The VICTORIA NATURALIST

Published by

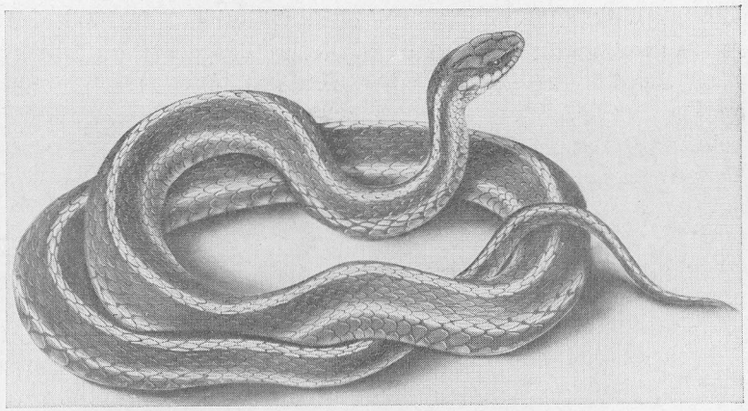
VICTORIA NATURAL HISTORY SOCIETY

VICTORIA, B. C.

Vol. 4 No. 1

Vol. 4, No. 4

OCTOBER 1947



NORTHWESTERN GARTER SNAKE.

THE VICTORIA NATURALIST

Published by

The Victoria Natural History Society

The 1947-8 winter season of the Society opened with a general meeting in the Reading Room of the Provincial Library on September 9th at 8 o'clock. The chair was taken by Dr. Carl. Mr. Harold McWilliams was the Speaker of the evening and illustrated his talk with an entertaining and instructive film showing the types of work entailed in reforestation projects; the gathering of cones by rural settlers; the drying of the cones for seed extraction and the planting of seed beds with approximately 10 ounces of seed per bed. This is followed by the pruning of the roots of the young seedlings by machines when at the age of one year, to induce the production of lateral roots. Then the young trees are shipped in bales of 5000 trees (50 bundles of 100 trees to a bundle). They are then planted on a permanent site. In spite of deer and grouse browsing on them and retarding their growth, there is a survival of about 75%.

Mr. McWilliams pointed out that before any burned or logged land is selected for reforestation a careful soil survey is made of it. Should the land be suitable for general agriculture, it is not used for reforestation projects.

In the province seed production varies greatly from season to season. It was extremely high in 1945, when over 5 tons of Douglas fir seed was produced. As the seed of this tree is used almost exclusively in reforestation projects carried out in B.C., the 1945 seed crop will carry the nurseries through many lean-crop years.

The first forestry nursery in B. C. was established in Victoria, upon a city lot 20 years ago. Since that time large nurseries have been established in three districts, New Westminster (Green Timbers), Campbell River, and at Cowichan, yielding some 16,000,000 seedlings

yearly at a cost of ¼ cent each.

In the past 16 years the Forestry Service has planted some 48,000,000 trees on 60,000 acres. The commercial industry has planted some 6,000,000. Almost all the trees planted have been Douglas fir as hemlock and cedar spring up naturally. At the present time labour has become the limiting factor in this work. During the war conscientious objectors were employed. The three nurseries in B. C. can now produce 16,000,000 trees per annum and to plant these trees would take 1000 men a period of six weeks.

A Garter Snake Record

A Northwestern garter snake (Thamnophis sirtalis) 39 inches in total length was collected at Jordan Meadows by G. A. Hardy and F. L. Beebe on August 30th, 1947. On September 6 the snake died after having given birth to 20 young (including 2 still-born). Nine more young were found by dissection; the average length was 7 7/8 inches.

PLANT VIRUSES

Viruses occupy a borderland position between the living organism and the non-living chemical. They possess, on the one hand, such properties of life as the power to multiply or reproduce and mutate or sport, while, on the other hand, they show many properties, such as the power to crystallize, which are more properly associated with a chemical substance. They are so extremely small that they cannot be seen even under the best compound microscopes, but require the comparatively recently developed electron microscopes with a magnification of about 40,000. It is estimated that about 40,000 virus particles can adhere to the point of a pin. A virus may be defined as an extremely small infective principle having the structure of a nucleo-protein, and apparently capable of reproduction only when in association with living cells. Many of the viruses have an interesting relationship with insects, upon which they are dependent for their transportation to new hosts.

Virus diseases, like bacterial and fungous diseases, are in a class by themselves. A virus disease is brought about by its own type of infection. For example, the virus which causes mosaic of potatoes is not the same which is responsible for leaf roll and witches broom.

