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COVER PICTURE

By B.C. Dept. of Mines and Petroleum Resources

THE BUILDING STONES OF THE NEW MUSEUM (PART 2,THE GRANITE)

By A.H. Marrion

The cover picture is of a granite quarry on Nelson Island, which is one of the islands at the entrance to Jervis Inlet, about 60 miles north of Vancouver.

Good quarries have not been opened up elsewhere, as the rock formations have been shattered and otherwise spoiled for their use as building stone.

The quarried material is a grey granodiorite, of varying grain size, which has slight variations of colour due to the different proportions of light and dark crystals, the impure colours of the quartz, and at times some pinkish feldspar.

An average of rock samples indicates some of the physical qualities: specific gravity 2.675, weight 165.8 lbs. per square foot, pore space .67%, crushing strength 34.55 lbs. per square inch and shearing strength 2.198 lbs. per square inch.

The Vancouver Granite Co. are owners of 450 acres of land (1915) which rises from the shoreline to a moderate elevation. There are several favorable quarry sites on the property. The rock is seen to lie in sheets,8-35 feet thick, and in lengths up to 24 feet. The sizes of the blocks are determined by the vertical and slanting cracks called "joints", which were produced during the slow cooling process of the ancient molten magma. From one quarry a block 24 ft. long, 2 ft. 4 inches wide, and 2 ft. 6 inches thick was obtained. Street paving blocks of 9" x 4 ½" x 6" have been produced and dressed to size.

The "granite" being contracted for by the Farmer Construction Co. will be used around the base of the building and surmounted by the Haddington Island Stone, (See The Victoria Naturalist, November, 1966)

(Continued overleaf)

The geological history of this stone goes back to Upper Jurassic time, about 150 million years ago, when massive quantities of molten rock or magma accumulated and cooled very slowly beneath a thick blanket of earlier surface rocks. It was a time when its constituent chemical elements tended to unite in various combinations, producing various sizes of crystals such as those of hornblende, feldspar, etc., which became interlocked, forming the granitic texture.

A true granite consists of feldspar, quartz and small amounts of biotite and/or hornblende. A granodiorite contains two types of feldspar, one containing potash, the other soda-lime. The latter type of rock forms most of the Coast Mountains and is seen at Sidney and at Nelson Island.

During later geological time, in the Cretaceous Period and later, the surface rocks were eroded away, and the crystalline rocks exposed. The jointing in the rocks and the shattering produced in most areas by crustal movements and pressures aided nature in the work of erosion and the directional formation of many valleys in the mountains.

In glacial times, ice pressure and the wedging action of freezing water in the rock cracks loosened blocks of stone which were then quarried out and carried away by the moving ice. At the close of the glacial period, when the ice movement came to a standstill, boulders in or on the ice were left along the seashores or on the landscape. Some are angular in shape, others are more or less rounded.

On your local outings, you may see many of the granitic boulders scattered amongst other types of rock. All originated at some locality north of where you see them now.

Some references

Building Stones of Canada (B.C.) Ottawa Printing Bureau.
Landforms of British Columbia by S.S.Holland, B.C.Dept.of Mines.
S.Vancouver Island, Mem 13 by C.H.Clapp, Ottawa.

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Landforms of British Columbia, A Physiographic Outline is by Stuart S. Holland, is also known as Bulletin 48, is available from British Columbia Department of Mines and Petroleum Resources, and costs $2.10.

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SALMON RUN

Now that it is almost time for the run of coho and chum salmon to take place at Goldstream River, we might consider how we can allow the fish to complete their cycle without interference. We know how interesting the run can be, and it can be more successful if those who go out to watch this natural return of the fish to its birthplace, would understand and observe some of the fundamental rules of non-interference of the animals.

The coho does not "run" in the daylight but is a semi-nocturnal animal that makes up-stream navigation between dusk and dawn, and stays over in the deeper holding pools during the day. So, while they are resting in the deeper pools during the day, they should not be disturbed by spectators who poke sticks, throw stones, and do what they can to make the fish run the shallows and gravel bars. Such thoughtless spectators do great harm, which, if carried on to any extent, could possibly prevent the fish from reaching their own particular spawning ground.

While out in the ocean, the fish has stored energy to carry it back to its own home gravel bar. If it is chased up and down the river, the energy is depleted and the fish may not reach "home".

