

Oct. 1968
Vol. 25, No. 2

THE VICTORIA NATURALIST



published by the
VICTORIA NATURAL HISTORY SOCIETY

Victoria B.C

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Vol. 25, No.2October, 1968

COVER PICTURE

Courtesy: British Columbia Provincial Museum

COVER STORY

A HAIDA BEAR RATTLE COLLECTED BY C.F. NEWCOMBE

By Peter Macnair, Provincial Museum

Dr. C.F. Newcombe, born September 14, 1851 in Newcastle on Tyne, was renowned both as a natural and human historian. After his arrival in Victoria in 1889, he rapidly became interested in the biology and history of the province and was soon making voyages up and down the coast collecting and recording material of interest. In his open sailboat he made numerous contacts in coastal Indian villages and began to collect examples of their material culture which he sent to the burgeoning American and Eastern Canadian museums. During the years 1911 through 1913 he collected extensively for the Provincial Museum, adding substantially to the good basic collection established by the earlier collectors Chittenden, Deans, and Jacobsen. In 1960, after the death of his son William, Newcombe's private collection was added to that of the museum.

The bear rattle featured in the cover photograph is a particularly fine example of the Haida woodcarver's art. Delicately and intricately carved from two pieces of yew, the rattle was used on ceremonial occasions and represented one of the crest figures claimed by the giver of the ceremonial.

A human figure lies on the back of the bear's head with his chin resting on the animal's forehead and his fingers curled over the ears. Lengths of human hair add further fluidity to the tension of the lines of the carving. Restrained use of vermillion, black, and white paints enhance the anatomical details of both bear and man while the remaining surface gleams with the natural

colour of the wood. As well as being a fine carving the rattle is of further historic value as it is illustrated in volume 11 of E.S. Curtis' monumental work, The North American Indian, published in 1916.

C.F. Newcombe collected for the Provincial Museum some of the finest examples of Northwest Coast Indian art extant. Much of the material he collected is well documented as his field notes attest. Receipts record the names of individuals from whom artifacts were purchased and in some cases the name of the carver or maker is registered. This information is invaluable to the contemporary Anthropologist in aiding his attempts to define the styles of individual artists and to confirm the ceremonial prerogatives of a given family. Newcombe's sensitive photographs of Indian villages at the turn of the century add immensely to the record of a way of life that has in many aspects been lost. His vision of and feeling for the material he collected now remains for all to enjoy in the great museums of this continent. We are fortunate that he and his descendants saw fit to harbour much of the material in the province where it properly belongs.

LESLIE GALE SAUNDERS (1895-1968)

Soon after coming to Victoria in 1961 following a distinguished career in teaching at the University of Saskatchewan, Dr. Saunders became an active member of the Victoria Natural History Society. He served for several years on the executive, contributed articles to the *Naturalist* and presented an absorbing lecture at a general meeting.

Most members of the Society remember him as a quiet, soft-spoken man; only his more intimate friends knew he was also an accomplished research scientist, artist, photographer, craftsman and an expert in cultivating bonsai (miniature trees and shrubs). During the few years he was permitted to live among us he contributed much to the cultural life of our community.

G. C. C.

COLOUR

In this world of minis, maxis and psychedelics we sometimes forget that colour is not the prerogative of the fashion designer. Nature had it long before Mondrian.

We all know the rich hues of autumn and the pastel tints of spring but colour in nature is far more than an eye pleasing combination of tones. We talk of "natural" colour and mean a soft pleasing blend of fawn and brown but forget that the eye-popping yellow and black of a wasp is also natural. Put a slice of petrified wood under a microscope and, if you're lucky, you'll find more vibrant orange and red than on any ten shifts. The shimmering blues, greens and purples of mother-of-pearl pulsate in a way that no designer can copy. Perhaps even the furthest out fashion expert would hesitate to use the vivid yellow with orange-red stripes of the male yellow warbler.

The black, white and beige of a killdeer in the hand is a startling pattern but, like the camouflage on a warship, it breaks up the outline and the bird can disappear in the grass at your feet. The whistling swan isn't usually regarded as a well camouflaged bird but, on its tundra nesting ground in early spring it looks like any other patch of snow.

