

MARCH MEETING

Monday, March 2, 1964, at 8.15 p.m.
at the
ROYAL ONTARIO MUSEUM

Subject: R.O.M. SOUTH INDIA EXPEDITION (illustrated in colour).

Speakers: MESSRS. TERRY SHORTT and ARIO GATTI, of the Royal Ontario Museum's Life Sciences Display Department.

The purpose of last year's expedition to the Anamallai and Nilgiri Hills regions in the State of Madras, Southern India, was primarily to collect zoological and botanical specimens. A number of these specimens are to be utilized in a full scale diorama exhibit which will be the first in a new series of zoogeographical displays at the Museum. India is a "new" territory for T.F.N.C. members and one which should prove to be of interest, particularly when portrayed through the word pictures of our two speakers.

MARCH OUTINGS

Sunday Cedarvale Ravine - Birds Leader: Mr. Robert MacLellan
Mar. 15 From the corner of St. Clair Ave. W. and Spadina Rd. (a street-
9.30 AM car stop) go south, over the bridge, and meet at the south end
of the bridge. Parking is available on Russell Hill Dr. and
on Walmer Rd. Morning outing only.

Saturday High Park and Toronto Waterfront - Birds Leader: Dr. D. Hoeniger
Mar. 28 Meet at Bloor St. and High Park Ave. at park entrance.
9.30 AM Morning outing only.

Easter This might be a good time to visit Long Point to see whistling
Weekend swans and other waterfowl on their northward migration. Swan
Mar. 28 flocks may be at their peak at this date, a week later, or even
to 30 earlier, depending on weather conditions and the amount of open
water. The annual F.O.N. "Swan Weekend" is planned for April
4-5, with headquarters at the St. Charles Hotel, Port Rowan.

Mr. J. A. Gingrich, Chairman, Outings Committee.

BOTANY Prof. Erik Jorgensen will address our group on the subject of
GROUP "Tree Diseases and Forest Ecology". Interesting specimens will
Thursday be on display and the talk will be illustrated with slides. All
Mar. 19 T.F.N.C. members are welcome. Place: Hodgson School, Davis-
8.00 PM ville Ave. just east of Mt. Pleasant. Parking entrance from
Millwood Rd. President - Mr. R.F. Chittenden, HU 3-2636.

JUNIOR Meet in the Museum theatre on Saturday, March 7, at 10.00 a.m.
CLUB The Mammal Group will be in charge of the programme.
Director - Mr. Robt. MacLellan, HU 8-9346.

. The F.O.N. Annual Meeting will be held in Hamilton, April 10-12. Full information about program and registration from the Federation of Ontario Naturalists, 170 The Donway West, Don Mills (HI 7-7421).

. R.O.M. Bird Checking Lists are obtainable at our meetings - 5¢ each.

President - Dr. David Hoeniger

Secretary - Mrs. H. Robson,
49 Craighurst Ave.,
Toronto 12
(HU 1-0260)



Number 202

Authorized as Second Class Mail by
the Post Office Department, Ottawa,
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February 1964

Last June one of our best-known photographer-members, Mrs. J. K. W. Ferguson, made a trip to Vancouver Island where she was intent upon getting pictures of interesting flowers. We are pleased to give her report of her findings in the Newsletter.

A Botanical Excursion to Vancouver Island

by Mary Ferguson

The last two weeks of May or the first two weeks of June are a good time to see Spring wildflowers on Vancouver Island. We arrived at Qualicum Beach on June 2nd, 1963, and spent the next two weeks there visiting an old friend, Mrs. Audrey Burnand, formerly of Toronto. Mrs. Ruth Stewart, the former T.F.N. Secretary, lives in the same town, and we met in the Post Office. Mr. and Mrs. Stewart have a charming new home not far from the main street.

