

Toronto Field Naturalists' Club

January Meetings

Monday, January 4th, 1954 at 8.15 p.m.

at the

ROYAL ONTARIO MUSEUM

Speakers: Mr. Walter M. Tovell,
Curator of Geology, Royal Ontario Museum
of Geology and Minerology.

"Toronto Island - Geological and Historical"

Mr. Frank Smith

"Reminiscences of Early days"

Both speakers will use lantern slides.

ROTUNDA DISPLAY

A display of native ferns - by Mr. George Francis.

JANUARY OUTING

Saturday, January 9th.
York Downs Ravine.
Meet at bus stop, Bathurst Street and York
Downs Road at 2.00 p.m. A winter ramble with
Gerry Bennett, in one of the attractive but
little known parts of the Toronto area.

Fee \$2.00 per year.

Secretary - Mrs. J.B. Stewart
21 Millwood Road,
Toronto - HU 9-5052

At the request of several of our members, we are reprinting here additional information about the two lectures to be given by Mr. Dick Bird on March 10th and 11th next.

March 10

CAMERA TRAILS ALONG NATURE TRAILS

From the opening scenes around the Bird's log cabin in the mountains, through picture stories of poker faced owls, dew drenched spider webs, colourful insects, large and small animals and birds in their natural environment, seemingly unaware of the fact that their intimate life routines were being recorded on colour film by an expert craftsman with motion picture cameras and an understanding and sympathetic naturalist whose "interpretation of wildlife is both entertaining and highly informative."

A few of the many colourful creatures appearing in this ever changing panorama of nature are: marmots, ground squirrels, moose, elk, deer, mountain sheep and goats. Bears, grebes, cormorants, bluebirds, shrikes, hawks, owls and the comic antics of the great white pelican on its breeding grounds in Northern Saskatchewan.

One of the highlights of the film is the fantastic activity of the dancing grebes. These sequences have been cited as the most astonishing example of bird behaviour ever filmed in colour.

March 11

THE ALPHABET OF THE OUTDOORS

From, Auks, Anemonies, Anacondas and Ant Eaters,
Badgers, Bats, Bisons and Buzzards,
Caracaras, Caimen, Cactus and coots,

to

Xanthocephalus (Yellow Headed Blackbird)
Yellow Warblers and Yarrow.
Zygoptera (Damsel flys) Zalophus (Sea-Lions)
and Zeckeh-zechehs (Jacanas)

(from A-B-C to X-Y-Z)

the film is packed with birds, mammals, insects, flowers, invertebrates, reptiles and fishes - all photographed in their natural habitat; linked together with humorous sequences and transitions.

The viewer travels outdoor adventure trails across tundras and in the high Rockies of Canada North; through the deserts of Texas and Arizona; the highlands and lowlands of California, the swamps and beaches of Florida; the jungles of Central and South America, the mesas of Mexico and the tropical lagoons of the Caribbean Islands.

Can you afford to miss either of these lectures? We think not. Tickets may be obtained at the meetings of the Club or by mail from the Secretary, Mrs. J. B. Stewart, 21 Millwood Road, Toronto. Price \$1.00 per lecture.



Number 120

December 1953

That the winter of 1953-54 would be marked by one of the largest invasions ever recorded of great northern shrikes into the Toronto region none could have prophesied. There is some evidence of a possible correlation between southward winter movements of this species and the population cycles of mice in the far north, but the relationship has not been worked out with any certainty. Moreover it does not seem to have the regularity of the lemming - snowy owl correlation, whereby it is possible to predict with remarkable accuracy the migration of snowy owls to this area. The arrival, therefore, of a large number of northern shrikes this winter comes as a surprise, one of those unforeseen exciting birding adventures that is characteristic of winter, and which helps to make that season among the most thrilling of the year for bird watchers.

Last winter it was well nigh impossible to find a northern shrike in the Toronto region. Many of us travelled over scores of miles of road in the area looking without finding a one. Personally, I never did succeed, my last previous view of that species being an individual spotted at Baldwin in March 1952. This year the records began to pile up early in the fall, and have now attained an astonishing total. Indeed, it is a rare trip that does not yield the sight of at least one shrike if one goes beyond the city; and there are many within the city limits. In contrast to last year's record of one northern shrike, seen outside the Toronto region, this season has already brought me sight of eleven shrikes, eight being seen in the Toronto area.

