

T O R O N T O _ F I E L D _ N A T U R A L I S T S' _ C L U B

APRIL MEETING

Monday, April 3, 1961, at 8.15 p.m.
at the
ROYAL ONTARIO MUSEUM

Speaker: DR. FRANK W. BEALES, Professor of Stratigraphy, Department of Geological Sciences, University of Toronto.

Subject: UNDERWATER GEOLOGY IN THE CARIBBEAN - illustrated with kodachrome slides.

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SPRING OUTINGS The Outings Committee, headed by Miss Helen Lawrence, has planned a wonderful series of field trips for the coming spring season. Please consult the enclosed folder.

Re transportation on out-of-town trips which are not accessible by bus. The secretary would be pleased to hear, not later than the Thursday before each trip, from drivers who can provide transportation, and from club members who require it. In this way, with the co-operation of all, many will be able to enjoy these trips who could not otherwise.

BOTANY GROUP There will be no meeting of the Botany Group in April. Please see Outings folder for details of botanical trips.
Secretary - Miss F. Preston, HU 3-9530

JUNIOR CLUB The Junior Field Naturalists' Club will meet on Saturday, April 8, at 10.00 a.m., in the museum theatre. Please note change of date because of Easter weekend. The botany group will be in charge. Junior members will speak on botanical subjects, and Mr. Marshall Bartman, extension secretary of the Federation of Ontario Naturalists, will address the club. Visitors of all ages are welcome.
Director - Mr. Robt. MacLellan, HU 8-9356

F.O.N. CAMP The 23rd annual camp of the Federation of Ontario Naturalists will be held at Billie Bear Lodge, near Huntsville, from July 1st to 15th. A descriptive folder was sent to you with your March Newsletter. If you are thinking of sharing this unforgettable experience, do not delay sending in your application. Additional folders are available to send to friends who might be interested. Please address enquiries to Mrs. J. B. Stewart, 21 Millwood Rd., HU 9-5052, or to the F.O.N., Edwards Gardens, Don Mills, HI 7-7421.

PARK NATURALIST WANTED The Civil Service of Canada requires a Park Naturalist for Point Pelee National Park, for appointment not later than the end of May. For details please consult your Club Secretary.

BIRD CHECK LISTS Now is the time to stock up with these handy cards for your spring birding. Available at the secretary's desk at the meeting.
Price 5¢ each.

President - Mr. Fred Bodsworth
Secretary - Mrs. H. Robson
49 Craighurst Ave.
HU 1-0260



Number 179

March 1961

Winter and Spring have begun their annual jostle much earlier than usual this year with Spring displaying an inclination to push out Old Man Winter before, in his opinion, there is a proper chance to say a real goodbye. Not many of us would be unhappy if this blithesome lass had her way. So when Winter spends the night dropping little white blankets all around and Spring comes along in the daytime and whisks them away we are delighted. Last night's white blankets are still with us today for the Old Man cunningly drew a curtain of grey cloud over the scene. Never mind! Look up instead of down and you will see Spring having her little joke; the buds on the soft maple outside my window are full to bursting this fourth of March, rosy and plump and crammed with life. Almost they seem to know that in a few days now they will be looking down on green, watching puffy robins probe for the rising worm. Oh yes, Spring is chuckling and smiling in the buds.

Last Sunday at Niagara we saw the same benevolent struggle being waged all along the river. Winter had got in a good wallop the night before, hurling snow and ice in every direction. But now the warm fingers of Spring were picking the icy burden from laden trees, sending the remnants in a merry cascade upon roads and cars. Sometimes they came down in resounding thumps upon the roof, the hood, the windows. Frightening? For the moment, yes. But then we remember this is a battle. All this flying, crunching ice is the armament of Winter, broken and hurled to the winds. Spring is clearing the way for victory. Indeed, her flags are flying already, anticipatory of triumph, for though the riverside willows are white-etched in snow all up their trunks, on their tops flame the bright orange oriflammes of Spring, signal of vernal victory high above the snow, proud against the limpid blue of the sky.

