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The financial year is May 1 to April 30. New members joining after
January 1 and before March 1 - half dues.

Please forward fees to Membership Chairman at the above address.

NOTICE TO MEMBER SUBSCRIBERS

Those members who do not receive their magazine in reasonable time, please
contact Phoebe Williamson at 598-1091. If the delay is caused by anything
other than slow postal delivery, she is in the best position to straighten
it out in the least time.

Thanks - Jean D. McInnis, Membership

P.S. - Beginning this year, membership dues have been increased to the
B.C. Federation of Naturalists from \$1.00 to \$2.00 per member.

This is one main reason our dues had to be increased, along with the
fact that the costs of printing the magazine, etc. have all gone up.

*Do come and let us meet you. Be at our next General Meeting and
Election, on Tuesday, May 19 at 8:00 p.m. and come join us on our
next field trips and programs. You'll find them exciting, interesting
and friendly.*

ABNORMAL GROWTH - BROOM

The strange-looking specimen of broom depicted on the cover illustrates
a condition known as "fasciation". Thanks to Leon Pavelic at the Museum,
and Doris Page of the Horticultural Society, I was able to learn the
following:

Fasciation is due to the failure of the lateral shoots to separate
normally from the main axis, resulting in the stem becoming flattened and
often spirally contorted. The condition can occur in almost any plant,
but usually just the odd individual specimen is affected and only one branch
of that specimen.

A few years back, our Forsythia produced an extraordinarily grotesque
branch. I let it continue its contortions until at about six feet in
length, I cut it out, fearing it might, so to speak, set a bad example
to the rest of the bush. I needn't have worried - the growth has been
ever since normal.

Fasciation has never been conclusively explained. It has been
attributed to bacterial or viral infection; to mutilation of the principal
axis; and to excessive feeding. Gardeners have made use of the condition
by grafting fasciated stems onto normal plants, especially with sedums.

In some cases, fasciation is hereditary. Seeds of the garden annual
known as cockscomb (*Celosia cristata*), will grow into plants with the
same strangely swollen flower heads.

Katherine Sherman

COVER

ABNORMAL GROWTH - BROOM

by Bertha McHaffie-Gow

By Marjorie Ketcham

The Victoria Natural History Society was saddened by the death March 25, 1981 of our Past Editor of the Victoria Naturalist magazine, Merle Harvey.

Merle was well known in our Society as a keen student of birds and flowers. Her enthusiasm, love and knowledge of the out-of-doors, truly made her one of our most beloved members. She freely shared with everyone, especially new members, her seemingly natural understanding and feeling toward every bird and flower she would come in contact with. It was a special privilege to walk with her on a field trip and to talk with her during outdoor lunch-times, or to just be riding with her in a car, or to be chatting with her at her charming apartment, to listen to her lovely stories and share her knowledge and experience, always about the great out-of-doors. We will miss her on our field trips. Her pleasant cheery "good mornings" and her girlish smile, and the sparkle of curious wonderment in her eyes, made the hours spent with her so very special.

Merle was an efficient, hard-working, dependable, and delightful editor of "The Victoria Naturalist" from Sept. 1977 to June 1980, and only because of poor eyesight did she relinquish her duty. She enjoyed "her" magazine, as she would often call it, and was quietly proud to be both editor and a contributor of many fine articles.

Merle's article in 1977 on "Heritage Trees at Royal Roads", "Color On A Grey Day", and her editorials asking all to please pay their dues on time, to attend society meetings, or to submit special articles, pictures or sketches for the magazine, endeared her to everyone. In her first edition of the magazine as the editor, she wrote that she hoped to keep up the quality of the magazine as well as the previous editor, Harold Hosford, well-known newspaper-man and writer had done, and this she truly did.

In 1978, we well remember her articles "Bird Friends", "Seymore Hill", "Mill Hill", "Ornithology Outing to Cowichan Marsh", "The Colquitz Watershed". In 1979 she wrote, "Porcupine Caribou Herd", "Heritage Trees", "The Chipko Movement - Ecology in India", "Outing at Witty's Lagoon". In 1980 we loved her poem "Winter Trail", and "How to Move an Osprey's Nest", and her report on "The Oregon Trip", a trip she had planned for the Society herself and that was such a success. She also wrote "Columbine Silk Moth", "Cecida", and another poem, "Those Penguins". In 1981, she wrote "Using Our Eyes", and her last article that she had ready for us is appearing in this issue of The Naturalist, titled as she had it, "Trees". Yes, we shall miss Merle's factful articles in the future.

Although Merle emigrated to Victoria just in 1975, she had joined our Natural History Society back in 1965 when visiting her daughters Faith Muir and Judy Lindo, who already lived here. On her many visits from Scotland back to Victoria again, Merle would always join the Tuesday Birders Group and also attend Natural History Field Trips and meetings. Many members here visited her in Scotland. She often quietly shared her research information with us on endangered species of wildflowers that she had done for Stirling University in Scotland. On her outings, she always had her pencil and little notebook handy to record whatever she saw or heard. She was always ready to compile and share this information with others.

Merle was born in Glasgow, Scotland, December 23rd, 1906. The following was written by Davy Davidson, one of her very close friends:

"In the natural history world of Scotland, Merle Harvey was well known and indeed a person of some distinction, being one of their official bird correspondents, and a warden of the closely-guarded osprey nesting site, but it was really the flora of her native Scotland, and later of Vancouver Island, that was dear to her heart, and her knowledge was extensive.

She lived in an old home called "Carden Cottege", beautifully situated on the River Tay in Perthshire, and to augment her income, would accept nature-loving people as paying guests, some of them being members of our Society, and they loved the place.

