The Young Naturalist

YOUNG NATURALISTS CLUB F. O. N.

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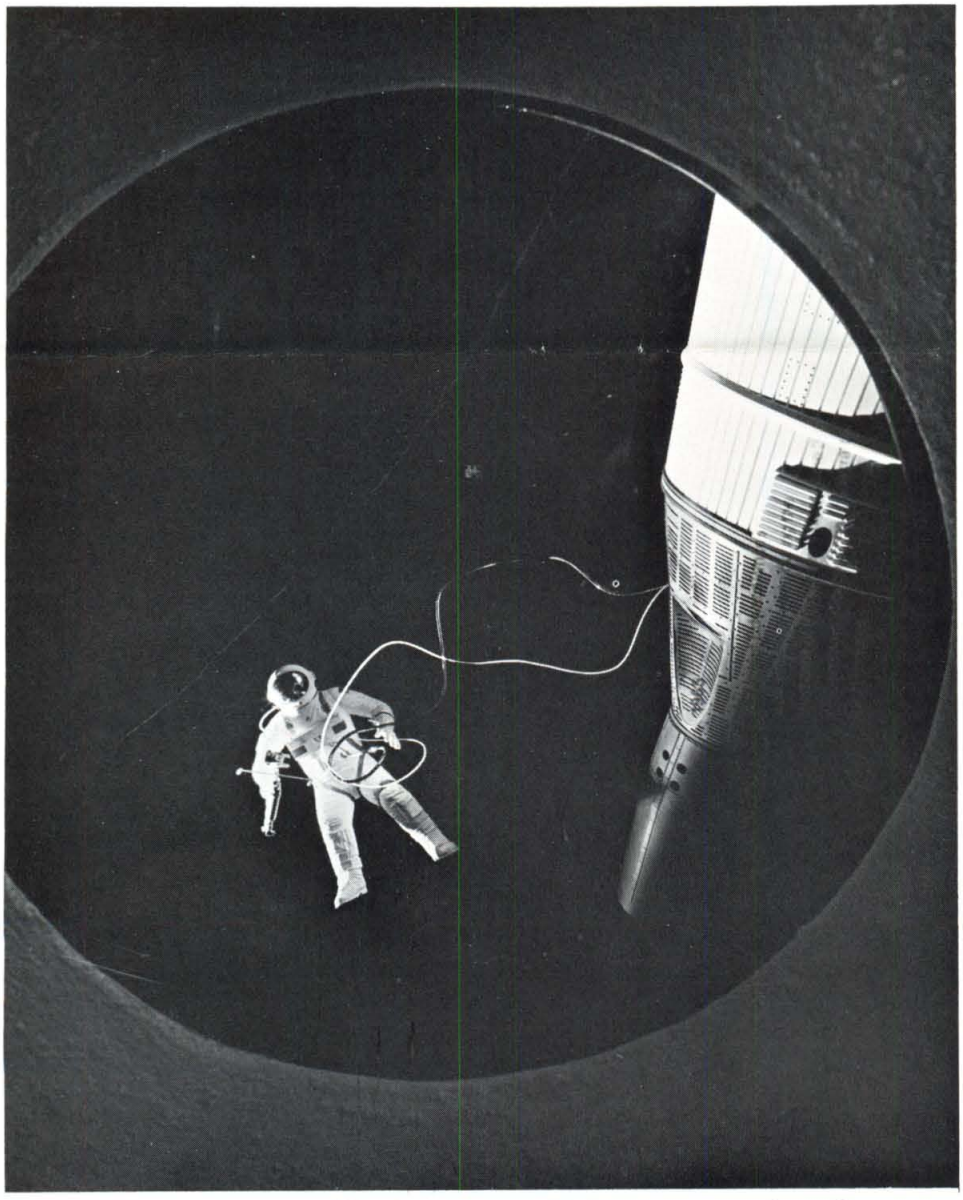
New Skies For Ontario



The space-walk of astronaut Edward H. White is recreated in the astronomical display area of the $2,250,000 McLaughlin Planetarium at the Royal Ontario Museum that was opened to the public on November 2.

Have you ever spent a few minutes at night out in the country looking up at the myriad stars, wondering just what they are, or how far away they are? One question leads to another and if you don't have a knowledgeable friend or a good book on astronomy, your questions remain unanswered.