The yellow and black of the wasp is a warning of danger to other creatures, especially predators. The same combination on the male goldfinch is used to catch the eye and draw attention away from the nesting female.

Colour is used for far more than the protection of the animal. The carmine red spot on the bills of some gulls is an instruction to their young to peck here for lunch. Some species of gull apparently depend on flesh colour around the eye to separate their own kind from similarly patterned relatives. Without this difference it is doubtful if the herring, western and glaucous-winged gulls could maintain themselves as separate species.

Colour is the universal tool in nature. It identifies, it hides, it instructs and it warns but sometimes its only purpose seems to be the creation of beauty. How else can you explain the buffy orange behind a wild rabbit's ears?

Murray Matheson

SCAVENGERS

Lately much has been said about pollution and disposal of waste materials including sewage. The issue has been discussed not only from a sanitary but also from a political point of view, and recently a statement was made to the effect that we were getting too emotionally involved and that nature had long had its own methods of waste disposal. This is true, of course, but applies only to natural conditions and not to a crowded artificial environment.

Numerous domestic or other animals kept in a confined space are soon standing in an unappetising mess, but these same animals, left roaming at large, leave hardly any traces of their passing. Hunters know how difficult it is sometimes to find droppings of their game, even if it is known to be reasonably plentiful in a given area, and it is not very often that one finds a dead bird or animal.

What then happens to all this waste material?

The answer here is scavengers, full or part-time, ranging all the way from large carnivores to the bacteria, the latter being the unseen and unsung full-time workers who dispose of the most minute fragment and are even able to change some of these poisonous materials into substances that can be utilised by other forms of life.

When mentioning scavengers, we at once think of Africa with its hyenas and jackals. But these do not rely solely on carrion for their sustenance as they also do a deal of hunting as well. But this point is never stressed. I am afraid that they have been built up in the "image" (to use a modern expression) of scavengers for so long that they are stuck with it. Actually, they are only part-time scavengers.

However, we do not need to go to Africa to find these sanitary workers. They are to be found wherever there is plant or animal life, and our province is no exception.

In following articles, it is proposed to discuss briefly a few of these benefactors of mankind. Without such benefactors our woods and beaches would all be polluted with decaying materials, and the great outdoors would be almost untenable.

Anthony Dehen

OUT OF THE PAST

The land now known as the Thomas S. Francis Park was settled more than a century ago. Several features, reaching back into the days of the early settlers, were puzzling for a time.

For instance, scattered throughout the Park are old Douglas fir stumps that show the springboard holes. They are not in any pattern one would find in logging or in cutting for fuel. Why were there so few and why so widely scattered? After some "digging" for the answer, it seems they were cut for barrel staves for the first brewery in Victoria. The staves had to be clean and close-grained so that the cooper could shape them into the required pattern to make a water-tight joint. Not more than twenty feet of the log were taken. One can still find the remains left in the bush. These have now been broken down to help make new forest.

A second puzzle was finding a number of sharp-pointed fenceposts that had been sharpened in the English way. The answer there seems to be that they were to be used in the marsh area where the land was soft and spongy. They could be driven with a maul and easily pulled out with a chain and bar.

There are parts of old snake fences that are now deep in the bush. Some are small and in a rough circle. Were they corrals for branding or penning up the calves?

Here and there, at a height of eight or ten feet, is a band of wire now overgrown by the tree. Were these bands used to hang carcass of deer or steer?

If you look on these "hangers", you will find pieces of wood that are now rotting. Were they "gambels" used for spreading the carcasses to cool?

The park holds many other interesting traces of the past. Maybe, some day, I will talk about them.

Freeman King.

* * * * *

Freeman's "gambels" sent me to the dictionary. His form must, I think, be a popular version of gambrel which is (1) a stick or iron for suspending slaughtered animals or (2) the hock of an animal. The origins of gambit and gambol are worth checking, too, if you are looking up gambrel.

Editor.

DELEGATE'S REPORT ON B.C. NATURE COUNCIL MEET.

Mr. H.D. Walker, our delegate to the B.C. Nature Council Meeting in Vancouver on May 11, has sent the magazine a comprehensive report, of which a few highlights are given here.