Having three sisters in Scotland and two daughters and grandchildren in Victoria, she was in a dilemma, but decided in 1975 to come here, and a charming room was built for her onto the house in Gordon Head where her daughter Judy, husband and family lived; an ideal arrangement and where she was quite happy.

Prior to that she had made periodic visits to Victoria, first in 1957 and every few years since. It must have been in 1957 that she became a member of our Society and joined our Tuesday Group, and it is possible the friends she made here influenced her decision to leave Scotland for Victoria. While visiting here, we all took her out on the many Natural History meetings, and in her absence kept in touch by correspondence over the years. We all loved her and will miss her presence amongst us."

So we all say "thanks" to Merle for her love, patience, cheerfulness, friendliness, and for her sharing with us her love of the beautiful out-of-doors, and of life itself. We will miss her. To know her was to love her.

Merle's passing is deeply felt by all, and our sincere sympathy goes out to her family.

The following note was sent to Kathryn Sherman, March 24, 1981, from Merle's daughter: "Will you please express my gratitude to all the people in your group who have visited and thought of Mother during her illness. I am afraid I cannot phone them all. Mother had a wonderful five years out here and the birding group has kept her going with joy and interest. Sincerely, Faith".

The following note was also received from Merle herself: "Dear Tuesday Groupers - I have been overwhelmed with the gifts, flowers, cards, and notes you have showered on me. I can never thank you adequately, but would like you to know that your thoughts and prayers kept me going. - Merle".

TREES

By Merle Harvey

I very much enjoy the Heritage Trees Tour each year. These beautiful trees remind me of Perthshire, Scotland, where landowners in the 18th Century made plantations of a variety of conifers and hardwoods; the 2nd, 3rd and 4th Dukes of Atholl alone planting over 14 million trees between 1738 and 1791.

Larch was originally brought from the Tyrol by Menzies of Glen Lyon in 1738, sixteen plants of which were given to the 2nd Duke of Atholl. The hillsides around Dunkeld are now covered in larch, and in the autumn, the blacktop roads are edged with a lace of gold needles. These trees are mixed with the evergreen Scots fir and the spruces.

Campbell of Breadalbane was also a planter but much earlier. He succeeded to the estate in 1583 and carried out plantings for nearly fifty years. The result seen in the 20th Century was impressive, but in 1970 logging began among the conifers.

The 4th Earl of Breadalbane succeeded in 1782 and became one of the three greatest tree planters in Scottish history. The magnificent hardwoods in Taymouth Castle grounds were planted by him, or caused to be planted by his Countess, who gave a seedling to every man and woman in the area and told them to plant it - or so it is said. Beeches, sycamores, limes, larches and Spanish chestnuts have grown to enormous size and are wonderful to walk along, especially in Spring, when the wild hyacinths and cowslips, violets and primroses, make a carpet of colour under them. An open space among these giants is a well-kept golf-course. The North Terrace Walk by the river Tay is among the best birding areas I know.

To commemorate Queen Victoria's Jubilee, Sir Robert Menzies planted an avenue of Lombardy poplars which used to shade the road from General Wade's Bridge at Aberfeldy, to Weem, across the valley. Unfortunately, periodic flooding undermined the roots and these once beautiful trees had to be removed as they were considered to be dangerous in 1970.

On the north side of the Tay is the famous yew tree at Fortingal, reputed to be 3000 years old. In 1760, it was measured at 56 feet circumference. The centre has now decayed, and its spread of trunks is now confined behind railings to save it from souvenir hunters.

Near Blairgowrie is the famous beech hedge nearly one hundred feet high. The story goes that it was being planted in 1745 when the men were called away to fight the English, so it was never completed. As it is, it extends for about one third of a mile and is trimmed every 8 or 9 years, to keep it in shape.

Between Crieff and Muthill is an avenue of beeches, chestnuts, and limes that are so huge that their branches join overhead, making a tunnel of green shade in summer.

Nowadays, the Forestry Commission does the massive planting, and for economic reasons the quick-growing softwoods like Sitka and Norway spruce, Scots fir, and larch are chosen, making rather dull plantations on the hillsides. But on lower elevations some hardwoods are being planted, and the new highways will have shade trees someday for our children to enjoy.

MEMBERS VOTE TO INCREASE DUES

At our General Meeting in March, the membership voted to increase our yearly dues to \$8.00 for Golden Age Singles, \$9.00 for Regular, and the Junior dues were left at \$2.50, and Family (Golden Age or Regular) at \$12.00. We all benefit so much from our Society, so let's get our dues right in, as they are all due May 1st. It helps so much if we will each just forward our dues to the Membership Chairman, Mrs. Jean McInnes, Victoria Naturalist, P.O. Box 1747, Victoria, B.C., V8W 2Y1, before she has to call us or ask us for our dues. Thanks to everyone who does send their dues right in.

QUICK'S BOTTOM - An Entomological Experience

November 1, 1980

by Rob Cannings

A warm, sunny morning in the midst of a rather rainy weekend provided an opportunity to observe some of the late autumn insects of the Victoria area. We chose Quick's Bottom as the place to go, since in November it is easier to find insects in and around water than in most other habitats.

With a dip net we were able to capture a number of different aquatic insects and observe them at leisure. First to catch our eye were the Hemiptera (true bugs), represented by the backswimmers (Family Notonectidae) and water boatmen (Corixidae). These closely related families share a predaceous habit; their mouthparts are developed into a short proboscis with which the insect sucks the insides from captured prey. The front legs are well adapted for grasping prey while the middle pair are designed to hold onto water plants. The long hind legs are used for swimming; they are thickly fringed with long hairs that transform the leg into an efficient paddle. Backswimmers, of course, swim on their backs, their closed wings shaped like the hull of a boat. Waterboatmen swim right-side-up. Both types of insects live in the water as immature and as adult bugs. The winged adults may leave the confines of the water in dispersal flights to other ponds. While they are submerged, the thin, silvery film of air they carry on their body hairs is readily visible. This bubble of air is used like an aqua-lung -- oxygen and carbon dioxide are exchanged through its surface.

