

The

# Young Naturalist



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## The Woodcock—Bird With A Beep

### Part I (of a two-part Series)

The woodcock strikes many persons as a queer bird. He is a shore bird that never goes to the shore. He flits around like a bat or a big moth at night, and makes strange noises. Yet, he is so quiet by day that you may never see a woodcock even when the woods are full of them, unless you meet one by accident or take along a dog like a cocker spaniel, which got its name from this bird.

The woodcock has a very long beak

with a flexible tip, eyes almost in the top of his head, and a brain that is upside-down, presumably to allow for the placing of the eyes. Evolution, which has done all these strange things, has obviously provided for a very special sort of life.

Much of the tradition and lore about the woodcock comes from Europe, where they have a different species from ours, larger, not so pretty perhaps, but with essentially similar habits. European woodcock have been seen to pick up their young and fly

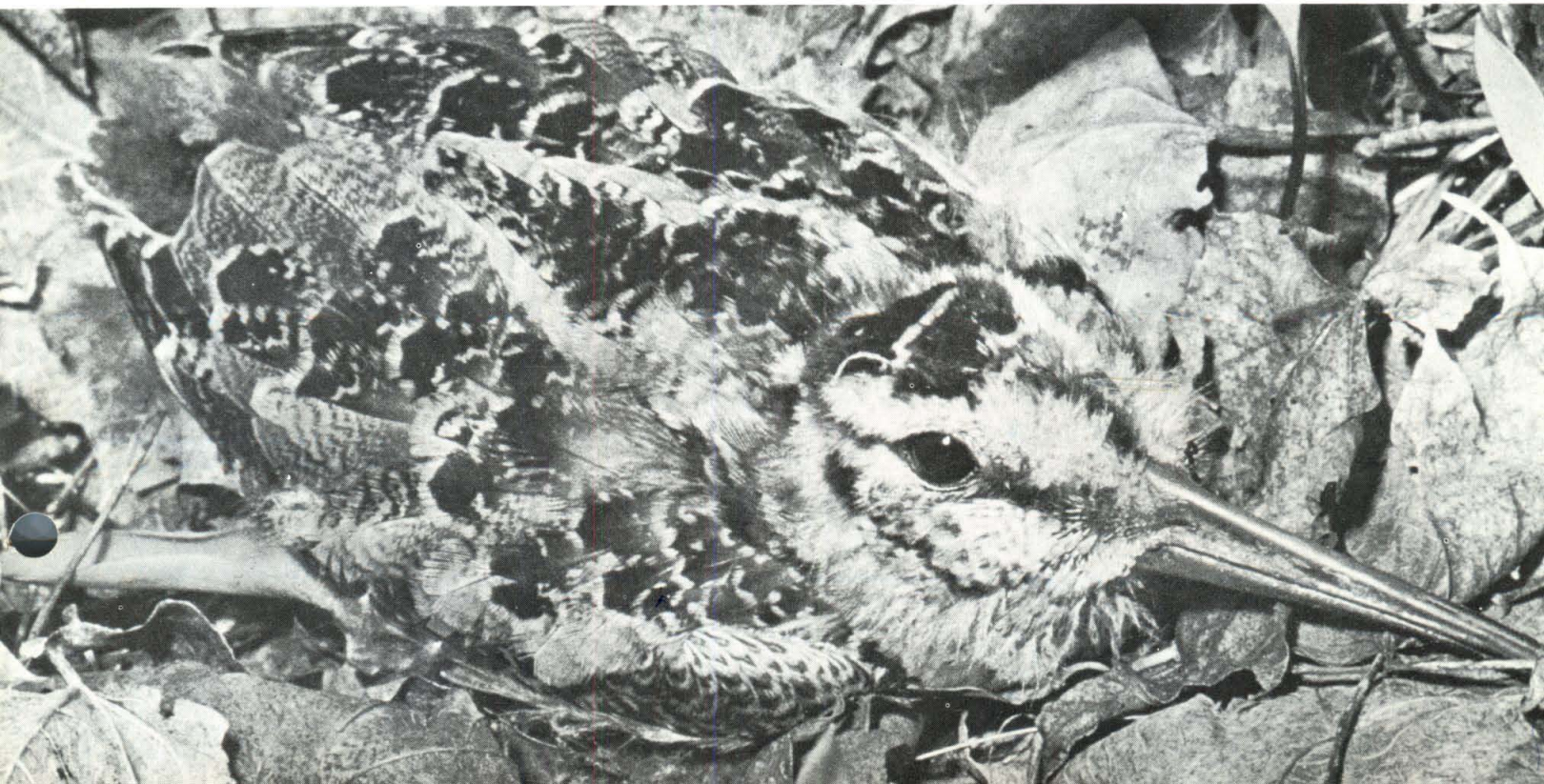
with them. Ours have not.

