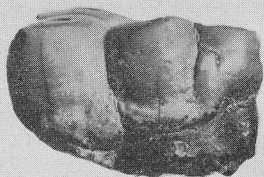


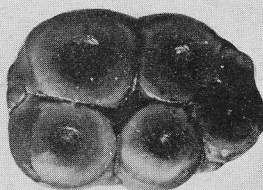
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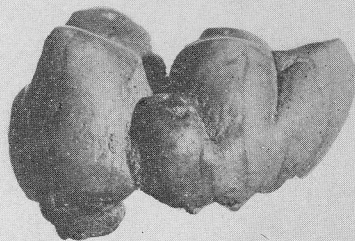
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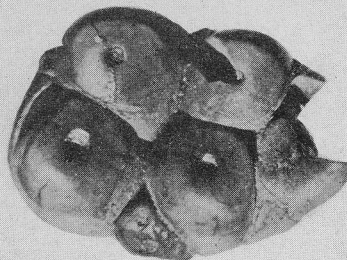
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A



B



B

FOSSILS FROM THE SOOKE FORMATION.

THE VICTORIA NATURALIST

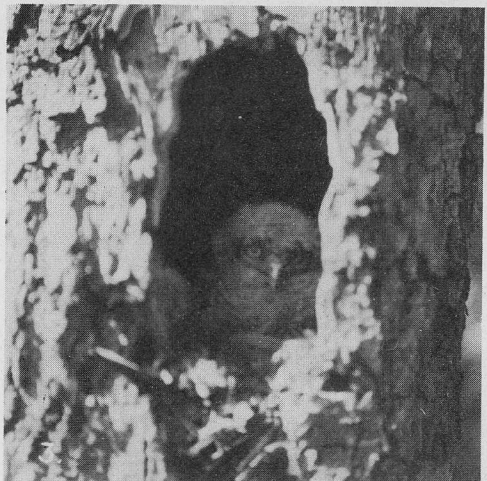
Major Allan Brooks

Death has removed one of our best loved naturalists in the person of Major Allan Brooks. Born in India where he spent his early life, Brooks came to Canada in 1897 and lived for several years at Mount Forest, Ontario. Later he and his parents moved to Chilliwack where he took up an outdoor life roaming the country and collecting specimens. Here he began to sketch and paint, activities which, coupled with his keen powers of observation and his photographic mind, resulted in him becoming one of the leading bird illustrators of our time.

Although he made his subsequent home in Comox and at Okanagan Landing he travelled much over the continent painting and collecting birds and mammals taking time out to give distinguished service during the First World War. He has become known the world over through his illustrations which have appeared in "The Birds of Washington" by Dawson and Bowles, "Ducks" by Phillips, "Birds of Arizona", the National Geographic, Taverner's "Birds of Canada" and many others. Less widely known are his scientific papers which have been published in many ornithological journals such as the "Auk", "Condor" and "Murrelet". Examples of his beautifully prepared skins are in many museums and a portion of his personal collection is already housed by the University of California. At 76 he was still actively engaged in studying wildlife and in preparing illustrations when his outstanding career was brought to an end on January 3rd of this year.

Those of us who knew Major Brooks personally will always cherish memories of his charming personality. His outstanding contribution to the knowledge of birds and other wild creatures will remain as a monument to his life.

G. Clifford Carl,
Provincial Museum.



REPORT OF MEETINGS

The regular monthly meeting of the Society was held in the Reading Room of the Provincial Library on Tuesday January 8th, with Mrs. Woodward in the chair.

EXOTIC TREES OF VICTORIA

The speaker at this meeting was Mr. W. H. Warren, and his topic, a discussion of the historical and cultural aspects of introduced varieties of trees in Victoria. He pointed out that most of the trees introduced by the earliest citizens were brought from two sources, England and the western United States. As a result of these early introductions the Victoria scene has become characterized by the English ivy and the monkey-puzzle tree, neither of which is common elsewhere in the West. In bygone days, many Lombardy poplars and elms were planted, but have since been removed, the former due to the many pests they harboured, and the latter due to their size.

In 1889 a group of citizens headed by the late Mr. Heywood (whose name is commemorated in Heywood Ave.) presented to the city some two thousand trees, including many rare and beautiful species. Most of these are still to be seen around Goodacre Lake in Beacon Hill Park.

