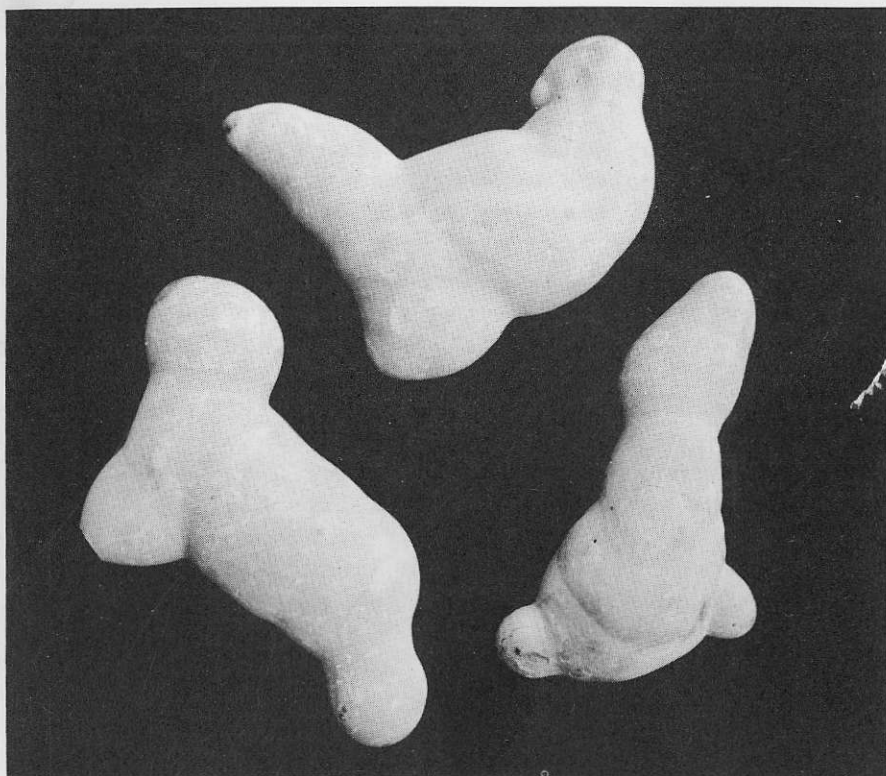


The **VICTORIA NATURALIST**

Vol.20 No.3

November 1963



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

THE VICTORIA NATURALIST.

Published by

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Vol. 20, No. 3

November 1963

COVER PICTURE

If your guess was wrong, don't feel badly. Several people mistook the objects for distorted potatoes. Others thought they were Eskimo carvings. In the following lines, Mr. A.H. Marrion reveals their true identity.

Many sedimentary deposits -- clays, shales and sandstones -- contain curious structures known as "concretions". These have been formed by a concentration of iron, silica or lime from the surrounding area, which acts as a binder or cement. By erosion, such as wave action along a shoreline, concretions may be washed out onto the beach.

Clays at Mr. Douglas Park have yielded a few of these curiosities. Others have been brought into the City from up-Island. Specimens become more scarce as time goes on because people, young and old, carry them away as mementoes of a hike or holiday. From a northern area comes the story of enterprising folk who sell them to tourists who see their likeness to Eskimo carvings.

Shales of North Pender Island have produced some cemented, roundish material, like cobblestones, which, when broken open, are found to contain a beautiful pearly nacre of fossil belemnites. Round stone balls are found up-Island. One, broken open, was pure hardened clay. Another contained a fossil shell.

Sandstone concretions, 18" or more in diameter, can be seen in rock cuttings at Nanaimo. One is very noticeable on the north side of the C.P.R. wharf site. Others are exposed along the highway, south of Nanaimo.

A glacier-carried cobble of fine-grained sandstone, about 2" by 7", shaped like a whale, was found on the C. P.R. track at Langford. When split, its iron content appeared as a pretty pattern of narrow, coloured bands, corresponding to the contour of the rock.

Concretions are not to be confused with volcanic material, such as pillow lavas, volcanic bombs (thunder eggs) or gem containing geodes.

WATERFRONT GEOLOGY

by A.H.Marrion

The east side of Hollywood Crescent is protected from erosion by underlying Vancouver Volcanics, whose upper, exposed, glaciated surface is still quite smooth. This rock appears brownish in colour, but flaking or scaling at one place shows it to be a very fine-grained, blackish lava. Flow lines, shaped like a fish hook, are very visible. The dip of the rock varies, and the surface is much fractured at right angles to the bedding, giving it a schist-like appearance. Bands and patches of brown and blue-black material may represent two types of lava. In the sea, near the shore, is a large granite erratic which has broken into two large and several smaller pieces. Covering material is a brown clay, in which no cobbles are seen, but interesting to note, there are a few granite and conglomerate boulders in the small coves, and one large one at the foot of the stairway. An example of long exposure weathering can be seen on shore, where a rock outcrop is fractured and broken up.