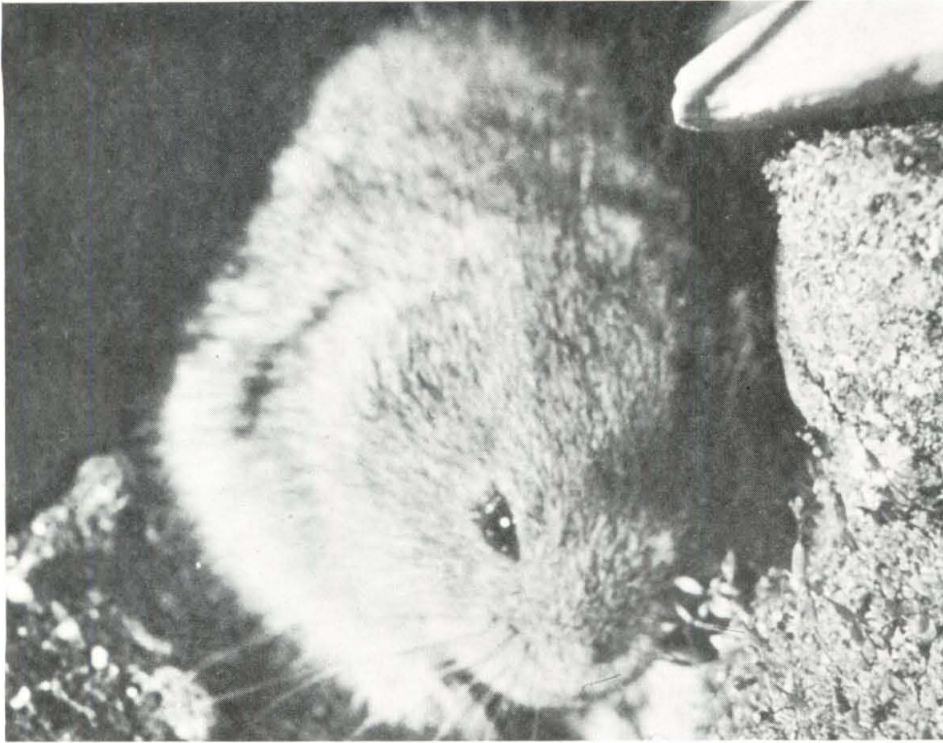
Woodcock live in damp woods. Originally they must have been confined to alders and willows, and the fringes of burnt lands, because if the cover gets higher than thirty or forty feet they cannot perform their nocturnal flights, and that they simply must do. The bird is probably more numerous now than originally, and at the beginning of settlement in Ontario

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Woodcock come back to Ontario while it is still quite cool; they arrive in Toronto before the end of March. The male soon announces his presence by a rasping call—"beep"—that reminds some people of a Bronx cheer.

National Collection of Nature Photographs — J. T. McKeen





*National Museum of Canada*

The Varying Lemming is also known as the Collared Lemming. Lemmings become very abundant in Canada's Arctic about once each four years.