My first observation this fall came on October 10th of the Thanksgiving Day weekend. Earl Stark and I were standing on the highway near Paudash Lake in the vicinity of Bancroft, gazing over a large bog when

we heard loud bluebird carolling behind us. Looking around we spied a male bluebird flying over the road, pursued by a mature northern shrike. Pursuer and pursued crossed above the edge of the bog and over some sawdust piles, product of temporary lumbering operations. Then the shrike, which was languid in its chase after the first few moments, gave up, returning to the tamarack bog whence it had come. The many calls of robins, kinglets, and chickadees emanating from that quarter indicated that hunting might be easier there.

In the Toronto region I am indebted to Doug Miller for showing me my first northern shrike this season. He and I were leading a walk for the South Peel Nature Club at Hanlan's Point on October 17th. We had been exploring the scorched willows around the old dance hall that burned down this summer, and were busily examining a large flock of juncos for a possible red-back, when Doug, scanning the bare willows, discovered a northern shrike watching the juncos with as much interest as we. Or was it only the naturalists that aroused the shrike's curiosity? This was an immature bird, very brown in colouration, a bird of the year that probably had never seen a naturalist before. On this occasion it was interesting to note that a phoebe, perched near the shrike in the willows, ignored the hunter, an attitude shared by the shrike, which kept its eyes rivetted on the junco flock on the ground. While we were near it made no effort to take a member of the flock.

A week later, on October 24th, Bob and Vera Trowern, Ann Saunders and I were walking across a large pasture field near Terra Cotta, when we found a northern shrike hunting among the hawthorns that dot the pasture. Again, this bird was a very brown individual, a bird of the year. Perhaps for this reason - though northern shrikes are rarely unapproachable - we were able to walk so close that we scarcely needed binoculars for our watching. True it became slightly nervous when we were perhaps 20 feet away, but even then it merely kept alternating glances in our direction with a keen appraisal of the grass meadow beneath its perch. Several times the shrike plunged into tall grass but returned each time without a catch. What was it after? Grasshoppers, I believe, for the field was full of them, and their constant movement would easily attract its attention. To have failed to catch its prey so many times in succession this young shrike must have been an inexperienced hunter, or else its accuracy was reduced by nervousness at our presence. We followed young Lanius from tree to tree for some time, enjoying an opportunity only too rarely afforded to local bird watchers.

The next weekend of October 31-November 1 there were two more northern shrikes at Terra Cotta. One was a beautiful mature bird with that silken grey and black plumage that is so distinguished, resembling an elegant evening gown. Mrs. Olive Barfoot, Sally Saunders and I were fortunate enough to see this bird perched on top of a little tree just before it scaled off on set wings across the road and away. The second shrike, seen by Sally and me the next day, was on a bare branch at the edge of a wood, overlooking a field. Its feathering was almost mature, but had flecks of brown still intermingled with the grey and black and white. When disturbed it flew

across the field alighting on the top of a bare tree on the other side where it could still have a good outlook over the open area.

Though reports of shrikes seen continued to pour in from observers I did not see a shrike again until November 22, when Bob Trowern and I covered the territory from Frenchman's Bay to Whitby Harbour. On this trip we saw no fewer than four northern shrikes! This was an all-time record for both of us, either inside or outside the Toronto region. The four individuals were well separated, each thus having an adequate hunting territory; one at Black Alder Swamp, Pickering; one north of the double lane highway just east of Ajax; one at Whitby Harbour; and one at Eastbourne Marsh. Three of the shrikes were brown immatures, but the fourth was a splendidly mature bird of the largest size. All four were frequenting hawthorn-studded fields, a natural hunting ground for them.

My most recent sight was this last weekend on November 29th, when Greer Roberts, John Nettleton and I saw two of the shrikes, one an immature, one a mature bird, in a two mile stretch along Bluewater Highway near Craigleith. Each one of these birds was perched in an open place overlooking the highway, very likely watching for mouse or bird stirred into movement by passing cars.