Salmon have a wonderful sense of smell. Therefore dogs, especially, should never be allowed to go into the water. The smell of a dog will go downstream for several hundred yards and cause real panic among the fish that are in the holding pools. Even a human hand in the water will disturb the fish for at least one hundred yards downstream. Throwing rubbish into the water, running along the banks, or wading in the stream can all prevent the salmon run from becoming effective.

This province has a wonderful resource in its salmon. By carelessness, we can and will destroy it. With care, and leaving it to the natural way, we can have it forever.

Goldstream is only a little stream, but each little stream that is destroyed brings the salmon runs closer to the vanishing point.

We should be willing to give more information about, and supervision to our local stream which has become one of the so-called "sights" of the Greater Victoria area. If we don't, Goldstream, like the Colquitz stream, will become a dead waterway.

Don't let us destroy our natural heritage.

Freeman King.

SOME BENEFICIAL PARASITES

In a previous article (September '67) it was mentioned that many parasites are of economic importance, and the examples given were those of types causing a good deal of harm to domestic stock. However, not all parasitic activities are harmful, some are distinctly beneficial. (This is according to the sophism that there are good and bad animals.) Among the "good" parasites, we find the Ichneumon. Chalcid and Tachina flies. Only the last are true flies, the others are wasps. They prey mainly on insects which compete with us for foodstuffs, and on those causing damage to valuable timber.

The Ichneumonidae are a large family with more than 1100 genera and many diversified habits. Some are equipped with a long and slender ovipositor that is capable of penetrating the hardest wood. Others deposit their ova on or in caterpillars and other larvae. The Ichneumon larvae feed on their host's tissues without destroying it at once as in true parasitic style; they depend on the life of their host for their own survival.

The larval stage of many insects is spent in valuable trees, in the wood, in the bark, or in between where they make their damaging galleries. These larvae are parasitized by typical Ichneumon flies, i.e. those with the long ovipositors. They seem able to detect the larva somehow, and bore through the bark in order to deposit their ovum on the victim. I have often watched them at work on the large poplars along Bowker Creek but I still wonder how they manage with that hairlike instrument. It must be a hazardous undertaking in case they are disturbed.

The larva of a native sawfly (Tremex columba) are among the victims of Megarhyssa, one of the larger Ichneumon flies.

Another large Ichneumon fly, Ophian, has only a short ovipositor and deposits its ova on the large caterpillars of the tomato worm sphinx which are often seen carrying this egg like a little cocoon. The larva enters the host and feeds carefully on the less vital tissues, not killing it until it has finished its cocoon.

Ophian thus spins its own cocoon inside the original.

The Tachina flies, another large group of about

5,000 species - about 1500 in North America alone - are all parasitic. They rather resemble the housefly and are of medium size.

Some prefer to lay their eggs on or in their victim. Others lay them on foliage where they are swallowed, or, when hatched, the larva wait until they can attach themselves to their prey. Once inside the host, their story is like that of the Ichneumon larva.

The Chalcid flies are another large group composed of some of the smallest insects. The largest is 1/8" and the smallest is 1/100". Not all are parasitic but most of them are. They form a group that is most important economically as they prey on other insects which we consider harmful. Their victims range from large caterpillars to aphids and scale insects. The smallest, Alaptus magnanimus, is parasitic on book lice. Their M.O. (modus operandi) is similar to that of the other two families mentioned.

It is seen then that while all these parasites are of economic importance, their influence is beneficial rather than harmful. It is on knowledge of their habits that biological control of crops and forest pests is based.

All families and genera mentioned in this article have representatives in British Columbia and can be seen in our museum as well as in the field.

Anthony Dehen.

AN UNMISTAKABLE RARE VISITOR

On June 2, on the north side of the Booth Bay Canal, Salt Spring Island, my attention was attracted by a bird on the wires in front of my house behaving in the manner of a flycatcher. At first, it appeared to be carrying long strands of hay, but on closer inspection, to my surprise and delight, I realised it was indeed a Scissor-Tailed Flycatcher, and a very beautiful bird as well.

Three non-birdwatchers witnessed this exciting event. One of them had seen it around this area before, but was unaware of its uniqueness. Another couple, half a mile away, had been watching this bird for about a week previous to my identification. It was not seen again.

Taverner states there are records of this bird from York Factory on Hudson Bay, taken 40 years apart, and in southern Manitoba. Peterson lists an Alberta record.

Leila Roberts.

