Toronto Field Naturalists' Club

NOVEMBER MEETING

Monday, November 1st, 1954 at 8.15 p.m.

at the

ROYAL ONTARIO MUSEUM

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Speaker: Mr. Jim Baillie,
Research Assistant, Division of Ornothology
Royal Ontario Museum,
Past-President Toronto Field Naturalists' Club,
Feature writer - Toronto Evening Telegram.

Subject: A Naturalist's Trip to the Rio Grande.
Illustrated with coloured slides.

OUTINGS

Geology: Saturday, October 30th - 2.30 p.m.
Leader - Dr. Walter Tovell, Department of Geology, R.O.M.
A trip to study the geological features of the Scarboro Bluffs. Meet at Stop 14, Kingston Road. To get to Stop 14 from Yonge & Queen Streets, take a Queen Street car to Queen & Coxwell, then a Kingston Road car to Victoria Park and Kingston Road, then a Kingston Road bus to Stop 14. Allow 1 hour from Yonge and Queen Streets.

Birds: Saturday, November 13 - Sunnyside. Water birds.
Leaders - Mr. Stuart L. Thompson and Mr. J.M.Barnett
Meet at the Sunnyside Bathing Pavilion at 9.00 a.m.
Take a King or Queen Street car to Sunnyside and walk west on the Board Walk to the Pavilion. Allow about 35 minutes from King and Yonge Streets.

Botany: The Toronto Botany Club will meet on the third Thursday of each month at 8.00 p.m. in Eglinton School, corner of Eglinton Avenue and Mount Pleasant Road. Anyone interested in this subject may telephone Miss Llewella Mann, at BA 1-3961 for further particulars.

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The Junior Field Naturalists will hold their first Meeting at the Royal Ontario Museum on Saturday Nov. 6, at 10.00 a.m. Dr. and Mrs. Jaquith will show pictures entitled ""Two Naturalists in Florida" Interested children 8 to 14 years are welcome. Membership $1.00 per year.

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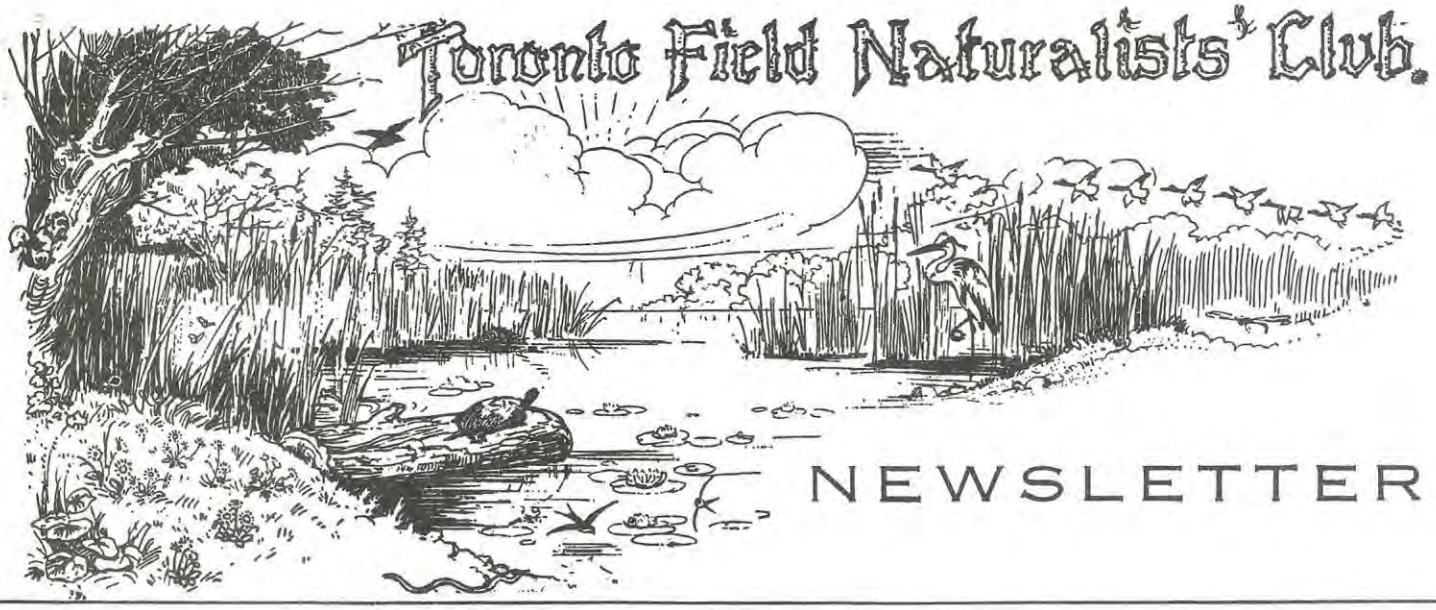
And now, after all these attractions, how about anyone who has not already done so, sending in their fee for the current year, It is $2.00 and may be sent by mail to the Secretary. Thank you!