My own experience and that of many other observers indicates that there is a tremendous southward movement of Lanius Borealis this winter. As last year was a redpoll winter, and the season before was distinguished by the presence of brown-capped chickadees, so this winter will go down in the records as the season of the northern shrikes. Now is your chance to see one.

The best places to look for them are in the open farm country, along hedgerows, the edges of woods, on the tops of isolated trees, and especially where the hawthorns are thick. Larger than our summer bird, the migrant shrike, this visitor from the north sometimes sports wavy lines, called vermiculations, across the chest, but these are absent in old birds, and cannot therefore be counted on as a sure mark of identification. In midwinter no difficulty will arise as only Lanius Borealis is present, but in March or April there can be an overlapping with both species present. In that case the brownish birds or vermiculated birds are northern shrikes. With un-vermiculated old birds the observer has to rely on size, and since size is deceptive, only the most experienced observer should venture on an identification based solely on size distinctions. During the late spring and summer, of course, only the migrant shrike, Lanius Migrans, is present in our area.

The northern shrike is always an interesting bird, a clever hunter. In its mature plumage it is a beautiful creature, a rival of even such a dandy as the cedar waxwing, a sort of bold, piratic swashbuckler with black sideburns. Strangely enough this elegant chasseur is also a fine singer, with a repertoire that has been compared favourably with that of the esteemed mocking bird, a not very distant relation of the shrike. I have only heard Lanius Borealis sing two or three times, but I cherish the memory of that music with highest appreciation. Some

warm day of February thaw, or early March anticipation of spring, may well give you the chance to enjoy the shrike's rare aria. It is something to look forward to. Of course, the shrike is a predator too. But should it be condemned for that? After all Nature created it so, gave it instinct to live by and a job to do. We should not judge any creature by human standards. It is not a human. This beautiful, interesting bird lives and acts as Nature intends it should. No doubt it is playing a necessary and essential part in helping to maintain the harmony and balance of Nature's world. Let us watch it play its part without condemnation or criticism, remembering that it is not we humans who made the world in which we live or the system in which this bird operates. Let us be glad instead that we have the remarkable endowment of being able to understand something of how Nature works, and of seeing the beauty of our world and its creatures.

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Other interesting arrivals in the bird world that members should keep an eye open for are: snowy owl, Arctic three-toed woodpecker, and lesser snow goose. This is the winter for a regular southerly migration of snowy owls, such as occurs almost every four years, the last considerable migration being in 1949-50. Already several of the owls have been seen; namely two in and around the gravel pits near Malton airport; one at the offshore pier beyond the mouth of the Credit River; one or two along the Humber River in Weston; one on the breakwater at Sunnyside. Good lookouts in open country are the best places to look for the owls, sites like haycocks, fence posts, tops of isolated trees or sheds; along the shore look on breakwalls, roofs of buildings, even television aerials.

The three-toed woodpeckers have appeared in unusual numbers. Mr. & Mrs. Grogan of the South Peel Nature Club had the pleasure of having two of these rare visitors, a male and a female, at their feeding station on Arrowhead Road, Port Credit, for a week recently. Three-toeds have been seen in several places along the Credit Valley from Erindale south. There has been one at Glendon Hall, seen on several occasions over the last three weeks by Mrs. Ruth Stewart, D. L. Miller, and others. One was seen in Sherwood Park by T.F. McIlwraith and others. Two were noted near Craigleith, just west of Collingwood for several days, and another at Leith, near Owen Sound. They should be looked for wherever there are stands of hemlock or pine, especially if some of the trees are in a diseased or dying condition.

The lesser snow goose has been staying around the mouth of the Credit River for nearly a month. It is usually to be seen on a shoal right at the mouth, but has sometimes been out in the lake with ducks, or up the river towards the highway.

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Readers of the Newsletter who maintain feeding stations may be interested in some of our recent experiences with feeders. At our cabin in Terra Cotta Mrs. Saunders has hung a tin can filled with

chickadee pudding - a mixture of various nuts and seeds in hardened fat - suspended, so that the can rests lengthwise, from a wire strung between a hawthorn and a small ash tree, a few feet from an outdoor fireplace and from the cabin. The can swings a foot or so below the wire, and is several feet from each tree.