## THE BIG MICE OF THE ARCTIC

### Part II (concluding a two-part series)

Most of the smaller northern animals vary in numbers from year to year, following fairly regular cycles. They become very abundant and then die off. When they are really scarce for a year or so, the foxes and snowy owls that depend on them for food either die off themselves or leave in search of new territories. The cycle of abundance and scarcity in the lemming takes about four years, and every four years or so the snowy owls that have had to leave will appear as far south as Toronto.

Sometimes, when lemmings are very abundant, a whole lot of them will just pick up and leave home. Nobody knows why. Once they start, they are likely to keep on going until they are all dead, or at least dispersed. This sort of thing has become famous in Norway. The Norwegian Arctic, only a little patch compared to ours, extends south in high mountain areas. When the lemmings start marching out of their treeless home, only a

narrow belt of forest lies between them and the sea. The moving column may still be intact when they reach the coast towns, and people can watch them moving right on into the sea. It is this death march that has made them famous. Our word "lemming" comes from Norway.

Lemmings move out and march around in arctic Canada, but it is such a big place that they can be dispersed before anyone even sees them. I was on a very large lake one summer and noticed that the whole shore had a windrow of washed-up droppings or "lemming seeds". There must have been millions of lemmings on the lake ice at some time during the long winter, but nobody was there at the right time to see them.

In the biggest part of our Arctic, north and west of Hudson Bay and in the neighbouring islands, both species of lemming are found. In Ungava, the farthest north islands and in Greenland, however, there are only white

lemmings. In the mountains of Yukon, and part way down into British Columbia and Alberta, there are brown lemmings and no white ones.

When lemmings become very numerous, the Eskimos will say that the brown ones come from the earth and the white ones from the sky. You can never be sure whether they really believe it or not.

Lemmings have been raised in captivity down here, or "up" here, as northern people would say of our homes. They make charming pets and a great many interesting things about their lives and habits have been learned and published in Canadian scientific magazines.