In speaking of the culture of introduced species, Mr. Warren pointed out the need for taking into account the peculiarities of the Victoria climate. In this connection it was noted that the summer drought in Victoria is more intense than that of the Dry Interior, and erratic frosts in early fall and late spring are damaging to young growth, as well as the constant summer winds. It has been observed that native species often show a double yearly growth cycle, resulting from adaptation to the early fall rains, but the conditions which produce this are very hard on many of the introductions.

Considerations to be borne in mind when selecting trees for home planting include the "Three F's" -- fruit, flower and foliage, as well as the size and

ornamental value of the mature tree. Some of the species recommended included Flowering Crabs, Hawthorns, Dogwood, Bald Cypress, Tulip Tree, Davidia, Gingko and Magnolia.

L. Colin Curtis.

Activities of the Junior Naturalists.

Hello Juniors, here we are breaking into print. It is evident the big folks think that we are really interested.

All of us Juniors wish to thank the older members of the Society for their kindly interest in helping us at all times, and particularly do we wish to extend to our good friend, Dr. Carl, our gratitude in always standing by to answer our never-ending questions and give us his untiring assistance.

We are really pleased to have a chance to add our little bit to the "Naturalist", so Juniors, let's show the "Big Group" that we mean business. What better way to thank them for their ever-ready assistance than to show our keen interest.

At our meeting on January 12, 1946, held in the Provincial Museum, the following officers were elected;

Chairman - - - - -	Keith Duncan
Vice-Chairman - - - - -	Ronald Sibbald
Secretary - - - - -	David Duke
Editor - - - - -	Alan Beach

Very interesting collections are being prepared by the following groups.

TWIGS of NATIVE TREES: David Duke, Margaret Duke, Elaine Galliford, John Galliford

FUNGI: - - - - - Brian Ainscough, Keith Duncan.

SEA SHELLS - - - - - Roger Jones, Ronald Hughes, Art Wootton, David Carey.

ROCKS and MINERALS:-- Ronald Sibbald

INSECTS: - - - - - Alan Beach, Frank Bell.

Alan Beach
Junior Editor.

FOSSILS FROM THE SOOKE FORMATION.

About a quarter mile west of the mouth of Muir Creek the cliffs facing the Juan de Fuca Strait are formed of sandstone. This sandstone contains many fossils, the majority of which are the remains of invertebrates. Occasionally the remains of vertebrates have been found, and the most notable of these are two well preserved teeth. One of these was found some years ago by Miss M. Egerton, and another, more recently, by Archdeacon R. Connell. Both these teeth are shown in the illustration on the front cover. The first one found was sent to the Canadian Geological Survey, Ottawa. L.M. Lambe, the paleontologist, identified it, provisionally, as the upper right first molar of the sirenian Desmostylus. But research has shown that this formation is Upper Oligocene, and that is older than any formation in which Desmostylus remains have been found. Dr. Oliver P. Hay, of the Carnegie Institution of Washington, has placed these teeth in a new genus which he has named Cornwallius.

There are two representatives of the Sirenia still living, these are the manatee and the dugong. They live in the tropics, pass their whole life in the water, and are found in shallow bays, estuaries, lagoons and large rivers, but are never found far from shore. Dr. Bruce L. Clark has made a study of the invertebrate fossils from the Sooke formation, and he has found that a considerable number of them are fresh or brackish water species, therefore it seems probable that Cornwallius lived under the same conditions as the living sirenians.

Other vertebrate remains have been found in the Sooke formation. These consist of several perfect vertebrae, pieces of ribs, one large piece of a jaw bone and a small piece of a skull. Dr. Othenio Abel, of Vienna, has examined photographs of these bones. He states that the vertebrae are from a small toothed whale. The piece of skull was sent to the

U.S. National Museum and it is stated to be part of the skull of a sirenian.

Some years ago the writer found a small specimen of coral in the Sooke sandstone, and it was determined by Dr. T. Wayland Vaughan as a new species to which he gave the name Siderastrea vancouverensis. It is now in the American National Museum, Washington.

A few leaf impressions have been found in the lower part of the Sooke formation, but they are too fragmentary for exact determination.