President:
Mr. F.W. Darroch

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



Number 126 October, 1954

*Nature Notes From The Lebanon - By David West

Considering how many Europeans and others have travelled and lived in the Middle East during the past one hundred years, it is surprising to learn that practically nothing has been published on the birds of the region. Egypt has had fair treatment, and Arabia has just now been covered, but nothing more than papers have been written in recent times on the ornithology of Lebanon, Syria and Jordan. Palestine has had a little coverage, but it has been poor or is now badly dated. This situation first came home to me in 1946 when I returned to Lebanon after an absence of five years, and after having become interested in birds. I was but a beginner, having been birding in the United States for only a year, and the problem of identification was immense. I had two books to work with - both published in the last century, and both having nothing but descriptions of skins. There were no field characters noted, and the ranges of the two books did not specifically cover the region where I was living - Lebanon. This unfortunate situation continued almost without relief until this year

*Ed. Note: David West, my nephew, is well known to many of the birdwatchers in Toronto who have met him on Christmas bird censuses and other field trips. He is a senior student in zoolo--gy at Cornell University, looking forward to a professional career in that field. Born and raised in Lebanon he has done a good deal of observing in that distant country, most recently during the past summer. He has been kind enough to put together some of his impressions in this article. This will enable readers to compare our situation with that in a country as yet better known to history than to ornithology.

when the new Field Guide to Birds of Britain and Europe was published. Peterson, Mountfort and Hollom are to be congratulated on so splendid a job. There are enough Middle Eastern species covered to make the book invaluable to the birder in that area, and I have found it most helpful this year.

Lebanon is a tiny country, about 35 by 120 miles, situated along the eastern shore of the Mediterranean between Palestine on the south and Syria on the north and east. The Lebanon, as it is often called, is really only a mountain ridge rising steeply from the sea. The ridge drops steeply again on the eastern side to a long narrow valley - the Bekaa. This valley is a continuation of the Jordan Valley and Dead Sea depression, and ultimately of the Great Rift Valley of Africa. But the most characteristic parts of Lebanon are not in this valley but rather in the mountains. These rise to a ridge whose altitude varies from 6,000 to 10,000 feet on the heights. The rise from sea level to the top is so steep that one can easily drive from a subtropical climate at Beirut, the capital, to one of almost Alpine character in one hour. The year is divided into two main seasons - from November to early May, when it rains, and the rest of the year when it generally doesn't. Beirut gets about 36 inches of rain a year, while the mountains get greater amounts of moisture the higher you go. This latter precipitation is usually in the form of snow, and the high mountains are blanketed many feet deep for most of the winter. Above 8,000 feet banks of snow lie the year round, unless there is a bad winter and little snow falls.