Viruses are the cause of some of the most serious diseases affecting man, and domestic animals, insects, bacteria, and plants. Infantile paralysis, influenza, measles, mumps, small pox, and yellow fever are only a few virus diseases of man. Among those affecting animals are distemper, encephalomyelitis, foot-and-mouth, and swine fever. Birds suffer from many kinds of pox, plague, tumours, and psittacosis, and insects from sacbrood and polyhedral diseases. Bacteria are destroyed by them, and plants are attacked by numerous virus or degeneration diseases.

The losses caused by viruses is very great, and almost equal to that caused by pathogenic bacteria. The potato, one of the greatest sufferers, is known to have been so severely attacked in the eighteenth century that farmers in parts of Europe had to give up the cultivation of this plant. The farmers in England annually spend around seven hundred thousand pounds on new potato seed from Scotland and Ireland to replace their own stocks that have become virus diseased. The continued growing of potatoes is dependent upon certification which only allows a certain tolerance for virus diseases.

Some Symptoms of Plant Virus Diseases:

One of the common types of plant virus disease is known as mosaic. Some mosaic diseases are very striking and may resemble a natural variegation with their bright greens and yellows. Some viruses stimulate or depress growth in plants. In Little Cherry, a virus disease in the Kootenays, only the fruit appears to be affected. It is about half normal size, and not so sweet. The change in colour of tulip flowers, known as breaking, is caused by an aphis transmitted virus. Malformations, distortions, wilts, mottling, premature falling of leaves, stunting, are a few of the symptoms.

Transmission of Viruses:

Viruses are transmitted by insects, grafting and by mechanical methods. In nature, the spread of viruses is usually by insects. The insect vectors pick up the viruses while feeding on infected plants, and later transmit them to other healthy plants on which they feed. The relationship of viruses and insects is often very specific, and only certain types of insects - sometimes only one particular species, can transmit a particular virus. The insect carriers or vectors of plant viruses are usually insects like aphids or leaf hoppers which imbibe the plant sap by means of their suctorial mouth parts. New vectors for viruses are being discovered regularly, and

there is no doubt that many viruses, which up to now have been transmitted experimentally only by grafting and inoculation do have vectors. To avoid possible spread of viruses from tobacco to tomato, greenhouse growers wash their hands with soap and water after smoking.

How a Virus May Originate:

The theory which seems to be the most acceptable, is one that suggests that a particular virus particle arises as an accident in the metabolic processes of the plant. We know that the protein molecules making up the living tissues of a plant are very complex. Some molecules contain several hundred atoms. In each molecule, all of these atoms are held together in a very definite pattern. Should one atom be dropped, or even change its position in the pattern, or should other atoms be added, the molecule changes in character and it can no longer function normally in the plant. One such changed molecule or particle in a cell containing many hundred of thousands of molecules would not in itself have any marked effect on the plant. But this newly formed particle sets up an action that apparently causes more molecules to change over into similar abnormal particles. The result is that, once one of these particles arises in the living cells of the plant, it goes on stimulating the development of new particles and soon the whole plant becomes infested with them. The presence of these particles interferes with the normal functioning of the plant and disease results. The type of particle that arises determines the nature of the virus disease which results in the host plant. In most of our agricultural plants, several different virus diseases are known. Once an accident has happened and a new particle is formed the latter appears to be quite a tenacious entity, for we know of some of these virus diseases that have been in existence for several hundred years.

W. R. Foster,
Plant Pathologist,
B.C. Department of Agriculture.

BIRD STUDY IN CENTRAL WASHINGTON

--- September, 1947 ---

The motorist can drive long distances in arid country yet fail to see many birds. Perhaps in a score of miles he would see a pair of red-tailed hawks, one or two sparrow hawks, magpies, a few lone mourning doves or a few horned larks. But when desert scenery becomes precipitous the nature lover begins to wonder how much or how little of bird-life can be encountered there in a small area. And so the writer stopped the car one morning to make a bird-count within echo distance of the highway.

Walking up an old wagon road that wound its way through sage brush, he was surprised to hear the call note of a canyon wren. There were two of them. For some time they crept in and out along the crevices of the rock hunting (carefully) before reappearing. The male bird was the more trusting for he once approached to within six feet of the intruder, eyeing him from all angles. He crept and flitted over the boulders, clinging to perpendicular rock, then sat on a boulder's edge and rang out his clear peal of bells. Meanwhile across the ravine a rock wren, upright in posture and retiring in habit, hopped agilely over the sheltered rocks.

In the tangle of rose bush below, a sage thrasher balanced himself upon the slender growth and fed upon the sweet long hips. Above, and in and out of the warm sunshine, a magpie and a pair of red-shafted flickers gave more life and colour to the scene. Below them a few Gamble's sparrows, migrating, moved in bushes growing from a crevice. There was perhaps water among the dislodged boulders to attract the birds.

As the canyon wren worked his way upwards he approached the nest of a redtailed hawk on a ledge thirty feet from the ground. A raven flew overhead. Over the steep walls of a nearby canyon a solitaire sat on a rock, then

dived plummet-like to a bush far below, his long tail steering him accurately to a new perch.