For many years astronomy has been sadly neglected in schools and in public education. A friend of mine who instructs at an elementary school teachers' college recently asked his students (all grade 13 graduates) "What is the nearest astronomical object to the Earth?" Less than one in four knew that the Moon is our nearest neighbour in space. The students are not to blame. This simply reflects the attitude that "astronomy is the least important of the sciences" and therefore, until recently it was ignored altogether.

Happily this attitude is changing, partly due to the actual exploration of space by man in the last ten years, and partly to a new institution that opened this month just south of the Royal Ontario Museum. It was built at a cost of $2,000,000, especially for informing people about the nature of our universe. Known as the McLaughlin Planetarium, it was named after Col. R. S. McLaughlin who donated all the funds for its construction.

In the coming eight months more than 100,000 school children are booked into special shows at the Planetarium. An equal number of people will see the new facilities at public presentations weekday afternoons and evenings, and weekends. Just what will they see?

See NEW SKIES — Page 3

Timber Giants of the West — Sitka Spruce

The largest Sitka Spruce trees grow on the Queen Charlotte Islands.

RANGE — confined to the coastal region of British Columbia. It seldom extends more than 50 miles inland, or to an elevation above 1,000 feet. The humid climate of the Queen Charlotte Islands produces the largest trees.

FORM — varies considerably whether growing as a forest tree or in the open. In the forest it produces a long clean trunk, buttressed at the base, topped by a thin crown. In the open, look for a large tree with limbs extending almost to the ground.

LEAVES — flattish, stiff, sharp-pointed, bristling out all around the twig.

FRUIT — pale yellow-reddish brown cone, 2-4 inches long, scales wavy and thin.

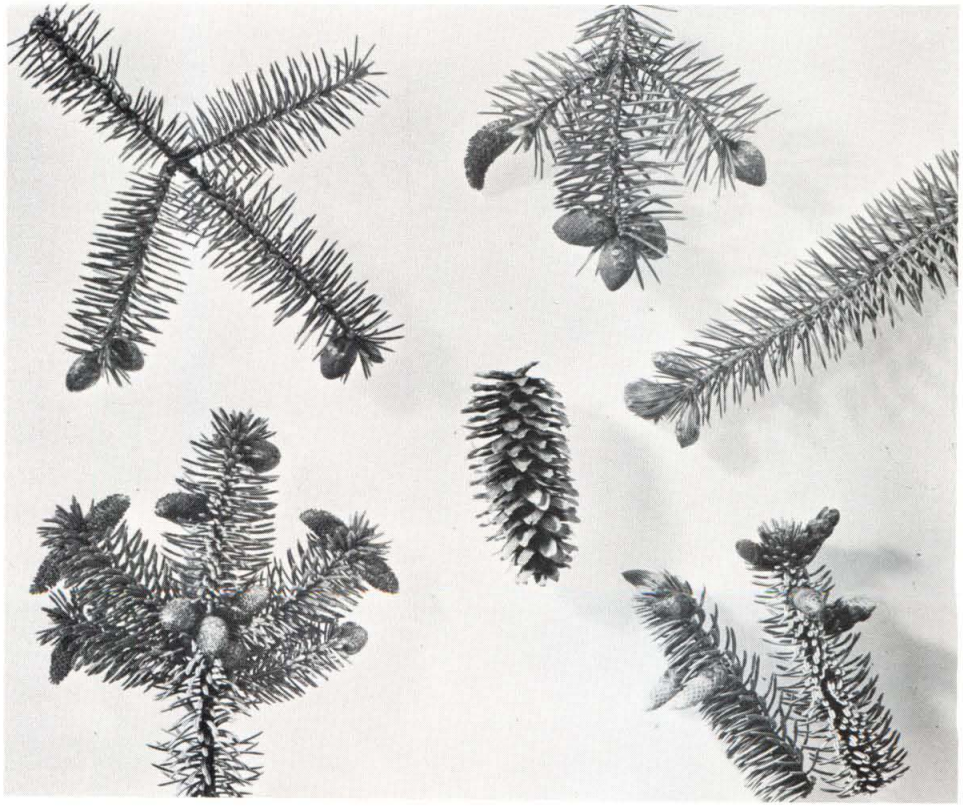
As its name implies, the Sitka Spruce was first discovered in the one-time Russian capital of the territory that has become the State of Alaska.