Lebanon is a paradise for flowers, especially the bulbous plants which grow in great numbers on the rocky slopes and among the crags of the mountains. Wild tulips, crocuses, colchicums and many others are found in great profusion. Madonna lilies grow wild in the river valleys of the mountains, and wild irises of the Oncocuclus group are found in colonies at a number of places in the country. Terrestrial orchids of about three dozen species grow in the country, from sea level to 7,000 feet. Cyclamen, primroses, and other flowers are very common, covering the mountain terraces in the winter or spring. I regret that I have neither the space nor the knowledge to say much about the wild flowers of Lebanon. They are marvelous, however, to any one, whether a botanist, a gardener or just a layman like me.

I feel that I should say a word about human predation in this area. The people of the country, like people in most Mediterranean countries, shoot small birds for food and sport. There are good game laws, forbidding such hunting and setting seasons on the usual game birds. But no one has any respect for the law, and people have little or no feeling that shooting birds does any harm to the economy of the country. I have seen two men returning from a morning's shooting on rocky barren hillsides, with 20 or 30 small birds. This was on the first of August, and many of the birds were juveniles. Shrikes, buntings, larks and redstarts were the chief victims, but anything that flies into shotgun range is in danger of being shot. There are places where little shooting of this sort goes on, out of

the way spots where people don't bother to go. By and large the practice is limited to the more coastal areas; the interior of the country, and the country farther east, in Syria, is not so badly shot over. The whole business is despicable, but will never be stamped out so long as respect for the laws remains so low.

It might be interesting now to look at a number of places in the country with their birds and plants. I will begin with the campus of the American University of Beirut in that city. This area is situated on a point of land that juts out from the mountains, and upon which the city of Beirut is built. The campus is near the end of the point, in an area that, until recent years, has been comparatively wild, with small gardens and trees. Now the campus is an island in the city; an island of considerable size, with treed slopes and bushy terraces as well as open fields and gardens, in short a good spot for birds. Migration is the best time of year for observation on the campus. Beginning in early March the migrants start up the coast from Egypt, Palestine, Arabia and points south. Warblers, wagtails, buntings, swallows, swifts and countless others appear, so that at the beginning of April the place is hopping. By the end of April the birds have begun thinning and by the end of May it is full summer and the migration is over. The resident and breeding birds of Beirut are only five or six in number. Common swallow, common swift, house sparrow, yellow-vented bulbul, the graceful and the wren warbler are the commonest. The first two are only summer visitors, but the others remain the year round. Canadians will probably wonder why there isn't another common breeding bird listed - the starling. But starlings are only migrants in Lebanon, and even then are not common. I have seen a total of perhaps seventy-five starlings in the city in three years, from 1946 to 1949, when I was there all year round. The summers of 1952 and 1954 have been the other times when I have birded there, and no starlings showed themselves then.

The bulbul is like a thrush, but a rather noisy conspicuous one. It is gray-brown, with a black head and yellow under the tail, and is very common on the campus, singing all year. The bulbuls are usually the first ones to find an owl, and set up a first-class row that would dampen the spirits even of a Great Horned, if it occurred in Lebanon. The bulbul song is a pleasant carolling, slightly reminiscent of the song of our robin, but including a phrase that is usually rendered as "get your feet wet". They have also a chucking note that is used on owls, cats, or anything that upsets the bulbuls. The graceful warbler is more like a wren than a warbler in actions - it is a tiny bird with a long tail, and this tail is cocked up over the back most of the time, while the bird searches busily for insects among the bushes. The wren warbler has a very loud, metallic song, a sort of grating rattle that carries a long distance. There is hardly a time during the summer when one or more wren warblers cannot be heard singing or calling on the campus. They build a globular nest with the entrance at the side of the top. The materials are all sorts of downy bits, with grasses on the outside, the whole being

attached to flower stalks in a garden, or to the inside of a bush or brush pile, or in a small tree. Usually the nest is low down, often nearly on the ground.