BIRDS FOR THE RECORD

by Gordon and Gwennie Hooper (477-1152, evenings)

Black-throated gray warbler - Florence Lake - (1) Aug.19,30; (2) Aug.20, Sep.10 - Tom and Gwen Briggs

Bank swallow (1) - Esquimalt Lagoon - Sep. 6 - Gwen Briggs

Franklin's gull (1) - Clover Pt. - Sep.13 - Enid Lemon and David Stirling

"Red-breasted" sapsucker (2) - Florence L. - Sep.11-15 - Tom and Gwen Briggs

Vaux's swift (100) - Land's End Road - Sep.16 - A.R. and Elinore Davidson

Least sandpiper (1 albino) - Cadboro Bay - Sep.16 - R. Mackenzie-Grieve

Long-tailed jaeger (2) - Satellite Channel - Sep.23 - Allen Poynter

Anna's hummingbird (1) - Uplands Park - Sep.29 -

European widgeon (1) - Esquimalt Lagoon - Oct. 1 -

(1) - Dallas Road - Ralph Fryer

Knot (8) - Esquimalt Lagoon - Sep.30 - A.R. and Elinore Davidson

Lapland longspur (35-40) - Clover Pt. - Oct. 3 - M.C.M. Matheson

(1) - Parksville - Oct. 8 - (breeding plumage) Allen Poynter

Snow goose (1) - Oak Bay Golf Course - Oct. 6 - A.R. Davidson

Whimbrel (1) - Royal Roads - Oct. 6 - Tom Briggs

(1) - Clover Pt. - Oct. 7 - M.C.M. Matheson

White-fronted goose (6) - Blenkinsop Lake - Oct. 7 - A.R. and Elinore Davidson

Scissor-tailed flycatcher (1) - Pat Bay - Oct. 8 - C.T. Hotchkiss (Audubon Lecturer)

Migrants and winter visitors: Turkey vulture (27,Sep.30; 14,Oct. 7); common snipe (Sep.30); varied thrush (Sep.16); western bluebird (20,Sep.30); Audubon's warbler(8,Sep.30); evening grosbeak (1,Oct. 3); savannah, golden-crowned,fox and Lincoln's (Sep.10) sparrows; oregon junco.

EXPO BIRDING

While not publicised as a bird area, it is worth noting the original islands used for the Expo site were relatively good birding habitat, have a nesting colony of ring-billed gulls and a good list of migratory shore birds.

While mixing with the other 325,000 people, and being restricted to walkways, minus my binoculars, I identified 23 species of birds in a seven-day period. Two of these were lifers. None of the birds appeared to be impressed by this $400,000,000 version of Man and his world!

Allen Poynter.

*** * ***

On the Saturday, September 16, bird outing, we were about to return to the cars when our leader, Murray Matheson, noticed something in the grass and went to examine it. He picked up a small bird which was identified as a northern phalarope, Lobipes labatus. He brought it back to the cars where it was examined by most of the group and by Murray. As he found nothing visibly wrong with it, he returned it to its native element, the sea. A large group of its relatives were just off shore. Before paddling off to join them, the small bird sailed around for a few moments, viewing from the safety of the sea, the strange group of humans who had examined him so closely. We were thrilled to have seen at such close quarters one of the smaller oceanic birds.

H.M.M.

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SCOTCH WATCH Eighty white geese and two men guard Britain's largest collection of whisky: the permanent store of over 30 million gallons at the distillery of George Ballantine & Son Ltd., Dumbarton, Scotland. The whisky stays in the permanent store between five and twelve years. Geese were first used as an "early warning" burglar-alarm system in Britain nearly 2,000 years ago. The 138-year-old distillery has never had its oaken storage barrels burgled since the arrival of the geese.

Reprinted from NEW Things British Summer-Fall, 1967.

BOOK NEWS FOR NATURALISTS

Some titles of interest to naturalists added to the Greater Victoria Public Library during August and September 1967.