The largest Sitka Spruce ever recorded in British Columbia was felled on the Queen Charlotte Islands. This tree scaled 51,004 board feet, or enough lumber to build five average-sized homes. Estimated height was between 250 and 275 feet. The tallest Sitka Spruce on record is one measuring 286 feet in height found near Port McNeill on Vancouver Island.

The Sitka Spruce is one of the most important timber species in British Columbia. It is not generally known that this spruce, because of its light weight, combined with strength and toughness, was the most widely-used wood for aircraft construction during World War II. Because of its straight and long fibres it is used for piano sounding boards as well as for other musical instruments. Being a taste-free wood, it is in demand for food containers.

Sitka Spruce is also a very valuable pulpwood, particularly for the manufacture of high-quality white paper.

E. H. Lemon



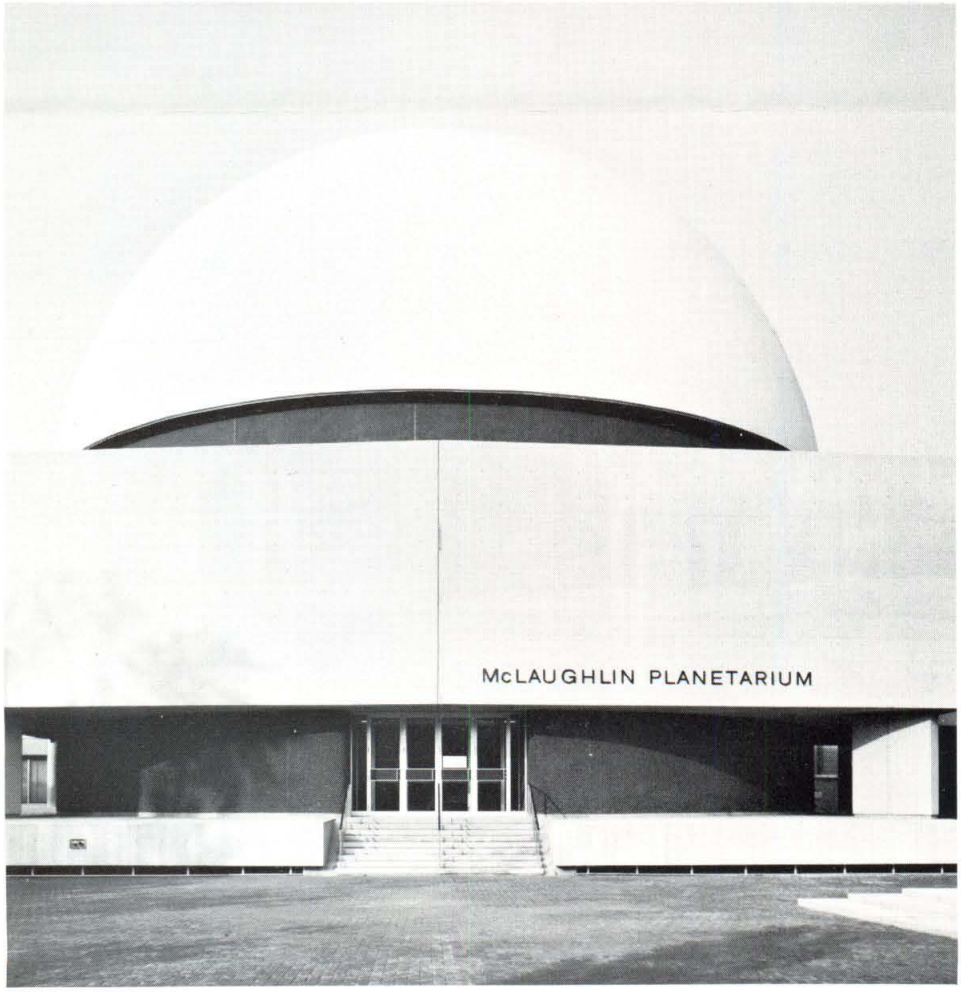
Compare these pictures of Sitka Spruce leaves and cones with those of other spruce trees that you may know, such as the White Spruce tree.