Many of the recognizable invertebrate remains have been described and figured in Clark and Arnold's monograph on the Sooke formation, but they did nothing with the fossil barnacles. At that time (1923) no whole specimens had been found, but since then Archdeacon Connell and the writer have found many perfect barnacles, and some of them had their coverplates in position. The examination of the coverplates and the structure of the shell is the only way in which a fossil barnacle can be determined. And this must be done with quite a large number of specimens as they show a great range of variation. Two of these proved to be new species. The larger of the two, Balanus connelli may be the ancestral form of the large barnacle common on this coast, Balanus nubilus, as the internal markings in the sutures between the plates forming the shell are the same as those of a young B. nubilus.

The sandstone cliff, where most of the fossils are is being cut back by wave action. This is being done chiefly in winter, and as the main fossil bed can only be reached when the tide is low advantage should be taken of the summer low tides to do any work there. A trip to Muir Creek might be well worth while, for who knows what may be exposed.

I. E. Cornwall, F.G.S.

BIRDS OF THE BURNSIDE AREA

One so often hears the remark, especially from residents in the Oak Bay area, that there are not nearly so many small birds these days as in former years. Few realize how the gradual change from wild land to built up residential property causes shifts and changes of bird populations.

Their habitat changes follow a very definite sequence. As the large trees are cut down the wood dwellers move to new quarters and their place is taken by the brush dwellers. As the brush is gradually eliminated and fields or gardens take its place, the brush dwellers are again replaced by the field or garden birds. Conversely if fields revert to wild land the brush dwellers will return.

This interesting study of habitat successions has been rather neglected by bird watchers in this area, and there is still a vast field for further study.

Both Oak Bay and Esquimalt are districts that have changed considerably in this last decade. There are few heavily treed areas left in Oak Bay, and the overgrown lots that afforded such a wealth of cover for the small brush dwellers have been cleared and built on, leaving only a few shrubs and boulevard trees where birds can nest.

Macaulay Plains in bygone days afforded cover for a great many species that are now gone. One of our members, Mr. A.J.Potts recalls the time when Blue Grouse were plentiful and provided good hunting. There were pools of water where the Mallards and Pintails could be found feeding, and Woodpeckers, Warblers and Wrens were plentiful.

Although the birds have become scarce in these districts, one has not to go far to find areas where bird life is plentiful. Surrounding Victoria are many places, such as Uplands, Lakehill and Burnside districts, possessing woods, brush and open fields which are a haven for a variety of species.

Water is also of paramount importance to birds in the nesting season. It is for this reason that the district of Burnside, intersected by the Colquitz River, attracts probably a greater variety of species than other districts. The Burnside area, from Admirals Road along the creek to Marigold, has open fields, and patches of timber with thick brush along the river banks. Here in the nesting season I have found in the last few years no less than thirty-eight different varieties nesting, namely,-

Mallard, California Quail, Ring-necked Pheasant, Killdeer, Kennicott's Screech Owl, Rufous Hummingbird, Northwestern Flicker, Gairdner's Woodpecker, Western Wood Pewee, Western and Little Flycatchers, English Skylark, Violet-green Swallow, Barn Swallow, Chestnut-backed Chickadee, Red-breasted Nuthatch, California Creeper, Western House Wren, Western Winter Wren, Bewick's Wren, Northwestern Robin, Russet-backed Thrush, Cedar Waxwing, Cassin's Vireo, Red-eyed Vireo, Western Warbling Vireo, Lutescent Warbler, Alaska Yellow Warbler, Northern Pileolated Warbler, Western Meadowlark, Northwestern Red-wing, Willow Goldfinch, Oregon Towhee, Oregon Junco, Western Chipping Sparrow, Sooty Fox Sparrow, Puget Sound Sparrow, Sooty Song Sparrow.

In addition to the above there are other birds that undoubtedly nest in the area, although as yet I have not located their nests; namely,--

Western Belted Kingfisher, California Purple Finch, Macgillivray's Warbler, Wilson's Snipe, Pacific Varied Thrush and Eastern Nighthawk.

The few illustrations of nests on the inside cover give some idea of the varying location in which these birds build and explanatory notes on them follow:-

Fig. 1. Willow Goldfinch. As the name implies, these birds generally build in Willow and construct a very beautiful compact nest. Although they are not common near and around Victoria they are very plentiful on the banks of the Fraser River at Marpole. The eggs, usually five in number, sometimes six, are a delicate shade of blue, unspotted.