Mrs. Burnand is as interested in photographing wildflowers as I am, so each day we went on a picnic to a different area where some attractive plant could be found. Even the roadsides had a fine display. Broom (*Cytisus scoparius*) gave the illusion of sunshine as it glowed in golden profusion along the golf course. Large bushlike Yellow Lupine (*Lupinus arboreus*) grew in sunny spots, and Blue Lupine (*L. nookatensis*) ornamented the roadsides. Thimbleberry (*Rubus parviflorus*) lifted its large white blossoms everywhere, and was often draped with Orange Honeysuckle (*Lonicera ciliosa*). In many places, Foxglove (*Digitalis purpurea*) grew wild. Other flowers we saw along the roads were Low Larkspur (*Delphinium Menzii*), Indian Paintbrush (*Castilleja miniata*), Butter and Eggs (*Linaria vulgaris*), Night Campion (*Lychnis alba*), Red Hedge Nettle (*Stachys ciliata*) and Red Columbine (*Aquilegia formosa*). In the wet ditches Yellow Monkey Flower (*Mimulus Langdorfi*) grew profusely.

The Provincial Parks on the Island are served by paved roads and are very well kept. Facilities for parking, picnics, walks, fishing, swimming and boating were good. We visited several of them. The Qualicum Falls Park was a particular favorite as it contained many interesting plants. Oregon Grape (*Mahonia nervosa*) and Salal (*Gaultheria shallon*) competed for space in many places. Leaves of Salal are evergreen, and its twigs are cut to use in florists' bouquets. Its berries are edible, and they played an important part in the diet of West Coast Indians. Under these low shrubs, a pretty fernlike moss covered the ground. Heartleaf Twayblade (*Listera cordata*) grew like a weed in this moss. Other orchids found here were Merten's Coralroot (*Corallorhiza mertensiana*) and the Spotted Coralroot (*C. maculata*). Candystick (*Allotropia virgata*), a red and white striped saprophyte, is a very unusual member of the Ericaceae. We found several plants in this Park. Ground Cone (*Boschniakia strobiliacea*), parasitic on Salal, was quite common. It appears in shades of brown and wine red. Indian Pipe (*Monotropa uniflora*) and Pinesap (*Monotropa hypopithys*) showed their more familiar inflorescence in shaded places. Along the river, especially where the spray of the falls made it damp, ferns grew luxuriantly. Parsley Fern (*Cryptogramma acrostichoides*), Lady Fern (*Athyrium filix-femina*) and Maiden Hair Fern (*Adiantum pedatum aleuticum*) decorated the rocky cliffs of the river. Menzies' Pipsissewa (*Chimaphila menziesii*) was in full bloom, but its cousin (*Chimaphila umbellata*) was showing only its deep pink buds. The tiny One-Flowered Wintergreen (*Moneses uniflora*) was there too but in tight bud. During May, Calypso bulbosa, and the Curly Lily (*Erythronium oregonum*) were in bloom (I saw only the plants).

On the road to Port Alberni, there is another fine Park, called McMillan Park or the Cathedral of Trees. Given by the Lumber Company (McMillan, Bloedel) it preserves some of the largest Douglas Firs (*Pseudotsuga taxifolia*) to be found on the Island. It is almost a rain forest though the real ones are on the inaccessible southwest side of the Island. Huge Firs, Pines and Western Hemlock tower above the paths and shut out most of the sunlight. The ground is covered with ferns--Sword Fern (*Polystichum munitum*), Deer Fern (*Struthiopteris spicant*), Bracken (*Pteridium aquilinum pubescens*), and Maiden Hair Fern. Vanilla Leaf (*Achlys triphylla*) vied with the luxuriant ferns. Its leaves, when dried, have a sweet vanilla odour which gives it another name, "sweet-after-death".

Have you ever been chased by a Grouse? As we walked slowly and quietly along a path partly hidden by arching Sword Ferns we were startled by the sudden eruption of a large bird from the undergrowth ahead. She pretended to be hurt, and cried piteously, with one wing dragging as she ran on. We decided there must be young chicks near, and walked even more slowly. Not far away, the high pitched "peeping" of the babies located them close to the path, but invisible under the thick cover. We stopped to see them if possible, and when we did, the mother bird turned angrily towards us, and charged with beak and wings outstretched. We ran! Looking up the bird in a bird guide later, we decided it was the Spruce Grouse.

