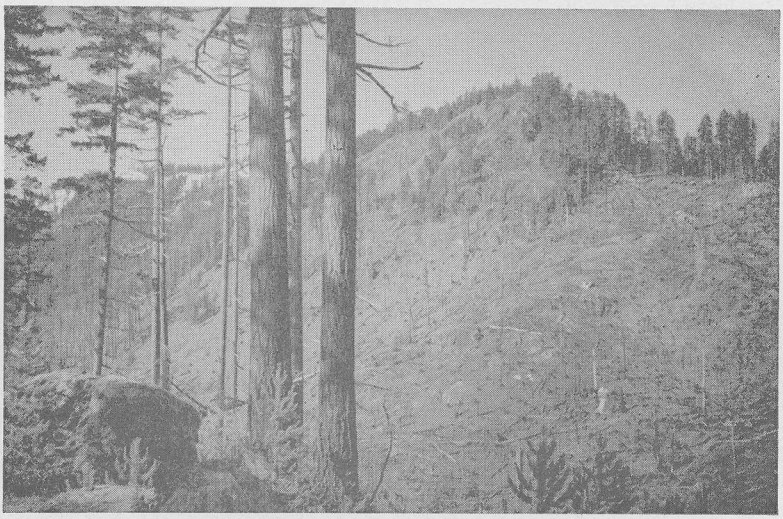
The VICTORIA NATURALIST

Vol. 6, No. 2 May, 1949



Cowichan Valley.

Published by the
VICTORIA NATURAL HISTORY SOCIETY
VICTORIA, B.C.

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The Greater Yellow-legs

The Greater Yellow-legs can be found here from early spring to the latter part of October except during a short period when it is absent for nesting. Frequenting the tide flats and marshy areas it is often heard before being seen, although it is by no means a bird of retiring disposition. Apart from the Hudsonian Curlew this is the largest of our regular waders.

It is an easy bird to identify; the very yellow legs are noticeably long; the general colour is greyish-brown with some white intermixed; the upper tail coverts are white. It does not don a distinctive nuptial plumage, as many other waders do. Most bird-watchers will have at times cursed the Yellow-legs as its penetrating "whew-whew" alarm note is likely to disturb all birds within hearing. It is not shy and will give every chance of observation as it walks with a teetering motion, along the slough or tide margin. It has other calls, a quiet satisfied cackle and occasionally a delightful trilling nuptial flight song.

The Lesser Yellow-legs

The foregoing description applies as much to the Lesser as to the Greater Yellow-legs except in size as the name implies. It is easy to distinguish the two when seen together, but the relative difference is not so apparent when seen apart and, in this connection, the size of the beak is the thing to bear in mind. That of the larger bird is really long, whereas that of the Lesser Yellow-legs is normal for its size.

There are other differences: the call is shriller, and frequently includes a "keeup" note; the primaries are a more decided black and it is more speckled underneath and the spring plumage does not have so many scattered dark feathers over the mantle.

It frequents the same places, and acts in the same way as the preceding species. It is, however, a rare spring migrant and does not stay so late. I have never heard it trill.

The Black-bellied Plover

The Black-bellied Plover is poorly named as it is only in the summer that this description applies; the remainder of the year the name Grey Plover, under which it is known in the Old World, is much more suitable. In British Columbia it is usually seen as a migrant, though a few winter here. Its summer home is in the far north.

Apart from the black belly there is one identification mark that is chacteristic, namely the black axillaries. The bird has a rather large round head with a prominent eye, all of which help to distinguish it from its close relative the Golden Plover. The Black-bellied Plover has the usual plover habit of making a short run and then stopping, and may be looked for on the tidal flats. Like so many of the waders it has a very musical call, a loud whistling "wee-you", that can only be confused with that of the Golden Plover, but this bird is much less common.

In the nuptial plumage this is a very striking bird; the coal black below, carries up to the head and, above, a delicate grey with some white, gives it a variegated appearance.