A group of at least four chickadees visit it frequently. These four eat in regular order, there being one that has first preference, and a second bird that occasionally challenges this precedence, causing a session of noisy squabbling. The third bird waits respectfully till the other two are satisfied, then it has its fill. Number four is very inconspicuous, hanging around the outskirts watching. When the third bird has gone it flies in, usually from a distance of 50-75 feet, coming straight to the can, eating rapidly and getting away quickly as if it feared that it might not be permitted such a treat if the others noticed. This sort of "peck order" is a well-known feature of winter flocks of chickadees, and some other birds. It was interesting to see the institution in operation at our own feeding station.

There is also a tray fixed in a dead hawthorn beside the fireplace. This has peanuts on it. Sometimes the chickadees alternate, visiting first the pudding in the can then the peanut tray, sometimes going back and forth between the two several times. The most persistent visitor to the peanuts, though, is a white-breasted nuthatch. His visits are more frequent in the early morning and the late afternoon, but he comes all during the day too. Almost always his arrival is announced by husky yanks so that you can trace his course for a long distance. Usually he arrives from the direction of the woods on the ridges. Occasionally, and this is most likely to occur on the last visits of the afternoon, he flies directly to the tray from the large elm tree by our gate. He may be very bold at that time of day, coming within inches of our heads as we sit in deck chairs in front of the cabin. Nearly always he pauses only long enough to smash up a nut, then hurries away to some tree to cache his find in a convenient hole or crevice. He will do this a number of times in succession then disappear until in the course of events his round brings him back. When dark falls he goes off towards Norrie's Hill where his sleeping quarters must be. How often does he find the nuts he hides? On more than one occasion we have seen blue jays recovering the treasures he has secreted. Do the cunning jays watch the busy nuthatch, then cash in on his diligence? There's a very good chance they do.

Another visitor to the chickadee pudding is a downy. He is as unafraid as the chickadees, though a less frequent partaker. But a female hairy woodpecker that also fancies the offering on the line is a very suspicious creature. I saw her several times one day approach the tin but on seeing us she became alarmed, scolded noisily, hopped around for awhile on nearby trees, then gave up and left, still complaining. The same thing occurred the next morning when I was sitting alone with our dog Judy. That afternoon she came again. Once more she broke into expostulations, but now she was gathering

courage. Perhaps she had watched the chickadees, and the downy, enough to be a little convinced that she could visit the tin with safety even when we were around. At any rate as I remained quiet, as did Judy too, she made a try at the pudding. Cautiously coming to the little ash tree she tapped nonchalantly on this for a moment as if to convince me she didn't really mean anything serious, or possibly just to test out my reactions. Then she worked around to the side where the tin was in view. With a quick look in my direction she launched forth, beating her wings heavily and loudly. Nervousness, however, prevented her from landing on the tin, and she went on to the hawthorn tree. There she hammered ferociously, flew on to a small elm and continued the hammering. You could just see frustration and anger pouring out of her during that savage hammering. Thrice this procedure was repeated. Then, on the fourth attempt, she managed to land on the pudding tin. Once there she took a good long look at me. I held my breath. She decided I was harmless, and began to eat. She attacked the feast with enthusiasm. Paying no further heed to me or to Judy, she certainly made up for lost time, for I saw her probe the pudding 136 times, and she swallowed at least 120 times before she decided that she had had her fill! During this period she called three times, there being a considerable interval between each call. When she left she flew to a large elm tree behind the cabin, knocked noisily on a dead limb several times, whether to announce her triumph or to clean her bill, or both, I cannot say. Certainly this rapping had none of the frustration of that following the failures to land on the tin. Finally she flew off towards Norrie's Hill, calling loudly, as if to say jubilantly, "I've done it! I've done it!" I would like to have been there when she came back the next time to see if this success had been enough to enable her sufficiently to overcome her fears so that she could go directly to the tin like her cousin, the downy.

