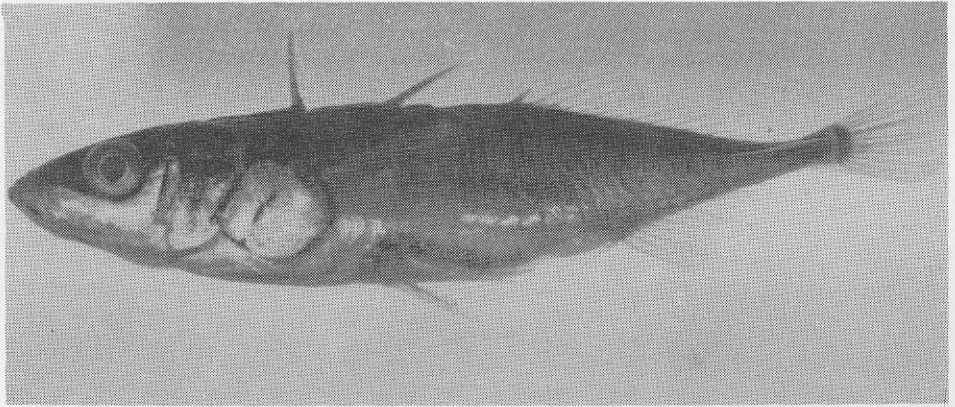


THE VICTORIA NATURALIST

Published by



vegetation and perform a highly complicated mating ritual...
female... males... the male... the eggs with his fins... other...
the eggs hatch and the young are taken to themselves.

THE VICTORIA NATURALIST

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WEST COAST STICKLEBACKS

The intricate behaviours of the three-spined stickleback (Gasterosteus aculeatus) have provided great fascination for naturalists and researchers alike. In spring, this exceedingly abundant little fish migrates to the shallow and slow-moving waters of streams and ponds. Here, the normally drab males acquire a brilliant red breast and vigorously defend a breeding territory. They soon construct nests from bottom debris or bits of vegetation and perform a highly ritualized courtship dance toward any gravid female that passes by. The dance apparently entices the female, for she then follows him to the nest where spawning occurs. After breeding with one or several females, the male drives each of his mates away from the nest area and fans clean water over the eggs with his fins. Other intruders are also chased away and his regular domestic duties continue until the eggs hatch and the young are able to defend for themselves.

In Europe, Asia, and North America occur two types of Gasterosteus that cause much controversy amongst researchers about whether they are one or two species. In local waters such as our Craigflower Creek, a fresh-water type inhabits streams during the entire year. It is recognizable from the marine type because it possesses approximately four boney plates on each side, has a stout body, and is mottled in colour pattern. The salt-water stickleback is silvery, has boney plates along the entire length of the body and is streamlined in body form. In winter, the marine form can be observed in enormous numbers along Portage Inlet and around the pilings of the Inner Harbour. However in late spring and summer, they seek the lower portion of streams for reproduction. In those portions of the stream where each type meet during their reproductive season, hybridization can occur.

British Columbia is blessed with another type of stickleback which is unknown elsewhere and is probably an undescribed species. It inhabits the brown-stained waters of the Queen Charlotte Island lowlands. Being found up to six inches in length, it is much larger than the three or four inch length typical of other freshwater sticklebacks. They are typically dark, with breeding males turning black with little or no red as is typical of other stickleback population. Many unusual populations occur on these islands with those at Boulton Lake being most distinct because most individuals lack one or more fin spines. Because little is known about sticklebacks on these islands, an effort to include some populations under the province's ecological reserve program has been made. The Drizzle Lake area on Graham Island is the first of these being reserved to protect the Queen Charlotte black stickleback and its associated biota for future study.

... Alex Peden

(The cover photo, also by Mr. Peden, is of the marine three-spined stickleback which is found locally and averages 4 inches or less.)

* * * * *

A WHALE OF A DAY FOR VANCOUVER

For those who didn't have an ear tuned to the news on March 10th the word was that a one and a half mile long pod of Killer whales swam into English Bay and under the Lion's Gate Bridge. This is the first time in five years. There were several bulls plus many female and young. I imagine they had a good "look see" at Vancouver's road conditions that day and decided their method of locomotion was far superior!

