The VICTORIA NATURALIST

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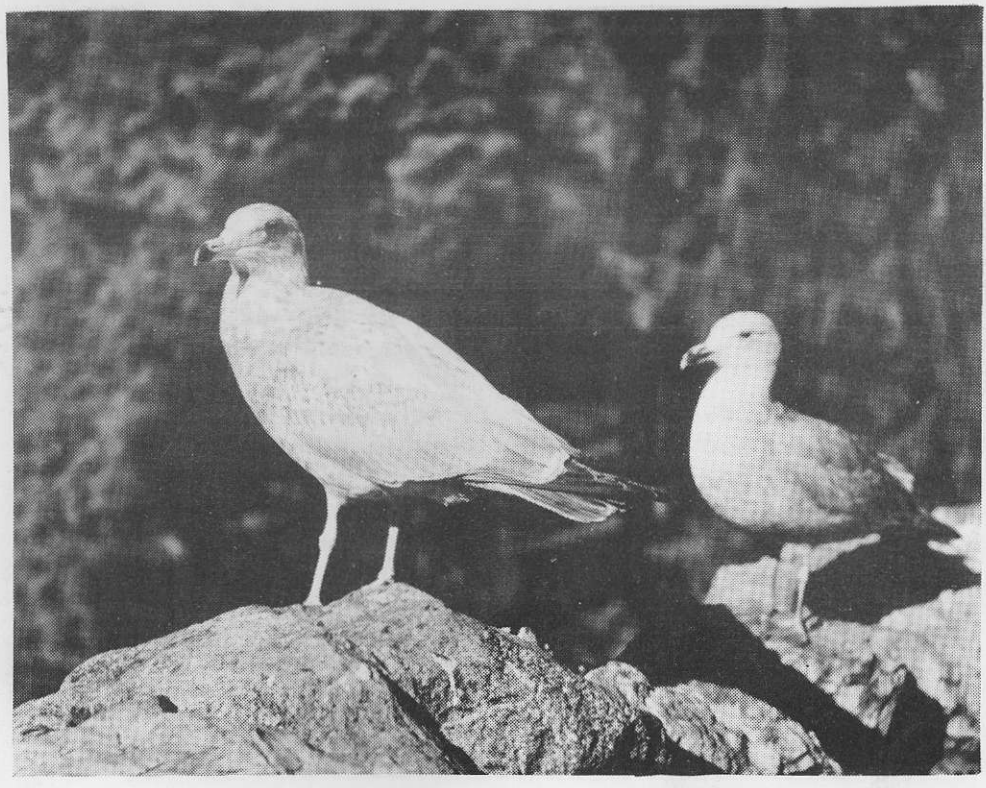

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COVER PICTURE

YOUNG GULLS

By R. Y. Edwards

The gulls, in recent years, have become some of the most thoroughly studied birds in the world. Our common species, the Glaucous-winged Gull, is available to all local naturalists, and it requires only a sharp eye and a nimble mind to enter into the gull's world. There is no need to search out these birds in wild corners of far seas. The gulls that I know best were met when I was flat in bed in the Royal Jubilee Hospital, and the gulls came to the windowsill promptly at lunch time to tap on the window.

Gulls are a part of Victoria. I know no other city where this is so true. They stalk our streets and call from our roof tops. They splatter our cars and raid our refuse pails. They hunt earthworms in gangs in our city parks, and they put life and beauty into the sky most times when you look up. What the black vulture is to the villages of Mexico, the Glaucous-winged Gull is to Victoria.

Bill Reith's cover picture shows two immatures not yet the pure white of adulthood. These birds live in a world quite different from ours. They see and recognize only parts of their surroundings. To learn more of a gull's world, read the very readable "The Herring Gull's World" by Tinburgen.

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SOME OBSERVATIONS OF PREDATION ON INSECTS

By S.F. Condrashoff

(continued from March issue)

areas were vulnerable, a live weevil was introduced into a cage with a black widow spider. After binding the weevil the spider probed the joints of the legs and abdomen for some time, and when observations were resumed several hours later, she was feeding from the mouth parts.