Again we caught the sign of how flowed the tide of battle as we stepped out onto the dock at Niagara-on-the-Lake. Already before us were other watchers from Toronto and they pointed excitedly at a large duck paddling into the current not far away. The long, sloping head, the thick, chunky body spoke the name, an eider duck. Yet, who of us had ever seen anywhere in these parts, an eider duck with a smart white breast, immaculate to the water, bordered by jet black flanks decked by a flash of white towards the end? A richly mottled back led to a creamy face where flecks of brown barely concealed the white magnificence to come, while up the forehead the rich

orange front foreshadowed the coronet to be. In truth, a king eider was at his coronation, and Spring it was that held the crown above his head. We stood amazed at the ceremony underway.

Yet everywhere it was the same. At Coote's Paradise the robins of Spring answered the crossbills of Winter. Along the roads red-winged blackbirds flashed by, urgent to set their home marshes ringing with conk-a-ree's. Bronzed grackles creaked in the trees; ducks snapped and bowed with thoughts of love in mind. February it might yet be; snow and ice might still be seen. Be not deceived! The triumph of Spring is in the air, in the heart of every living thing, of every plant and tree and bird. Like every stream we passed with battered ice along the banks, they too would soon be bursting all their winter bonds. The time of song and bloom begins.

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We are once more indebted to the editors of the Nature Bulletin of the Forest Preserve District of Cook County, Illinois, for permission to reprint in the Newsletter some of their interesting and valuable nature articles. Over the past few years our members have greatly appreciated this sharing of nature lore. Included in this issue are four informative and varied items: "Animal Hands", "Swans," "Burls and Other Unusual Woods", and "The Tumblebug and the Scarab Beetle."

Nature Bulletin #611

October 1, 1960

Animal Hands

Muddy footprints shaped like babies' hands can be seen on almost every trash barrel in our forest preserve picnic areas. These are made by raccoons which come at night to eat discarded sandwiches, chicken bones and other food scraps. The hind feet as well as the front feet of the coon are built like hands and are used as such for climbing, grasping and exploring. It travels flat-footed so that its front foot, especially in mud or soft snow, leaves a print of the palm with four spread fingers and a thumb. The track of the hind foot is longer with a definite heel. The coon feels for fish, crawfish, frogs and snails along the water's edge, scrubbing each thoroughly before eating. Full of curiosity and mischief, a pet coon quickly learns to unlatch doors, play with small objects and pick people's pockets.

The human hand is a marvelous mechanism, the most perfectly developed in the animal kingdom for all-round uses. It has the strength to handle a sledge hammer or the delicacy of touch of the eye surgeon or watchmaker. The flexible, sensitive fingers can perform extremely precise, complicated tasks. We are astonished at the flying fingers of the expert typist or at the rippling notes of a Van Cliburn at the piano. Man takes pride in his brain but without such a hand to do its bidding he would not have gone far.

The feet of all mammals are built on the same general plan and the hand of man is typical. In the wrist which connects the hand to the forearm are eight small bones in two rows called carpals. The five long bones of the palm are the metacarpals. Attached to these are the five digits--the thumb with two bones, and each of the four fingers with three. All of these bones are bound together with tough flexible ligaments. The muscles that move the hand--more than 30 pairs of them--are mostly in the forearm and are attached by long tendons to the different joints.

Without our thumb, which can touch the tip of each of the four fingers to form a vise, it would be very awkward to hold a pencil or eat with a fork.

Try matching up your hand, bone for bone, by feeling the front paw of a dog or cat. Both walk and run on their fingers and ball of the hand. The thumb is mounted higher and does not leave a track on the ground. The cat, unlike the dog, is able to sheathe its sharp hooked claws by doubling back the two end joints of its toes.

The feet of the opossum--all four of them--look more like human hands than those of any local animal. Their star-shaped tracks in snow are unmistakable. After the young leave their mother's pouch, they ride for a while on her back with their tiny fists clenched in her shaggy fur.

In some animals the fundamental pattern of the hand has been remodeled for special uses. The wing of the bat is a membrane of skin stretched over the bones of the arm, hand and leg like the covering of a kite. The slender elongated bones of all four fingers are present but the thumb is merely a clinging hook. The powerful hand of the mole with its five large claws is specially suited for burrowing. The paddle-like flipper of the whale shows no sign of finger on the outside. Deep inside, however, are all the bones of the arm and the five digits of the hand.

The front hoof of the horse corresponds to our middle finger nail. The other fingers were sacrificed for greater speed. The fossil history of the horse, which is very complete, shows that it started out in America as a dog-sized animal with five tiny hoofs on each foot.