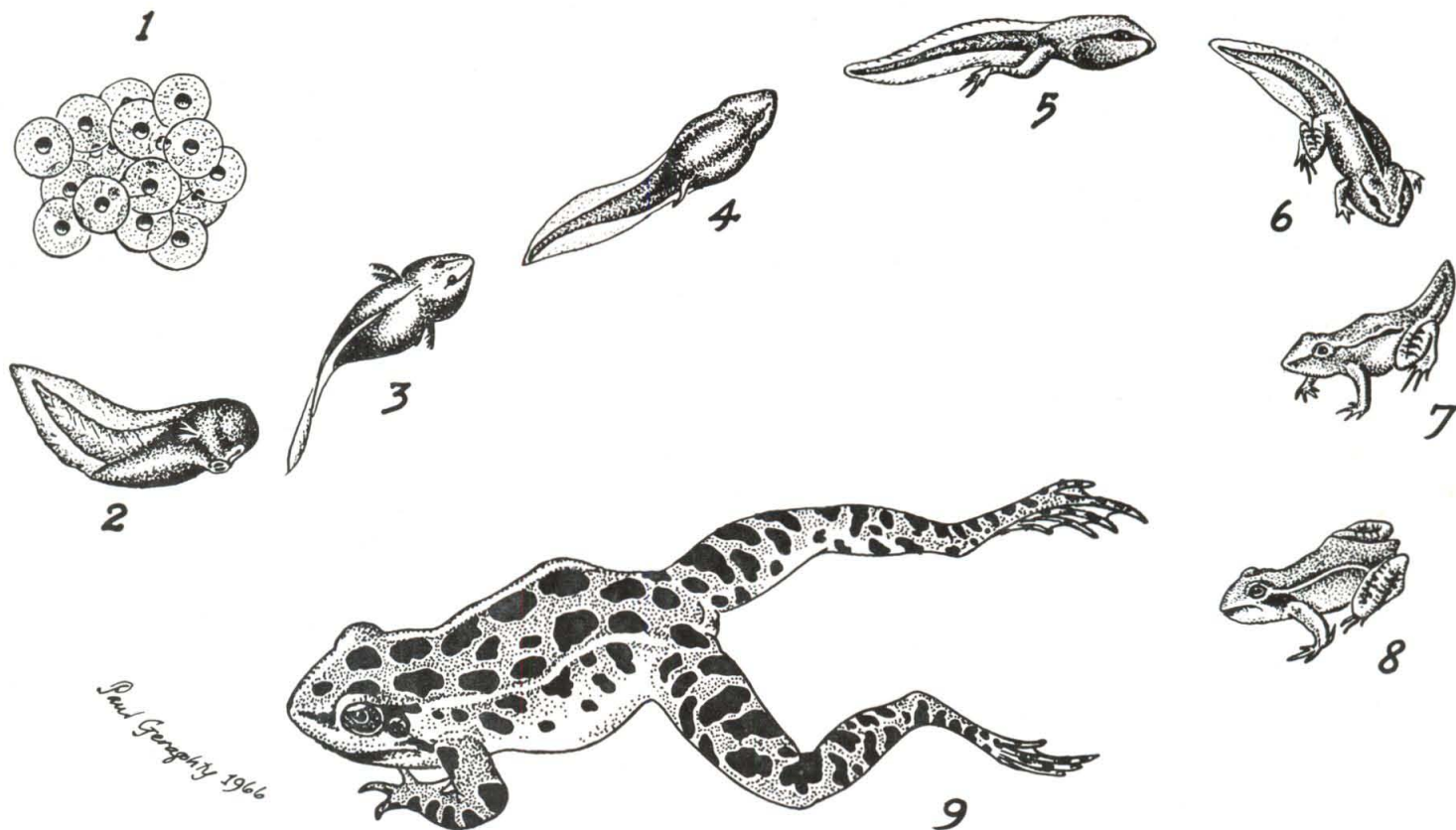
C. H. D. CLARKE

### WOODCOCK — From Page 1

there must have been a very large number. They feed on earthworms, thrusting their long bill with its flexible tip "up to the hilt" in the ground. The bill tip has a large number of nerve-endings, and it is popularly believed that woodcock can smell; after all, a nose is a nose. At first scientists were ready to believe this because the nerves connect with the "small" area of the brain. Nowadays, however, few birds are given credit for any smelling powers, and, olfactory or not, the nerves, almost beyond a doubt, detect only motion, or vibration, in the earth.

Woodcock also pick up insects, and even fruits and seeds, above ground. They often feed in the day, and can dart around on the ground very rapidly without being seen. In the middle of the night they often, by contrast, remain still. From half an hour to an hour and a half after sunset, depending on the light, before sunrise, and sometimes in moonlight, they are really active, fighting in numbers to communal feeding areas, putting on mating displays, or just flying. Woodcock are delicious eating, and in the old days they were caught, at the hour when they became active, in special traps called "cockshuts". (Shakespeare writes about the "cockshut hour".)

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The sketches show the life cycle of the Leopard Frog from egg (1) to adult (9). The tadpole temporarily uses gills for breathing (3), but develops lungs as it grows older and becomes an adult frog. Which legs develop first?

## WATCH FROG EGGS DEVELOP

One of the most fascinating phenomena to be observed in nature is the development of the amphibian from the egg stage to the adult.

The eggs of amphibians are available in the spring. They are easily collected and can be raised to maturity if some care is taken.

The first thing to remember is not to be greedy. The common mistake made by youngsters is to gather great quantities of eggs and then have them die off due to overcrowding. The number varies with the type of adult amphibian but some egg masses will contain up to 20,000 eggs — far too many to attempt to raise even in the largest of home aquaria. Be sensible, take only a small portion of a large egg mass and leave the remainder in the pond.