Theed Pearse,
Comox, B. C.

Attention Members

A new group list is being prepared by each Group Chairman. Please check with the Chairman of the Group or Groups in which you are interested, or with the Secretary, to see if your name is on the list. Now that outings are being planned it is necessary to have up-to-date lists of the members interested.

NATURE AT HOME

George A. Hardy

It is not necessary to travel very far in order to satisfy your love of natural history, for there is at least one method by which this may be achieved without leaving the house. All you have to do at this time of the year (March and April) is sit at a lighted window after dark or make repeated visits to the porch light, and you are almost sure to see something of interest.

During the month of March of this year and even before the snows of February had departed, several intriguing visitors arrived; moths that appear only at this season of the year.

Since the Garry Oak, with associated flora, is the dominant tree in the vicinity of my house, it would be expected that moths dependent upon this food supply in the caterpillar stage would be most in evidence. When different types of trees or shrubs naturally occur correspondingly different species of moths may be expected. What are your prospects in this regard? Let's get busy and compare notes!

During the months of March and April over twenty-five species of the larger moths have been recorded as visitors to my porch-light; approximately half of these belong to the Owlet family (Phalaenidae), the remainder chiefly to the Looper Family (Geometridae).

The first species to be noticed was the February Highflyer (Hydriomena nubilofasciata) which outnumbered all other visitors at any one time, posing all sorts of questions regarding its economy and life-cycle. Later when this species had had its fling, it was replaced by the Island Highflyer (H. crokeri) though in lesser numbers; individuals are still turning up at the time of writing (April).

Large, in proportion to the Highflyer, the Brown Tissues (Triphosa haesitata) come early in the season

and the Western Carpets (Melanolophia imitata) appear in April, fluttering clumsily about the light, or resting quietly on the walls or ceiling nearby.

But the real thrillers of the evenings were the heavyweights of the moth world, the Branded Sallow (Eupsilia tristigmata), the Wintry Woodlings (Xylomyges hiemalis), the Beautiful Woodlings (X. pulchella) and other species of the genus, their burly forms adding interest and distinction to the party. At the lightest touch when at rest these are apt to fall ignominiously to the floor, feigning death.

Along with, or in succession to the Woodlings and Sallows, the Twin-spot Rover, (Behrensia conchiformis) and four or five species of Penman moths (Orthosia sp.) joined the throng, each with its distinctive coat of many colours in varied patterns and designs.

Lest too much of a good thing becomes monotonous these robust revellers were often joined by more dainty visitors, among which the fragile Pearsall's Wave (Venusia pearsalli) was most common, while the scarcer Black-angled Wave (Nyctobia nigroangulata) added grace and charm to the gathering. These more delicate species usually sat quietly on the sidelines, out of harms way from possible collision with their ponderous relations.

Thus as the months slip by, their passage may be recorded by a constant succession of moth species, many of which will be characteristic of the time of year at which they appear: the well known "Calendar of the Flowers" may be supplemented by the "Calendar of the Moths".

A partial list of species taken by the writer during March and April follows:

Lasiocampidae (Tent-caterpillar Family)

American Lappet (Epicnaptera americana Harr.)

Phalaenidae (Owlet Moths)

Wintry Woodling (Xylomyges hiemalis Grt.)
Simple " " simplex Wlk.
Grey " " crucialis Harv.
Oregon " " cognata Sm.
Common " " canadida Sm.
Beautiful " " rubrica pulchella Sm.
Eyed Penman (Acerra normalis Grt.)
Brown " (Orthosia transparens Grt.)
Common " " praeses Grt.
Western " " pacifica Harvey
Variable " " hibisci quinquefasciata Sm.
Large Grey Pinion (Graptolitha georgii holocinerea Sm.)
Twin-spotted Rover (Behrensia conchiformis Grt.)
Branded Sallow (Eupsilia tristigmata Grt.)