The trees on the campus are typical of the subtropical area, including various cypresses, jacarandas, poincianas, banyans, and oaks, as well as date palms and fan palms. Oleander, plumbago, and other bushes cover many of the terraces, and masses of flowers bloom in the gardens so that there is something flowering at every season. The winters are mild on the coast; temperatures of 50 are considered cold, and though it seems raw and damp, the thermometer stays in the 60's and 70's most of the winter, in the 80's all summer. The summer season is marked by a conspicuous uniformity - the wind blows from the west, or southwest almost all the time; there is never any rain and few clouds, and the temperature stays in the upper 80's during the day, until the first rains of October or November cool things off.

The next spot I will pick is a place called Ainab, near Beirut, where a group of Americans from the University have built summer homes on a hilltop at an altitude of about 3,000 feet. The place is treed with stone, or umbrella pines (Pinus pinea) which are cut so as to produce eventually a tall trunk with a bushy top of branches. The undergrowth here is composed of Spanish broom and a prickly broom like gorse. In the summer there are few flowers, but the winter rains bring out many species of the genus Orchis, as well as many other small plants, crocuses and others. Here is found the olivaceous warbler, a very nondescript bird, with dull gray-brown upper parts and light underparts. It has a rather loud harsh song, and also a ticking note, that is heard here in the summer after breeding season. Sardinian warblers nest here too. They are black-capped, with gray upper parts and a bit of white in the tail, a more striking bird than the other, but not so common. European jays, really a local race, nest here, and their loud harsh cries are often heard in the woods. They act much as blue jays, especially when owls are around, and generally make a fuss whenever it seems the proper moment, which is frequently. I heard the jays giving forth one day, and, upon checking, found that their nest was being attacked by a pair of ravens. More than a match for the jays you'd think, but no, the big black birds were kept at bay successfully, though probably partly because of my intervention. These ravens - the same species as the North American one, though again a different race - are common in these parts. The Ainab hilltop has a fine view down to the coast and Beirut. In the winter when it is clear the city stands out as if it were a mile or two away, though it is six or seven at least and 3,000 feet lower. On the open hillsides around the pine woods are found common wheatears which nest in holes in the ground or in low scrub. The countryside around Ainab, away from the summer houses, has no trees and is generally quite barren, but heather grows in many parts and puts on a fine show in September and October when it flowers. Strangely enough there are very few breeding bird species at Ainab - great tits nest in the woods along with the aforementioned

warblers, and occasionally I have seen wrens there, but the woods are quite silent in the summer, as compared to a similar location around Toronto. Of course it is much drier and undergrowth is more sparse, and the hunting pressure in the fall keeps the bird population much reduced. Even so, this spot is typical of that altitude on the coastal side of the Lebanon ridge.

Let us now go to a place at about 4,500 feet, where a very large spring bubbles out from beneath a cliff and tumbles down a rocky gully, dropping at the end beneath a huge natural bridge of limestone, plunging finally over a cliff in a fine waterfall, thereby entering the valley where it joins other streams in the river. This place is commonly called the Natural Bridge region, and is a fine area for rock-loving birds which sail, or hop, among the rock spires and around the cliffs near the bridge. Here is found the rock nuthatch, a bird that looks like a nuthatch anywhere else, but has a fantastically loud song, a great long trilling affair that can be heard far off, and is usually the first notion the birder gets of the rock nuthatches' presence. This bird nests in crevices in the cliffs, building a large mud entrance to its nest, which is usually deep in the declivity. The birds climb up rock faces in much the same manner as the nuthatches of Canada do on trees; they bob and duck and peer round corners, curious and wary at the same time. And all the time uttering their loud trill and rattle. In the roof of the bridge is a large crack, narrow and long, and apparently quite deep, and vertical. In this crack nest Alpine swifts, great swifts with white underparts and a dark breast band. The parents swoop in under the bridge and up into the crack without a moment's pause, only to reappear, plunging downward, a few minutes later. It looks as though the birds really drop out of the crack and then start flying after counting the customary ten! The young bird's first sight of the world must be terrifying. It is pushed or urged out of the nest, and down out of the crack, to fall free until it starts flapping, after which it has an easy job sailing about in the valley below. These birds utter a loud rattling cry, unlike the scream of the common swift, a smaller bird that is common around towns in the country. They put on a fine show as they speed under the bridge, one after the other, calling and chasing at a great rate. Here also nest many house martins, which in Lebanon are not usually found around buildings, but rather prefer cliffs and bridges. They build globular nests, like those of the cliff swallow, against beetling cliffs. Hundreds of them build every year around the Natural Bridge where the accumulation of old nests adds to the impressiveness of the colonies. This martin, with gleaming white rump and underparts is extremely common in the Lebanon mountains and in the Bekaa plain as well. Less common are the crag martins that also nest here in small numbers. These birds are found most commonly at high altitudes, and are seen around the top of Mount Hermon, at a height of over 9,000 feet. They are dull brown above and resemble rough-winged swallows, though they do not share that species' love for rivers and water. Tiny whitish spots in the tail are the only obvious field