The eggs should be kept in cold

water out of sunlight. The container should not be made of metal unless it is enamel-coated. Stone crocks or large wide-mouthed jars can be used. Pond water should be used. If tap water is used, it should be neutralized with tablets purchased at a pet shop. The water should be changed every three days to prevent fouling. Although the water should be kept cool, it should not be allowed to freeze.

If these simple rules are followed, the eggs should develop successfully. Their progress can be followed on a day-to-day basis using a simple hand lens.

With further care, the development of the tadpoles after hatching can be followed or, if you like, you may start with tadpoles collected from the pond.

Overcrowding should not be allowed

and excess tadpoles should be returned to the pond.

As in the case of the eggs, the water should be changed regularly. The tadpoles can be fed with lettuce which has been boiled for 20 to 30 minutes to soften it. (Use an enamel pan.)

Once hind legs appear, a rock should be placed in the bottom of the container and a screen set over the top.

How long does all this development take? It depends upon the type of eggs which you collected to start with. If you collected bull frog eggs, it may take over two years; if they are eggs of the American toad, it may be a matter of two months. Development is more rapid in aquaria than in ponds.

Whatever the length of time, you will find the project well worth the care and effort you have put into it.

WM. CURRIE



Mount Palomar Observatory

This photograph of Jupiter shows the vast cloud belts that surround the planet. The feature at the upper left is the Great Red Spot; it is believed to be a solid region "floating" on the surface of the planet.

## *Time to Look for Jupiter*

The brightest object in the skies this spring is the giant planet Jupiter. Look for it at the times and places given. At sunset on April 1, it is midway down in the south-western sky. At sunset on May 1, it is low in the west. By late spring, however, Jupiter appears in the same direction as the Sun, and is no longer visible.

Jupiter is the giant of the Sun's family. It is so large that a thousand Earths would fit inside it. Its mass, or weight, is greater than that of all the other planets put together. Because Jupiter is so heavy, the pull of gravity is very strong and because it is so far

from the sun, it is very cold: 200° F. below zero! Hence Jupiter is very different from the Earth.

Scientists think that the planet contains very little rock. They believe that it consists, instead, of hydrogen and helium in solid or "frozen" form. These two chemicals, though common in the Sun and stars, are quite rare on Earth. Jupiter's atmosphere — a poisonous mixture of hydrogen, helium, methane, and ammonia gases — is very thick, and contains great belts of clouds that can be seen in the photograph. It is believed that violent storms occur among these clouds, producing thun-

der and lightning much like storms on Earth. Finally, Earth men visiting Jupiter would surely be amazed at the spectacle of twelve moons, constantly rising and setting, and moving rapidly across the sky in all directions!

The first person to examine Jupiter with a telescope was the Italian astronomer Galileo, about 350 years ago. When he did so, he witnessed a magnificent sight. Around the planet circled four small moons. Each night, their positions changed, and often one of the moons would disappear behind the mother planet and reappear a few hours later.

Perhaps you too can try Galileo's experiment. You will need a few clear evenings, a pair of binoculars or a small telescope, as well as pencil and paper. With this simple equipment you can try the following:

1. Find Jupiter, using the information given above;
2. Look at the planet closely with your binoculars, and carefully sketch the positions of the four bright moons;
3. Repeat this experiment an hour or two later, or on the next clear evening;
4. Notice any changes that have taken place.

JOHN R. PERCY

### WOODCOCK — From Page 2

Those big eyes are obviously adapted to see in dim light.

Few naturalists get to see communal feeding. To do so means being on the edge of a swamp at night in the heat of summer when mosquitos are in myriads, or going to Louisiana where all our woodcock winter. A great many persons have heard and seen the nuptial performance, and everyone should do so, if he can. Observing can be done very pleasantly on a woody road or the edge of a field in the cool of an April or May evening.

C. H. D. CLARKE

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