Geometridae (The Loopers)

Black-angled Wave (Nyctobia limitaria nigroangulata Stkr.)
Brown Tissue (Triphosa haesitata Gn.)
February Highflyer (Hydriomena nubilofasciata vulnerata Swett)
Island Highflyer " crokeri Swett
Pearsall's Wave (Venusia pearsalli Dyar.)
Chocolate Pug (Eupithecia ravocostaliata Pack.)
March Pug " annulata Hlst.
Western Carpet (Melanolophia imitata Wlk.)
Walnut Looper (Coniodes plumogeraria Hlst.)

MORE BOTANY NOTES FOR 1948

W. Tildesley

Plant ecology, that is, the relationship of location and climate to existing plant cover, is a wide and interesting field of study. It is so wide in fact that certain schools in the U.S.A. and in Russia have expanded ecological data into theories that, to put it mildly, are controversial. This however does not prevent the observations of variations in our local flora due to location, from being very interesting.

Generally speaking, climate is the governing factor in soil formation and plant cover. A Russian scientist in the 1920's mapped the soils of the world without leaving his laboratory in Petrograd or Leningrad (The revolution took place without disturbing him.) The map was correct for all the main soil types of the world and it was developed entirely from climatic and meteorological data from official sources; mainly rain-fall statistics.

While the above may be true for the wide sweep of world soil mapping, in the more limited area of local conditions there are a number of factors which cause noticeable variations both in type of flora and time of blossoming. In previous notes mention has been made of the effect of competition for a limited moisture supply on the size of individuals of the same species. The single plant growing in cultivated soil will often be 100 times larger than its brother, crowded in competition with hundreds of other plants on a dry, hard roadside. Elevation and drainage or cool winds and shade retard the development of some plants and eliminate others. The Uplands area is a good place to observe the variations in blossoming time caused by slight variations in elevation or exposure. It might be expected that the whole area from the sea, right across to the top of the Uplands would present the same picture of masses of camas and buttercup in flower at about the same time. Actually,

at the beginning of May there was a definite line of demarcation immediately below the old street-car loop. East of this point there was hardly a flower in bloom -- just an expanse of grass and shrub, leading down to a semi-swamp. On the warmer locations, beyond this and across the golf course to the sea the flowers of a month earlier were still in full bloom. Some weeks later when the Bird Group covered this ground the camas was in full bloom, most of it being of the larger and slightly later species, Camassia Leichtlinnii Wats. Other species which were finished on the high warm rocks of Gonzales were also still blooming here.

Mt. Tolmie is another area in which to observe variations due to location. On May 12th I was able to find practically every one of the early spring flowers as well as a number of the later ones. Erythronium oregonum Applg., Blue-eyed Mary, and Peacocks or Shooting Star were still common in the sheltered areas while some of the more open ground was covered with a lovely pink sheen of Sea Blush (Valerianella conjesta DC.) and there were even a few spikes of Zygadenus, Fools Onion (Brodia lactea Wats.) and Wild Onion (Allium acuminatum Hook.) coming into bloom on the dry warm hill sides.

Soil conditions such as high acid or salt content often determine what plants will grow in certain areas. Outstanding examples of this are to be found among our beach and foreshore flora; Sand Bur (Franseria bipinnatfida Nut.), Sea Rocket (Cakile edulenta Hook.), Seaside Plantain (Plantago maritima L.) and that startlingly bright but sticky orange-flowered member of the "Four O'clocks", (Abronia latifolia Esch.) and the red tinged fleshy stemmed Glasswort (Salicornia ambigua Michx.), all grow happily with their feet in salt water, while Beach Pea (Lathyrus maritimus Bigal.), Gum-weed (Grindelia integrifolia DC.), Sea-thrift (Statice Armeria L.) and that scurfy relative of spinach, Orach (Atriplex patula L.) all delight in positions exposed to sea spray. Some of these will do well away from the sea but others just have to have the saline conditions.