Club News

The Hamilton Junior Naturalists' Club held its first fall meeting on September 9th at the Headquarters Building of the Royal Botanical Gardens. Dr. Ed Dinniwell was in charge of the meeting, and officers for the year were elected. John Woodcock was elected President, Linda Paccanaro Vice-president, Claudia Mosher Secretary and Alan Wormington Junior Representative. Afterwards, Jim Anderson of the Senior club gave a talk on duck banding and the making and placing of Wood Duck boxes. A regular meeting of the Club was held on October 16th which was a Members' Night, with the juniors bringing coloured slides and showing them. Field trips recently taken were October 12th, for an outing to the Hendrie Valley, and October 26th, when a walk at Mt. Albion Falls and a workshop session in Wood Duck box building were held.

BARBARA WILKINS

Many boys and girls have organized a natural science club in their school or classroom. If you have such a club, you are invited to share your experiences with others by reporting your activities in this column. We would be pleased to have pictures of your outings and projects. Be sure to describe your activities fully, giving the names of the leaders and assistants. Write to Mrs. Barbara Wilkins, Editor of Club News, 213 Rosedale Heights Drive, Toronto 7, Ontario.



The McLaughlin Planetarium at the Royal Ontario Museum features a 361-seat Star Theatre situated under the large dome shown in this photograph.

NEW SKIES — from Page 1

On the second floor of the Planetarium a huge display gallery awaits the visitor. It is illuminated by ultra-violet lights and partitioned into dark passageways. Here, a model of the Earth and its recently-discovered magnetosphere may be seen. Other animated displays show Ed White on his historic "space walk", a docking of Gemini and Agena spacecrafts, and an accurate model of the Earth and its neighbour planets Mercury, Venus and Mars in orbit around the Sun. There are 24 such animated displays as well as a collection of some of the finest astronomical photographs ever obtained.

A spiral staircase leads to the dome of the building where the impressive "Star Theatre" is located. Fifty minute presentations are given in the theatre in an atmosphere of excitement and discovery. The show begins in the evening twilight. Slowly darkness falls and the stars begin to appear. The main projector in the centre of the theatre produces these effects and accurately shows all the stars that you could see if you were out in the country on a perfectly-clear night. Not only that, but the planets are shown in their proper positions and can be made to race ahead or backwards to show how they appeared at any time in history. Just about anything dealing with astronomy can be shown in the Star Theatre. Days can pass in seconds, and so can years. The narrator at the controls can show the audience the sky as seen from Australia, or as seen from the Moon or even Mars!

The versatility of the Planetarium makes it the ideal medium for informing people about astronomy in an authentic yet dramatic way.

TERENCE DICKINSON

Most of the bedrock in Northern Ontario is Pre-Cambrian, and is thus very unlikely to contain fossils, but Ordovician and Silurian rocks do occur between Haileybury and Englehart. In these may be found fossils of sponges, corals, bryozoans, brachiopods, mollusks, and bits and pieces of crinoids and trilobites are very common. There are several exposures of Ordovician and Silurian rocks along Highway #11 near Virginiatown, and also on the hills, lakeshores and rivers.