We examined the aquatic larvae of several kinds of true flies (Diptera) -- those insects that, when mature, are characterized (among other things) by a single pair of wings. The large, cylindrical larva of a crane fly was present. Many crane flies (Tipulidae) larvae are aquatic, but some are terrestrial. The best known locally is the leatherjacket that eats the roots of lawn grass and emerges in the Fall as a large, winged adult. The smaller, more numerous larvae of non-biting midges (Chironomidae) were everywhere. These animals are extremely important in the aquatic food chain, owing to their extreme abundance. Many species that burrow in the bottom mud are red; they possess hemoglobin which enables them to more readily use the small amounts of oxygen present.

The larvae of several species of mayflies (Ephemeroptera) swam about in the water. The ones we observed were easily distinguished by the three long filaments at the rear end and the platelike abdominal gills. These insects are famous for the brief adult life -- often only a day or so -- during which they swarm and mate.

Our attention was focussed mainly on dragonflies (Odonata), since these insects were the most noticeable ones both as adults flying around the pond (still in November!) and as larvae in the water. In the aquatic vegetation, we found larvae of both sub-orders, the Zygoptera (damselflies) and the larger Anisoptera. Both types are equipped with a unique feeding mechanism, a hinged, extendible labium. This is a sort of "lower lip" armed with pincers that is shot out at passing prey, catching them and drawing them back to the mouth. We saw the labium quite clearly in some of the larger larvae.

Damselfly larvae possess three leaf-like gills at the tip of the abdomen. These gills absorb oxygen from the water. They also act as swimming fins. The species we watched was Ischnura cervula, a striped creature which turns into one of the most common damselflies around Victoria ponds. These larvae overwinter partly grown, then emerge as adults in the Spring or Summer.

The only Anisoptera larva found was a big Aeshna palmata, his wing buds about half-grown. The adults of this species still flew up and down the shore, big blue predators after small flies. These larvae have no external gills, but rather take water into the rectum which is lined with gills. This respiratory system also can be used for locomotion. The larva squirts water out of the rear and shoots off -- jet-propelled.

Our observations of adult dragonflies were simplified by the tameness of Sympetrum vicinium. These dragonflies fluttered about, often landing on our clothing -- ideal for close-up views. Pairs were mating, and the differences between the sexes were easily noted. Before mating, the male transferred sperm from the tip of his abdomen to a set of accessory genitalia at the abdomen base. These accessory organs are unique to dragonflies. The bright red male then grasped the more dully-coloured female by the head, and she curled the tip of her abdomen around to reach the base of his abdomen. This is the familiar "wheel position" during which the female receives the sperm.

After mating, egg-laying occurs. The female Sympetrum vicinium simply dipped her abdomen in the water, releasing the eggs. The male retained his grip on the female's head, hovering above her, preventing other males from mating with her. The eggs of this species apparently overwinter, then hatch in the spring when the water warms. The larvae then feed through the summer. The adults emerge from late July into September, mate and then die. As we saw at Quick's Bottom on November 1, the species is one of our latest flying dragonflies.

We looked at a few terrestrial insects as well. Lady-bird beetles (Coccinellidae) of the genera Adalia and Hippodamia were common on the foliage. These beetles feed largely on aphids and other destructive insects. In the Fall, many individuals may gather to hibernate together. We observed how the hardened, patterned front wings cover and protect the folded, delicate flying wings.

Perhaps the most abundant insects in the foliage around the pond were the true bugs in the families Cicadellidae (leafhoppers) and Cercopidae (spittlebugs). These are little insects that hop energetically when disturbed. They suck the fluids from plants, in the same way their aquatic relatives the backswimmers and waterboatmen feed on other animals. Other true bugs were seen in the grass. Damsel bugs (Nabidae), of the

Nabis were there, as well as plant bugs (Miridae) called Lygus. The former probably feeds on the latter. Finally, in the low spike-rush, we discovered a female Conocephalus fasciatus, complete with long ovi-positor. This green, long-antennaed grasshopper uses the sword-like ovi-positor to insert eggs into plant stems.

The field trip was complete when a fine Peregrine Falcon flew overhead, assuring us that winter really was coming to Victoria.

ANNUAL GENERAL MEETING FEDERATION OF B. C. NATURALISTS

The Nanaimo Field Naturalists Club will be hosts to the Annual General Meeting of the Federation of B.C. Naturalists, being held at the Island Hall Hotel, Parksville, May 8-9-10.

A block of 35 rooms has been booked at the Island Hall Hotel for Federation members. The Hotel should be contacted directly for reservations at P.O. Box 340, Parksville. There are many other motels in Parksville and for those who wish to camp, the Group Campground at Rath Trevor Provincial Park near Parksville has been reserved for Federation use, May 7 to 12. No fee will be charged at the Campground.

Registration fee for the meeting will be \$25.00 per person and will include a Social Evening Friday, Lunch Saturday, coffee breaks, the annual Banquet Saturday, as well as leader expenses for field trips. Please register before April 30.

Full information on field trips will be available shortly and is expected to include: THURSDAY (tentative) - cruise to Banfield from Port Alberni on the Lady Rose; FRIDAY OR SUNDAY - all-day trip to Hornby Is.; SUNDAY TO MONDAY - Pacific Rim National Park; IN-BETWEEN - short trips to MacMillan Park, Englishman River Park, Little Qualicum Park, early-morning birding, and others.

The Victoria Natural History Society will be having official delegates, but all members are invited and welcome to attend. This annual meeting is always a highlight of our year's activities.