Ronan, C. A.	The Ages of Science.
Malan, Lloyd	Secrets of the Sea.
Sutcliffe, R.C.	Weather and Climate.
Strahler, A.N.	Geologist's View of Cape Cod.
Roddam, John	The Changing Mind.
Gronefeld, Gerhard	Understanding Animals.
Moucha, Josef	Beautiful Butterflies.
Cowie, Mervyn	The African Lion.
Chinery, Michael	Patterns of Living.
Pupazian, H.P.	Modern Genetics
Gabb, M.H.	The World of Plants.
Schaller, G.B.	The Deer and the Tiger.
Dempsey, Michael	Majesty of the Heavens.
Dempsey, Michael	The Round World.
Pruitt, W. O.	Animals of the North.
U.S.Bur. of Sport Fisheries	Birds in our Lives.
Grindley, Irene	Velvet Paws.
Basford, Leslie	Restlessness of Matter.
Basford, Leslie	Rays of Light.
Irving, D.J.C.	The Virus House.
Grzimek, Bernhard	Four-legged Australians.
Dempsey, Michael	The Skies and the Sea.
Crowcroft, Peter	Mice all Over.
Hellman, G.T.	Smithsonian: the Octopus on the Mall.
Yocom, C.F.	Wildlife in the Southern Rocky Mountains.
Burke, N.E.	The Midnight Forest.
Vanders, Iris	Mineral Recognition.
Van Straten, F.W.	Weather or Not.
Durrell, Jacquie	Beasts in my Bed.
Devine, Eleanore	The Dolphin Smile.

List submitted by -
George McBride
Circulation Department
Greater Victoria Public Library.

ENTOMOLOGICAL INCIDENT

Taking my ease in the garden one afternoon this summer, I found myself watching a shining, blue-black insect with dark wings busily digging in the dry soil of a flowerbed. I recognised her as a sphecoid wasp, not much like the yellow-jackets and black-and-white hornets we commonly think of as wasps, but then there is great diversity among the insects of the order Hymenoptera which may popularly be called wasps. This one was making a hole, kicking out the fine soil and occasionally retreating with larger particles in her mandibles. At this point, I had to leave, but I marked the spot and, upon returning, found the surface smooth and tidy, with no sign of a hole. However, I suspected what had happened and getting a spoon (a kitchen spoon) I dug. At least two inches down, I came upon a fat cutworm caterpillar, alive but in a state of complete inertia. Standing on it was a slender white egg, 1/8" long.

The wasp had dug the grave, sought out a caterpillar and stung it to helplessness, buried it safely from other marauders and laid an egg on it. The wasp grub which would hatch out in due course would find plenty of live meat to feed on to reach full size, transform to a pupa and emerge as a blue-black wasp.

But in the interests of teaching, I preserved caterpillar and egg, and hoped for a chance to capture the mother. Sure enough, a few weeks later I saw her in the same place, laboriously struggling along, straddling another paralysed cutworm. Despite my gratitude for her assiduity in removing cutworms from the garden, I added her to the preserved collection. The wasp measured 3/4" from head to sting; the caterpillar was twice as long and many times her weight. I have known this life-habit of the sphecoids ever since my student days, but never before witnessed it; others may have been more fortunate.

L.G. Saunders.

JUNIOR JOTTINGS

In spite of the recent heavy rains, the Junior Branch has been as active as ever. The younger group has taken field trips to the Goldstream Flats where they looked for pond life in the river. They also went to Francis Park for a work bee of clearing trails.

The intermediate group has been out to Francis Park and John Dean Park. At John Dean we examined the result of this summer's exceptionally long drought. The water level in the little lakes was very low, and the pond life was inactive. We noticed that the dogwoods and other growth around the edge of the pond looked healthy, but the underbrush up on the hills was quite brown and dead. We heard an interesting talk by "Skipper" on the history of the park, and he pointed out where the original road to John Dean Park came in.

On Sunday, October 1, a few of our intermediate leaders went to Island View Beach for a cookout. Here we explored the beach and sand dunes. Near the dunes was an island of rock with very unusual growth of native trees and shrubs. Some of the old Douglas firs and western red cedars were extremely bent and twisted from prevailing winds. In the middle of the island we found a clump of roses that was about 25 feet tall, and 3 or 4 inches through at the base. On the beach, we examined many shells and different kinds of seaweeds that had been washed up on to the shore.

Bob Fleischer

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JUNIORS: If you want to read more about Georg Wilhelm Steller (see opposite page) there is a most readable book, Where the sea breaks its back by naturalist Corey Ford in both the Provincial Archives and the Greater Victoria Public Library. It tells the story of Steller and the story of Vitus Bering's last, tragic voyage. The foreword is by a former member of the Alaska State Game Commission. The endpapers are maps showing the route of the voyage. Based on a translation of Steller's original report, this would be a useful book for any high school library, American or Canadian, particularly in the Pacific Northwest.