On another bright day, we went to the shore at Dolphin Bay. While my husband fished for the ugly but delicious Rock Cod, we found many interesting plants, and some animals. In the pools left behind at low tide, we saw many sea anemones and starfish in vivid hues of pink, purple, green and white. On the rocky shore, Stonecrop (*Sedum spathulifolium*), Purple Honeysuckle (*Lonicera hispidula*), Woolly Sunflower (*Eriophyllum lanatum*), and Gumweed (*Grindelia oregana*) flaunted bright flowers. Just back from the shore where there was more soil and lots of sunshine, several members of the Lily Yy family were in bloom; Camas Lily (*Camassia quamash*), Nodding Onion (*Allium cernuum*), Hooker's Onion (*Allium acuminatum*) and a White-Flowered Onion (*Allium bisceptrum*) added to the show. Harvest Brodiaea (*Brodiaea coronaria*) and another Brodiaea (*Triteleia hyacinthina*) seemed to thrive in rather dry spots. Among them the last blooms of the Shooting Stars (*Dodecatheon* sp.) stood out. Garry Oak (*Quercus garryana*)

and Arbutus (*Arbutus menzeisii*) were among the shade trees on this lovely shore. The bark of the latter tree is bright red brown, just about the colour of the wood of the Eastern Red Cedar. It is said that the Arbutus cannot be grown from seed in a nursery, or transplanted, but thrives only in the spot suitable to the occasional seed which grows where it falls. Broadleaf Maple (*Acer macrophyllum*) is common on the coastal plain, its huge eight to twelve inch leaves identifying it everywhere.

A most interesting Wildflower Garden was being created by Mrs. Dunphuy, on one of the shore lots of Dolphin Bay. She had brought many flowers from other parts of British Columbia and was taking great care of them. Queen Cup (*Clintonia uniflora*), Long-Plumed Avens (*Geum triflorum*), Bitter Root (*Lewisia rediviva*), and Red Monkey Flower (*Mimulus Lewisii*) were rewarding her with lovely flowers.

Driving north to Comox and Campbell River, we stopped in other Provincial Parks. At Miracle Beach Park, Twinflower (*Linnaea borealis*) formed a pink mat under the Firs, and Pink Star Flower (*Trientalis latifolia*) hid deeper in the woods. At the Puntledge River, it began to rain, adding more water to the muddy flood plain where Western Skunk Cabbage (*Lysichiton americanum*), Salmonberry (*Rubus spectabilis*), Western Bishop's Cap (*Tellima grandiflora*), Western Tiger Lily (*Lilium parviflorum*), False Bugbane (*Trauvetteria grandis*), Wild Bleeding Heart (*Dicentra formosa*), and several Fritillarias grew. Walking farther along the river bank, we found Death Camas (*Zigadenus venenosus*) and Wild Ginger (*Asarum caudatum*), like ours except for the very long tips to the petals. On such a wet day, we had to be careful not to step on the large yellow-brown snails or slugs which were very plentiful, feeding on many kinds of green leaves, and crossing the path every few feet. Sword Fern and Maiden Hair Fern were thick under the trees. Where the sun could reach on a bright day grew the tiny Wild Roses (*Rosa gymnocarpa*) whose dainty pink flowers, half an inch across, were a surprise to me. The other Wild Roses (*Rosa nutkana*) grew along the roadside, and seemed familiar as their flowers were the same size and colour as the Eastern Wild Roses. Devil's Club (*Oplopanax horridus*) grew sparsely here. The stems and leaves are both thickly covered with long spines, and it grows six to eight feet high. A good plant to avoid! In early May the banks of the Puntledge are beautiful with the Pink Erythronium (*Erythronium revolutum Smithii*).

Going on to Comox, Mrs. Burnand's daughter warmed and dried us, and fed us a delicious dinner of fresh caught salmon. A wonderful end to a day of discovery!

The two weeks we could spend on the Island were over all too soon. Returning to Vancouver via Nanaimo, we started our return journey to the East, hoping to go back some day to lovely Vancouver Island.

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Another of our well-known members, Mrs. J. D. Ketchum, had a trip to Great Britain where she was able to visit the famous bird reserves at Havergate and Minsmere. She shares her experiences with her fellow-members here.

Birding in Britain in 1963

by Kay Ketchum

Some years ago I had the good fortune to make a tour of England by car, an ideal way to watch birds for we were able to stop by the highway whenever anything caught our eye. Better still, we went to several nature reserves not easily reached by public transport.