Wasps are known to be carnivorous creatures and may also be predators of other insects - even their near relatives. My young daughters excitedly reported that two wasps were fighting on the sidewalk, and led me to the scene. A white-faced hornet was grappling with a smaller yellow-jacket, their legs entwined, tumbling about on the sidewalk. Whenever the yellow-jacket broke free the hornet would catch it again in flight and finally succeeded in stinging it. The hornet then grasped the paralized prey with its legs and flew off. Another observation is recalled from last summer at 7500 feet elevation in the Sierra Nevadas in California, concerning predatory activity of yellow-jackets. A polyethylene canopy was draped over a rope tied between two trees, with the ends of the plastic secured to the ground, forming an open-ended pup tent to protect camping gear from rain. One morning a number of chirouomidae (midges) accummulated at the roof inside this structure. A pair of yellow-jackets flew in pursuit, capturing them one at a time in mid-air, and perched on the rope to eat their prey. Dozens of these midges were devoured before the yellow-jackets departed.

During the same expedition to California, a fence lizard, a species very common there, was caught for a pet by the children and brought to Victoria. It was given a home in a large glass jar with earth and debris for a floor and sections of tree branch on which to climb. An electric lamp provides light and warmth for basking. A variety of live insects are offered this lizard, and it responds readily, providing opportunities to observe its habits related to pursuit of different prey and the responses of the latter.

Of all insects offered, the simplest for the lizard to capture are termites freely removed from wood. They wander about in a confused manner, searching for cover,

and tend to congregate around moist spots in the jar. The lizard simply lies still and picks them off as they come near, much the way a chicken picks up grain. The termites, completely unaware of danger, make no effort to escape or hide, and up to 20 have been eaten in a matter of minutes. Flies and moths often elicit a much more vigorous response, with their fluttering or quick running movements, causing the lizard to lunge or leap, sometimes repeatedly, to catch the prey. When the insects are still the lizard apparently does not perceive them, and may lie alert for further action. Any fly or moth that escapes the first few attacks may remain at large for a time. However, not recognizing a threat in the lizard, they soon approach close enough to be captured in a deft lunge by the predator.

Perhaps the most successful evaders are cockroaches. When a group of five or six medium sized American cockroaches are introduced, they wander about, carelessly exploring the jar, and several are usually quickly captured by the lizard. The survivors in the meantime become very cautious, taking cover in debris or under sides of branches. Thereafter, the slightest movement of the lizard sends them darting out of range or into cover. One roach managed to evade capture for over four weeks, but soon met his fate when cover was purposely removed to expose it. The fence lizard in its natural environment is usually perched on a rock, stump, or post where it basks and snaps up insects that fly or move nearby. Being cold blooded, lizards and insects are both active during similar periods - warm sunny days.

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MASTODONS

by A.H. Marrion

During the Miocene period 15 to 20 million years ago, many species of proboscidae, or elephants and their close relatives, developed and migrated through Europe, Asia, North and South America. Some had peculiar features such as scoop-like lower teeth, spiral twisted upper tusks, etc.

In the upper Miocene formations of India there has been found the fossil of one type of elephant which had a larger number of ridges on the molars, formed by plate-like

divisions, with a cement-like material between them. There were three species in Central and South India, two of which migrated as far as Japan. These animals are classed as "stegodons", and they developed into the true line of elephants, during the Pliocene period which commenced about 13 million years ago.

When the pleistocene or ice ages began about one million years ago, a number of species existed. Only two species have survived till today, the Indian or Asiatic elephant and the African elephant, both known as "Loxodonts".