Before giving these highlights, it might be useful to mention, as our delegate did, that the B.C. Nature Council is made up of eight clubs with a total of approximately 1,700 members. Members of the individual clubs are non-voting members of the Nature Council. The delegate votes for the club. Funds to operate the work of the Council are raised by levying a per capita assessment, based on club membership.

The Victoria N.H.S. with a membership of about 400 has a present per capita assessment of 25¢. All meetings of the Nature Council are open to all members of the federated clubs. Any member in good standing can speak on any subject under discussion at Nature Council meetings and also bring up new business.

At the May 11 meeting, seven of the eight clubs had delegates present. There were also two observers from Comox, three from Victoria, and eight from Vancouver.

The second item for discussion was Naturalist's Guide to the Victoria Region. Mr. Walker reported that the first printing of 250 copies as a pilot project sponsored by the Nature Council had sold out and that the Victoria N.H.S. had gone ahead with a second printing of 500 copies. The chairman clarified the status of the Naturalist's Guide as being a Nature Council publication, and a motion was passed to re-imburse the Victoria N.H.S. for costs of the second printing. The hope was expressed that other affiliated clubs would come up with similar publications covering their regions. The Nature Council would sponsor publication and retain ownership with a view to standardizing for later binding in one volume as a province-wide project. Local organizations would arrange printing and sales. Sharing of profits and setting wholesale prices was to be discussed by a committee to be named by the President.

The slide-lecture kit initiated and prepared by York Edwards was discussed, and appears as a separate news item on Page 20 of this issue of the magazine.

ENQUAL was also mentioned. Dr. Austin could not be present but wrote his ideas at length. ENQUAL, as most

of us know, is a Victoria University group working on environmental quality.

Nature study in the elementary schools was mentioned. The chairman had discussed this with Dr. Anastasiou, Faculty of Education, UBC. Kamloops in particular had expanded its program to include day camps.

A new editor for the Newsletter is needed by the Council since Mrs. Soulsby who has done this job for four years wants to be relieved of the task. For details of this worthwhile job see Page 20 of this issue. This might be a wonderful job for the young seeking such experience, or for mothers whose families are grown or almost grown.

Dr. Brink reported on several subjects which were of concern to the Conservation Committee, particularly the implications of the Roberts Bank Superport and the strip-mining at Crowsnest.

Freeman King told of the distribution of Garry oak seedlings. Mr. Dave Hancock reported about fifty pairs of peregrine falcons on the Queen Charlotte Islands and a fairly effective conservation program in regard to them, although falcons are disappearing in other areas.

There was more, much more in the Council's meeting, and under new business the Chairman raised for discussion the broad question, "How can the B.C. Nature Council be more effective?" For lack of time, this discussion had to be terminated by a motion that a special meeting be arranged at the call of the Chairman to consider how the B.C.N.C. could be more effective.

From the report our delegate sent the magazine, it is sure that our delegate will have some pertinent and practical suggestions to make at such a special meeting.

Editor.

JUNIOR JOTTINGS

The old routine is back in force again. We have returned to our regular Saturday outings, and look forward to them all week. Starting with a hike round the Centennial Trail at Francis Park, we discovered many interesting examples of the growth being a little ahead of its cycle because of our late summer rains. We also found lush and abundant lichens. The next week we had a contrasting hike on the sandy shores of Island View Beach. We found teeming animal and plant life here, also. So we have had a good start to our outings.

Jane Moyer

HELP WANTED: At the May 11, B.C. Nature Council Meeting it was stated that Mrs. Soulsby, Newsletter Editor, had written asking to be relieved of her job as she had done it for four years. The Vancouver Island delegates were given the task of finding a replacement for Mrs. Soulsby. Now there's a chance for anyone who enjoys gathering news and arranging words. The Newsletter, published three times a year, is what its title implies. The news sources are numerous. The council delegate from each member club sends newsworthy items to the editor. Also, in Victoria, university departments, government departments, the new British Columbia Provincial Museum are excellent news sources. Any interested Society member shou'd phone Mrs. P.M. Monckton (Thetis Park Nature Sanctuary delegate) at 384-8837 or Mr. H.D. Walker (V.N.H.S. delegate) at 477-2851