This year I again visited Britain but as I was travelling mainly by bus I could look for birds only when the bus stopped for the night or, perhaps, for a few minutes at lunchtime. There was, however, one chance for something better on my visit as I was going to see relatives in Suffolk in May. Well before the time I wrote to ask if they could possibly get permission for me to enter the Havergate and Minsmere reserves which were not far away. They could and did, and even drove me there.

On May 4th, after many showery days, we awoke to a clear red sky. My diary has underlined, "No rain." We drove along the coast to Oxford and there embarked with a dozen or so other people in a launch. Chugging across a tidal river, through a long bay between the mainland and a flat peninsula we saw many shelduck and oystercatchers, bright-colored and easy to identify.

We landed at a little pier and walked over wet grass and shingle to stop for a half-an-hour or so at three or four hides, newly-built wooden buildings on poles, reached by four to a dozen steps. When everyone had a place on a rough bench the back door was closed and a long shutter opened in front. Thus you could look right out onto the flats and not be noticed by the birds.

There were great concentrations of black-headed gulls to be seen, all busy with their nesting, and a few breeding avocets. These latter are black and white with long upturned bills like our own western species but without the yellow tints on the head. They were the birds we had come especially to see. I missed the sight of a pair changing places on the nest which one of our party saw. This species returned to Havergate to breed in 1947 after an absence of nearly a hundred years, and in 1962 there were 77 pairs there. I doubt, though, that after the hard winter that followed, this year saw as many.

The wardens lamented the scarcity of shorebirds but did find us a meadow pipit, a wheatear, some Sandwich terns, and -- a lifer for me -- a reed bunting with its prominent white collar. Before returning to the launch we saw a kestrel hovering and a short-eared owl quartering the field. We made the return trip rather chilled but thankful to be dry when we heard that the previous day's birders had been thoroughly drenched on the water trip.

That night I studied the leaflet issued by the Royal Society for the Protection of Birds which indicates what birds may be expected at Minsmere. This paid off as you will hear. We left home for a second day's birding on a cloudy morning and during a longish drive went through heavy showers. The parking lot was a long way from the warden's cottage where we were to start our tour and we felt a little downcast. However, luck was with us for we had a day of perfect birding, more exciting than the previous one. The guides were more communicative too and told us what to look for. From a hide looking out over great reed-beds we had wonderful views of a marsh harrier, a bird that breeds in no other spot in England. From one spot we got glimpses of one or two of the bearded tits for which this reserve is famous. I saw the reddish tail of one just as it dived into the reeds. Here, too, the hard winter had taken its toll for the year before it had been possible to see six or seven of these tits from the same spot. During the winter the shallows had frozen as never before and men had been able to ride over the reed-beds on bulldozers. This at least enabled them to open up new channels of water for the birds.

The bittern, a rare bird in Britain, is the third specialty I have marked on my Minsmere list though I think I only heard it boom. It looks much like our own bittern in any case. There were a few shorebirds here. The greenshank and redshank were new to me. They quite resemble our yellowlegs. Then I was able to pick out a darker one; having done my studying the previous night I was ready to notice the slight difference. This one, we were told, was a spotted redshank and is to be seen here only in migration. A sedge warbler sang for us and a little tern with a yellow bill flew by.

After lunch, which we had carried along, had been eaten in one of the hides, we left the marshes and walked in a pleasant wood. Why do English woods look so different from Canadian ones, even from our southern mixed forests -- less underbrush, more open glades, moss on the trees? I cannot tell. We had a large, talkative, leisurely guide now, ready to show something new to a Canadian visitor.

As always in the afternoon birds were rather scarce but at last, at last, after all these years upon earth I first heard a nightingale sing. Said the guide, "Do you really like that song? Don't you think the blackbird is a much better singer?" I couldn't answer, being moved by all the associations of that song, the poetry one learned in one's 'teens, "Thou wast not born for death, immortal bird," "the voice I hear this passing night was heard by the sad heart of Ruth, when, sick for home, she stood in tears amid the alien corn." Then, to see the nightingale; hearing was enough but the party was bound I should see it too and, at length, I glimpsed two brownish birds with chestnut tails dropping into some bushes.