... M. Slocombe

* * * * *

Editor's Note: Terese Todd has identified herself as the "mystery author" of the article The Rescue which appeared in the February issue.

EDITORIAL

On our February visit to Los Angeles we invested in a five pound Sunday copy of the L.A. Times. One thing caught our eye - a huge half page ad advocating a boycott of Japanese goods as a way of putting the pressure on one country who still hunts whales. The ad must have cost a great deal of money and we admire their enterprise and ideals but we feel the pressure is being applied, in this case, in the wrong direction. The public tends to buy regardless of source. The pressure should be applied towards the top - the Government and its diplomatic corps.

Life on this planet is so complex that numerous dichotomies arise. In this instance, I was reviewing the ad when I received word from our daughter, Linda, from Japan telling us how kind, polite and helpful the Japanese are. When one's mind tries to juggle all the pros and cons of our existence and the ramifications of our acts (regarding ourselves, others, and all of nature) the "computer" starts short circuiting and easy solutions slip so quickly out of reach. But that must not stop us from searching for answers, it only means we must keep an open mind when trying to analyze a situation. The subject of man's predation on whales is pretty well an open and shut case but we should perhaps find another Dr. Henry Kissinger to sponsor our cause. There are no two things as effective in changing the stance of national postures than war and expert diplomacy. We opt for the second. The delicate nuances of diplomatic "arm twisting" can be just as effective in the end as sledgehammer tactics.

We have on hand an article (from the Vancouver Sun of March 2/74) by Mr. Yuzuru Murakami, Consul General of Japan in Vancouver. It is entitled "Japan Needs Whales, so it Favors Conservation". It is quite a long article and although we don't agree with all of it by any means it does go into the matter very thoroughly and serves to point up our contention that only totally informed and realistic diplomatic action will bring about an accord that will benefit both the whales and those who feel they have to hunt them.

Anyone wishing to read the above mentioned article is welcome to borrow it from us. We would welcome any informed comments and/or statistics from our readers.

... M. Slocombe

BIRDS REPORTED

Black Brant (1)	Feb. 11	Whiffin Spit
Spotted Sandpiper (2)	Feb. 11	" "
		Vic Goodwill
Tree Sparrow (1)	Feb. 16	Lochside Drive
		Mr. & Mrs. John Davies
American Goldfinch (1)	Feb. 20	Duncan
		Vic Goodwill
Peregrine Falcon (1)	Feb. 20	Martindale Road
Merlin (1)	Feb. 20	" "
		Mr. & Mrs. A.R. Davidson
Bald Eagle (1)	Feb. 22	205 Beach Drive
		T.H. Bell
Hutton's Vireo (1)	Feb. 23	Lochside Trail
		Mr. & Mrs. Vic Goodwill
Hutton's Vireo (1)	Feb. 25	Ten Mile Point
		R. Mackenzie-Grieve
California Gull (1)	Mar. 6	Clover Point
		R. Satterfield
Yellow-billed Loon (1)	Mar. 9	Ogden Point
Golden Eagle (2)	Mar. 9	Matheson Lake
		Pat Swift
Surfbird (22)	Mar. 10	Cattle Point
		Mr. & Mrs. A.R. Davidson
Horned Lark (2)	Mar. 11	Mills Road
		Mr. & Mrs. John Davies

ADDENDA

Those rain or shine birders known as the Tuesday Group have had a long and successful series of outings and can always be counted upon for some good sightings. This month they report 110 Band-tailed Pigeons on Feb. 12th at Henderson Road (near your Editor's home - I must have slept in that day!) and 10 Yellowlegs all in one flock at Oak Bay on the same date. On Mar. 5th at Ed Lohbrunner's they spied 6 Pine Grosbeak, 2 Steller's Jay and one Shrike.

The Mackenzie-Grieves have had Anna's all winter - like good nature lovers they keep their feeders full and it has paid off. Bob spotted a number of swallows as early as February 26th this year over both Elk and Beaver Lakes. Unfortunately they were flying too high for him to tell if they were Tree or Violet-green.