Since the uplift of the surrounding area, the sea has cut deeply into the soft clay, forming Gonzales or Foul Bay and exposing a rocky island, upon which stands a very noticeable erratic. Wave washing of the clay has sorted out and left fine white sand on the beach.

At the eastern end of the bay, volcanics are again exposed, and present new and interesting features. They are, in this locality, the sea-level base of 200' high Gonzales Hill, a "monadnock" or resistant residual mass, a reminder of the great thickness of rock once existing there and indicative of the time required to erode away this hard material -- since Jurassic times in fact. The base appears to be tilted, compact, highly compressed shale, dipping northwards. A little to the east, there may be seen at low tide, a vertical section of rock, with definite beds of shale, interbedded in the volcanics.

Above this place, on the north side of the road, is an exposure of crumbly, weathered shale material. At one time, "burned" edges of the deposit could be seen in contact with the ancient lava. The contacts are now hidden by a stone wall.

It would be interesting to know the relationship of the upper and lower beds, conditions under which they were laid down and to what depth the volcanics buried them.

RECORDING SOUNDS OF NATURE

by Grace Bell

Recording bird songs can be an extension of a bird-er's outing. When playing back recorded songs, one sees in the mind's eye experiences of earlier in the day and enjoyment is prolonged. There can be surprises too -- some pleasant, some not.

For instance, when recording skylarks at Gordon Head, the clump of feet across gravel was undesirable; whereas it was pleasing, after recording gulls, to hear oystercatchers in the background.

The best time for recording bird sounds, within the radius of city noise, is early in the morning before the sounds of busses, furnaces, dogs and unaccountable disturbances are in the air.

Like most hobbies, recording bird songs can easily expand into a more exploratory area, where all sounds become stimulating to the imagination, and fit naturally into one facet or another of the whole. Coupled with documented information of place, time, weather, behaviour and other details, studying the sounds of birds (or other animals) makes for greater understanding of their life and purpose, by we who share the world with them. Biology and acoustics -- science of physical life and sense of hearing -- are joined as never before in the search for answers and explanations governing sounds of nature.

Very little bird recording has been done on Vancouver Island, compared with what could and should be done with good equipment -- some of which is already available. The prerequisite, of course, is a keen interest in the subject.

There are some members of The Victoria Natural History Society who have made it possible for the writer to secure sounds of such birds as screech owl, osprey, red-tailed hawk and bald eagle. Other adult members have generously helped to get sounds of purple finch, yellowthroat and marsh wren. An up-Island member, now a biology student, was instrumental in securing a record which will undoubtedly be in the library of sounds -- when we have one.

An early recording here was of glaucous-winged gulls. The tape was used on a trans-Canada CBC school broadcast, illustrating through story form, typical sounds on our west coast. Obtaining this particular tape did not actually require biologists, but it was they who saw the potential in going after sounds of nature, and who went all out

to help the project which, in this instance, required not only early rising, but a boat and negotiating an unruly sea. An additional problem involved holding the forty-inch parabolic reflector, without tripod, and getting the boat close enough for recording without going too close to the rocks. It was done!

Screech owls, and other birds of our Victoria environment, are on the long-play set of records of Peterson's Field Guide to Western Birds. These tapes are now kept on file in the Laboratory of Ornithology Sound Library of Cornell University, from which they may be obtained for use by educational institutions. There are centres throughout the world where research in ornithological studies is progressing through tape recording.

To the writer, it would be encouraging if there were sometimes a junior member who wished to be drawn in this direction, where youth, strength and inspiration could further the idea of a British Columbia library of sounds of nature.

There is a feeling of satisfaction in contributing in any small way to the advance of an almost new science. And it cannot be denied there is personal enjoyment in the opportunity of experiencing first-hand one of the new techniques in use for studying the world of sound in nature.

FROM AUDUBON ANNUAL COUNT

by A.R. Davidson

A study of the North American Christmas Bird Count reveals some astonishing facts. It would appear that among the passerines -- cowbirds, starlings, red-wing and Brewer blackbirds, not to mention crows and ravens -- that blackbirds are the most efficient.

Increase in the number of starlings in this area (Victoria) is an example. Ten or twelve years ago, the only ones seen were ten or a dozen at Cadboro Bay -- look at them now!