There were still other birds. A tapping, we were told, was a great spotted woodpecker, like our hairy if one sees it. Back near the warden's house appeared a whinchat, not spectacular but a lifer. Somewhere that day we met a yellow wagtail, and was it yellow! I saw my first cuckoo for many a year, a goldfinch and several sand martins. My diary tells me that "K. fell into a puddle but no harm done", and concludes that on that day we saw 51 species and had "a wonderful day, long looked forward to."

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Through the kindness of our Club member, Mr. A. A. Outram, we have the pleasure of printing two nature poems written by Mr. A. B. Pike, a retired English specialist. The first one appears immediately below, the second at the end of the issue.

Today
In the cool April sun
Among the maples,
I heard
From the dead leaves
A little band of brave hepaticas,
Clean, white and blue,
Erect,
Heads up
Singing
With small boy voices.
Singing, singing
A new song,
Old as primeval spring --
But new.

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Mr. David West, who has visited Toronto many times and who is widely known amongst local naturalists, recently made a flying trip to Big Bend National Park in Texas. Although he had to rush through this fascinating area his comments will be of interest to the many members of this club who have made visits there themselves.

He writes,

"I can only describe Big Bend as a paradise, and the park itself must be one of the great national parks of this country.

"We left Austin on Friday morning, in a steady drizzle from unbroken grey skies and headed south to San Antonio and thence straight west towards Del Rio and El Paso. I privately predicted that we would leave the clouds at Del Rio, a prediction based on an unswerving faith in the statements I had read about Big Bend and its dry sunny winter climate, and how different the weather was likely to be 400 miles to the west of Austin, which, after all, is on the edge of prairie and oak parkland country. The rain soon stopped, and as we roared west at 70 mph the clouds broke, thinned still further, and by the time we reached the Pecos River we were under almost completely cloudless skies. You will recall what a boundary the Pecos makes -- but I was struck more than I expected (with the old cliché about "the law west of the Pecos" ringing in my head). We pulled into a nice roadside park overlooking the Pecos canyon, and there I knew we had arrived in the southwest. There were the first stands of ocotillo and lechuguilla, and suddenly an unfamiliar species of bird of a familiar group flew by -- white-throated swifts! A little out of range for December 20, but I believe they are regular in this area in some seasons. Ocotillo is that spidery spiky plant with several long twisty stalks rising from a common base -- not a cactus but an ordinary dicot ("ordinary" isn't quite the word). Now, of course, it was bare, but in spring, and usually also in the autumn it puts out tiny green leaves and lots of small red flowers on these long spiny stems. "Lechuguilla" is Agave lechuguilla, a small member of that genus.

Once across the Pecos the country became more irregular and barren, and as we passed over a low gap just east of Marathon our view took in a real southwestern scene -- miles and miles of flats with many desert mountain ranges rising more or less dramatically from them, and at this point there was not a cloud in sight, and the distant views extended probably 35-40 miles. From this point on, as we turned south from Marathon, the country became more spectacular, with scenic climax building on climax: we entered the park at Persimmon Gap and then had a splendid distant view of the Chisos Mountains, the "crown" of this park, and the wildest and most rugged mountain range in the area. The drive through the northern end of the park, across desert flats with ridges to right and left, constantly had the Chisos in view, and they loomed larger and larger as we neared them. By now it was late afternoon, and the sunset colors were indescribable, but mostly of rich reddish hues. Climbing from the desert, at about 3000 feet, to the basin of the Chisos, at 5400 feet, led us through a succession of vegetational types, from cacti, creosote bush, yuccas, etc., into the zone of the tall agaves (A. scabra, century plant), scrub oaks, deciduous oaks, pinon pine, etc., and passing through a gorge hemmed in by rugged rocky slopes and cliffs we popped over into the Basin, a bowl in the heart of the mountains surrounded by terrific sheer rock domes and cliffs. These mountains are largely volcanic in an area of limestone, and there are plugs of basalt, flat-topped and precipitous, just over the cabins and camp ground. From here there is a distant view through a low gap in the basin's wall (where the drainage goes) to the southwest, and distant mountains could be seen dimly down there. The air, on that late December afternoon, was deliciously cool and clean, and how quiet! We slept well.