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THAT SLIDE-TAPE KIT At the May 11, B.C. Nature Council meeting in Vancouver, Dr. Stace-Smith, president, said that the Slide-Lecture Kit initiated and prepared by York Edwards was now in his possession and was available to any club on request. It was moved that the B.C.N.C. encourage member clubs to prepare similar slide-tape kits by providing a \$25 sponsorship for each kit. What a chance for an energetic progressive club. How many slides are in such a kit? What about the Gulf Islands Biotic Zone of which we are a part? Or a kit about beaches? We have the photographers and many of the slides. We have the articulate, highly articulate, members! This slide-tape kit idea has great possibilities as York Edwards knew when he initiated it.

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ADDITIONAL COPIES OF THE MAGAZINE: Each month about ten copies of the magazine are printed in addition to those required by the current membership list. So, starting in October, members who want an additional copy of the latest magazine can, with a 35¢ donation to the Society, secure a copy from the very limited number available. They will be at the monthly General Meeting. First come, first served. If you cannot be at the meeting, ask a friend to stand in line for you.

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BIRDS FOR THE RECORD

by G.N. and G. Hooper, 2411 Alpine Cr. (477-1152 eve.)

Franklin's gull (1 imm.) - Clover Pt. -	Aug. 18 -
Ring-billed gull (1 imm.)	
Short-billed dowitcher (79) - Witty's Lagoon -	Aug. 26 -
Common nighthawk (128) - Parksville to Duncan	Aug. 28 -
Sooty shearwater (3) - Trial Is. -	Aug. 29 -
(75 approx.) - Clover Pt. -	Sep. 7 -
Cassin's auklet (1) - Trial Is. -	Aug. 31 -
	Allen Poynter
Nashville warbler (1) - Duke Rd. -	Aug. 31 -
American golden plover (2) - Esquimalt L. -	
	A.R. and Eleanore Davidson
Buff-breasted sandpiper (1) - UVic Stadium -	Sep. 4 -
Monty Bergman (Ottawa), R. Fryer, R. Mackenzie-Grieve	
Say's phoebe (2) - Beach Drive -	Sep. 7 -
	D.B. Sparling

Migrants and winter residents (ARD):

Least sandpiper	June 30: B-b plover (15)	Aug. 15
Western sandpiper	June 30: Ruddy turnstone	Aug. 17
Gr. yellowlegs (4)	June 30: N. phalarope (75)	Aug. 20
S-b dowitcher	July 2: Pintail (15)	Aug. 31
Surfbird (43)	July 12: American widgeon	
	(25)	Aug. 31
S-p plover	July 16: Shoveller (8)	Sep. 2
Black turnstone	July 16: Ruby-cr. kinglet	Sep. 2
California gull	July 17: Golden-cr. sparrow	Sep. 5
Wandering tattler	July 23: Fox sparrow	Sep. 5
L. yellowlegs (3)	Aug. 3: Lincoln's sparrow	Sep. 5

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CONGRATULATIONS AND REGRETS: Hearty congratulations to Murray Matheson on his recent promotion in the Parks Branch, and our grateful thanks for all his work as Chairman of the Ornithology Group. He will be much missed.

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BEFORE MAN

Man is very proud of his inventiveness but how much of this is actually copied from what we have seen in nature? We think of boats as a pretty human tool but, did you ever stop to think how few things about a boat were really invented by man? Oars, sails, ropes and anchors were all used in nature long before man thought of them. Few things could be less natural looking than a modern high speed plastic boat with a jet engine but, almost the entire boat has been copied from nature.

Today's plastic or plastic-coated hull is made by one of three basic processes. It might be laid up in layers on a mould, like a clam shell, or perhaps extruded in a mould, like a crab shell. Although man regards these methods as very modern, nature used them eons before there was such a thing as a boat builder.

The third technique is to plank the hull in the usual way and then cover it with a tough resilient type of material. This construction provides a firm yet flexible hull of a type which has been used by the gum-boot chiton for millions of years.