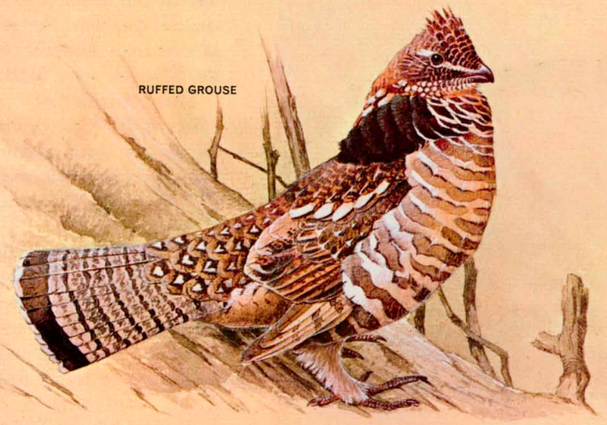
GEORGE HAWKES

CANADIAN

Upland Game Birds

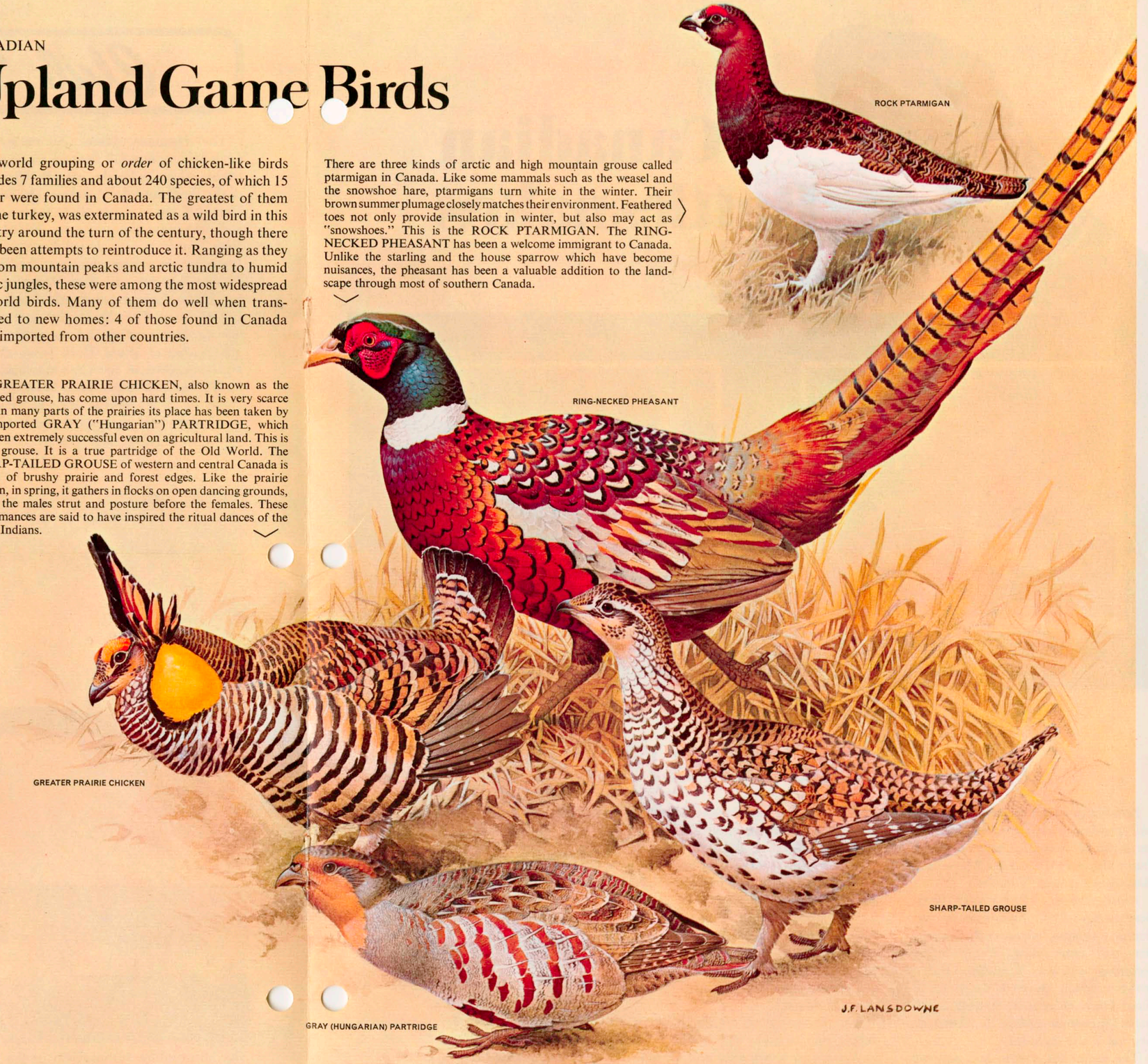
The world grouping or *order* of chicken-like birds includes 7 families and about 240 species, of which 15 are or were found in Canada. The greatest of them all, the turkey, was exterminated as a wild bird in this country around the turn of the century, though there have been attempts to reintroduce it. Ranging as they do from mountain peaks and arctic tundra to humid tropic jungles, these were among the most widespread of world birds. Many of them do well when transplanted to new homes: 4 of those found in Canada were imported from other countries.

Trappers used to call the SPRUCE GROUSE the "fool hen" because of its tameness. But it's hard to see; like all the grouse it's superbly camouflaged. It lives in spruce forests from B.C. to Nova Scotia. The larger and grayer BLUE GROUSE is confined to the evergreen forests of the western mountains. The RUFFED GROUSE (notice the male's neck feathers) is found in hardwoods or mixed forests throughout most of Canada.