marks, but no other martin in this colour occurs in Lebanon to confuse it with. Black redstarts nest in the Natural Bridge region too. They are colourful birds, the males being slaty grey, with blackish foreparts and orange tail and abdomen. They utter a most peculiar note, part of their song, that sounds like a handful of lead shot being shaken about, or perhaps a shuffling of papers. It is characteristic of the bird, and gives its presence away, though it may be sitting inconspicuously on a rock spire. When the redstart flies it shows its orange tail, which is present in the female too, though that bird has duller colouring elsewhere.

Around the stream that flows beneath the bridge the birder finds dippers and gray wagtails. The dippers are found around many of the mountain streams of Lebanon. They are listed as a local race, with underparts coloured somewhat differently than those of the typical race. I have never heard the song of the dipper, but it is supposed to be loud and long, a sort of tinkling. The bobbing and diving of these birds is fascinating to watch; they disappear for a moment under the water, only to reappear downstream, or across, or almost anywhere. They fly swiftly, just over the water, and vanish suddenly in the stream, always ducking and bobbing and active. Gray wagtails are found at many places in the Lebanon mountains, and winter on the coast and in the Bekaa plain. They are the handsomest of the European Wagtails, having yellow underparts, with a black throat in the male, and a gray back with a fantastically long tail. They fly buoyantly, with a grace that is unmatched by any other wagtail of Europe, and then they land, walk with careful steps over the rocks, and by the rushing cold water of the stream, stopping now and again, and then continuing, always by the water, and with tail dipping like a mechanical toy. This is one bird that has no counterpart in Canada - the closely related pipit is a colourless thing by comparison, and lacks the grace and beauty of any wagtail. Wrens nest in the rocks near the bridge, and rock sparrows, looking much like female English sparrows, fly to and from their nests in the cliffs. Linnets flip from weed to weed on the fields above, and always the swifts are soaring by, under the bridge and out, calling again and again. This spot is one of the most charming in the country, with Valerian flowering on the cliffs, and Colchicums sprouting in the spring in the fields.

In the north of Lebanon is one of the remaining cedar forests, called the Hadeth Cedars. The grove is spread over the hills and rocks at a height of about 6,000 feet, and is a wild spot, with cliffs and gorges cutting it into sections, and rock pinnacles projecting up among the trees. These cedars (Cedrus libani) are today more common in Turkey than in Lebanon, but a number of groves still exist. The Hadeth grove has few really large trees, but most of the trees are comparatively young. There is good cover here for a number of species of birds. Mammals too find refuge in this area, where wolves have been heard singing in one of the most rocky, cut-up parts of the grove. Chaffinches breed in these woods, filling