Another group which still presents a problem to botanists are those which grow in association with other selected species but do not seem to be dependent on them in any way. Archdeacon Connell tells me that the lovely delicate Lady's Slipper (Calypso bulbosa (L) Oaks.) is invariably associated with our native maple. And right here I would like to insert a plea to all members of our Society to do whatever they can to conserve this most lovely little member of our floral community. The restriction of habitat and slowness in reproduction prohibit it from making up wastage from fire and thoughtless picking, and it is next to impossible to transplant this delicate pink orchid.

A New Flower Book

"Wild Flowers in the Rockies" by George A.Hardy and Winifred V. Hardy, illustrated by Frank L. Beebe. H.R. Larson Publishing Company, 1157 W. Pender St., Vancouver, B. C., 125 pages, 200 colour illustrations, price $7.50 in local book shops. Flower lovers will greet with enthusiasm this beautifully produced book of western Canadian wild flowers. The Rockies are unique in that they are the meeting place of three types of flowers, namely: the moist mountain group, the dry prairie group and the alpine group. Two hundred typical species are herein described and illustrated in a most pleasing manner. The authors and artist, members of our Society, are to be congratulated on their accomplishment.

REPORT OF THE APRIL MEETING

The Minutes of the February meeting were read and adopted, following which the Secretary read a letter from Archdeacon Robert Connell expressing thanks for the honour of being made our first Honorary Member. Letters were also read from the Vancouver Natural History Society regarding possibilities of a summer camp and from Mr. W. H. Warren, Victoria Parks Superintendent, concerning a proposal to import exotic birds. A preamble prepared by Dr. Mathews was also read by the Secretary concerning a proposed motion dealing with the administration of Garibaldi Park.

Specimens submitted for examination were as follows:

(a) Indian elephant's tooth sectioned to show structure and a table knife with handle of elephant tooth.
Mrs. H.A.Bogart.

(b) A bird band placed on a mallard drake in Beacon Hill Park on December 2, 1945, and recovered at Esquimalt in November, 1948, by Mr. A.F. Albany of Craigflower Road. Mr. J. O. Clay.

(c) An unusually large specimen of morel taken on the grounds of the Parliament Buildings.
Mr. G.A. Hardy.

(d) A collection of chips showing the work of the pileated woodpecker in green timber.
G.C. Carl.

Dr. D. B. Quayle, Biologist in the Provincial Department of Fisheries, was then introduced by the President; a brief resume of his address is given as follows:

OYSTERS IN BRITISH COLUMBIA

While British Columbia has world-wide fame as a result of her salmon, halibut and herring fisheries the Province supports a number of lesser-known fisheries of which one concerns the culture of oysters. Three species of oysters are found in British Columbia waters as follows:

(1) Native oyster, Ostrea lurida. A small species

averaging about two inches in length; now much reduced in numbers apparently due to overfishing; has a high value because of its scarcity.

(2) Eastern or Atlantic oyster, O. virginica. A larger species up to four or five inches in length, first imported from the Atlantic coast in 1906 but not successful in establishing itself; occasionally spawns at Boundary Bay in the mouth of the Serptentine and Nicomekl rivers.

(3) Japanese or Pacific oyster, O. gigas. A large oyster averaging about six inches in length, first introduced by Japanese fishermen in 1912. In 1926 numbers of them were imported from American waters and others were brought in from Japan as seed. At first, spawning was stimulated artificially but since 1935 when a natural spawning occurred, several spawnings of commercial extent have taken place. With natural spawning and aided by importations of seed from Japan, the Pacific oyster now forms almost the entire basis for the industry.