Please address all questions to: A.G.M., Nanaimo Field Naturalists Club, P.O. Box 125, Nanaimo, B.C., V9R 5K4.

IN MEMORIAM - MRS. ROSALIE HOBSON

The Natural History Society of Victoria was sad to hear of the passing of Mrs. Rosalie Hobson, who served so well as president of the Victoria Natural History Society from 1950 to 1952. Our sincere sympathy goes to her friends and family.

BIRDING TRIP TO ELK LAKE

by Lois Clark

It was on Saturday morning, January 24th, that a large group met for the birding trip to Elk Lake under the leadership of Mike Shepard.

Birds were scarce on the Lake near the parking lot, with only a pair of Horned Grebe and a Canada Goose in view, but a Northern Shrike was spotted high on a tree nearby. With the aid of a couple of scopes in the crowd, we were all able to have a good look at its black mask and dark wings.

As our objective was to find forest birds, we set off on the trail through the woods along the Lake. A Great Blue Heron flapped off on ponderous wings as if annoyed by the disturbance our arrival created, while a flock of Pine Siskins swirled from tree to tree. The drumming of a Pileated Woodpecker was heard and soon he was found on a high dead limb. A Downy Woodpecker was also seen further down the trail. Many 'small bird' sounds led us to Chickadees, Juncos, both kinds of Kinglets (Golden-Crowned and Ruby-Crowned), Songsparrows, Fox Sparrow, Nuthatch and Towhee, and a Brown Creeper was seen spiralling up a tree trunk.

Clearings appeared like windows as we approached Beaver Lake, enabling us to see Gadwalls, as well as Ring-necked Ducks, Common and Hooded Mergansers, Scaup, Common Goldeneye, and a couple of Double-crested Cormorants.

As we crossed the meadows enroute back to the parking lot, a Sharp-shinned Hawk was seen, and a Kestrel, a Purple Finch, a Bald Eagle, and a flock of Band-tailed Pigeons.

For our lunch we drove to Island View Beach and while enjoying our 'tea and sandwiches' we added to our list an Eared Grebe, Old Squaw, Common Loon, Scoters, Harlequins and - to the delight of everyone - a large grey whale, and later a couple of ... (seals? dolphins? sea lions?).

Thus it was on Saturday the 24th that we saw 42 different species - despite Mike's prediction of a scant 30. Many thanks, Mike, for a great day.

EAST SOOKE PARK

by Richard Sewell

Sunday, 22 March was without doubt the most beautiful day we have had so far this year. About thirty people met at Mayfair Lanes for what was ostensibly a birding trip to East Sooke Park. However, in the absence of an official leader, it turned out to be more in the nature of a hike along the trails of the Park - but also watching for birds at the same time.

At the Park, we left our cars at Aylard Farm and started walking down through the meadow towards Creyke Point. Almost at once we spotted a Yellow-rumped Warbler singing away right at the top of a tall tree, and then, some distance offshore in Becher Bay, a raft of about fifty Western Grebes. As we wandered through the woods, many of us saw our first Calypso Orchid (*C. Bulbosa*) of the year. Then down to the beach, and following that, along the cliff trail to Alldridge Point. From the beach onwards, the trail had been marked as 'difficult', and from Alldridge Point on it became 'very difficult'. About half of us stopped right there and sat down on the lichen-covered rocks to have lunch. The others struggled on to Beechey Head.

As we were eating lunch, six Oystercatchers went shrieking past. Fortunately, we did not have to struggle up and down the steep cliff trail on the way back to the parking lot, but took the easy way through the woods. A bit muddy, but much easier. Evergreen violets (*Viola Sempervirens*) were in bloom along the trail. We all heard Pileated Woodpeckers calling and hammering, but none of us could spot one.

On the way back home, we stopped at Dupree Road (opposite the Witty's Lagoon carpark) to have a look at some bluebird nesting boxes which Rob Mackenzie-Grieve had put up two years previously. Unfortunately, they were empty. However, we did see at least five Stellar's Jays, and then down Duke Road, a flock of Cedar Waxwings.

If we had been going out with the sole intent of seeing how many birds could be found in one day, then we would have been most disappointed, as we could only reach a count of 39 different species. However, our intent was simply to enjoy the beautiful day and get out in the fresh air. About half those on the trip had never been to East Sooke Park before, and all agreed that it was one of the most beautiful places in the whole Victoria region.

SPECIAL, SPECIAL, SPECIAL

by Marjorie Ketcham

The annual meeting of the Victoria Natural History Society will be held at the Newcombe Auditorium in the B.C. Provincial Museum, Tuesday, May 19, 1981 at 8:00 p.m. and promises to be an outstanding evening, with Rick Kool from the Provincial Museum presenting an unusual slide show and lecture on animals at the tidal zone, titled "Sex On The Sea Shore". Rick, as he is so well known, has his master's degree in the field of animal ecology and is a "super" teacher at the Museum. You'll long remember the evening with him, so don't miss it.

Many have voiced a special thanks to Terry Morrison and Peter Darling for their special presentation on the future plans for the Swan Lake Nature

Center, which they gave at our General Meeting in March at the Newcombe Auditorium. Terry is the Naturalist at Swan Lake. Most of the slides were taken at the Nature Center by our own Teresa Shepard.

Several members of the Natural History Society participated in the thorough Bluebird Survey conducted by Mike Shepard on Southern Vancouver Island. Those participating in the Survey found it a most interesting experience. Mike says "thanks" to all who helped.

If you missed the tour of the Entomology Collection at the B.C. Provincial Museum March 17, led by Dr. Brian Ainscough, in the Curatorial Tower, you missed a very informative and educational evening. Thanks, Rob and Dr. Brian. May we have more such evenings.