You may be sure I would, also, have very much liked to be present late in November when Mrs. Saunders, out on a day's visit to the cabin, discovered no less than a Canada jay, on this same tin of chickadee pudding! A Whiskey Jack at a feeding station in the Toronto region is really something to take note of.

In the city we also have a feeding station in the garden. It consists of a piece of suet, fixed underneath some chicken wire, to a tree trunk. There is also a chickadee pudding in a tin suspended from a shrub a few feet from the suet. In contrast to the reaction to the cabin tin, the one in the city has so far been entirely ignored, whereas the suet is regularly patronised by downies, a hairy, nuthatches and an occasional jay, as well as by a flock of starlings. Do these birds need chickadees to show them how to use such a tin?

On the afternoon of November 12th while I was raking leaves in the garden, a downy woodpecker flew in to have a snack at the suet, but when she saw me she paused in the upper part of my neighbour's maple tree, emitting loud protests, very much like the hairy at the cabin. I retired to the garden gate, hoping she would consider this far enough away for safety, and I believe she would have had

not two workmen, who were putting on storm windows for my neighbour, appeared at this moment. The downy flew off, still protesting.

That was about 4.05 and dusk was closing in fast on this dull, cloud-ridden afternoon. I scarcely expected that the downy would put in another appearance. Nonetheless, around 4.30 she was back again. Seeing me still at work she was even more insistent in her complaints than before, using the single sharp note that resembles the hairy woodpecker's squeak but which from the downy sounds more like peek, shrill and high-pitched. Being further down the garden, instead of trying to go to the gate, when I would have to pass the suet tree and possibly have scared her off, I retired to the end of the lawn and waited, standing quietly. This was clearly enough, for after a few more "peeks" down she came. In half a dozen hops she was at the suet, busily partaking. Her intense annoyance, I feel sure, was occasioned by the lateness of the hour, and her desire to fill up for the night with rich warmth-giving food. In all likelihood she counts on our suet for her bedtime snack each evening. Once established at the suet cage she paid no more attention to me. Even when the two workmen reappeared in the adjoining yard, only a few feet away, she did no more than utter two or three "peeks" and cock her head around the tree trunk to see what they were doing. Having no watch with me I was unable to time her visit accurately, but I feel fairly sure she stayed, eating most of the time, for fully five minutes. Whether she would have stayed longer cannot be said, for at the end of this time, a second downy, a male, darted in, coming over the rooftop from the street side in a swift rush. The two woodpeckers eyed each other, the newcomer from a branch six or eight feet above the suet. Almost immediately the feeding downy flew at the new arrival, but no fight ensued. There was a jerky shifting of positions, the second bird hopping or jumping along a branch that extends out over the garden, the other bird following but making no belligerent moves. When the one being chased reached the end twigs it flew up into a large tree in the next garden. I had anticipated a dash for our suet. Again the female followed. Now the jerky, bobbing progress, both birds acting similarly, was upward, and when the uppermost branches were reached both birds flew off towards Dupont Street, disappearing over the houses and telegraph wires to the south.

To me the most surprising part of this episode was the fact that though the second downy, the newcomer, was a male, brightly marked and noticeably larger than the bird at the suet, it flew off without making any effort to have some of the suet. I would have thought that the larger male would have had no difficulty in ousting the female if that was his intent. But was it? He seemed to show no interest in the suet, but rather in the female. Was what I saw no hostile encounter at all, no quarrel over food, but rather a playful "dance" or "game", a preparation for departure to the nightly roost? There have been suggestions in recent years from some observers that some woodpeckers mate for life. The hairy, I believe, was the species especially studied. But if the hairy woodpecker why not its close relative, the downy? Did I indeed see a mated couple, each bird having pursued its feeding apart

during the day, so as not to compete with each other, possibly, coming together to spend the night in some chosen haven? I wish I could answer with certainty, but I cannot. The couple may have been simply two birds that foregather for company at night. Or the encounter may really have been one bird driving off the other from its food supply. But somehow I doubt that. It is at least suggestive that early next morning both birds were back again, and this time both fed on the suet without show of animosity, though alternately not simultaneously. In the end both flew away together.