the air with their song in the spring and early summer. Here also coal tits breed. On a saddle near the top of the grove there is a fine camping spot, with a view toward the sea, and back to the higher peaks, and a breeze that blows across, bringing mist sometimes. The trees with their flat branches and short needles, give off a fine scent that fills the air on hot days. Black redstarts are common here, and often a rock partridge is flushed from a clearing in the grove. Among the larger birds are found Egyptian vultures, fine looking black and white birds, with a pattern similar to that of a gannet. As a matter of fact a lady who was new to Lebanon once asked me what the large gannet-like bird was that she had seen flying around in the mountains! Also, at this same height, and above, is found the griffon vulture, another handsome species, with a wingspread up to nearly nine feet. This species is the one whose wing was used by the ancient Egyptians as part of the symbol for the sun god. This same vulture features in a number of the finest looking tomb-paintings, although the colouring is not true to nature. The griffon has fulvous wings with blackish primaries, and is a fine sight soaring high in the sky. Hobbys are found around this cedar grove also. They resemble small peregrines, with broader wings, and a shorter tail, and fly very swiftly among the trees and about the cliffs, chasing flocks of small birds. And always the kestrels are around, hovering and soaring, or flapping, looking for a juicy grasshopper or a mouse, or whatever else appears on the ground. They are very numerous in Lebanon, certainly the commonest hawk in the country.

High above these cedars is the top of the country - a massif that has many points above 10,000 feet, and one knoll that reaches just above all the rest to the highest point in Lebanon called Kornet es Saouda ("The Black Horn"). The approach to this highest peak is through a barren, rocky valley, broad and shallow, with lower prominences on either side, reddish in colour, and devoid of plant life with the exception of low herbs, and peculiar, rounded, pincushion-shaped bushes, with thorns, small flowers, and tiny, close-set leaves. It is interesting that a number of different groups of plants (in the high mountains) have developed these same shapes, compact to the extreme, and amazingly prickly. The air up in this high country is clean and cool, often too cool at night, whilst the sky in summer is cloudless and rich blue. The light is very bright; an exposure meter registers the highest possible reading. Great snow banks lie on the slopes here in July, and one can see the ice left from the night before on the pools at their bases. Many of them do not form pools at all but drain directly into sink-holes feeding the innumerable springs that rise in the valleys. But all this area has internal drainage. This high valley fed the only glacier in Lebanon during the Ice Age, but since then the drainage has been completely sunk into the ground, making the slopes below ooze with water all year round. This area, 9,000 feet up, is the home of only a few birds - chiefly three species. The common wheatear is found here. This bird might well be called the most adaptable species in Lebanon, being found from

near sea level to the tops of the mountains. The second bird found here is the desert form of the European shore lark, like the horned larks of North America, but of a different race. These birds are large and dull-coloured, but without the bright face pattern of the Canadian species. And up here it is very tame, though not very conspicuous. It has a strange range, being found in the high Atlas mountains of northwest Africa, in the Lebanon, Turkey and farther east, but always in small pockets, as if the existing populations were remnants of a once more widespread species. The third species is one of the most interesting in Lebanon - the rosy-winged finch (Rhodopechys sanguinea). It is a large finch with a general pinkish colour, a deep undulating flight and a twittering call. It is shy, but unmistakable, and is found only at these heights - certainly breeding no lower than 8,500 feet, though descending to lower areas in winter. I saw a flock once just below the summit, at over 10,000 feet. Of course this is not high for a bird, but it is exciting to see a bird at the edge of its range, especially at the top of a mountain, blanketed deep in snow for most of the year, and having great drifts that often never melt off completely. Many people are surprised to hear of country like this in Lebanon, but in fact Lebanon is mostly mountainous.