Man learned to count on his fingers. Imagine how different our arithmetic would have been with six fingers on each hand!

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Nature Bulletin No. 616

November 5, 1960

Swans

Since ancient times and in many countries the swan has been a symbol of gracefulness and a favorite motif for music, art, literature and legends. In Greek mythology, Zeus in the form of a swan courted Leda and fathered Apollo. One of Wagner's operas is woven around the old German story of Lohengrin, the knight of the swan. "Swan Lake" is the famous ballet by Tschaikovsky.

Those huge birds that float like great white flowers on park lagoons are Mute Swans, a half-domesticated European waterfowl brought to this country for ornamental purposes. This is the only kind most of us ever see. However, this is the season--early November--when the native Whistling Swan on its southward migration occasionally stops over in the Chicago region. Small numbers are seen every year or two on McGinnis Slough. Twice in recent years bird watchers by the dozens had the opportunity to observe large flocks, day after day.

The largest waterfowl in the world are swans. Their extremely long snaky necks allow them to reach deep down and feed on the roots and stems of underwater plants or to be hoisted high like periscopes to spy over the country. The male swan is called a "cob" and the female a "pen". The old Latin word for swan is "cygnus", so the young are "cygnets".

The two North American species and the exotic Mute are white when adult and have similar habits. The male and female mate for life. The nest is a hollow in the top of a large mound of water weeds which they pile up in or near water. The large eggs, commonly 4 to 8 in number, hatch after five weeks of incubation by the pen. The cob stands guard, driving away intruders and all other swans except his mate. Like ducklings and goslings, cygnets take to the water immediately after hatching. Gray at first, the young do not turn white until their second year.

The Mute Swan is not mute. It hisses, grunts, and barks. Unlike our native swans it has a black knob on the upper bill. In olden times a young swan was a table delicacy and, in England, all swans have belonged to the crown since 1482. In a special ceremony each year the swans on the Thames River are rounded up, their wings clipped, and their bills marked with the royal brand. At nesting time the mute swan cob is especially dangerous. Children and dogs coming near the nest are often badly beaten or dragged into the water and drowned. A blow from his powerful wing has been known to break a man's leg. In America some have escaped and now breed by the hundreds in the wild.

The Whistling Swan's voice is not so much a whistle as it is like soft musical laughter varied with long whoops and clucking sounds. They nest by the thousands around small lakes and on islands far north of the Arctic Circle. In summer after the adults have molted their flight feathers there is a period when they cannot fly. Then Eskimos chase and spear them from canoes and kayaks. In autumn they gather into large flocks, head into the wind, and laboriously take off on their long trip to the south Atlantic coast. Once airborne, they travel at high speeds, often above the clouds. Sometimes a flock lights in the rapids above Niagara Falls and are swept to their death before they can take wing.

The Trumpeter Swan is much like the Whistler but larger, weighing up to 35 or 40 pounds. This great bird faced extinction in the 1920's because it had been slaughtered for its down and breast feathers, as well as for sport. Through complete protection against hunting, and establishment of refuges in both Canada and the United States, its numbers are increasing.

Let's all sing: "Half swan, half goose, Alexander was a swoose."

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Nature Bulletin No. 629

February 18, 1961

Burls and Other Unusual Woods

Wood worked by the hands of skilled craftsmen puts a wealth of quiet beauty into our daily lives. The warm glow of natural wood in different shades and forms invites the touch and a home without it seems drab and artificial. Most carpenters and amateur handy men are happy to work with straight boards with straight grain sawed from perfect logs. In contrast, the finest panelling, cabinet-work and art objects in wood are made from parts of the tree which are ordinarily discarded. The crooked grain in stumps, and logs with knots or crotches, yields fanciful patterns when turned on a lathe or cut into veneer. So does the twisted grain in trees crippled by old injuries and in the tumorous or abnormal growths called burls.

The appreciation of woods with irregular grain is not new. Very fine pieces of furniture decorated with veneer cut from rare and precious burls have been found in ancient Egyptian tombs. One of the prize exhibits in the Metropolitan Museum of Art in New York is a bed taken from the tomb of the great-grandparents of King Tut's wife which is panelled with veneer of laburnum and acacia. It is not known how they sawed these thin layers or how they prepared glue that still holds after 3500 years.