Ron Satterfield caught sight of three different raptors on Mar. 2 at Cowichan Bay - 1 Gyrfalcon, 1 Rough-legged Hawk and 2 Short-eared Owl. He also spotted 2 Rhinoceros Auklet at Clover Point on Mar. 3. On Mar. 9 Pat Swift got a Rhinoceros Auklet in full breeding plumage at Ogden Point.

With the new A.O.U. check list out we herewith sound the "last post" for the Yellow-shafted Flicker - this one was spotted by Leila Roberts on Mar. 7. Our hope is that they will all interbreed in a hurry and by producing an "Orange-shafted Flicker" save us the disappointment of having to put down Common Flicker when our find was flashing bright yellow feathers!

During February and March Greg Scott spotted in the Royal Oak area a Goshawk, a shrike and five Short-eared Owls - he is sure one of the latter is resident.

Chris Walsh and Robbie White observed 2 Golden Eagle at Matheson Lake on Mar. 2 and on Feb. 24 they watched a Snowy Owl being "dive-bombed" as Chris put it, by a flock of crows. The owl was an easy winner. Chris is one of our youngest and most enthusiastic birders. We hope he carries this enthusiasm through his mature years.

The Goodwills had some extraordinary luck recently. Not only did they find 2 Glaucous Gulls (1 each at Glen Lake and Esquimalt Lagoon) but on March 1st at Cattle Point they spotted a Gull(sp) which they strongly suspect to be a Slaty-backed Gull - an Asian bird. If so it is a first for Canada. In spite of their excitement they remembered the camera and got 100 ft. of 16 mm. colour film of the bird. To quote Mrs. Goodwill: "It had a bone coloured iris, pink eye skin, a nearly black mantle and brilliant pink legs and feet". They hope the experts can make a definite identification.

Linda Slocombe is now in Asiatic waters. She reports that between Hawaii and Japan their ship attracted lots of dolphins (who like to ride the bow wave) and several Albatross. In the latter case the attraction seemed to be the garbage dumped daily from the ship! Her Marine Biology professor pointed out that clear blue water contains little life but when the sea is greenish that is an indication of lots of sea life. But off-shore drilling in oil rich parts of the world is very

hazardous to marine life as it is increasing the turbidity of the water and thus preventing light from penetrating and sustaining life. Linda visited a pearl "farm" in Japan and was told their worst enemy is that old bogey we are familiar with - the red tide. We wish to add that our daughter appears to be a good sailor - the ship hit a gale of force 8 on the Beaufort scale and she wasn't seasick!

* * * * *

FRESHWATER MOLLUSCS

by *Walter M. Draycot*

"You are taking a big risk by going to that swamp alone". The advice was sincere. Winter was in the offing and this was my last chance. A narrow stream issued from the swamp; samples were obtained of the mud, decaying leaves and twigs at intervals along the bank for home study.

Swamps can not be regarded as playgrounds. What appears to be solid ground can be deceptive. A sudden descent to the waistline cools one's ardour for further searching -- and what a muddy smelly mess for folks to gaze at -- and a ride home by motorcar or bus, five miles distant, is taboo so walking with the perfume is a necessity.

However, the result of the venture was worth the wetting. The underside of the lily pads produced specimens of Physa and Gyraulus. The brook samples were inspected at home by using a watchmaker's eyeglass or lens which left both hands free. With a bodkin or darning needle you commence separating the mixture and the unbelievable types of miniature creatures will truly astound the beginner -- a budding biologist, possibly. In my assemblage the wriggling nematodes or threadworms outnumbered the bristleworms, Daphne and others of various shapes and sizes.

But molluscs were the main object of my search. For clams one would expect to go to a marine beach. If you told your unenlightened friends you were going to a stream to get some, or a pond, they would think your mind was adversely affected. Bivalves do occur in fresh

water, as evidenced by the presence of Pisidium casertanum Poli in the brook; their size is only a quarter of an inch, being similar in appearance but not size to the local marine mollusc Parvilucina tenuisculpta Carpenter. Among other land species of clams is Sphaerium sulcatum Lamarck, larger.

Another 'wee' mite in the brook is Gyraulus vermicularis Gould, simulating a pinwheel firecracker; in some lakes you will find a larger form, the Helisoma trivolvis Say, along with its cousins. The fresh water Gyraulis and the marine type Spirorbis are almost identical in size and shape.