Editor.

GEORG WILHELM STELLER (1709-1746)

This fall we have a visitor. The Steller's jay (Cyanocitta stelleri) has come down from the forests in search of food. How many people, seeing this cheerful bird hopping around the garden, know the story behind its discovery?

It all started when the Empress Anna of Russia sent out an expedition to explore the northern Pacific. Steller, a young German naturalist and physician, was determined to be one of the members. Vitus Bering, the Danish explorer, was in command, and, attracted by Steller's vivid, young personality, signed him up as physician.

June 4, 1741, saw the start of the voyage. On July 16, land was sighted. Four days later, Steller spent his famous "ten hours" on Alaskan soil. In this short period, and under immense difficulties, he prepared the first report on Alaska's natural history. The original is in the Archives of the Russian Academy of Sciences, and a copy is in the United States Library of Congress. Among his discoveries was a brightly-coloured bird. Steller's fantastic memory recalled seeing a picture several years before of the eastern blue jay. He recognised his find as a western cousin, Steller's jay. This was his final proof that they had reached America.

Sailing home, scurvy struck, water became stagnant, and a storm broke out. They were blown off course and decided to land as the boat was damaged. The crew underwent great hardships - cold, sickness, lack of food, shelters in covered pits in the sand, and foxes. The foxes dug up the graves, gnawed the toes of the sick, and even molested the healthy men. Bering, among many, died that winter.

The next spring, the boat was demolished and a new one built. During this time Steller made observations of Steller's seacow (now extinct) and of the sea otters.

On August 12, 1742, greatly diminished in numbers, they set sail for Siberia. They arrived August 26.

Disillusioned, alone, unhonoured for his great work, Steller contracted a fever and died November 12, 1746. He was buried atop a hill, and with no headstone.

Uncared for, unwanted, he died - Alaska's first and greatest naturalist.

Genevieve Singleton, Junior.

MEETINGS AND FIELD TRIPS

AUDUBON WILDLIFE FILM: Friday and Saturday, November 3 and 4	Allan D. Cruikshank presents "Land of Giant Cactus" at 8 p.m. Oak Bay Junior Secondary School.
ANNUAL FUNGUS FORAY: Sat. November 4.	Meet at Monterey Parking Lot at 10 a.m. for trip to Francis Park. Bring lunch. Leader: M.C. Melburn 384-9052
EXECUTIVE MEETING Tuesday, Nov. 7.	8 p.m. Dr. Carl's office - Provincial Museum.
GENERAL MEETING Tuesday, Nov.14.	Slide talk "One Mexican Minute" by Mrs M.A. Slocombe and Miss E. K. Lemon, Douglas Bldg. Cafeteria, 8 p.m.
BIRD FIELD TRIP: Saturday, Nov.18.	Meet at Clover Point, 9:30 a.m. Bring lunch. Leader: M. C. Matheson, 383-7381
JUNIOR GROUP:	Meet every Saturday at Monterey Parking Lot, Douglas at Hillside, at 1:30 p.m. for field trips. Leader: Freeman King, 479-2966

At the October 10 General Meeting, members enjoyed York Edwards' coloured slides with taped commentary by him. The title of slides - and - tape is The Face of B.C. They run about 25 minutes and belong to the B. C. Nature Council. Originally made to help any new natural history society that wanted a ready-made programme, slides and tape may be borrowed, free, by any society member for home showing or to an interested group. To obtain them, apply to Mrs. Gladys Soulsby, 2150 Granite St., Victoria or phone her at 388-5028. But allow adequate time for delivery since this popular programme may well be on loan in a community elsewhere in British Columbia.

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No. 9 - 1354 Beach Drive
Telephone 385-2229

Vice-President
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4584 Bonnie View Place
Telephone 477-3383

Editors

MRS. L. E. CHAMBERS
4317 Blenkinsop Road
Telephone 477-1676

DR. G. CLIFFORD CARL
410 Queen Anne Heights
Telephone 383-8524

Secretary-Recording
MRS. F. A. SHERMAN
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Treasurer
E. E. BRIDGEN
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Secretary-Corresponding
MRS. S. PRIOR
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Chairmen of Groups

Programme and Publicity
D. STIRLING
3500 Salsbury Way
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Botany (summer)
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2397 Heron Street
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Nature Council
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