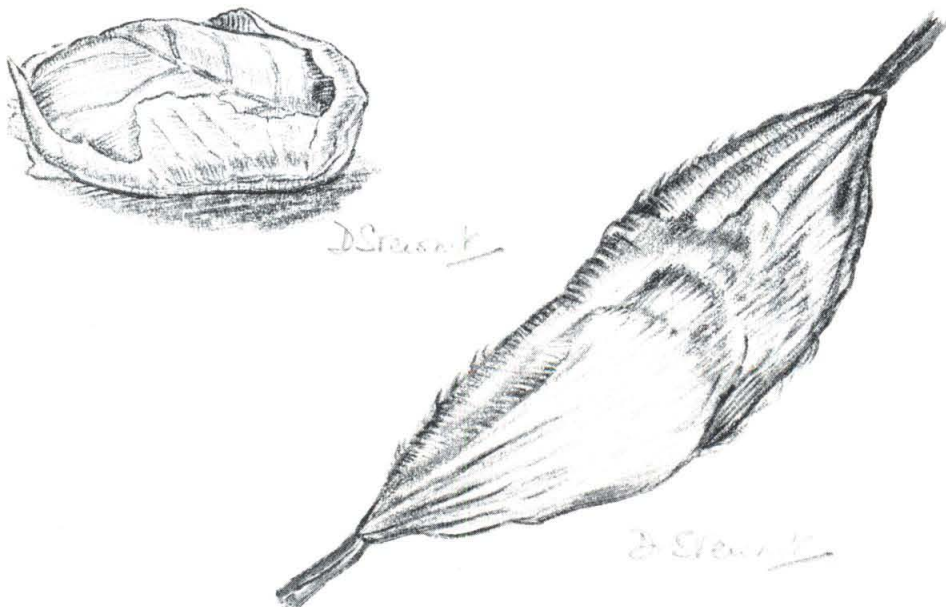
some as young larvae, full-grown larvae, pupae and adults. Insects will seek out any sheltered and safe retreat to spend the winter months. The soil is an ideal place for hibernation since insects can descend below the frost line or at least below the line of critical temperature, and are safe from most predators. When moisture exists in the soil, the temperature of the surrounding area rises and gives added protection against frost.

Low temperatures are without doubt the all-important element in inducing hibernation. The Cotton Boll Weevil begins to hibernate when the mean temperature reaches 55°F. Many insects however go into hibernation before the cold weather sets in. The larvae of the Oriental Fruit Moth may begin to go into hibernation in mid-summer. As a matter of fact they are then in a state of estivation (when all normal activities stop due to extreme high temperatures) until fall when they go into hibernation. The Clover Leaf Weevil hibernates in the larval, pupae or adult stage, as with all related groups of this insect.

In the case of the pine tube moths numbering 13 North American species, all but one hibernate as the pupae. Species of (Tortricidae) microlepidopterous moths, generally hibernate as eggs, whereas the rose scales hibernate as eggs, nymphs or as adults.

Perhaps the best known and most striking form of insect hibernation is in the case of the giant silk moths (Saturniidae). The larvae of these large moths spin thick cocoons around themselves, usually wrapped in a leaf or two and attached to their respective food trees, where they remain throughout the entire winter months. The thickness of the silken cocoon gives adequate protection against frost, but alas not always from the beaks of hungry birds, and the attentions of parasitic wasps. The cocoons of the Polyphemus and the Cecropia are perhaps those most commonly seen in the Ontario area. Often the Polyphemus cocoon may fall from its attachment on to the ground, while that of the Cecropia is especially noticeable as it is attached lengthwise to a twig, and is the largest cocoon of all the insects.

DARRYL STEWART



Shown on the left is a sketch of the cocoon of Polyphemus moth. The one on the right is that of the Cecropia moth. They are common in Ontario.

WOODLORE

FOR THE NATURALIST

John Macfie

A Mighty Particular Bird

The Golden Eagle is a bird of the mountainous regions of North America. It is seldom seen in Ontario and is known to nest in the Province in only very few places where mountain-like situations occur.

One of its nesting-places is far up in northern Ontario, where a series of precambrian rock domes rise out of the surrounding muskeg. One of the towering outcrops is divided by a rift lined with vertical diabase cliffs broken into columns and ledges. Scattered on inaccessible ledges about the gorge are four or five eagles' nests. When I visited the site in early summer, four or five years ago, a lone eagle was perched on a pinnacle above a nest as shown in the accompanying sketch. But when I crawled out on top of the cliff and peered down I saw that the nest was empty. The eagle had presumably lost its mate and returned alone that year.

A golden eagle chooses for its eyrie a rocky ledge that is extremely difficult to reach from either above or below. How did a pair of these great birds discover this tiny unit of nesting terrain lost in a hundred thousand square miles of muskeg, which in turn lies in a remote corner of eastern North America far from the main range of the species?

The bird world is full of such mysteries.

THE YOUNG NATURALIST is published ten times a year by the Federation of Ontario Naturalists for the Young Naturalists Club. Reprinting of text only is permitted provided credit is given to *The Young Naturalist*. Editor: Donald Young, 1262 Don Mills Road, Don Mills, Ont.

SUBSCRIPTION (one year) to *The Young Naturalist* and membership in The Young Naturalists Club may be obtained by sending your name, address, and a cheque or money order for \$2.00 payable to the Federation of Ontario Naturalists, 1262 Don Mills Road, Don Mills, Ontario.