Freshwater snails bear resemblance to those inhabiting the sea though their shells are generally thinner. Among the beautiful amber coloured snails found along the banks of streams and lake shores is the Succinea rusticana Gould, among other species. Nature has equipped this vegetarian with about 3,250 rasplike teeth; other molluscs have more; some freshwater limpets possess 12,000. We hope they are spared the agony of neuralgia!

The giant of the freshwater snails is the Limnaea stagnalis L. being coloured yellow-brown and two inches long, his shell is delicately thin and when sucked out by an adversary his shell becomes a Collector's Item, because of its translucent rich amber colour. An omniferous feeder he varies his diet with the flesh from the young of his species when they become too abundant! When caught in the act of destroying the larvae of the water-beetle Dytiscus the adult beetle gets mad and eats him! The writer has seen cannibalism practiced among certain snails -- even at a garbage dump where they had a choice of food. The Stagnicola palustris nuttalliana Lea is more gentlemanly than his cousin and, though smaller, is equally handsome.

The most detested member of the Limnaea is L. truncatula of the English countryside or the Limnaea (Stagnicola) bulimoides bulimoides Lea of this Continent (ex. Henderson Univ. Colorado Studies, 1929). Despised by sheep breeders this half-inch long snail is host for the common Liver Fluke, Fasciola hepatica, a deadly parasite of sheep, as the English sheep-breeder knew to his sorrow in the winter of 1879-80 -- when they

lost 3 million sheep through the scourge of the Liver Fluke (Edw. Step. FLS, in "Shell Life" British Mollusca). Birds are not immune to Liver Fluke for they, like the sheep, eat land and freshwater molluscs.

A small snail, whose ancestors took the wrong turn, is the Physa, and its cousin Aplexa hordacea Lea, that preferred to emerge from its shell by the left side instead of the right! Its highly polished shell is only in contrast to its usual environment for some species can survive in putrid water. Residing under logs or stones is the miniature 'Thing of Beauty' the Cionella lubricata Muller. Its highly polished glistening shell is only 6 mm in length with 5 to 6 whorls. Peering at it through a magnifying glass will tickle you with glee.

With no fish biting a fisherman left his line in the water to seek the coffee pot; on returning he pulled the line in. "Ah-ha," said he, "A bite at last!" Expectation became a sad realization for he had hooked a three and a half inch long freshwater mussel, the species being Margaritifera Margaritifera fulcata Gould. This thin-shelled bivalve occurs in most of our British Columbia lakes and a few streams. In contrast as to size the miniature spherical bivalve Sphaerium sulcatum was found nearby.

Freshwater molluscs are Nature's most useful scavengers; they help to maintain purity of water, though they can not be expected to cope with all the carcasses of cats and dogs thrown into the water to drown, after 'humans' have become tired of the ageing animal!

*Walter M. Draycot
(90-3/4 and still interested)*

* * * * *

CANADA TO ESTABLISH CLEAN WATER OBJECTIVES

Canadian federal and provincial water pollution experts will establish clean water targets to serve as objectives. These national water quality standards, to be drawn up this summer, will serve the same purposes as the clean air objectives which were announced in January this year. Federal Environment Minister Jack Davis says the targets will be determined during 1-1/2 day closed-door meetings.

... *Montreal Gazette 10 May 73*

DR. LEWIS J. CLARK -- AN APPRECIATION

Dr. Lewis J. Clark, Professor Emeritus, University of Victoria, will be remembered by hundreds of students who attended his Chemistry Classes at U Vic and, before that, at Victoria High School.

To naturalists he was Lew Clark, admired for his active and unceasing work in the field of conservation, loved by those who knew him personally for his quiet manner, his thoughtfulness and his charming personality. His love of the natural world led him from the edge of the sea to the high mountains where he indulged his delight in all growing things. His camera was always with him and his happiest hours were spent photographing the flowers that meant so much to him. Like Thoreau, a century and a quarter ago, the detail and structure of the tiniest flower had more appeal for him than the most inspired of man-made art.

Deeply concerned about the danger of losing a beautiful area of natural forest, near Victoria, he became one of the founding members of The Thetis Park Nature Sanctuary Association and fought continuously to protect it for all time.