In another canyon next day a sage thrasher sang out his loud clear warbling song before he disappeared over the rocks above. He flies like a robin.

One felt that a few hours in this vicinity had been well rewarded.

J. O. Clay.

Mrs. Laurel Reynolds

It may interest those of us who expect to have the pleasure of hearing Mrs. Laurel Reynolds on October 1st that she will speak in 25 cities on this continent in the course of her 1947-48 speaking tour.

Victoria has the distinction of being the only Canadian city on a list which includes, Phoenix, Albuquerque, Salt Lake City and Portland.

Mr. Sprunt will do even better.
Between October 6th and April 22nd he will visit 52 cities, in Florida, New Mexico, California, Arizona and Utah etc.

YOHO VALLEY

Driving from Field, one passes the meeting of the waters, where the Kicking Horse joins the Yoho river. The road rises, becoming very narrow, with sharp angled turns, at the very edge of the deep Canyon through which the Yoho rages.

Coming out into open country, there was a faint blue tinge over the grass which proved to be masses of the tall blue False Forgetmenot.

Nearing Yoho Valley Lodge, the roaring of water is heard all the time, for the glacier fed Takkakaw Falls come down 1200 ft.

In early July many flowers were already over, but there were carpets of both the white and the yellow Dryas. Damp places along the roadside held white sweet scented Bog Orchis, and a small green Orchis. Bordering the woodside trail, were the pink Pyrola uliginosa. The exquisite little white sweetly scented Moneses Uniflora, its pretty common name being Wood Nymph. Quantities of the palest yellow Aquilegia flavescens, its foliage particularly delicate and glaucous. Glaucous Cinquefoil, yellow Arnica, patches of purple Pinguicula, whose sticky leaves catch and prey upon small insects. White Northern Anemone, a tall single aster of a specially lovely violet with a yellow eye. Valeriana sitchinensis. In dryer gravelly places were Zygadenas elegans, and Stenanthella occidentalis with small brownish bell like flowers.

Climbing a few hundred feet into the woods, banks of delicate green ferns and Manzanita bushes bordered the trail together with pink False Heather, and white heathlike Cassiope mertensiana, and pink Kalmia or Swamp Laurel. In some places the white Mountain Rhododendron was in bloom, a flower somewhat resembling a scentless syringa.

On the trail up to Twin Falls are five lakes and waterfalls, I was fortunate enough to see a large bull moose feeding in some shallows, the animals in Yoho Park are very tame, owing to protection and come close to habitation.

Hermit Thrushes sang all day among the wooded hillsides. I noticed that the paired birds answered each other. What I took to be the female called in a poor feeble voice, and was instantly answered by her mate with its beautiful ringing notes, I saw the latter bird well. In the evenings after dusk another thrush sang, but I could never identify it. Varied thrushes gave their sharp whistle very frequently.

A family of Clark's Nutcrackers attracted me by discordant screechings and white crowned sparrows sang, rather differently from our Victoria birds. On the whole I was disappointed in the bird life of the district.

A. Ewart.

Leather-back Turtle off Denman Island:

The Pacific leather-back turtle (Dermochelys coriacea) ranges widely in tropical seas and is even seen occasionally off the West Coast of Vancouver Island.

A specimen in the Museum was taken near Bajo Reef, Nootka Sound, on August 16, 1931, and another was captured two weeks later at the same place. During September, 1942, several more were sighted off the Pacific Coast from California to Vancouver Island and one was seen near Denman Island in March of 1947.

The latter record is apparently the first time this reptile has been observed in inshore waters of British Columbia. According to Mr. H. R. Lacon of Denman Island the turtle was seen on at least two occasions and was estimated to have a shell at least four feet in length.

G. C. Carl,
Provincial Museum.

NOTE ON MR.ALEXANDER SPRUNT
(November lecturer in the Audubon Series)

Mr. Alexander Sprunt, who will be the second Speaker of the Audubon Screen Tour programme (Mon. Nov. 3rd), has been a naturalist since he was quite young. As a boy he did volunteer work for the Museum of Charleston S.C. He later held the position of curator of ornithology in that institution. During World War 1 he served with the U.S. Navy.

Mr. Sprunt has been active for the Audubon Society since 1934. For many years he supervised the work of Audubon wardens in Audubon sanctuary areas. These sanctuaries comprise more than one million acres and are patrolled by automobile and power boat, on horseback, afoot and by plane, during the critical nesting and breeding seasons. Thus vast colonies of birds are protected by the Society including egrets, spoonbills, cranes and herons.

Mr. Sprunt has rendered valuable educational service as a writer. A collection of his scientific articles and stories of the out-of-doors has been published under the title "Dwellers of the Silences". Mr. Sprunt is also well known through his leadership of the Audubon Wild Life Tours, at Bull's Island, S.C. and Lake Okeechobee, Florida.