Sometimes a burl is defined as an enlarged bump growing on a tree trunk and sometimes as almost any unusual woody growth. They are found occasionally on a wide variety of trees. Certain large galls or burls on oaks follow a chronic fungous infection. On other trees they seem to result from injuries, burns or continued irritation. In most cases the causes are not understood.

A smoker becomes attached to his brier pipe. He fondles it, guards it and rubs it on his nose to bring out the grain in the wood. Ordinarily the bowls of these pipes are made from brierwood--the gnarled roots of the tree heath, a dwarf tree that grows in France, Italy and Algeria. During World War II, when imports of brierwood were cut off, American pipe manufacturers turned to root burls from such native members of the heath family as the mountain laurel and rhododendron of the southern Appalachians and the manzanita of California. Since then burl blocks by the millions, each large enough for one pipe bowl, have been cut from these woods.

Many kinds of trees produce the lumpy swellings called burls but those of the redwood may be six or eight feet thick and weigh thousands of pounds. Their heavy hard dark wood is figured with a fantastic grain. Like the potato with its eyes, a burl contains buds. A small one from the redwood placed in a dish of water will send up a ferny sprout. Hundreds of tons of burls from redwood, myrtlewood, madrone, and western maple are exported annually from Oregon to France and Italy. Strangely enough, much of the fine furniture veneer made from these burls is returned to the United States.

Black walnut and black cherry burls are highly prized both because of the rich colors of their woods and because of their weirdly distorted grain. This is produced by innumerable buds that failed to develop, giving a bird's-eye effect. Rare sugar maple logs--perhaps only one in a hundred or a thousand--shows the exceptional curly or bird's-eye pattern in the grain. It is not strictly a burl but good examples are extremely valuable and at one time was preferred above all other woods for fancy gun stocks.

Tastes in woods change like fashions in hats. Pine boards full of knots and cypress boards full of holes, once worthless, now bring high prices for panelling in dens and rumpus rooms.

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Nature Bulletin No. 605

May 21, 1960

The Tumblebug & Scarab Beetle

The mention of Tumblebugs calls up childhood memories. After school let out in spring, one of the chores of a farm youngster was herding the family cows while they ate grass on the roadside. He had nothing to do except turn the cattle around before they strayed too far and see that they did not break through fences. However, he had to stay on the job, alone, because our fathers went on the principle, "One boy

is a boy, two boys--half a boy, and three boys--no boy at all." Passing wagons, buggies and, rarely, a chugging automobile added momentary interest. With such limited sources of amusement, it is not surprising that many of us became tumblebug watchers.

A "tumblebug" is a beetle, not a true bug. It is a nick-name for those kind of Dung Beetles which mold, roll away, and bury balls of dung on which they feed. In some they lay eggs and rear their young. The best-known kinds are those which make balls from fresh cow or horse manure. Other species roll the ready-made, pellet-like droppings of rabbits, sheep and deer. Since these balls are often rolled considerable distances over grass and bumpy ground, both ball and beetle take many a tumble.

The tumblebug is built like a bulldozer--a big, black, robust insect with stout legs fitted for digging and a blunt shovel-like beak used in shaping the ball. In rolling its "marble" the beetle faces backward and almost stands on its head as it pushes with the hind legs while the forelegs are braced against the ground. These balls are rolled, buried and eaten, one after another, until late summer when the female buries a few special pear-shaped balls in each of which she lays a large, creamy white egg. From this egg hatches a C-shaped grub, or larva, which feeds and grows until the ball is a hollow shell. After passing through a resting, or pupa stage, the new adult tumblebug breaks out, usually after a rain, and digs its way to the surface.

The Sacred Scarab of the ancient Egyptians is a dung beetle of the Mediterranean countries. This insect has figured importantly in their art and religion for thousands of years. The ball, which the beetles were supposed to roll from sunrise to sunset, symbolized the earth; and the beetle, itself, the sun. As an emblem of eternity, it was placed in tombs with their dead and its image carved in stone and precious gems. Because it disappears into the soil and afterwards reappeared, it stood for resurrection. Later, Roman soldiers wore scarab seals set in rings to bolster their courage.