Four species that died out during the glaciation left fossil remains in B.C. and on Vancouver Island. They are:

1. The Imperial Mammoths, which lived on the upland plateaus of S. and S.W. United States, and Mexico and as far north as B.C. They roamed in large herds and were hunted by man. Fossils indicate an animal standing 15 feet or more high and weighing about 20 tons.
   B.C. fossil: #337. a molar from James Island outwash gravels.
2. The Columbian Mammoths, which inhabited Eurasia, N. Africa, N. and S. America. In the U.S. they roamed in large numbers from B.C. to Mexico and Florida. They had large tusks, which sometimes curved backwards and across each other.
   B.C. fossils: Molars and tooth fragments and parts of leg bones from the interior of B.C. Molars and tooth fragments from outwash gravels at James Island, Cordova Bay, Mount Tolmie, Mount Douglas, and a piece of tusk from Island View Beach.
3. Woolly Mammoths, which roamed the northern areas of Eurasia and America in late pleistocene times, were not large animals. They had steeply sloping backs, a huge dome of flesh on the forehead, and the body had a covering of long hair. Their deaths sometimes came suddenly. Some animals found frozen solid had flowers in their mouths. Drawings of the animals being hunted were made by paleolithic man in caves in France and Spain.
   B.C. fossil: a piece of tusk, location unknown.
4. The Mastodon is not so well understood. These "elephants" are not so closely related to living elephants as are the mammoths. In Miocene and Pliocene times there were two species in Europe. By the Pleistocene period the American mastodon had appeared. It stood about 11 feet high, was of great bulk, and had moderate size tusks which curved inwards at the tips. The grinding teeth were large, with a nipple or knob-like upper surface quite unlike the surface of mammoth teeth. They were forest dwellers. Fossils have been found across North America.
   B.C. fossil: a specimen from outwash gravels at Cobble Hill.

This brief sketch of the two lines of proboscidae - elephants and mastodons - with their two specialized types of molars - may add to the readers' interest in our gravel pits and perhaps lead to finding an interesting fossil of some interglacial animal.

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BIRDS FOR THE RECORD

Emperor geese (2) - Clover Point, March 3 - David Stirling and four other members.
Tree swallow (1) - Clover Point, March 3 - Alan Poynter.
Violet-green swallows (many) - various places - by several observers.

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INKANEEP PARK (OLIVER CAMPSITE) FOR SPRING BIRDING

By David Stirling

During May and early June, Inkaneep Park, near Oliver, in the southern Okanagan Valley is a birder's paradise. There can be seen and heard lazuli buntings, long-tailed chats, redstarts, red-eyed vireos and veeries to name some of the "desirable" species. Lewis' woodpeckers nest in the old cottonwoods along the river; western meadowlarks sing from the sage brush; and in the early mornings flocks of Canada geese fly over from their nesting range on Vaseux Lake. The concentrated bird orchestra of Inkaneep is quite different from that of the Coast; to me it is reminiscent of sun-up in the tropical forests of North Queensland.

While you are watching birds you will notice too the sage brush, rabbitbush and antelope bush on the dry flats;

and many wild flowers, from the mass display of yellow balsam root to the retiring rose-pink flowers of the bitter root.

Inkaneep is admirably situated for day trips to Southern Okanagan areas of interest to naturalists. Calliope hummingbirds, Williamson's sapsuckers and western larch are rewards of a trip up McKinney Road to Baldy Mountain; long-billed curlews, Wilson's phalaropes and yellow-headed blackbirds are features of White Lake; and chukar partridges, white-throated swifts and rattlesnakes can be found at the cliffs east of Vaseux Lake.

So, if you want to see new birds and meet old friends, go to Inkaneep Park next spring.

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VICTORIA WILD LIFE

by A. R. Davidson

Clover Point is a favorite bird-watching station, as we all know, but Alan Hockly recently had a new experience there.

While watching the comings and goings of the shore birds one noon time, he saw an animal come out of the water, and climb on the rocks. It stayed there for some time, giving him ample time for observation. He did not move, as the animal was obviously nervous, watching warily in every direction. It was undoubtedly a mink. While it is true that mink can occasionally be seen at more isolated places 'round our waterfront, this is the first time, to my knowledge, that one has appeared at Clover Point.

**** * ****

BOOK REVIEW

The latest publication from the Provincial Museum is a 117 page book titled 'The Indian History of British Columbia', volume one of a series by Mr. Wilson Duff, Curator of Anthropology.

All books issued by the Museum are written for the general public; written to be interesting to the average reader, not the specialist, and Wilson Duff's writings are classics of this kind of objective writing.

This memoir, as it is termed, is an account of the history of British Columbia as it affects the native Indians. It is completely factual, devoid of sentimentality,

very readable, and any anthropological words not in common use have been fully explained.