From the top of this mountain you can see Mount Hermon, far to the south, and also the Bekaa plain to the east and south, stretching to the foot of Hermon in a patchwork pattern of green and brown and yellow. In this plain are a number of large springs. One of them, at Ammik, produces extensive marshes, though nothing like the marshes in northern Syria, or the Jordan Valley. This area, at about 2,500 feet is interesting by contrast to the preceding spots. They have all been rocky dry areas. Here we find a wet, boggy fertile place, with phragmites, yellow marsh irises, and sedges, as well as loosestrife and many tall mints with purple flowers. I have never visited this marsh in the spring, but by early August it still has many, or most, of its breeding birds, and few others have come in yet to confuse the observer. This area is a paradise for little bitterns. Their croaking call is often heard in the reeds; the birds flush readily and fly about over the water and reeds, showing themselves off to perfection. They are much like green herons in their actions, but look like least bitterns, with large buff or cream wing patches and strikingly yellow legs which extend beyond the tail in flight. They climb easily among the phragmites, reaching from stalk to stalk, and flopping about until the depths of the reed bed are found, when they quiet down. Here are found moorhens, the same species as our common gallinule. They bob around the large pond by the spring, and flop into the reeds at the birder's approach, often with downy young trailing behind. Little grebes dwell here, funny-looking dumpy grebes with short narrow bills, but possessing the same diving abilities as pied-billed grebes. The warblers, though, are the commonest birds of the Ammik marshes. Reed warblers and great reed warblers appear to be the most abundant. The reeds are rather plain birds, and out of breeding season are easily confused

with other similar warblers. The great reed warblers, however, are unmistakable. In the first place they are huge, being 7½ inches long and having a conspicuous eyestripe. But size alone is distinctive, when one flies up and lands on a reed stalk it looks perfectly gigantic. The song also is impressive, being a chuckling, croaking, gargling affair, with phrases repeated and very loud. My first great reed warblers were heard first, and I really thought that a moorhen was making the fantastic noise, until, after tossing pebbles into the marsh, I excited the warblers enough to bring one to the top of a stalk. The moorhens were less accommodating, for though I threw quantities of pebbles in among the reeds, I got nothing more than a great reed warbler to appear, still singing as if his life depended on it. Lesser whitethroats nest near this marsh also, and can be seen in the blackberry tangle near the road. At the far edge of the boggy part are cultivated fields that were full of Indian Hemp when I was last there. Whether this was to be used for rope or hasheesh I do not know, but it was growing six and seven feet tall, a luxuriant crop. I have found that a number of the good birding areas of Lebanon are also hasheesh growing areas, perhaps because of the relative inaccessibility in both cases. I asked a man who was working in the fields nearby whether this was really hasheesh and he said "No, it is hemp". However, the two terms are used for the same plant, one having reference to its use as a drug, the other not. He may have just wanted to keep the crop secret, but at any rate it was growing tall, and had a flock of greenfinches among it, still singing, though their breeding season had passed. European marsh harriers nest here too. I saw a female only, but the male was around somewhere. This hawk is larger than the North American Marsh Hawk, the latter being almost identical with the European Hen Harrier, which also occurs in these marshes though not as a breeding bird.

As the summer progresses great flocks of larks gather in the fields on the Bekaa plain. The commonest of these is the Calandra lark, a large dark bird with a white stripe along the back edge of the wing. These birds, along with short-toes and other hawks, settle in the fields in great numbers, feeding on seeds and insects and rising in clouds as one disturbs them. In the mountains at the same time are gathering other larks. Here are found the bimaculated larks, like Calandras, but lacking the white. Crested larks are common in Lebanon, being found in the mountains and plains. It is interesting that, although the fall migration is later than in the United States or Canada, these flocking birds begin gathering before the end of July. Of course, these are local breeders which are through nesting earlier than birds farther north, due to the warm climate, and the earlier start of the nesting season. But the fall migration is locally obvious from the middle of July when the first few species begin wandering away from the nesting area. The numbers are increased as true migrants arrive from Russia, Turkey and other areas to the north and west.