Cowbirds, also unknown on the Island until eight years ago, now arrive in large numbers every spring. They are parasites, laying their eggs in nests of other birds. To me, this seems a very odd evolutionary development.

According to the Christmas bird count, starlings are increasing in all areas. At Portland, Oregon, none were reported on the previous year's count, but last December,

1,007,103 were estimated in the area. Nashville, Tenn. has two million of them, Milledgeville, in Georgia, recorded 1,250,000, but for large numbers of blackbirds, one must go to Rome, also in Georgia, where red-wing blackbirds number 4,620,000, Brewer blackbirds 3,930,000 and grackles 2,310,000. Apparently Georgia has more to contend with than human integration.

At the other end of the scale, no western bluebirds were recorded in the Northern Pacific Coast Region this spring. Makes one think, doesn't it?

These newcomers, starlings and cowbirds, are a definite threat to our small birds. When we consider, in addition to these natural enemies, the widespread use of poisons by gardeners, municipalities, various Dominion and Provincial departments, and lumber companies, we can cease to wonder why our beautiful and useful small birds are rapidly declining in number. I believe that all societies, such as ours, should individually and collectively fight this poison menace to our wildlife. To date, little has been done.

The Christmas count also tells us where our birds spend the winter. Of the sparrows which are migrating through Victoria at this time, I will mention only two -- Lincoln and golden-crowned. Our count of the latter, last December, was 92, Vancouver 43 and Seattle 37. Most places in Washington, Oregon and California show only small numbers, but San Jose listed 1578 and Sacramento 1026. The Lincoln sparrow, apparently, is not numerous. Our observers could not find any, and most points south of here recorded only one or two or none at all. Texas did better -- two southern points in that state showed about 200 each. Both these sparrows nest in northern British Columbia, Yukon and Alaska, but no nests have been found on Vancouver Island.

To be wholly alive, a man must know storms, he must feel the ocean as his home or the air as his habitation. He must smell the things of the earth, hear the sounds of living things and taste the rich abundance of soil and sea.

James Michener.

BIRDS FOR THE RECORD

Short-eared owl (1) rare fall migrant, Sept. 3, A. Poynter.
 Wandering tattler (3) rare fall migrant, Sept. 19, R. Fryer.
 Parasitic jaeger (3) seen together Sept. 22, E. Lemon - D. Stirling; Sabine gull (1) rare fall migrant, Sept. 27, Y. Edwards.

Yellow-bellied sapsucker (1) rare winter migrant, Sept. 28, R. McKenzie-Grieve.

Franklin gull (1) rare fall migrant, Sept. 30, R. Fryer.
 Ring-necked ducks, first winter arrivals, Oct. 1, T. Briggs.
 Golden plover (1) rare fall migrant, Oct. 3, A. Poynter.
 Sandhill crane (5) rare fall migrant, Oct. 5, Mr. and Mrs. A. R. Davidson.

Lapland longspur (3) rare fall migrant, Oct. 5, Group.
 Snow bunting (1) rare fall migrant, Oct. 8, M. Mathison.

One of the most notable bird movements this fall has been migration flights of turkey vultures. During an average fall migration, we usually get one report of a flock of 75 to 100, and one or two stragglers. To date, the following have been reported:-

Sept. 21,	- - - - -	75 - 100
Oct. 5,	- - - - -	39
Oct. 6,	- - - - -	75
Oct. 7,	- - - - -	320 plus-minus 10

These large numbers, considered with several reports of individuals during the same period, have aroused more than a little curiosity. Where did these birds come from? Have we vultures in this quantity in our northern areas? No one seems to be able to give satisfactory answers.

Who says we don't get blue jays west of the Rockies? We have a whole "Tuesday Group" willing to argue that point after seeing one in Finerty Wood on Tuesday, Oct. 8.

Conservation is thought and action directed by man to protect, maintain and fortify the environmental complex that supports and enriches life as it now exists on the planet earth.

Carhart.

BRITISH COLUMBIA'S TERMITES

by D.N. Smith

Two of the world's five major groups of termites occur in British Columbia, encompassing one subterranean and two dampwood species. Termites are old residents in the Pacific northwest, as fossil species were here several million years ago.

Subterranean termites (*Reticulitermes hesperus*) are small (less than $\frac{1}{4}$ "") and light-coloured, with royal, soldier and true sterile worker castes. They prefer warmer, lighter soils, which they mine extensively in search of cellulose -- wood and rotted vegetation being normal sources. In drier soil layers, and above ground, they build shelter tubes to avoid dessication. In this way, they can feed high in trees and invade buildings over foundations. New colonies arise by subdivision and increase when good food sources are encountered, the winged royals not being very successful colonizers.