This was but one of his many endeavors in the field of conservation. Surely his greatest and most lasting contribution to this cause is his beautiful book "Wild Flowers of British Columbia." The pictures in this book are proof of his talent as an accomplished photographer, both as artist and technician. In reading the text, one comes to know the author himself as an intelligent, interesting and sensitive man with a delightful sense of humour. Surely his feelings will make themselves felt by those who read this magnificent culmination of a lifetime study and will instill in them a realization of the value of conservation.

Lew Clark's death is a terrible loss but let us not grieve, for grief is a selfish indulgence. Instead, let us walk in the woods and the fields, by the shores and in the mountains. Let us kneel in the mud with our cameras to catch the beauty of a sun-lit flower or paddle softly across a moon-lit lake and we will remember him.

... *Terese Todd*

THE CHRISTMAS BIRD COUNT AROUND THE ISLANDS

The offshore count for 1973 was carried out under the direction of Keith Taylor. Our crew included Tom Burgess of the Provincial Wildlife Branch, a young friend of Keith and myself, in my new cabin cruiser "Rambler", which is docked at Westport Marina, close to the ferry slip at Swartz Bay, so it was a fair run to the Oak Bay Marina where we picked up Keith about 10 a.m. to begin the count.

The weather was cool and cloudy, and the humidity on the inside of the cabin windows made it necessary at times to steer with the centre section of the windshield open. Tom Burgess spent a good deal of his time guiding me through the mass of driftwood floated free from the shore by exceptionally high tides.

Keith requested that I steer a course about south-southwest off Trial Island to see if we could pick up the pelagics that feed out in the swell. We passed through a fleet of commercial fishing boats, but found few birds.

About this time a rather horrible shuddering noise was heard about the stern of my new boat, so I thought it wise to head slowly for the shore. The problem was solved off Trial Island when I stopped the motor and raised the leg of the inboard-outboard motor. A large curved tree limb that had been trapped between the leg and the transom floated free. It was quite a relief to find it was only this that had caused all the noise and vibration.

We then noticed an eagle circling slowly over the sea about a couple of miles south-east of Discovery Island, and thought it worth investigating. When we arrived at the spot the sea was literally covered with sea birds for about a mile in length and a few hundred yards wide. Keith was kept busy counting while I steered up the middle of the flock guided by Tom.

On completion of the count here we shut down the motor and wallowed in the swell while we had our lunch. It was some fun trying to pour coffee into a cup with the boat heaving in the waves.

After lunch we sailed north on the east side of Discovery and Chatham Islands to Ten Mile Point, recording a few birds in the Chatham Islands. At this time I was reminded of last year's count with Alex James when we were almost swamped in the tide rip in the little 12 foot aluminum boat on the way back to Ten Mile Point. We were cold and wet by the time we made it into Telegraph Bay. It was much more comfortable this year in the 'Rambler'.

From Chatham Island we proceeded well off shore north to the waters off Island View Beach, our northern limit, recording a few birds enroute and still dodging drifting logs and debris.

This officially ended our bird count, but we still had a few miles to travel to our dock at Westport Marina.

Speaking from my own personal observation of the Sidney area, I have never seen so many Old Squaw ducks as we saw on this trip. Our thrill of the day though was when we saw a Peregrine Falcon swoop low over the water and pick up what looked like a Bufflehead, which he killed and then carried back almost over the boat.

The February issue of our magazine has listed the many birds recorded on the trip. For Tom and I it was a matter of locating the birds, and navigating through the driftwood to the flocks, leaving Keith and his young assistant to do the counting.

Should my boat be required next year, I hope to be more familiar with its operation and be able to take a greater interest in the actual count. Altogether it was a most interesting day and a good trial of both boat and navigator.

... J. L. Rennie

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EDITOR'S NOTE

With regard to the Book Review of Stalking the Healthful Herbs in the February issue, Miss Enid Lemon, not Miss Melburn, reviewed the index for us. We also wish to thank Enid for helping us put together the March issue as travel (and attendant confusion) cut into our editing time considerably.