Fig. 2. Western Flycatcher. I have invariably found these nest either in a shallow rent in a tree or against the trunk, supported by a few twigs, generally about 10 feet from the ground. The nests vary considerably and are untidy, containing a large amount of moss. The birds are quite common in this area and their call can be heard all day long in the season.

Fig. 3. Kennicott's Screech Owl. This picture shows one of two half-grown young in a hole in a stump. The parent bird would often sit in the mouth of the hole, completely filling it, the protective colour of the plumage blending with the bark of the tree so completely that, unless one was aware of the cavity in the tree, it could be passed by without the hole being noticed or the presence of the bird being suspected. The young are quite ferocious, snapping at any intruder.

Fig. 4. Little Flycatcher. Although this bird is so like its near relative the Western, its nesting habits vary considerably; it builds rather a bulky nest in thick brush at about 4 feet from the ground, and seldom is any moss used. The eggs cannot with certainty be distinguished from the Western, both being creamy white with a decided ring of reddish brown spot near the large end. The usual clutch in both species is four.

Fig. 5. Killdeer. Although the eggs of the Killdeer are laid right out in the open without any cover, their colour blends so well with their immediate surroundings that they are seldom disturbed. There is generally a stone or ring of pebbles to mark the place, but the nest itself is little more than a depression. The eggs are always placed with their very pointed ends toward the centre.

Fig. 6. California Creeper. Why this bird chooses such a precarious position for its nest is a mystery. A bit of loose hanging bark seems to be the ideal location, as shown in the illustration. Here, in 1944, the bird made an unsuccessful attempt to build, as the rotting bark broke off at the completion of the nest. Last year the bird was successful; the bark had peeled farther back and a fairly firm foundation for the nest was made by wedging in bits of bark, twigs, rootlets, etc. In carrying in material and feeding the young, the bird would creep up the tree to the height of the nest and then enter sideways.

Fig. 7. Common Mallard. This nest was placed in a thick bed of nettles, under overhanging brush, which seems a favoured location. When first found, the bird was off the nest and the eggs had been carefully covered with a blanket of down of which the nest was composed.

Fig. 8. Rufous Hummingbird. One always experiences a thrill in finding one of these wee gems of bird architecture. This one was built near the end of an Arbutus bough, in full view, at about 8 feet above ground level, above a path.

Fig. 9. Western Chipping Sparrow. One of the commonest birds in this area. The picture shows the loose, frail construction of their nests, which are generally placed near the end of a bough at about eight feet from the ground and can be found from early May to the middle of June.

Fig. 10. Puget Sound Sparrow. Varying from three feet to ground level, the majority of these nests are to be found at the foot of some small sapling. The nest is always substantially built. The eggs are highly pigmented and can not with certainty be distinguished from those of the Song Sparrow.

Fig. 11. Russet-Backed Thrush. Sometimes well concealed in thick brush, and at other times in full view, as shown, these bulky nests are built at varying heights from 3 to 15 feet from the ground. The birds can often be approached on the nest to within a few feet, even in exposed locations, before they will leave the nest.

Fig. 12. Ring-necked Pheasant. The illustration was taken at an old disused campsite in the woods overlooking the Colquitz River, and is an unusual place to find a nest. I would like to mention here that over a period of years I have found in this area a number of deserted Pheasant's nests that have had Quails' eggs in. Is this a common occurrence elsewhere? It could not be the work of one bird, as the first one I found was in 1928, and last year I found one that contained 10 eggs of the Pheasant and 5 Quail eggs laid on the top of them. If any member has come across a similar case I would like to hear of it.

A. L. Meugens.

CHRISTMAS BIRD COUNT:

The bird count taken on the 26th of December 1945 under the convenership of Mr. J. O. Clay was not as satisfactory as the previous year. The weather was dull and stormy, with the wind at gale force. In the woods and brush of Beacon Hill Park no small birds were seen except two Chestnut-backed Chickadees. Column "C" denotes the birds seen on the three lakes and "D" those on the cliffs and foreshore. Another list sent in by Mr. John Redford was taken the same day at Shoal Bay.