As a lecturer Mr. Sprunt combines colour and forcefulness in a very effective way. His firsthand acquaintance with natural history matters, his intimate knowledge of conservation problems, his broad viewpoint and his fluent and colourful speech, combine to make him an exceptionally agreeable and authoritative speaker for all those who are keenly interested in the out-of-doors.

The films Mr. Sprunt uses have been taken by some of the U.S.A.'s foremost natural science photographers.

NOTE

The Executive wishes to announce that Mr. William Foster, Provincial Plant Pathologist, has agreed to take on the chairmanship of the Botany Group for the 1947-1948 Season. Mr. Foster's office, where the first group meeting will be held, is on Superior Street almost opposite the Mines Building and next door to the Government building now being erected. Phone: Empire 1111, local 472.

We are glad to state also that Mrs. E. J. T. Woodward will act as Programme Chairman for the rest of the season, taking over from Mr. A. H. Marrion whose night class duties prevent his taking part this winter. Mrs. Woodward has already had some experience having been on the Programme Committee in 1946; her phone number is Colquitz 12-T.

NOTICE OF MEETINGS

Wednesday, October 1st: First Audubon Screen Tour.
Mrs. Laurel Reynolds, "Fun with Birds".
Prince Robert House Auditorium, 8 p.m.

Tuesday, October 7th: Bird group meeting.

Tuesday, October 14th: Monthly general meeting, Provincial Library Reading Room at 8 o'clock. Speaker: Mr. George A. Hardy, "A trip to Jordan Meadows".

Saturday, October 18th: Fourth Annual Fungus Foray. Hudson Bay Woods, end of Mt. Tolmie Bus route (walk east 2 blocks) 2 p.m. Tea provided, bring cup and cookies. Mr. G. A. Hardy in charge.

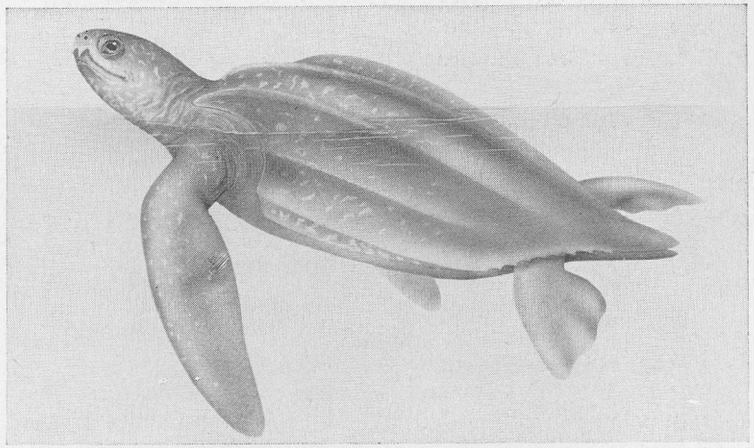
Tuesday, October 21st. Botany Group Meeting. Office of Plant Pathologist, 545 Superior St. (upstairs) at 8 p.m. "Kinds of Plant Diseases". Mr. William Foster.

Tuesday, October 28th. Entomology Group Meeting. Office of Dominion-Provincial Entomologist, 545 Superior St. (upstairs) at 8 p.m. Mr.Harry Andison.

Monday, November 3. Audubon Screen Tour.
Mr. Alexander Sprunt. "Our Living Earth."
Prince Robert House, 8 p.m.

Junior Group Meetings

Saturday Mornings at 10 a.m., Provincial Museum. A series of visits to other related Departments and an occasional field trip are being planned. Interested young people are invited to attend.



PACIFIC LEATHER-BACK TURTLE.

Victoria Natural History Society

OFFICERS

HONORARY PRESIDENTS:
J. A. Munro, Dr. G. M. Weir

PAST PRESIDENT:
Archdeacon R. Connell

PRESIDENT:
Dr. G. C. Carl

VICE-PRESIDENT:
L. Colin Curtis

EDITOR:
Mrs. R. G. Hobson
2284 Windsor Road
Telephone E 5549

SECRETARY:
Miss Marjorie Speed
237 Kingston Street
Telephone E 0919

TREASURER:
A. L. Meugens
169 Olive Street
Telephone E 5847

CHAIRMEN OF GROUPS:

Botany: J. F. Palmer
Telephone G 2502

Entomology: Harry Andison
Telephone E 1111, Local 468

Ornithology: J. O. Clay
Telephone E 3101

Programme: A. H. Marrion
Telephone G 1983

Zoology: G. C. Carl
Telephone E 8524

Annual Subscription: Single, $2.00; Family, $3.00; Junior, $1.00.

To

MRS J.A. BLAND
1049 RICHMOND AV
VICTORIA