... M. Slocombe

DYEING WITH NATIVE PLANTS

The current interest in natural dyes has led to a renewed interest in those used by pioneer women. But even before these women were experimenting with native plants to replace those which they had used in their home countries, the Indians were using plants and minerals to dye the wool of mountain sheep and cedar bark for use in their textile arts.

On this coast the Chilkat blanket and ceremonial robes woven by the Tsimshian women and the Salish blankets woven by the Coast Salish women are excellent examples of how the subtle, soft tones produced from plants or minerals combined with the texture of handspun wool create an effect which cannot be duplicated by chemical dyes and machine produced goods. Although faded, blankets and robes on display in museums still retain the balance and harmony of design because the relative value of each colour has not changed as it frequently does with chemical dyes.

Few colours were used by the Indians as they were more concerned with ornamentation by design rather than colour. In the Chilkat blanket the black was obtained by boiling the bark of hemlock, birch or alder with mud containing iron or, after European contact, in an iron pot. The yellow was from lichen (*Evernia vulpina* or *Letharia vulpina*) and the greenish-blue was from copper oxidized in urine. The traditional colours used by the Salish also included a light red produced by boiling alder bark chips which had been gathered in the Spring, and brown from the husks of hazel nuts. In cases where a mordant or fixative was required to make the dyes colourfast the wool was boiled in urine previous to, or in conjunction with the dyeing.

The modern dyeing enthusiast need not be limited to these few dye plants and a urine mordant. Some plants or plant parts such as lichens, oak acorns and walnut husks do not require mordants, while those that do can be treated with a variety of chemicals, each of which has a specific effect. Alum (potassium alum sulphate) and tartaric acid give clear bright colours; Chrome (potassium di-chromate) gives richer warmer colours; Tin (stannous chloride) brightens colours; iron (ferrous sulphate) saddens or greys colours and copper (cupric sulphate) adds a greenish or cool tone to the colours.

For example, goldenrod mordanted with alum produces yellow, but mordanted with copper produces green.

Varying shades of yellow may be obtained from onion skins, broom, gorse and tansy (all with alum); orange from mare's tail (with chrome) and onion skin (with tin); reds and pinks from pokeweed berries (with alum), red cedar (with chrome), blackberries (with alum) and elderberries (with alum); green from goldenrod, privet (with copper, iron, tin), nettle (with chrome, copper) broom (with chrome) and tansy (with chrome); grey from salal, rhododendron leaves, bracken and birch leaves (all with iron); black from elderberry (with chrome), nettles (with iron) and Oregon grape (with iron); browns and tans from walnut husks, garry oak acorns, lombardy poplar and tomato plants (no mordanting required).

Garden flowers such as dahlias, zinnias, marigolds, rudbeckia and St. John's wort also provide colour while lichens are such a rich and varied source they can be a complete study in themselves. Briefly, *Evernia vulpina* yields bright yellow or greenish yellow, cudbear (obtained commercially) yields magenta or reddish purple, *Parmelia manshurica* yields yellow or light green, and *Lobaria pulmonaria* yields beige to deep orange depending on the quantity used.

I have mentioned only a few of the dozens of natural dye plants available in the area. Considering that the colours vary according to the time of year the plant is picked, the conditions under which it grew, the mordant or mordants used, the addition of a modifier such as ammonia to the rinse water, and the use of overdyeing with another colour, the possibilities are endless.

The following publications are brief and inexpensive but quite complete guides to natural dyeing.

Bolton, Eileen. Lichens for Vegetable Dyeing.
McMinnville, Ore., Robin E. Russ Handweavers. 1972.

Dye Plants and Dyeing - a hand book.
Plants and Garden, Vol. 20, no. 3. New York: Brooklyn Botanic Garden. (available as a single publication in their handbook series)

Gouldstone, Penny & Joanna Staniszkus.
Textiles: wool preparation and dyeing with natural dyes.
no. 9602. Vancouver, B.C. Teachers Federation Lesson Aids Service. (105-2235 Burrard St., Vancouver 9, B.C.)

... Wendy Chambers

The following proposal is to be discussed and voted upon on April 23rd, 1974 at the General Meeting.