Birders' Night for March was held in the new downtown Victoria Public Library, due to the large board room in the Provincial Museum being changed over for offices. The new smaller board room is now to the left of the foyer in the Newcombe Auditorium and is too small for Birders' Nights. A large crowd was in attendance as usual at the Library and delightful slides of birds were presented from members. Mike also reviewed the birds the Naturalists will be seeing on the May trips to the Okanagan. Be sure to check on Rare Bird Alert, 478-8534, for the location of the April Birders' Night, as the meeting place is indefinite at this time. Mike has led a successful Birders' Night this year. Thanks, Mike.

Dr. Alex Peden carried on his aquatic Biology Field Trip to examine salamanders, fish, and aquatic plants of Durrance Lake and vicinity in March, with his two enthusiastic members, Jean McInnes and Doreen Horn. We are lucky to have in our area such fine, professional leaders as Dr. Peden, who will take the time out to lead our groups. Alex is the Chief Curator of Aquatic Biology at the Provincial Museum. To miss one of his field trips is to miss an outstanding experience in the field of natural history. It is a privilege to be on a trip with Alex. Dr. Peden was also the main speaker at our April General Meeting, where he gave a very fine illustrated slide show and lecture, showing the slides he took while collecting fish in the Arctic waters of the Bering Sea. Thanks, Alex, from all of us - you are tremendous.

The Botany Field Trip, "Pink Lilies at Cowichan Lake", for April 18 was changed to April 4, due to the unexpected early spring weather this year. To see the fields of exquisite pink lilies (pink *Erethionium* species, *Erevlutum*) is a sight never to be forgotten, a really magnificent delight for botanists. As one walked the quiet trails, through the beautiful woods dripping with Leum Moss, one enjoyed the lovely Yellow Wood Violets, Bleeding Hearts, Trillium, False Bugbane, Vanilla Leaf, Lily-of-the-Valley, False Solomon's Seal, Nettle, Toothwart, Western Spring Beauty, German Herb Robert, Piggy-back Plants, and also the unusual rusty-looking Ginger.

One walks in a forest of Western Hemlock, Maple, and Red Alder and Douglas Fir. The Maple bark has more nutrients than other tree barks, so it has the most moss clinging tenaciously to its limbs. The colourful green spots on the Alder, from the Lichen growing, and the beds of Licorice Ferns on the ground and in the trees along with the mosses, give one the feeling of being in a fairyland, with the mist and bit of rain seeming like early morning dew. The Bracken, Fiddle Backs, Dock, Sword Ferns, Miners Lettuce, Red Elderberry, Indian Helibore, yes, the lacey Catkins hanging from the Alders, and the huge Douglas Firs, made one feel that he were truly wandering through a grand botanical garden, and such it was. Leon Pavlick, botanist from the Museum, was the leader and again, it was a privilege to make the trip with such a knowledgeable, friendly and delightful leader. Thanks, Leon.

The Botany Nights at Swan Lake Nature Center every first Thursday of the month have been very successful, under the leadership of Leon Pavlick, botanist from the Provincial Museum (aren't we lucky again?). The round-table discussions of early spring wildflowers were of southern Vancouver Island, the Gulf Islands and the Olympic Mountains. Members participate in an informal forum and present and exchange ideas, information, and experiences regarding local spring plant life, and all are involved in the group. The kind of spring wildflowers, their flowering times, how to know them, where and when to see them, makes up the final program. These Botany Nights have proven to be a fine introductory and review workshop on our local fauna.

Thanks also goes to Margaret Wainwright and Marilyn Hewgill for the fine programs they have set up as leaders for our Victoria Junior Naturalists. One has only to read the Junior Natural History Program to appreciate the thought and effort these gals are giving to the program. Again, we are fortunate to have people who will give of their time voluntarily for our children of Victoria and for such a worthwhile program, that could not be without adult leadership from naturalists. The young people of today will be the leaders in our field tomorrow, and it is up to all of us to help in any way we can to assist those who work with the Junior Program.

Members also owe a thanks to Ann Davidson for the fine Audubon film series she has been in charge of this year. Also for the delightful showing of Davy Davidson's fine paintings that Ann and Chess Lyons set up for display after the last Audubon film for the year, in the foyer of the Newcombe Auditorium. It was a real treat to see so many of Davy's paintings together. We are proud of you, Davy and may you just keep on painting as you are for many more years to come. Davy was editor of *The Naturalist* from 1955 to 1965, and at present is our Natural History Society Librarian, with all the Society's books and magazines and papers filed in his basement. If anyone is interested in any special articles or information or books to read on Natural History, do give Davy a call. He is also one of our Honorary Life Members of the Society.

And, last but not least, thanks to Kathryn Sherman for organizing a hospitality and welcoming committee for our general meetings. Many, especially newer members, voice a real appreciation upon being welcomed and introduced to members as they came into the foyer at the Newcombe Auditorium at our last meetings.

There will be no general meetings in the Newcombe Auditorium, or Birding or Botany Nights, for June, July or August, but there will be special field trips, so watch for your July-August *Naturalist*, and occasionally call the Rare Bird Alert number - 478-8534 - for special announcements. We will see you all at the May General Meeting at the Newcombe Auditorium May 19th, with the Rick Kool Programme and our annual elections. Have a happy Spring and Summer. Thanks to all who have contributed so many fine articles for *The Naturalist* and to one and all who have helped so much with the magazine distribution, etc. in the past year. We do appreciate the members' interest, help and enthusiasm, yes - patience, in this our first year. Love to all,

Marjorie Ketcham - Editor

Marjorie Ellston - Asst. Editor

"ONE SPAWN A TIME"

by Alf Porcher

On Sunday, March 15th, 1981, twenty-one of us met at Marshall Stevenson Wildlife Refuge by special permission (the Refuge is not yet open to the public) in the hope of seeing herring spawn. Our leader was under the impression that March 15th would be a good day to witness this phenomenon, so we trudged through the Refuge, doing a little birding along the way.