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Mrs. N. L. Brown, one of our members, has written recently to the editor of the Newsletter in a very serious vein suggesting that a sound and proper warning ought to be given to any "members (who) are at this time dreaming of buying that acre or two in the country". Mrs. Brown has been kind enough to prepare such a warning, based upon her own excruciating experiences. She believes that possibly it may "prepare them or better still deter them from such a mad undertaking". Under the heading of "Toad Acre or Skunk Hall", Mrs. Brown delivers her warning in these words:

"We bought our home in the country in December, a most deceitful time of the year. It wasn't till early spring that a hint of trouble was foreshadowed. On the first warm day we went out eagerly to tidy up the flower bed and to discover what plants were there. Our attention was drawn to holes in assorted sizes, and soon a neighbour came along and suggested that we not dig in there yet. 'Better wait until the toads come out.' That was alright with us, we were delighted to have toads hibernating in our garden. So we waited for several days but by that time many other jobs were crowding in on us, and we were well behind in cleaning up the flower beds. However we felt rewarded when we heard the songs of the toads and frogs in the pond next to our property.

"We were beginning, though, to have an uneasy feeling that this acre of land wasn't ours. In the summer evenings it became a constant fear that we might step on toads, and so after dark if it were necessary to move around outdoors we had to stamp our feet so that the toads would have some warning of our approach and hustle out of the way.

"One day early in July I was returning home after a quiet day in the city, and saw, as I approached our house, that the toad was hopping up and down. On close examination I saw that it was covered for an area with small toads. Our walks and lawn were also dancing with the movement of many thousands of these small creatures. Norm had the lawn mower out but cutting the grass had to be abandoned, not for just that day but for a week, until most of the small toads had moved on or at least out of sight. They had emerged en masse from the pond below us that very day. I should add that they penetrated into the house and garage, and rescue work went on all summer.

"Fall is a time of year we have always liked, no flies or mosquitoes, nothing to bother you outdoors. So the time arrives for the pleasurable job of digging potatoes. I used to like this job, sinking the fork in the ground and wondering how many spuds would turn out of the earth. Ours were very large but rather warty. Three in the first hill was good going, but the next hill produced something that moved and with a sickening thought I realized I had dug up a hibernating toad, or had I speared him up? He was lying on his back and moving ever so slightly. Upon examination I found, thank heaven, that I hadn't damaged him. I picked him up and toted him off to the flower garden where he would be safe. As I went along the row every other hill or so produced potatoes and toads nestled close together. Finally I brought a second container, one for potatoes and one for toads. Digging had lost its fun and had become a prodigious chore because I had to sink the fork a long way from the centre of the hill in order not to chance spearing my sleeping friends. I promised myself one speared toad and the place goes up for sale.

"Well toads may be sissies and curl up for a long sleep at the first breath of cool air in the fall, but they are not malicious, SKUNKS ARE. Not that you mind skunks digging in the garden after dark when you aren't looking. You really don't care about those expensive bulbs you have planted, or your precious root of bleeding heart being disturbed. Oh no! You don't begrudge them their slugs, but when they are mean enough to back up to your bedroom window and pull the trigger night after night, that's going too far. Another thing is you daren't visit the compost pile at night to sneak on a few orange peels without being armed with a flashlight and plenty of fortitude. If you disturb one of these pussies gamboling on the walk with its young, or munching fallen pears on the lawn it might resent you - in the usual way.

"One hears so much about the strain of city living, but give me the clang of the streetcar to soothe my jaded nerves compared to the ordeal of having an uninvited skunk in the basement. Norm devised such a good way of coaxing him out that we have now patented the idea, and for a small fee this information will be divulged. Funds from this project are being amassed for a peaceful weekend in New York.

"Perhaps you think mice are such cute little creatures, Walt Disney and all that. Our two first winters in the country revised our ideas. During the first winter there was little or no snow on the ground, so our attic became their home, and our home became a nightmare of sleepless nights. The noise of their gnawing, chewing, scampering and scratching was not conducive to restful slumber. The next winter was one of heavy snow and no mice in the attic, but when the large piles of white fluff on our lawns disappeared we discovered tunnels all through the grass. Oh well, it only took two days to patch up the lawn and plant grass seed.