Victoria, B.C.
March 12, 1974

We, the undersigned Members of the Victoria Natural History Society, propose that the dues for the year beginning May 1, 1974, be as follows:

Regular Membership \$ 8.00 per annum

Family Membership \$12.00

Golden Age Regular Membership (This to apply only to present members of the Society who are 65 on or before April 30, 1974 and they be urged to pay the Regular Membership fee if possible.) \$ 6.00

Golden Age Family Membership (Provided one member of the family is 65 or over on or before April 30, 1974, as above.) \$ 9.00

Junior Membership \$ 3.00

Jean Rimmington

Stephen R. Mitchell

Gwennie Hooper

Maureen Collins

G. N. Hooper

* * * * *

A BIRD TRIP TO EVERYWHERE

On Sunday, March 3rd, a bird field trip, led by David Stirling, was held for a group of people who were taking a night school course for birders. I had been going to Nature study and was invited to go along by Pat Swift. We met at Beacon Hill at 9:30 and walked all around the Park. We managed to get 27 species including two Creepers, three Canvasback and a Red-shafted Flicker

that sat obligingly on the ground and pecked away at a tree trunk, unconcerned by our presence. There was also a Ruby-crowned Kinglet that most people managed to get a good look at. There were Song Sparrows and Golden-crowned Sparrows in the shrubbery and so many ducks you almost stepped on them.

After the Park we moved on to a scenic spot on Marine Drive. Telescopes were set up and we saw Horned, Eared and Western Grebes. On Trial Island we spotted, just within range, what we were sure was a Snowy Owl. At the next stop we spotted both an Arctic and a Common Loon. On some rocks in plain sight was a Brandt's Cormorant in breeding plumage. The white "whiskers" were clearly visible. We then went on to the Sealand parking lot and had lunch. The lunch was good but the birds were few. The only oddity was a man swimming across the bay in just a bathing suit!

We travelled over to Cattle Point but it was raining hard so we left, but not before we saw a Herring Gull and two Greater Yellowlegs. A bystander said that there was a Snowy Owl at a graveyard nearby so we went to investigate. The owl was not only there but he let us get within ten feet of him as he sat on a tombstone. We could even see his yellow eyes before he flew to the top of a large rock. An exciting finish to a great day. All in all we got 54 species.

My thanks to David Stirling for leading us on such a great trip and to Pat Swift for inviting me and driving me from place to place.

... *Chris Walsh*
(Age 12)

* * * * *

WORLD SAID GROWING PROGRESSIVELY COLDER

The Futurist speculates on the fact that winters are becoming colder throughout the world. This has already led to such diverse occurrences as the increasing failure of Russian crops and the growth of pack ice around Iceland. Climatologists note that human intervention, in the form of industrial exhausts which screen out the sun's rays, has contributed to the long period of global cooling.

... *The Futurist April 73*

APRIL PROGRAM

- April 2 Executive Meeting. 7:30 p.m. Elliot 402 UVic
- April 20 Bird Field Trip. Witty's Lagoon. Meet at Mayfair Lanes parking lot at 9:30 a.m. or at Witty's at 10 a.m. Leader: Ruth Stirling.
- April 21 Botany trip. Bear Hill. Morning only. Meet at Mayfair Lanes 9:30 or Bear Hill Rd. 10 a.m. Leader: Stephen Mitchell.
- April 23 General Meeting. 8:00 p.m. Newcombe Aud. Prov. Museum. Speaker: Stephen Mitchell.

JUNIOR PROGRAM

			<u>Drivers</u>
April 6	Juniors	Mill Hill	Graham Murray
April 13	Intermediates	Thetis Lake	Nielson Rimington
April 20	Juniors	Francis Park	Hopkins Sandeman-Allen
April 27	Intermediates	Island View Beach	Foster McGavin
May 4	Juniors	John Dean Park	Whitney Mothersill

All outings leave Mayfair Lanes Parking Lot (north side). If drivers are unable to participate please inform Gail at 477-9248 as soon as possible.

Special Notice - for Intermediates (don't worry Juniors, we will organize something for you soon). Those interested in a weekend outing to Horne Lake on June 1-2 for a caving expedition contact Gail at 477-9248 very soon - there is a limit to the number that can go.

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Freeman F. King, Albert R. Davidson, George E. Winkler,
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