The period covered is approximately the last two hundred years, and, among other information, a description is given of the changes which have taken place in the Indian way of life since the arrival and settlement of Europeans. The sub-title of the book is 'The Impact of the White Man'. It also details the way in which various Indian reservations were created, which is something I have always found interesting. Who, in fact, had title to the land, and were the Indians fairly dealt with by our earlier governors? The answers are all there.

An enormous amount of research must have been required to complete this book, and it is obvious that Mr. Duff has an intimate knowledge of his subject, and also a respect and liking for our native peoples.

As these Provincial books are not advertised, as far as I know, I thought our members would like to know of its publication. The price is one dollar, and it is obtainable at the Museum.

A.R.D.

UNSPOILED FOREST AND MARSH LANDS

by Freeman F. King

Every consideration should be given to holding marginal forest and wild land within the boundaries of the Capital Planning Region. We should save unspoiled areas that provide places where man can go to get away from the concrete jungle he is living in. Such places must be provided within fairly easy reach of our urban centres.

As man's leisure time increases, and easier means of transportation become available, there must be more places for him to go. This particularly applies to elderly people and those with young families. Such areas should be left in their natural state, and not landscaped; places where our native plants can be left undisturbed, and where children of today and tomorrow can see living things, not just read about them in books; places where health, recreation and enjoyment can be found.

If such places are destroyed and turned into hard-top

and cement, what will those who follow us say of this generation? If we do not retain places where people can hike and ramble, where the air is clean and fresh, then the yearning for adventure will dry up and we will become a soft civilization, and fall, as the Romans did, centuries ago. We must remember always that this land is not ours to destroy and fritter away, it is only on loan for our wise use; it belongs to the future and to those who will come after us, for generations. Some people may say, "Only a few nature lovers will use this wild land". They are wrong. Thousands will use it, if it is available.

People from densely populated cities will want to live close to where they can find peace and contentment. If we destroy the elements these people seek, where will they go? It has been proven that greater and greater numbers of people want to escape their fellow-men for a short period. This is illustrated by the number of people who visit Thomas S. Francis Park, just 6 miles from Victoria City centre. Camping, picnicking and picking flowers is prohibited. Yet, within the past three years, over 50,000 people have visited the park, walked the trails, enjoyed the quiet of the forest, and the mystery of the marsh land. A large number of them are repeaters, who come again and again, which proves that the public do want such places. More wild land places must be provided to prevent existing ones becoming over-used.

Wild land is valuable as a laboratory for young people who are attending our University, for it provides a place where they can find and study things they have seen in books. For small children, it can be a place they can be taken when they ask, "What is a wild animal?" Let us not be fooled or taken in by the people who would cut up and subdivide our open spaces to provide them with a "fast buck". At times, one of man's greatest needs is freedom from himself. Love of nature, open skies, shady forest, water, solitude and living things has been depicted over and over again in the world's literature and art since long before the Christian era. It is inherent in man and cannot be destroyed.

There is another type of land we must preserve and hold - marsh land. Marshes, wherever they may be, are

an important part of our ecology and our way of life. If we fill in or drain marshes, we destroy many plants and animals that can live only in that particular environment. Once destroyed, they can never be brought back again. Marshes are a complete wilderness area of their own. In the destruction of these areas we do away with the natural feeding ground of many birds, some of which are beneficial to mankind, and can only live on this type of land. Marshes are the resting and feeding stations of migratory waterfowl. Marshes provide the type of food they need to carry them to and from the nesting ground. If we destroy these places, the birds are forced to try to find other places. It must be remembered that these marshes have been used by countless numbers of birds for centuries, and have become part of the instinct of these waterfowl - a part we can destroy, and perhaps cause the birds to shun forever this particular route or flyway.

Centuries ago, man destroyed himself and his way of life by such things as the destruction and drainage of marsh lands. Look at Carthage, the ancient city of Ur, the desert lands of Arabia and Palestine, which were once a wooded land with many rivers and streams - the garden of the world - now a sun-parched desert. Let us not make this mistake again. Marsh lands hold water and allow it to soak slowly into the water table and so gradually seep into the valleys and lower levels to enrich the soil, that it in turn may grow food. If we destroy these vital areas we must expect to see the lowering of wells, which is now happening in the Saanich Peninsula. We must realize that water is the greatest asset we have in this world - without it, all living things cease to exist.