One of the finest and most interesting descriptions of the habits of any animal was written about the sacred scarab by the great French naturalist, Jean Henri Fabre. Scarcely more than an inch long, this beetle shapes a hard compact ball which may be as large as a small apple or a man's fist. He showed that dung-burying beetles of many kinds and sizes play an important part in fertilizing the soil as well as in sanitation. In some cases, enormous quantities of manure are buried promptly without being eaten. Fabre recorded an instance in which a dozen inch-long beetles of another kind each buried 60 cubic inches of manure night after night. This habit prevents the development of several manure-breeding flies and other pests.

The Scarab family of beetles, over the world, has thirty thousand known species. Their large sizes, bright colors, and unusual shapes make them favorites of amateur collectors. The males of many kinds have knobs or horns with which they butt and ram each other until one gives up.

Locally, the horseless carriage was the doom of the tumblebug.

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In a letter of February 20, 1961, Gerald Bennett informs me that he has nineteen species of wildflowers on his November list (kept over a period of years) which do not appear on the list recently published in the Newsletter. We are grateful to Mr. Bennett for bringing these to our attention for these additions add substantially to the information about the unsuspected richness of our fall and early winter flora. The nineteen additional species are the following:

Chicory	<u>Cichorium intybus</u>
Grindelia	<u>Grindelia squarosa</u>
English Plantain	<u>Plantago lanceolata</u>
Cut-leaved Coneflower	<u>Rudbeckia laciniata</u>
Silverweed	<u>Potentilla anserina</u>
American Sea Rocket	<u>Cakile edentula</u>
Herb Robert	<u>Geranium Robertianum</u>
Cocklebur	<u>Xanthium sp.</u>
Wild Radish	<u>Raphanus raphanistrum</u>
Stinking Mayweed	<u>Anthemis sp.</u>
Alsike	<u>Trifolium hybridum</u>
Pineappleweed	<u>Matricaria suaveolens</u>
Hop Clover	<u>Trifolium procumbens</u>
Wild Strawberry	<u>Fragaria virginiana</u>
Russian Thistle	<u>Salsola Kali</u>
Round-leaved Mallow	<u>Malva rotundifolia</u>
Wild Buckwheat	<u>Fagopyrum esculentum</u>
Bull Thistle	<u>Cirsium pumilum</u>
Penny Cress	<u>Thlaspi arvense</u>

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Another interesting, indeed, truly astonishing botanical discovery was made this past month by Professor A. F. Coventry. Pursuing the rewarding practice of looking under piles of old leaves he uncovered a perfectly recognizable plant of Hoary Alyssum (Berteroa incana) in good bloom! He was able thus to add a specimen which could be dated February 22, 1961, to his extensive herbarial collection. This find was made in Lasalle Park on Hamilton Bay. I wish it could have been in the Toronto area for thus it would have been possible to say that blossoming wildflowers had been found during every month of the year in our region. As it is the discovery was made only a few miles outside. The February wildflower in the Toronto area is soon to come. Someone will find it if they look as persistently as Professor Coventry. Perhaps it will be "Covers" himself. He has certainly raised a real challenge for us all with that find. Congratulations!

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The February field trip along the waterfront, led by Donald Burton and George Fairfield, found thirty-five in attendance. They were successful in turning up two Iceland gulls off Exhibition Park. White gulls have been scarce this winter, and most observers have been frustrated in their search for them. A readhead in the same area and a snowy owl at Sunnyside along with a substantial count of regular winter waterfowl made this a really successful trip on a grey wintry day.

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Help Wanted!

One of our respected members, Mr. Paul Hahn, is desirous of obtaining some cocoons of the Luna Mother in order that photographs may be taken of the mature insects as they emerge. If anyone can supply these, he or she is asked to contact Mr. Hahn by telephoning WA 3-5500, or writing to him at 7 Lynwood Ave., Toronto.

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Once more we give readers of the Newsletter an opportunity of joining those who for several years have been contributors to the important continental study of bird migration being conducted from the headquarters at the Patuxent Wildlife Research Center in Laurel, Maryland. All that is necessary is to fill out the appended form when your spring records are complete and send it in as directed. Your records will be most welcome as the best results of such an enquiry can only come from the widest possible coverage. It is not necessary to fill out data for each species listed but only for those for which you consider that you have some satisfactory information.

R. M. Saunders,

Editor.