On Saturday we took off on a fourteen-mile circuit of the main Chisos, leading up out of the basin and south to the south rim of the high mountains, where the views are incredibly fine down towards the Rio Grande valley and encompassing the southern and lower peaks of the Chisos mountains themselves, as well as mountains in Mexico across the river. On the top of the "rim" -- a real edge, with cliff dropping a few hundred feet sheer in places and further drops below that -- the plant life is wonderfully mixed. Here, at about 7000 feet, grow a couple of junipers, some oaks, century plants, cholla and several other cacti, and in the sheltered canyons there are deciduous oaks and Arizona cypress, a very handsome conifer of southwestern distribution. There are other agave-like plants here, but the yuccas seem to be missing from these elevations, although they could be seen in abundance a thousand feet below. It may be the volcanic soil that excludes them; they grow best on limestone soils, it seems. The trees up there have lichens and a common small bromeliad, like some of the epiphytes

in Florida, and ferns and mosses were surprisingly abundant. Rain falls here in summer, with rare winter snows, but there was freezing cloud one day during our stay, and that would provide a lot of moisture for these plants. Some flowers were out -- a couple of composites, a pink, and others, but by and large it was winter. Still we enjoyed the warm sun and soft air, even at 7000 feet in December.

The Chisos Mountains are biologically an outlier of the Mexican highlands across the river, and this is reflected especially by one tree -- drooping juniper (*J. flaccida*) and a bird, the Mexican jay (*Aphelocoma ultramarina*) -- which occur here and nowhere else in Texas. The jay is represented in New Mexico and Arizona by another race. I did not realize that scrub jays also abound here, and it was only when I got a flock in view that I realized that they weren't Mexican jays -- which I especially wanted to see. I was ultimately disappointed in my objective, and there were many things flitting rapidly into the bushes without even a note that I could never identify in our limited time, but the canyon wrens, bush-tits, western bluebirds, and robins were conspicuous even for the fleeting traveller, and I simply let a lot go by unidentified.

Deer we found very abundant in the whole area, and on Sunday, while driving to Marfa we saw about 50 pronghorns feeding calmly by the road. Peccaries, of course, are found here, but we were not out at night (it was cold then), and we didn't have time to lurk at watering places and catch sight of them. Reptiles and the larger scorpion-type arthropods were also inactive. But winter has one great advantage -- it is usually clear and the weather is usually ideal for hiking, with warm days and cool nights. And we hit a real cold snap as well, so that things would usually be better. On Sunday we awoke to the sound of howling wind and the sight of freezing cloud collecting on every twig and agave stalk. A "norther" had hit, and from about 5000 feet the mountains were closed in solidly. We chose that day to drive west out of the park and take a newly-paved road up the Rio Grande to Presidio, when we would drive north through Shafter and Marfa, and home through Alpine into the park again. The first stop was Santa Elena Canyon.

The original reason for the park in the Big Bend was to preserve unspoiled the three canyons which the Rio Grande cuts in massive limestone. The westernmost of these, Santa Elena, lies at the western edge of the park, another is right at the southernmost part of the Big Bend itself and is difficult of access now, the third is at the other end of the park -- Boquillas Canyon -- and is easily reached. Santa Elena is especially nice because it can be entered for three-quarters of a mile or so on foot, the trail running on the U.S. side of the river until the vertical walls meet the water. The sides of the canyon mouth are about 1500 feet high, rising vertically or beetling, and the width is about 75 yards at most -- a nice gorge. One can float down the river through the canyon, several miles in all, and friends of mine have done that, an unforgettable trip. We had a local cloud and strong cold wind blowing into the canyon to urge us along, but the sun wouldn't have made it into the depths anyway and wasn't missed. The elevation of the river is about 1900 feet, and, of course, the contrast in vegetation between here and the mountains was extreme. It looks like a hot place even when there is a chilly wind blowing, and I can believe that in the summer one comes here early in the morning or not at all.

From the western edge of the park there is a newly paved road running up the Rio Grande through some terrifically wild and rugged gorges and countryside. The varieties of cactus here are wonderful to behold, and rock formations and the placid river with its reeds and willows make a nicely varied trip. Several miles before Presidio the country flattens, the mountains are only on the Mexican side, and things get duller, and Presidio itself is a rather bleak little place, though not without its own charm, surrounded by baked flats and creosote bush (some in bloom). North of here the road rises, first back into limestone hills with lechuguilla and yuccas, and then up again onto flatter grasslands, with only occasional reminders of the Chichahuan desert.