Let us not be stampeded in reaching for quick, easy dollars that will only last a short time, but look into the future and think of the many generations who will come after us.

God made the country,
But man made the town.
Cowper

OBITUARY

During the February meeting of our Society, a standing tribute was paid to the memory of Dr. Albert O. Hayes who passed away suddenly while spending the winter in California with his daughter, Dr. Marjory Hayes.

Dr. Hayes was our president during 1956-57, and a life member. He was an outstanding geologist, both as a university lecturer and a consulting engineer.

As a member of the Victoria Natural History Society, he was always happy to accompany groups on field trips and advise or instruct on geological problems.

Our deepest sympathy is expressed to Mrs. Hayes and her daughter.

PLANT COLLECTING

by

Stephen Mitchell
Gail Moyer

Collections of preserved plants are essential to almost all botanical studies. Such herbarium collections are the basis for plant classification, and enable studies of the variation and geographical range of species. These collections are not only used for research, but for teaching and a variety of reference purposes.

In addition to the academic value of well collected plant specimens, field collecting in itself can be a most fascinating and edifying hobby. Many of the best and most valuable collections in today's herbaria were made by amateurs collecting just for enjoyment. Anyone can do it. All one needs are a few simple tools, most of which may be found around the house, a love of the outdoors, and a little time to roam, searching for specimens. Extra care and patience in collecting will maximize later enjoyment and usefulness of the collections. Here are some suggestions for good collecting:

The basic equipment needed includes a plant press, a large plastic bag (or for those who like quality, a vasculum), note book and pencil, trowel, knife, hand lens

(10X), and a manual for identification. The plant press consists of two light wooden frames, corrugated cardboard sheets, and newsprint (Times or Colonist!) all held together by two belts or straps. The wooden frame may be made of 3/8" plywood and should be cut to 12" x 18". Plants are interleaved between sheets as follows, from outside in: one wooden frame, cardboard sheet, newspaper sheet, plant(s), newspaper, cardboard, newspaper, plant, etc. until the press is full.

When possible, collections should indicate the range of variations within a species. This means that more than one specimen at a particular place should be collected and that as many habitats as possible throughout the range of a species should be sampled. For complete knowledge of a species and for ease in identification, collections should also include plants at different stage of growth -- e.g. flowering, and fruit production. Adequate representation of all parts of the plant is also desirable. Obviously this is impossible for trees and shrubs but generally it can be done for herbaceous species. A trowel is useful for getting roots in one piece, especially deep-rooted bulbs. Bark and twig samples should be taken from trees, and don't forget to collect some extra flowers for use in identification.

Before putting the plant or plants away in a press or bag, write some field notes to accompany the material. These notes should include such things as the exact location of the collection (as near as possible), nature of environment (e.g. dominant vegetation, elevation, soil, moisture condition, exposure, slope and major drainage system), description of specimen, especially flower colour (as fading may occur after pressing), collector's name, specimen number and date. Slope is the angle of the land with respect to the horizontal and may be an approximation made by eye. Exposure refers to the direction the slope faces. For example, if one is walking north, up a slope, that slope has a southern exposure. In conjunction with sun, wind and rainfall slopes of different exposures may have quite different environments.

Now that the field notes are in order, let's get back to the plants. If one is collecting into a plastic bag, keep the plant tissues moist with the addition of moss. Plants can shrivel up very quickly. To obtain a valuable preserved plant the pressing must be done with some care. Arrange plants on the paper showing as many

features as possible. To avoid confusion later on, make sure all specimens on one sheet belong to the same species. Place field notes beside specimen(s); fill up the press; tighten and set aside to dry. Remember, it is important to note as much information as possible about the plants' environment.

Large specimens may be bent to fit the paper. To handle monsters like cattails, simply cut the plant up and press the flowers, part of the stem and the roots. Large roots or stems (e.g. Skunk Cabbage) may be split longitudinally and both pieces pressed side by side.