Dampwood termites (*Zootermopsis angusticollis* Hagen, *Z. nevadensis* Hagen) when mature are large (more than $\frac{1}{2}$ ""). The alates have beige wings and cinnamon bodies; the soldiers have tan thorax and black heads and jaws; while the older nymphs are creamy with tan heads and black jaws. The nymphs do the work, but are not true workers, being fertile and reproductive. Dampwood termites naturally occur in permanently moist portions of stumps and fallen wood. They do not mine the soil nor build shelter tubes and new colonies arise by autumn flights of alate royals. From damp wood, they extend to attack adjacent bone-dry wood. Wood must therefore be dry and free from ground contact to avoid infestation.

Termite flight periods are limited to somewhat rigid environmental conditions. Subterranean termite alates are rarely seen in many areas because a combination of air saturation, warm earth and warm air is necessary for their emergence; late June or July is the usual time, but in a dry season no emergents may venture forth. Dampwood termite alates prefer late summer and early fall, but occasionally appear in late July, as well as appearing sometimes into October. Again, not the calendar, but the necessary moisture, temperature and atmospheric conditions limit emergence time. Dampwoods usually appear in late afternoon in partially shaded areas, extending into

clearings as evening falls and continuing flight to night-fall in warm weather.

In British Columbia, both types occur in the same general areas on the coast (e.g. Gulf Is.), but in the Interior, subterraneans occur in the drybelt and Dampwoods in the rain forest.

(Mr. Smith is a member of the Forest Entomology and Pathology Laboratory of the Canada Department of Forestry.)

MIGRATION

by A.R. Davidson

I have always found timing bird and insect movements most interesting. In the "Naturalist", last October, there was an account by Alan Poynter of the flight of termites toward the end of August in Finerty Road area, where we saw about 400 Bonaparte gulls and 30 nighthawks in the sky along with hundreds of robins and waxwings, all feasting on termites. Around the same time this year, in the same area, we again saw termites in flight, with gulls, nighthawks, robins and waxwings having a wonderful time.

My records, over the years, show almost identical dates of arrivals, the following being a typical example.

This year, we saw the parasitic jaeger for the first time on September 9. Previous years were as follows:-

1962	- -	September 7
1961	- -	September 10
1960	- -	September 8
1959	- -	September 8
1958	- -	September 10
1957	- -	September 13

Many books have been written on the mystery of migration, and many are the theories regarding it. My belief is that they have a sixth sense, which ornithologists, being scientific, cannot believe, and which we bird watchers cannot understand.

Walking in a wood, not knowing one living thing from another, can be as lonely as visiting a city wherein one has no friends. One old friend can be the means of meeting many new -- so it is with nature study.

FRANCIS PARK

by Freeman King

Our blackwidow spider eggs have hatched. The innumerable, tiny, fascinating creatures are being watched closely and their growth characteristics noted carefully.

About 300 people visited the park and Nature House last month -- many are repeaters, enjoying the quiet walks and ever-changing scene. Hardly a day passes without someone walking the trails.

Many migrant birds have come to the park, especially robins and flickers. Mosses and poly-pody ferns are now a clean, fresh, bright green after the rains. Every trail has its quota of tree frogs that croak a greeting at passersby -- their ventriloquistic voice keeps one guessing their location. To help shed the rain, and keep them snug for the winter, the inhabitants of the large ants nest have covered their home with fir needles.

Several new exhibits have been placed in the Nature House and the new storage shed project is underway.

JUNIOR JOTTINGS

by Nancy Chapman

For two consecutive weeks, we went to the clay banks of Island View Beach. This area is a geologist's paradise; one can read the giant clay banks like a book, seeing where the floods of thousands of years ago have washed layers of gravel and silt to the sea. After the last glacier, the whole sea bottom was pushed several hundred feet above sea-level. Now, one can find shells of clams and snails several thousand years old, embedded in hard blue clay.

Vegetation at Island View Beach is typically that of salt air and high winds. Tough rice grass, growing on the dunes, keeps the sand from shifting with the wind. Wild radish, sea sandwort and wormwood also grow in abundance. We saw a great blue heron waiting for his lunch on the kelp beds, and the laughing call of a loon mingled with the sound of splashing waves.

During our expedition to the tree farm at Beaver Lake, we learned more about trees and their environment. About eight years ago, Douglas fir, jackpine, black spruce, grand fir, mountain ash, red cedar and hemlock were planted on

a small lot. Today, only a few Douglas fir, several jack-pine and a couple of black spruce have survived the open environment. The Douglas fir, young as they are, have begun to produce cones.