The morning was drizzly, and most birds were lying low, quietly. But the redwings were happy to greet us with their beautiful call. We walked along the beach a short distance to the mouth of the Little Qualicum, observing sea lions, common mergansers, common loons and bald eagles along the way, and upon the beach a cluster of egg-sacs resembling elongated grapes, very pale in colour, the cluster being about 7" in diameter. We left it on the beach for others to see.

Upon the River we saw several kinds of ducks, but the herring, like some birds which have not read "Peterson's" and turn up in the wrong places, had apparently gone to the wrong fishing school and failed to keep their appointment with us!

A little disappointed, our Leader Harold Hosford really had to dig deep into his bag of tricks. Almost back to the pavement, to retrace our steps -- what could it be? Flying like a crow, yet as light in colour as a gull? It looks like an albino crow? Let's get a little closer and

let everyone see it! Fortunately, we have four or five scopes today. Yes, it is a crow, and the other crows numbering about 25 are not worrying or harrasing it as they are sometimes reputed to do; they don't seem to pay any special attention to it. It is not pure white, but its lower parts are lighter than its head and the head is the colour of a light brown hen's egg. This is a sight worthy of the trip from Victoria; to be remembered all of our lives.

On the way home after lunch, we stopped at the Buttertubs Marsh in Nanaïmo. Here we saw many tree swallows -- one dead tree had thirty resting on it. Also hooded mergansers, marsh wrens, white-fronted and Canada geese, including three lesser Canadas. It's a beautiful walk round the Marsh. Why don't you try it on your next trip up-Island? Thanks, Harold.

MARINE BIOLOGY OUTING - VICTORIA BREAKWATER

by Sharon Godkin

Early Sunday morning, 8 Feb. 1981, our group of curious naturalists gathered under leaden skies along the seaward side of the Victoria Breakwater. We were thankful for the shelter from the slight breeze which made the 5-degree morning seem even colder. We were met by three young gentlemen from the Provincial Museum - Phil Lambert, Assistant Curator of Aquatic Zoology; Gordon Green, Technician; and Brent Cook, Technician in Zoology and Underwater Photography - dressed in \$1000.00 dry suits. Brent stationed himself at the water's edge, and soon the divers emerged with their large-mesh collecting bags holding organisms and plants gleaned from the sea. The colourful specimens were plopped into buckets of water for us to admire while Phil and Gordon submerged to hunt for more. The creepy, crawly, slimy and spiny creatures were all identified by Brent, who also gave a short biographical description as he passed them among the group.

Our first marine sighting was the shiny dark brown bulbous floats and tapered stalks of the bull kelp (*Nereocystis leutkeana*) bed paralleling the Breakwater, carbon monoxide filling the bulbs and part of the stalks to provide buoyancy and to keep the long ribbon-like photosynthetic blades near the sunlight. Other algae of note were members of the mainly sub-tidal red algae group (Rhodophyta) - stony encrustations on a colourful rock brought up by the divers. It appeared to have been splashed with pink, orange and purplish paint. This was probably *Lithothamnium*, the red rock crust.

The rest of our specimens were members of the animal kingdom. A dribbling soap-bar-sized yellowish-brown squishy mass was identified as a portion of one of our sub-tidal sponges. Representatives of the simplest phylum of multi-cellular animals, the sponges (Phylum porifera) consist

of relatively unspecialized cells arranged around a skeleton of spicules (silica or calcium carbonate) and varying amounts of tough fibre. Overall shape and that of the perforating channels and chambers are indefinite.

Slightly more complex, the enidarians (Coelenterates) have three mouths and digestive cavities. These are the carnivorous sea anemones, jellyfish, corals and relatives. The same organism often has two distinct alternating generations during its life cycle: the sessile polyp which may reproduce asexually and the motile jellyfish phase which reproduces sexually. As jellyfish tend to occur in the summer months, we saw only polyps. A small (4 cm. diameter) anemone attached to the 'painted' rock had a subdued green column and stubby, delicate pink tentacles. It is aptly called the pink-tipped green anemone (or surf anemone - *Anthopleura elegantissima*). Its column colour results from symbiotic green algae called zoochlorellae resident in the lining of the digestive cavity. The few stout tentacles indicate that it preys upon large organisms such as crabs, small fish, or other invertebrates.

Some of the wide crevices between the Breakwater blocks harboured 30 cm. white plumose anemones whose tall columns were crowned with puffs of fine tentacles. A living mop, *Metridium senile*, blooms in sinister beauty, sweeping minute organisms from passing currents.

More evolved and active hunters, the marine worms, inhabit a wide variety of niches. We noticed two only; an inconspicuous 7 cm. commensal scale worm matching in colouration the tube feet of a large starfish among which it nestled, and the white meandering and coiled fine limy tube of a serpulid (possibly *Serpula vermicularia*) cemented to the 'painted' rock. The sensitive little architect of the tube, probably no more than 2-3 cm. long, remained hidden behind its flap door, denying us the wonder of its brilliant feeding plumes.

Many of the organisms most familiar to us were members of the very diverse mollusc group. One thing all molluscs have is a cloak of many talents - the mantle. The 2 cm. chinese hat-shaped shield limpets (*Collisella pelta*) and plate limpets (*Notoacomea scutum*) were variable in colouration, being variously striped or banded with dark browns and green to yellowish hues. The keyhole limpets (*Diordora aspera*) had similar but steeper volcano-shaped conical shells with special holes, thin radiating ridges and fine concentric circumferential ridges.