Plants can be dried over stoves, radiators, air conduits or in any dry atmosphere. Stand the press on edge allowing heat to flow through the cardboard. Plant tissues lose water rapidly, so tighten the press from time to time. The duration of drying will vary with facilities. With forced drying, one to two days should be sufficient. Plants should not be dried to brittleness. One may obtain satisfactory results by checking a drying plant to see that it is still somewhat flexible. Many plants will be pressed before one gets the "feel" of this operation.

If possible, save some fresh material at the time of collecting, as fresh specimens make identification much simpler. Wrap the plants in saran wrap and keep in the fridge until time can be found to "key them out". If no fresh material is available, immersing a dried specimen in boiling water softens tissues and enables one to dissect the flower parts, usually a necessary process in identification.

Illustrated floras such as Ches Lyons "Trees, Shrubs and Flowers to Know in B.C." are excellent for quick, local field identifications of common species. However the more formal "dichotomous keys" are not difficult, and are usually more fun to use once one has got the hang of it. J.K.Henry's "Flora of Southern British Columbia" is still good (if you can get a copy), although other sources should be used as well. Museum Handbooks are the best manuals for some B.C. families. A. Hitchcock, et al "Vascular Plants of the Pacific Northwest" and L.Abrams "Illustrated Flora of the Pacific States" are two of the current sources used in local Herbaria today, the former being by far the best reference work available yet rather expensive for the home library.

The finale of plant collecting is mounting. The best

paper to mount on is fairly stiff Bristol card of high rag content, which, however, is quite expensive. An effective and very cheap substitute is ordinary newspaper stock available at any paper company, and cut to $16\frac{1}{2}$" x $11\frac{1}{2}$".

Arrange the plants neatly on the mounting card, leaving the bottom right hand corner free for the field notes. Specimens may be attached to the sheet with thin strips of adhesive tape (e.g.Holland tape), or brown paper tape. A special plastic glue is generally used in large herbaria nowadays. Fasten the specimen in as few places as possible in order to avoid covering up important characteristics; someone else may wish to check the identification later on. Loose seeds and other parts should be placed in a small envelope and glued to the sheet.

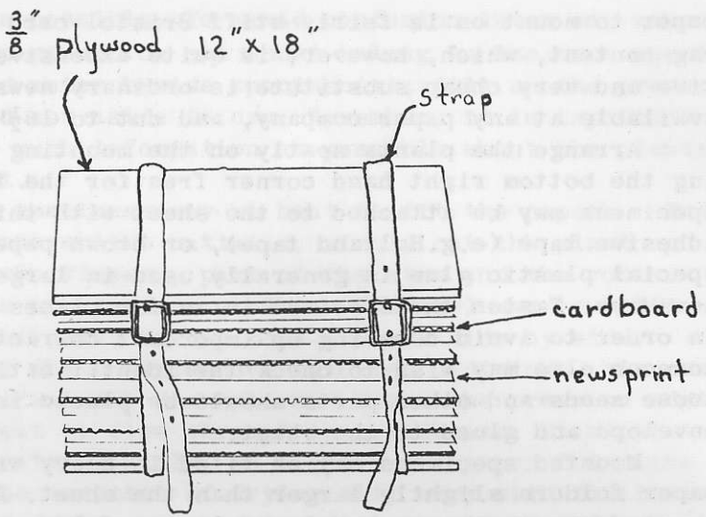
Mounted specimens may be filed in heavy wrapping paper folders slightly larger than the sheet. A number of mounted specimens may be placed in one folder. If one feels flush and has decided to use Bristol card for mounting, then folders of more expensive Manila card might also be used for filing. Their advantages compared with newsprint and wrapping paper are mainly longer life and better appearance.

A cabinet of some sort where the folders can lie flat is ideal for a collection. Avoid insect damage to specimens by placing small quantity of paradichlorobenzene (mothballs) in the cabinet.

Remember, a collection of plants is exceedingly valuable. Handle specimens with utmost care. Don't bend sheets or turn them like pages in a book. Someday you might want to give them to the University of Victoria,and the better condition they are in, the more valuable they will be.