Two other lists are given here which may be of interest to members. Both are by Mr. H. Middleton of Vancouver. "A" was taken at Sea Island at the mouth of the Fraser River on Dec. 14th. If any members have the opportunity to visit this island during the spring or fall migrations they will not be disappointed, as it is a favourite stopping place for birds and they come in there in thousands. "B" was taken on Dinsmore Island on Christmas Day. This small island, which lies between Sea and Lulu Island has been "out of bounds" during the war years owing to its proximity to the Air Port. The list shows how the number of birds in an area will increase when they are not molested.

Editor.

	A	B	C	D	E	
Common Loon	1	-	-	-	1	
Eared Grebe	-	-	-	-	3	
Western do	8	5	-	-	26	
Cormorant	7	3	-	-	3	
Black Turnstone	-	-	-	1	28	
California Murre	3	2	-	-	1	
Glaucous-winged Gull	208	54	25	6	40	
Common Mallard	117	5	260	-	-	
European Widgeon	-	-	1	-	-	
Baldpate	40	-	240	-	300	
Shoveller	18	-	5	-	30	
Wood Duck	-	-	3	-	-	
Canvas-back	19	-	12	-	-	
Greater Scaup	108	11	6	-	120	
American Goldeneye	129	8	-	5	3	
Bufflehead	-	-	-	-	30	
Harlequin	-	-	-	-	6	
White-winged Scoter	9	5	-	-	2	
Surf Scoter	-	-	-	-	6	
Hooded Merganser	-	2	2	-	-	
American do	-	2	1	-	-	
Pintail	69	6	555	12	599	Total Birds
Blue-winged Teal	15	-	10	3	15	Species
Green-winged do	22	2	<u>"A" continued</u>			
Old-squaw	-	1	Red-backed Sandpiper		67	
Heron	8	5	Killdeer		30	
Herring Gull	310	55	Wilson's Snipe		7	
Short-eared Owl	1	7	Goldfinch		1	
Pheasant	7	4	Oregon Junco		20	
Red-winged Blackbird	30	7	Varied Thrush		1	
Brewer's Blackbird	50	-	Total Birds		1497	
Meadowlark	6	2	Species		37	
Robin	51	4	<u>"B" continued</u>			
Flicker	5	4	Bewick's Wren		1	
Towhee	6	4	Winter do		2	
Oregon Chickadee	8	14	Pine Siskin		19	
White-crowned Sparrow	13	12	Marsh Hawk		1	
House do	67	26	Crow		3	
Song do	31	38	Crested Mynah		2	
Fox do	1	-	Bittern		1	
Savanna do	-	15	Total Birds		335	
Tule Wren	4	3	Species		35	

NOTICE OF MEETINGS

MONTHLY MEETING

1946

Tuesday Provincial Library Reading Room
Feb.12: Speaker: Mr. W. H. Warren
"Exotic Trees of Victoria"

GROUP MEETINGS

Tuesday Marine Biology - - - - - Mr. Collin Curtis
Feb.19: At the Provincial Museum.

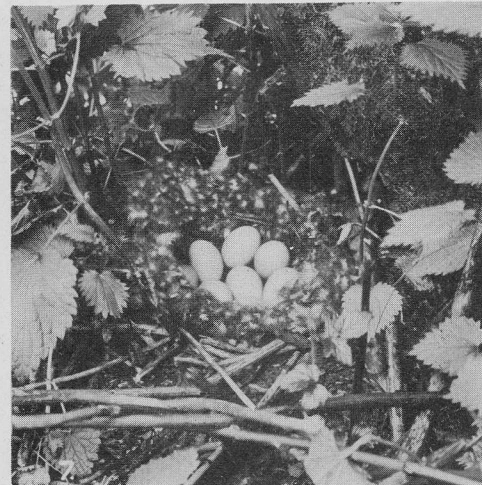
Tuesday Ornithology - - - - - Mr. J. O. Clay
Feb.26: Provincial Museum.

Tuesday Botany - - - - - Mr. J. F. Palmer
March 5: At the home of
Mrs. G. E. Bowes,
1940 Crescent Road.

All the above meetings are at 8 p.m.

Junior Group Meetings

The Saturday morning meetings of the Junior Group will be replaced by the Annual Museum Lectures for school children, which commence on February 9th, 1946, at ten a.m.



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NOTICE OF NEXT MEETING

The next meeting of the Society will be held in
PROVINCIAL LIBRARY, PARLIAMENT BUILDINGS
at 8 p.m. on Tuesday, the 12th February, 1946.