The modern plastic hull is made of material that is heavier than water and by itself won't float. This lack of flotation is not serious until the boat fills with water and then it sinks like the proverbial stone. Man has cleverly solved the problem by using an invention called buoyancy tanks. These are literally boxes of air that are built into the boat. Should the boat fill with water, the tanks have enough air in them to keep the whole thing afloat. This clever device has been used by fish since the beginning of time.

The marine jet engine is a marvel of modern engineering. It works on the same principle as a jet aircraft engine but, instead of using air it uses water. A high velocity pump picks up the water from under the hull and expels it at high pressure from a nozzle at the back of the boat. The boat is steered by deflecting the jet to one side or the other. To reverse the boat the jet is deflected under the hull. This propulsion unit, which is extremely efficient, represents a high point in man's development of marine technology. It is an excellent copy of a squid.

Murray Matheson

A REPORT TO STUDY

"Industrial water pollution varies from industry to industry, from plant to plant, and often fluctuates widely in individual plants."

So states one section of a report on Industrial Water Pollution that appeared in the June number of Modern Power and Engineering. Reprints of this report are available on request to the Editor, Modern Power and Engineering, 481 University Ave., Toronto 2.

This report, designed to pinpoint some of the major water pollution problems in Canadian industry today, reviews the basic mechanical, chemical and biological tools available to remove unacceptable wastes from water. It also gives examples of equipment and knowledge from a wide range of industries.

For instance, some of the water pollution problems are caused by suspended solids (organic and inorganic); toxic, taste and odour producing substances; reduction of BOD (Biochemical Oxygen Demand); control of pH (acid or alkaline rating); grease and oil; spent pickle liquor, phenol, ammonia and cyanides; dissolved organic compounds and nutrients; high waste-water temperature.

Major industries which must solve one or more of these problems are - pulp and paper; plating and metal finishing; food processing; tanning and rendering; service industries; mining, milling and smelting; primary iron and steel; petroleum, chemical industry.

One Ontario plant has to deal with 3/4 million gallons per day of potato waste water, containing very high concentrates of starch. It has sedimentation tanks, aeration tanks and biological settling tank. A strain of micro organisms (bugs) has been developed that thrive on potato waste.

There is so much of interest in this report that it would be pleasant to have a copy for handy reference. Sedimentation, flotation, flocculation, there are pictures or diagrams of them all. The only British Columbia plant mentioned is the Kamloops Pulp and Paper Company, four miles west of Kamloops. "Strict control of pollution in this area is mandatory as 45 miles upstream is the world's richest salmon spawning grounds."

That address again is The Editor, Modern Power and Engineering, 481 University Ave., Toronto 2.

Editor.

PROGRAM FOR OCTOBER

- Executive Meeting 8 p.m. - home of Mrs. S.Prior
1903 Shotbolt Road
Tuesday, October 1
- Audubon Wildlife Film John Taft presents "Central
California's Coastal Plain".
8 p.m.
Friday & Saturday
October 4 and 5
Newcombe Auditorium,
B.C.Provincial Museum (South
entrance). Entrance to
parking lot from Superior St.
- General Meeting Douglas Building Cafeteria
8 p.m. Dr. J.Bristol Foster
will speak on "Wildlife
Ecology in East Africa."
Tuesday, October 8
- Bird Field Trip Meet at Monterey Parking lot
9:30 a.m. or Witty's Lagoon
Saturday, October 19
Parking lot 10:15 a.m. Bring
lunch. Leader, G.Allen
Poynter 477-3230
- Junior Group Meet every Saturday 1:30 p.m.
Monterey Parking lot, Douglas
St. at Hillside for field
trips. Leader: Mr. Freeman
King, Phone 479-2966.

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CORRECTION: Please note that the telephone number of our Programs Chairman, Mr. A.D. Turnbull, is wrong as printed on the back cover. The error is mine. I didn't double-check. So my apologies to all who've been inconvenienced, including the luckless owner of the number which was printed!

Mr. Turnbull's number is 386-9224.

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MALACOLOGY: In the September number we had an article on collecting minute land shells. For members who are unsure of the meaning of malacology, it is a branch of zoology dealing with molluscs.

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