P.S.

By the way if you are at a loss as to what to do with your extra specimens, the University even now would be delighted to have them. Even the most common local material would be welcome. We use it for exchange with other universities all over the world. Just send or bring the material to the Herbarium, Biology Department, Gordon Head Campus. Have fun collecting!



Plant press

JUNIOR JOTTINGS

by Nancy Chapman

With the exception of one Saturday, the Junior Group enjoyed bright, sunny weekends last month. Signs of spring showed everywhere.

On the one rainy Saturday, the younger members spent an enjoyable afternoon at Francis Park, looking at "Skipper's" slides of trees and wildflowers. They also went for a short walk through the "rain forest" to see the hugh firs and cedars, and noted the wind damage.

The older members went on an interesting trip to John Dean Park to see the Thunderbird Caves. These caves, formed of huge boulders piled against one another, were used by Indians of long ago, perhaps for shelter, or perhaps to hide from enemies. From a distance, the rocks look like a huge whale.

The caves are quite low and narrow, but almost everyone crawled through to see what it was like and emerged dirty and happy.

Another trip took us to Logan Park, off Interurban

Road. We are hoping to be able to build a nature trail around this park, to show off some of its great natural beauty. It is only a small park, but it contains several different ecological areas and would make a wonderful place for a quiet afternoon walk.

The older group had another "workday" at Francis Park. The new Centennial Trail was completed as far as it will go this year. It starts behind the Nature House, runs down-hill parallel to Munn Road, turns above Prospect Lake Road and follows the hill contour. Then it turns, just beyond the Lookout, to meet the Lookout Trail. The boys and girls are to be congratulated for their fine work -- a very worthwhile addition to the park.

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HAWK BEHAVIOUR

by A. R. D.

Mr. and Mrs. Tom Briggs, Florence Lake Road, have more birds at their well-designed feeder than anyone I know. Fox, song and golden-crowned sparrows, hairy and downy woodpeckers, nuthatches, chickadees, Steller jays, juncos, towhees, Bewick wrens, and others in their season. The large numbers of birds present naturally attracts predators.

Recently, Mrs. Briggs noticed a Cooper hawk on a nearby tree, so she went out to try to scare it away. Shortly afterwards, she heard the loud harsh cry of a hawk and, on investigating, saw the Cooper hawk on the ground. As she approached, it flew away, leaving on the ground a newly killed sharp-shinned hawk; the inference being that the larger Cooper hawk had killed the smaller sharp-shinned. This is surely most unusual, and it would be interesting to know if any of our bird students have ever heard of a similar occurrence.

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MEETINGS AND FIELD TRIPS

FILMS:
April 2 — 2 Films - "Valley of the Swans and "Eskimo Arctic"
No Admission - Donations for "Freeman F. King Scholarship Fund"
Oak Bay Junior High School - - 8:00 p.m.

BOTANY FIELD TRIP:
April 3 — Meet at Monterey Parking Lot, Douglas & Hillside for trip to Thetis Lake, meeting at Concession Building.
Bring your own afternoon tea. - - 1:30 p.m.

EXECUTIVE MEETING:
April 6 — Dr. Carl's Office, at the Provincial Museum - - 8:00 p.m.

GENERAL MEETING:
April 13 — Douglas Building Cafeteria, on Elliot Street - - 8:00 p.m.
Speaker - Mr. Allan Brooks
Subject _ "A Biologist Rambles in Eastern Africa"
Illustrated with slides taken by Mr. Brooks.

BIRD FIELD TRIP:
April 24 — Monterey Parking Lot, at Douglas and Hillside, - - 9:30 a.m.
Francis Park - -10:00 a.m.
Leader: Mr. M. Matheson
Bring lunch.

JUNIOR GROUP — Meet each Saturday at the Monterey Parking Lot, at Douglas and Hillside 1:30 p.m. for field trips.
Leader: Mr. Freeman King - 479-2966.

REMINDERS: Juniors' Camp will be the last week in July. Contact Mr. Freeman King.

B. C. Nature Council meets in Kelowna May 8 & 9

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