An interesting alga was found in an old pond near Beaver Lake. Alders in that area have a good crop of next year's cones and catkins. We also spotted a female yew with one lone berry or "droop" as they are called. This is the season of the giant orb spider and we found several among the broom.

The "editorial staff" regret that the Junior Group survey of Goldstream Park is being extended through so many issues. However, the fact that so much was found in so small an area, by so youthful a group, makes it worthy of reproduction in full. Code: BL - blooming, FR - fruiting.

Flowering plants: (cont'd)

Wintergreen (*Pyrola* sp.), 2 species.
Tall Fringe cup (*Tellima grandiflora*) FR.
Wormwood (*Artemisia frigida*) FR
Fairy bells (*Disporum oregonum*) FR
Cat's ear dandelion (*Leontodon autumnalis*) FR
White clover (*Trifolium* sp.) BL
Dwarf rose (*Rosa gymocarpa*) FR
Wild rose (*Rosa nutkana*) FR
Small-fruited sedge (*Scirpus microcarpus*) FR
(*Juncus ensifolius*) FR
Colt's foot (*Petasites speciosa*)
St. John's wort (*Hypericum schoulerii*)
Schouler's harebell (*Campanula schoulerii*) BL
Wild strawberry (*Fragaria* sp.)
Twisted stalk (*Streptopus amplexifolius*) FR
False Solomon's seal (*Smilacina amplexicaulis*) FR
Slender therofon (*Therofon elatum*) BL
Pussy toes (*Antennaria* sp.) BL
Narrow leaved plantain (*Plantain lanceopara*)
Velvet-stemmed grass
Orchard grass
Timothy grass

Junior Jottings (cont'd)

Shrubs:

Oceanspray (*Spirea discolor*)
Waxberry (*Symphoricarpus albus*)
Broom (*Cytisus scoparius*)
Huckleberry (*Rubus parviflorus*)
Salmonberry (*Rubus spectabilis*)
Salal (*Gaultheria shallon*)
Oregon grape (*Mahonia nervosa*)
Mouse-eared willow (*Salix* sp.)
Orange honeysuckle (*Lonicera ciliosa*)
Creeping waxberry (*Symphoricarpus albus*)
Sticky gooseberry (*Ribes* sp.)
Saskatoonberry (*Amalanchier florida*)

Trees: (deciduous, coniferous and berry-bearing)

Hazel (*Corylus californica*) Campsite area
and a few by the river.
Western dogwood (*Cornus occidentalis*)
By the river.
Red alder (*Alnus rubra*)
Very prominent by the river.
Broadleaf maple (*Acer macrophyllum*)
By the river.

EXOTIC CONIFERS OF VICTORIA

Victoria's climate, with nearly 250 frost-free days, moderate rainfall, absence of weather extremes, and freedom from deep freezes of long duration, makes it one of the best places in North America for trees of the temperate zone. In our parks and gardens, and along our streets, we see many kinds of exotic trees from all parts of the world. Some are easy to identify (don't depend too much on name plates -- a favourite outdoor sport is shifting them from one tree to another); others are more difficult, especially since hybrids and nursery varieties are common.

The fascination of exotic trees is not only in their beauty and in naming them; it is also in the mental image they conjure up of strange and far away lands. What are these trees like in their native range, and what wildlife inhabits these forests?

NOTE: A series of short articles on exotic conifers of Victoria area, by R.Y. Edwards and David Stirling, will begin in the December issue of this magazine.

MEETINGS AND FIELD TRIPS

REGULAR MEETING: The regular monthly meeting of The Victoria Natural History Society will be held at 8:00 P.M., November 12, in the cafeteria of the Douglas Bldg. Mr. Ted Underhill, Provincial Park Naturalist, will speak and show slides on "Discovering Manning Park".

AUDUBON WILDLIFE FILM:

The second Audubon Wildlife Film will be shown on November 1st and 2nd at 8:00 p.m. in Oak Bay Junior High School. Mr. Walter Berlet will show his film - "The Living Wilderness".

BOTANY GROUP: will meet on November 2nd at 1:30 P.M. at Monterey parking lot. Destination to be announced. Bring tea. Miss M.C. Melburn will lead.

WINTER BOTANY GROUP:

will meet November 26th in Provincial Museum at 8:00 P.M. Mr. Herb Warren, Superintendent of City Parks, will be guest speaker.

BIRD GROUP: Meet at Monterey parking lot November 9th at 9:30 A.M. or Bazan Bay 10:00 A.M. Bring lunch. Mr. Alan Poynter will lead.

JUNIOR BRANCH: Juniors will meet every Saturday at 1:30 P.M. at Monterey parking lot for field trips.

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