Shafter is an interesting ghost town, once a rich silver mine and a town of 3500 people, now a well-stocked cemetery and about a dozen families; we didn't actually see anyone. The cottonwoods on the creek were rich golden, and festooned heavily with mistletoe, and the place had a definite charm. The winter flocks in Shafter included lots of pyrrhuloxias, my first. The trip back through Marfa was interesting, although not so spectacular as that of the morning. We spied the Chisos from about 35 miles away on the Alpine road, and there was not a cloud about by the time we got back. Another rich sunset and good night's sleep!

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One of the most interesting and certainly one of the most distinctive of Canadian animals is the musk-ox. An informative article on this rare beast has appeared in a recent number of the Nature Bulletin (No. 740, January 25, 1964) of the Forest Preserve District of Cook County, Illinois, which we reprint here.

The Musk Ox

Why are bones of the arctic musk ox found here in Illinois? The evidence shows that these remains date back to the Ice Age when mile-deep ice sheets covered Canada and large parts of the United States, Europe and Asia. At that time the musk ox was one of the few hardy animals that thrived along the edges of these ice sheets. Then, for thousands of years, as the climate warmed and the glaciers melted, the musk oxen followed the retreating glaciers northward. Today, they survive only on the bleak tundras of Alaska, northern Canada and the coast of Greenland.

The musk ox looks somewhat like a small, unusually shaggy buffalo. It is built and upholstered for life in the most rugged climate on earth, where blizzards howl and temperatures 50 degrees below zero are common. Adult bulls weigh 500 pounds or more but appear heavier because of their thick padding of hair and wool. Cows are smaller. The dark brown to black hair -- two feet or longer on the neck, chest, sides and hind quarters -- hangs like an ankle-length skirt. The horns of both sexes are sharp, vicious weapons.

Unlike their arctic neighbors, the barren grounds caribou, musk oxen do not migrate southward with the coming of winter. They feed on patches of dwarf willows swept free of snow by the wind and dig with their hoofs to uncover mosses and lichens. With the coming of the brief arctic summer musk oxen feast and grow fat on the abundance of grasses and sedges that quickly shoot up. The calves, born in May, are weaned and on a vegetarian diet by late summer.

Each spring the musk ox tears off its old wool underwear and grows a new suit. At this time, no other animal could look more ragged and moth-eaten. The dense, soft wool works out through the long hair and hangs in loose patches or long fluttering streamers until they are scraped off on rocks and shrubs. The new suit gives almost complete protection against the clouds of mosquitoes and blackflies that torture other warm-blooded creatures during the arctic summer.

No other animal has the defense method of musk oxen. When danger threatens they do not run away. Instead, a herd of twenty to forty individuals backs into a rough circle facing outward with the calves in the center or under their mothers' bellies. This ring of horned heads can defy such natural enemies as the arctic wolf and the grizzly bear. From time to time a bull dashes out to do battle, then returns to the circle. He is exceedingly nimble. A single sweep of his horns can cripple or kill a wolf, dog or Eskimo hunter armed with a spear.

This habit of forming a defense circle has almost doomed the musk ox in modern times. A man with a gun can stand at a safe distance and wipe out an entire herd at his leisure. Eskimos and Indians with rifles in their hands for the first time had an orgy of killing. The Alaskan herds were wiped out and those of northern Canada and Greenland reduced to a few thousand animals.

In an effort to rebuild the population, Canada has forbidden the killing of musk oxen by either natives or whites. The Royal Canadian Mounted Police carefully investigate any signs or reports of killing. The United States has reestablished them in southwestern Alaska from a band of 34 animals brought from Greenland in 1930.

The name comes from a pair of musk glands below the eyes of the bulls. When in the defense circle facing an enemy, or in duels between males for control of the herd, the bulls perfume themselves by furiously rubbing their massive heads against their fore-legs.

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My heart goes pitty paticca
When picking the hepatica;
And on my end I sittica,
For I am much too fattica
To bend and pick hepatica;
And that is such a pittica.

R. M. Saunders,
Editor.