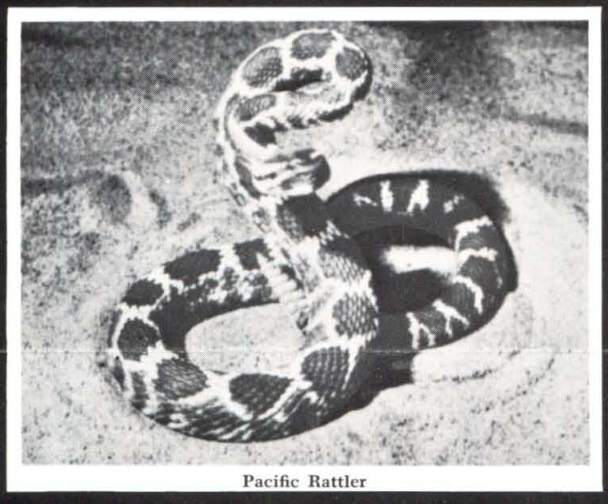
The GREATER PRAIRIE CHICKEN, also known as the pinnated grouse, has come upon hard times. It is very scarce now; in many parts of the prairies its place has been taken by the imported GRAY ("Hungarian") PARTRIDGE, which has been extremely successful even on agricultural land. This is not a grouse. It is a true partridge of the Old World. The SHARP-TAILED GROUSE of western and central Canada is a bird of brushy prairie and forest edges. Like the prairie chicken, in spring, it gathers in flocks on open dancing grounds, where the males strut and posture before the females. These performances are said to have inspired the ritual dances of the plains Indians.

There are three kinds of arctic and high mountain grouse called ptarmigan in Canada. Like some mammals such as the weasel and the snowshoe hare, ptarmigans turn white in the winter. Their brown summer plumage closely matches their environment. Feathered toes not only provide insulation in winter, but also may act as "snowshoes." This is the ROCK PTARMIGAN. The RING-NECKED PHEASANT has been a welcome immigrant to Canada. Unlike the starling and the house sparrow which have become nuisances, the pheasant has been a valuable addition to the landscape through most of southern Canada.

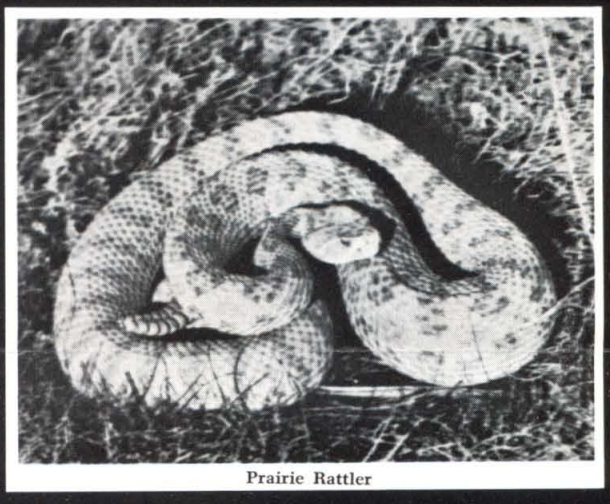


Massasauga Rattler

Canadian Rattlesnakes



Pacific Rattler



Prairie Rattler

Photographs by Ted Johnston

A RATTLING RECORD!

Recordings are all the rage these days and performers are as varied as there are kinds of records. The most recent "recording star" is a captive Massasauga Rattlesnake named "Dimples".

Allied Records, 110 Barbados Blvd., Scarborough, Ont., have recently produced a unique, educational, informative and entertaining 33-1/3 r.p.m. recording entitled "Canadian Rattlesnakes", which describes in detail all three kinds of rattlers, Canada's only native venomous snakes. A section on first aid is also included.

The script was written and narrated by Barbara Froom, editor for the Canadian Amphibian and Reptile Conservation Society and an employee of the Ontario Department of Lands and Forests. "Dimples" provides the sound effects that are heard frequently throughout the narration.

The producer is Jack Boswell who was quick to realize the tremendous educational value of such a record. He is also planning more nature records, for the most part, on maligned and misunderstood animals.

Bill Bessey did an excellent job of taping the narration and sound effects and produced a very clear and accurate sound of the Massasauga's rattle.

The record's jacket is attractive with actual photos of the rattlesnakes in colour.