Having covered a number of the typical habitats, I would like

now to say a few words about birding in Lebanon in general. Hawk flight is always a good topic, especially to people in the Toronto region, where it is such a marked feature of the local birding scene in the fall. Lebanon too has a fine hawk flight. The flocks follow the edge of the coastal slope of the mountains, flying along at heights of 2,500 feet and higher. At this height there are good updrafts on the seaward slope of the hills, which rise rapidly to this height and then more gently. This provides a sort of "edge" along which the hawks can move easily. Beginning in September and continuing irregularly into the next month, the flight is one of the finest I have ever seen, ranking with that around Toronto at its height. The chief difference lies in the fact that it is not so continuous, flocks usually go over two or three times a day, with gaps of a number of hours when very few are passing. The species passing in numbers include Egyptian and griffon vultures, long-legged buzzards, common buzzards, sparrow hawks, kestrels, hobbys, peregrines and other local falcons, and a number of eagles of the genus Aquila, to which the golden eagle belongs, most of which are difficult to tell in the field. We used to watch flocks come over, circling high over the next updraft to the north, and then sailing down over us in twenties and thirties, usually in flocks of one species. Lower down, over the trees, would come the small falcons and sparrow hawks often at dusk, to roost in the big pines on the hilltop. And even flocks of ravens and hooded crows would pass by, though these two species are common all year round in Lebanon. The two vultures are permanent residents too, but many pass through to Palestine, Egypt and Arabia. Since the wind is usually constant from the southwest, there is no hold-up for a change in wind direction, and the flocks pass regularly day after day. For some reason, the flight varies considerably from year to year. Perhaps more pass through the interior plains some years. The harriers appear to migrate chiefly that way, and others may sometimes go that way because of some change in conditions further north. But there are always some coming down the coastal slope, and usually a great many.

The stork migration in the spring is another movement that is often spectacular. These birds, the common European white stork, usually migrate through the interior, the fringes of the desert being the usual route. But during the spring there are often hot dry winds that blow over the mountains from the east. These appear to carry a certain number of the storks off course farther south, and bring them to the coast. However, this is unusual. Some years there are none on the coast. But one year (1948) there was a very strong east wind, and we woke one morning to see thousands of storks passing over Beirut. A great line of them stretched over the city, moving in a long broad front, high up. It is estimated that between 3,000 and 4,000 of them passed overhead though I do not know why they should have been so concentrated in one flock. It is possible that when the wind shifts from west to east the storks in Palestine do not move until the wind has settled, and so a great number moves at once, and creates a crowd such as this.

In closing I would say that despite serious human predation there are a good many birds in Lebanon; one can find numbers of them by going to the right places, as is true anywhere. Birding there is a challenge, even with the new Peterson, Mountfort, Hollom field guide. Field characteristics sometimes vary remarkably within species. There is a wide range of habitat, with many local breeding birds. It is up to the birder to find out these subtleties for himself, largely without help or guidance. The beginner cannot run to an expert on Lebanese birds, for there is none. Lebanon is still ready for ornithological pioneers.

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The T.F.N.C. Botany section presents the following article on The Grasses.

They are the humblest and most inconspicuous of our flowering plants. Their flowers have no petals, no sepals, no colourful accessories; instead each flower has a drab papery scale, the "chaffe". Behind this scale three tiny stamens are inserted, and one pistil which waves a fancy branching stigma above the flower like a feather. This is designed to catch the pollens grains which blow around. This arrangement is called a spikelet and a number of them are attached to a zigzag axis or rachilla. In each spikelet is a seed or grain. The seeds produced reach into astronomical figures. No wonder grass covers the face of the earth and gives man his chief source of food for it is from this family that come our cereals -- rice, wheat, corn, barley, oats and rye -- and our forage crops of grasses and corn. Hence without these lowly productive grasses we would have no cereals, and practically no fodder. It is the cereals, for instance, that support the extremely high populations in China and India. Without the cereals there would be no large herds of cattle, sheep, or horses. This family has influenced our economy and history more than any other one group of plants.

The important physical features of the grasses are the jointed cylindrical stems and the long ribbon-like leaves, arranged alternately in two ranks. These leaves have parallel veins and are attached to the nodes along the stem by a long sheathing base that is split open on the opposite side. The stems are hollow in all grasses except corn, sorghum, and sugar cane. One "tree" only belongs to this family -- Bamboo.

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If you are looking for a suitable gift for a naturalist, or just want a nice new decoration for your own desk or mantel, watch for Archie Reid's models of the great auk which will be for sale in the Museum at the next T.F.N.C. meeting.

R. M. Saunders,
Editor.