A deeper-water cousin, the northern abalone (*Haliotis kamschatkana*) was a 10 cm. long specimen with typical flat, wavy-surfaced ear-shaped shell. A row of holes punctuated the higher side of the shell. Like the keyhole limpets hole, these facilitate water circulation over the mantle as well as being portholes for sensory processes.

One of the more peculiar organisms held up to our puzzled gazes was a 20 cm. long reddish-brown leathery creature resembling an enormous unsegmented sow bug curled in defensive posture. Except for the large ventral muscular foot, there seemed little relationship between it and the 4 cm. long lined chiton (*Tonicella lineata*) with its 8 butterfly-wing shell plates. Brent explained that this was the gumboot chiton (*Cryptochiton stelleri*), the largest chiton in the world, and assured us that like all chitons, it had dorsal shell segments, but they were totally enveloped by the tough gritty girdle.

Low oblong 4-6 cm. long mounds dotting the submerged Breakwater blocks were identified as several types of chiton. These grazing molluscs have segmented dorsal armour in the form of overlapping shell plates embedded in a fleshy band encircling the animal. Like the limpets and abalone, these peaceful vegetarians have heads with 2 tentacles and a strong suction-cup foot which provide their only means of defence, their ability to clamp down immoveably. The leather chiton (*Katherina tunisita*) has a wide smooth blackish girdle nearly covering the plates. The mossy chiton (*Mopalia mucosa*) has a narrow, bristly girdle. The brown chiton (*Callistochiton crassicostatus*) and the lined chiton (*Tonicella lineata*) also have narrow girdles. The former is drab but the plates of the latter are beautifully patterned with blue, purple, and brown.

We were also introduced to the gastropods, a group of carnivorous or omnivorous molluscs characterized by having spiral shells (at least as infants) and an operculum (door flap) on the rear top of the foot of shelled types. These are the ubiquitous whelks and their naked kin, the nudibranchs. Smallest and most common were the Sitka periwinkles (*Littorina sitkana*), fat little 1-1.5 cm. dark bluish-grey inter-tidal snails. The 2 cm. blue topshell (*Calliostoma ligatum*), ringed with narrow bands of pink and maroon-brown, was brought up from deeper water as were the following larger snails. First came a leafy hornmouth (*Ceratostoma foliatum*), a striking white snail with 3 fluted crests, one a dorsal vane and the other two peripheral shelves. Its favourite foods are barnacles and bivalves. Then two large snails tumbled from a collecting bag. One was immediately identified by its furry covering of whorled brown bristles as an Oregon (or hairy) triton (*Fusitriton oregonensis*), a voracious predator of sea urchins and bivalves. Its larger 12 cm. companion had a similarly-shaped smooth pinkish shell without adornments. Unlike most of the other snails, this, a giant whelk (*Neptuna* sp.), emerged from its shell - a beautiful animal, delicately patterned with black and white, with 2 curious tentacles questing from its knob head, and a shiny rich brown operculum riding its ample foot.

TO BE CONTINUED IN THE NEXT ISSUE

THE CREATURE I AM

*I am a wolf, I have only one eye
The other's alright but it's got a sty.
I have four fangs and my claws are sharp,
And, when I go hunting, you'll see that I'm sly.
My coat is grey, my eye is black,
And if you hear howling
You know it's my pack.*

*I live with my pack, who's my brothers
And sisters, my son and my mate.
My lair is not small but there's often a fight
It's at Blackberry Forest first on the right,
You cannot miss it - except at night.*

*I like to eat moose and deer is quite nice,
But elk is my favourite mixed up with some mice.
I hunt very well, the others say,*

*I go out hunting far far away.
I lie in the forest, where it is black,
I jump out on rabbits and make their bones crack.*

*But, I have an enemy - man is his name,
He killed us quite brutally - it was a shame.
We only ate cattle - and we have to eat,
They came out and shot us and poisoned our meat.
The wolf is the creature I am.*

Gordon Blunt - Age 11

Victoria Junior Naturalist Society

By Mike Shepard

Part of the fun of birding is keeping track of how many species you see in a day, a month, a year, or for all time. A few birders have submitted totals to me - how about you? The next listings will be published in the Fall, so make sure you phone your totals in during the last week of September (658-5850 home; 388-4227 office). For the time being, only annual and all-time lists will be printed.

ALL-TIME B.C. LIST (Threshold 200)

1. David Stirling	360
2. Mike Shepard	348
3. Anne Knowles	255
4. Ray Williams	234
5. Vi Peters	222
6. Donald Carruthers	201

ALL-TIME VICTORIA LIST (Threshold 150)

1. Mike Shepard	239
2. Ray Williams	216
3. Anne Knowles	209
4. Vi Peters	206
5. Richard and Rosamond Sewell	193
6. Donald Carruthers	179
7. Art and Marion Durkee	169