Allied's price for this record is $2.98 but some Toronto record stores, as is their custom, sell it for less. Eventually it is hoped that it will have national distribution, but in the meantime, those who cannot purchase it in their locality, could send a cheque or money order directly to Allied Records.

When you hear this record, you might be surprised to learn why the performing rattler is named "Dimples".

BARBARA FROOM

THE WEAPONS OF PREDATORS

The Pitcher-plant derives some of its food from insects that are trapped and drowned in the pitcher-like leaves.

The sticky tongue of the green frog flicks quickly to catch a passing fly.

Hawks are equipped for holding prey securely in their talons. Their beaks are designed for tearing flesh.

Insects are ingenious predators. Spiders (which are not true insects) weave webs to catch flies. The ant lion digs a funnel-shaped hole in loose sandy soil. Small insects which fall in are seized and sucked dry.

Like the hawk's talons, the bobcat's sharp claws prevent his prey escaping. He also has sharp teeth for tearing and shredding.

John Bateman

WOODLORE
FOR THE NATURALIST

John Macfie

Future Giants Born This Year

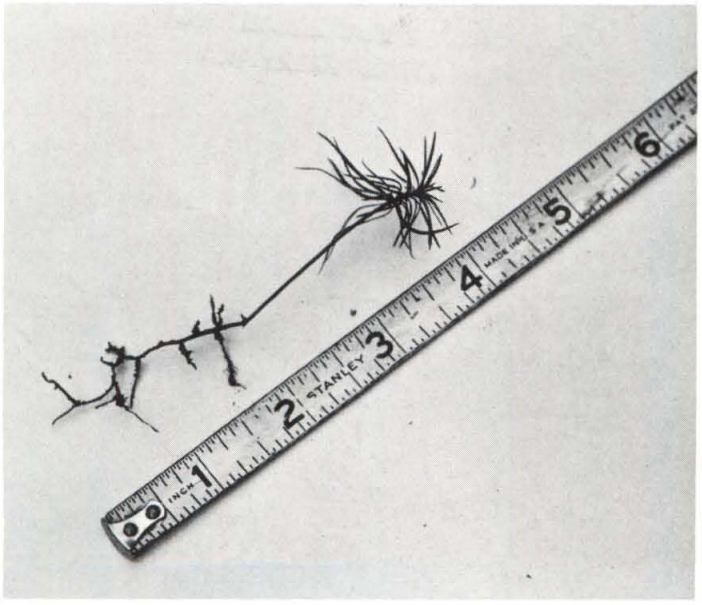
In last December's issue of the Young Naturalist this page carried a story entitled *A Good Cone Year,* in which was described the excellent evergreen cone crop of 1967, a phenomenon that occurs infrequently. At that time, however, it could not be predicted with certainty that an abundant crop of evergreen seedlings would follow in 1968, for unless conditions are right for germination and the early growth stage, a good seed crop can come to nothing.

By now, however, it is apparent that the bough-bending load of cones that White Pines carried last fall did in fact produce seedlings galore this year. At least this is so in the Parry Sound District where I live. While walking through a mixed-wood forest in early September, I happened to notice a number of inch-high White Pine germinants on a patch of leaf-free soil. Since then I have been watching for them, and under most groves of pines the ground is liberally sprinkled with the fuzzy green tufts of a new generation of pines. In some cases seedlings have appeared under some single trees, for a White Pine bears both male and female flowers and thus a lone tree can produce fruit. I have found seedlings well out from the forest margin on a sandy section of a major highway right-of-way, and when lifting flowers from the planter beside my front door, I discovered a pine seedling hidden under a spreading begonia, more than one hundred yards from the nearest cone-bearing pine.

These tiny trees face many hazards in the years to come, such as frost, drought, insects, disease and gnawing rodents. But it is likely that a sufficient number will rise to maturity to cause foresters of the distant future to remark on the bumper pine crop that rose from the soil back around the year 1968. They might well be called Centennial pines, for the seed from which they sprang germinated in 1967.

Are there White Pine trees in your neighborhood? It would be interesting to examine the ground under and down wind of them to see if you can locate a cluster of delicate green needles. The 1½" needles top a light brown stem that identifies a 1968 model White Pine.

JOHN MACFIE



Longer needles of the seedling measure 1½"

White Pine seedling growing on leaf-free soil

Photographs by John Macfie

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