The oyster is a bivalve mollusc specialized in certain features because of its sessile habit. In the winter most of the body is occupied by an accumulation of fat (glycogen) giving it a white, creamy appearance. In the spring the glycogen is changed to reproductive material, either eggs or sperms. In mid-summer, providing suitable water temperatures obtain, mass spawning takes place. The larva resulting from a fertilized egg swims free in the water for about three weeks during which time it develops a two-valved shell and a foot. When mature it seeks a solid, clean object, usually between the five and eight-foot tide level, to which it cements its left valve. The foot and swimming organ (velum) then disappear, being absorbed or swallowed, and the young enters the spat or seed stage, a most delicate period.

After spatting the normal growth period follows, the oyster attaining marketable size in three years. The most serious pests are the oyster drill (including the introduced Japanese species, Tritonalia japonica) and the native starfish, Pisaster ochraceous.

Oyster culture in British Columbia will never be on a large scale because our coast line provides a limited amount of intertidal areas suitable for this activity.

A series of slides followed by a lively question period concluded the address.

G. C. C.

JUNIOR PAGE

Eagle vs. Seagull

I was told a short time ago this story of the protection of some young seagulls by their mother.

A hungry eagle was returning empty from the day's hunting when far below him on the rocky crags of a cliff near the sea, he saw the nest of a seagull. What's more it still had the young in it -- very tasty morsels. The eagle immediately descended toward the nest to devour the young. The mother, close by, saw the eagle and launched an attack on it in an attempt to defend her young. Her loud cries of anguish soon aroused many of her neighbours, who came to her assistance. Between them, they managed to pull the eagle toward the sea, where once in the water, they soon drowned him. The once ferocious eagle floated away, the victim of docile seagulls whose children he had tried to devour.

Marion Patterson.

Meetings of Juniors

Junior members are entitled to attend the outings as listed under Notices of Meetings but it is suggested that members 12 years of age and under be accompanied by an adult as Group Leaders can not accept responsibility of young people on field-trips.

NOTICES OF MEETINGS

1949 Saturday May 7th:	Bird Hike at E. & T. Raper Dairy Farm, Burnside Road. Meet at Burnside bus terminus about 2 p.m. Bus leaves V.I. Coach Depot 1:30 p.m. Mr: J.O. Clay.
Tuesday May 10th:	General Meeting in the Reading Room of the Provincial Library at 8 p.m. Speaker: Mr. L. J. Clark, Subject: "Plant Ecology on the Forbidden Plateau."
Saturday May 14th:	Geology Group Field Meeting. Jordan River. Leave Victoria 12:30 p.m. For transportation arrangements please phone Mrs.Wm. Matthews, G.5684. Mr. G.E. Winkler.
Saturday May 21st:	Botany Group Field Meeting. Meet at corner of Cook and Topaz Ave., 1:45 p.m. Cook-Maplewood bus leaves Coach Depot 1:25 p.m. Mr. W. T. Tildesley
Saturday May 28th:	General Outing. Mr. and Mrs. K.E. Christiansen's, Swan Lake. Meet at Mr. and Mrs. Christiansen's house, 3945 Saanich Road, shortly after 2 p.m. Douglas -Falmouth bus leaves Coach Depot 2 p.m. Mr. J.O. Clay.
Saturday June 4th:	General Outing. Thetis Lake, at about 2 p.m. Members arrange own transportation.
Saturday June 11:	Botany Group Field Meeting. Experimental Station, Saanichton. Meet at Experimental Station about 2 p.m. Sidney bus leaves Coach Depot 1:15 p.m. Mr. H.B. Binny.
Saturday July 23rd:	Marine Biology Group Field Meeting Terminus of Richardson bus, (Crescent Rd.) at 1 p.m. Mr. G.A. Hardy.
Saturday Aug.13th	Ornithology Group Field Meeting: Details to be announced. Mr. J.O. Clay.

Members attending Field Meetings are advised to bring their own refreshments.

Victoria Natural History Society

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Annual dues, including subscription: Single, $2; Family, $3; Junior, $1.

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To