1981 B.C. LIST (Threshold 125)

1. Ray Williams	152
2. Mike Shepard	140
3. Vi Peters	137
4. David Stirling	135

1981 VICTORIA LIST (Threshold 100)

1. Ray Williams	145
2. Vi Peters	131
3. Mike Shepard	126
4. Richard and Rosamond Sewell	119
5. Ed Coffin	101

BIRD ALERT - 478-8534BIRD OBSERVATIONS - FEBRUARYBIRD ALERT - 478-8534

No.	Species	Date	Area	Observer
2	Whimbrel	3	Cadboro Point	Chris Shepard
1	Glaucous Gull	4	Goldstream River	Ray Williams
1	Common Teal	7	Ascot Pond	Ray Williams
2	Turkey Vulture	7	Malahat Summit	Jeremy Tatum
1	Violet-green Swallow	21	Swan Lake	Jeremy Tatum
1	Redhead	22	Martindale Flats	Alan MacLeod
4	Western Bluebird	25	Metchosin Rd.	M. & V. Goodwill
<u>MARCH</u>				
6	Snow Geese	2	Bowker Ave.	Merle Harvey
1	Osprey	4	Mayne Island	J.&R. Satterfield
1	American Bittern	7	Swan Lake	Ray Williams
2	Gray Jay	8	Butler Main Log. Rd.	Alan MacLeod
1	Rufous Hummingbird	13	1533 William Head Rd.	Beryl Holt
1	Barred Owl	14	764 Piedmont Drive	T.E. Shepard
1	Gyr Falcon	21	Martindale Road	Anne Knowles
2	House Wren	22	Butler Main Log. Rd.	Ray Williams
2	Red Crossbills	23	Chatham Islands	Mike Shepard
1	Ring-billed Gull	24	Ten Mile Point	Dave Fraser
1	Tree Sparrow	25	Finlayson Pt.	Michael Meiklejohn

SAT. MAY 2

Birding in Elk and Beaver Lake Parks. Meet at Mayfair Lanes at 9:00 a.m. An excellent time to view spring warblers and other migrants. No leader.

THURS. MAY 7

Botany Night. Swan Lake Nature Centre, 8:00 p.m. Leader: Leon Pavlick, Botanist, B.C. Provincial Museum. Round-table discussion of late spring wildflowers. Bring a few slides.

TUES. MAY 19

Annual Meeting, Newcombe Auditorium, B.C. Prov. Museum, 8:00 p.m.; Speaker: Mr. Rick Kool, Museum Teacher, B.C.P.M. Topic: Sex on the Sea Shore. Mr. Rick Kool, Master's Degree from Inst. of Animal Resource Ecology, U.B.C. He has wide experience as a teacher in public schools and colleges and has been a museum teacher for the past three years at the B.C. Prov. Museum. The talk will be a slide show on animals at the tidal zone.

SUN. MAY 24

Birding in the Tugwell Lake area in the Sooke Hills. Meet at Mayfair Lanes at 8:30 a.m. Contact Charlie Trotter (477-4365) for details.

SAT. MAY 30

Limnology of Swan Lake. Field sampling methods. Microscopic examination of plankton community. Leader: Terry Morrison, Naturalist for Swan Lake Christmas Hill Nature Centre. Meet Mayfair Lanes, 9:00 a.m. to pool transportation or 9:15 a.m. Swan Lake Nature Centre. (Parking limited at Swan Lake).

THURS. JUNE 4

Botany Night, Swan Lake Nature Centre, 8:00 p.m. Leader: Leon Pavlick, Botanist, B.C. Provincial Museum. Round-table discussion on Wetland Plants. Bring a few slides.

SUN. JUNE 7

Jordan Meadows/San Juan Ridge Trip. Meet at Mayfair Lanes, 9:00 a.m. or 10:00 a.m. in Shawnigan Lake Village by Mairs Store. The trip will follow the road out from Shawnigan Lake, stopping at Jordan Meadows, via Port Renfrew and to the San Juan Ecological Reserve which is notable for the pink trout lily. Joint trip with Cowichan Valley Naturalists. Leader: Bart Vogelzang, Duncan-Cowichan Valley Naturalists.

SAT. JUNE 13

Wetland Plants of Quick's Bottom. Leader: Dr. Otto Ceska, professional botanist. Meet Mayfair Lanes, 9:00 a.m. or 9:30 a.m. at bird blind at Quick's Bottom.

SAT. JUNE 20

Birding at Spectacle Lake. Meet at Mayfair Lanes at 8:30 a.m. Leader: Alf Porcher (385-3833).

SAT. JUNE 27

Aquatic Biology, Ascot (King's) Pond in Victoria. Leader: Rob Cannings, Curator of Entomology, B.C. Provincial Museum. (See Sept., Oct. 1980 Vol. 37, No. 2 for articles on aquatic insects and plant life at King's Pond.)

JUNIOR NATURAL HISTORY PROGRAMMEAPRIL - JUNE 1981

APRIL 25 Fresh-Water Biology at Durrance Lake, 9:30 to 1:00. Leader: Alex Peden of the Provincial Museum, who will show us fresh-water life including salamanders. Meet at Mayfair at 9:30 a.m. or at Durrance Lake parking lot (at far end of Lake) at 10:00 a.m. Bring lunch, (and a fishing rod if you wish) and wear rubber boots.

MAY 9 Spelunking (caving) 10:00 a.m. to 1:00 p.m. Leader: Kerry Joy. Meet at Mayfair at 10:00 a.m. Bring lunch and a flashlight and wear old clothes.

MAY 23 Mr. and Mrs. Giff Calvert have invited us to explore their pond and to picnic there, 10:30 a.m. to 1:00 p.m. Meet at Mayfair at 10:00 a.m. or at the Calverts, 4373 Prospect Lake Road at 10:30 a.m. Bring lunch.

JUNE 6 Marine Biology. 9:30 a.m. to 1:00 p.m. We will take advantage of the very low tide to explore the tide pools at Ten Mile Point. Meet at Mayfair at 9:30 a.m. or at Smugglers Cove at 10:00 a.m. Bring lunch and wear rubber boots. Leader to be announced later.

JUNE 13 Hold this date open for a special all-day outing. Details will be phoned or mailed to you later.

PARENTS

Thank you for coming on our outings and for helping with the driving and car-sharing as you have.

At the beginning of the year, we agreed that if you could not drive your child yourself, you would undertake to arrange transportation with another parent on a sharing basis.

However, if you are stuck, please phone me at 592-1310. Between us, Marilyn Hewgill and I can usually find a solution.

Margaret Wainwright

VICTORIA NATURAL HISTORY SOCIETY
Mailing Address: P.O. Box 1747, Victoria, B.C. V8W 2Y1

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478-8534