"Friends do not be deceived in thinking that life is carefree

and restful in the country. That little plot of land you long to own is full of trials and tribulations and perils. I have not touched on the constant battle to be waged with those highly successful members of the plant kingdom, weeds. A memo contained in a pamphlet of 3000 pages will shortly be available for those interested in learning something of this losing battle. Proceeds from sale of same will be used to secure a life lease on an apartment directly overlooking Eaton's Mail Order building."

In a later missive the disturbed Mrs. Brown adds this postscript to her warning. "I didn't mention squirrels, as the topic is poor for my blood pressure. About as mad as I have ever been was when one chewed right through one of our bedroom ceilings, dropped down onto the bed, and then proceeded to investigate every room in the house, but not before it had got into a can of coal oil first."

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The following list was printed in Columbia University Press's monthly brochure, The Pleasures of Publishing, Vol. XX, No. 3, and is a citation from Edith Rickert's book, Chaucer's World. It was given as an example of ceiling prices established by the mayor and aldermen of London in 1378. To us the main interest in the list was not the price schedule, though I must say "Best roast lamb" at 7 pence made me contemplate rather grimly the present contrasting price. No, I read that list and said to myself "How the times have changed! See what people ate then. How many birds would we have left to enjoy if still today we permitted delicatessen shops to advertise, "Ten roast finches for a penny"!

Best roast pig	8 d.
Best roast lamb	7 d.
Best roast goose	7 d.
Best roast capon	6 d.
Best roast hen	4 d.
Best roast pullet	2½ d.
Best roast rabbit	4 d.
Best roast river mallard	4½ d.
Best roast snipe	1½ d.
Five roast larks	1½ d.
Best roast pheasant	13 d.
Best roast partridge	3½ d.
Best roast curlew	6½ d.
Three roast thrushes	2 d.
Ten roast finches	1 d.
Best roast heron	18 d.
Best roast bittern	20 d.
Three roast pigeons	2½ d.
Ten eggs	1 d.

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The following article on Ferns has been sent in by Dr. Fletcher Sharp.

Ferns are the survivals of a very ancient form of vegetation that flourished millions of years before our first flowering plants. Grasses and hard wood forests had not appeared, not even the conifers. The fossil remains of ferns are first seen in the Devonian limestones and later in the carboniferous coal seams along with their allies, horse-tails, club mosses, and cycads. About 200 million years ago they reached their peak, and grew so rank and large that when they fell into the primaeval swamps in which they grew, they failed to decay. Layer after layer of them became compressed to form our present coal seams. The spores from the club mosses were so abundant that they formed thick layers which later gave us our cannel coal. At present there remain only about six hundred species, a mere handful of their glorious past.

In the tropics there are still ferns 40 feet high. The common bracken is said to grow over twelve feet high in Ireland and even higher in tropical Africa. In far northern Ontario it reaches barely six inches in height.

One can scarcely comprehend the nineteenth century without coal; coal for steamships, coal for smelters, coal for heat and steam, and all the thousand and one coal tar products, aspirin, etc. All this is the result of ferns and their allies, which lived and died 200 million years ago, preserved and waiting for us to use them.

How do these interesting plants propagate? This was a hidden secret until the middle of the last century. It was such a mystery that the early botanists called them cryptograms. They know now that reproduction takes place by the spores forming a prothallum, which produces both male and female cells. These mature at different times. This ensures cross fertilization. Reproduction can also take place from the little bulbets on the bulbiferous fern (*Cystopteris bulbifera*). How? Vegetative reproduction takes place from the tips of leaves as in the walking fern. Of course the greatest number of fern stands grow from root stock.

Of what economic use are the ferns to-day? Very little. They have practically retired from the economic field. However, the Boston fern is sold to us by the florist. (This fern probably originated in Florida). The roots of the ostrich fern are used by greenhouse men for the cultivation of orchids. Medicinally the extract of male fern is used for the treatment of tape worm. I have been told that fiddleheads (young fronds) are very good to eat.

While ferns may have lost their economic value, they are of great interest to plant lovers. Identifying our native ferns (about 50 species) can keep one busy for many a season, and is great fun.

R. M. Saunders,
Editor.