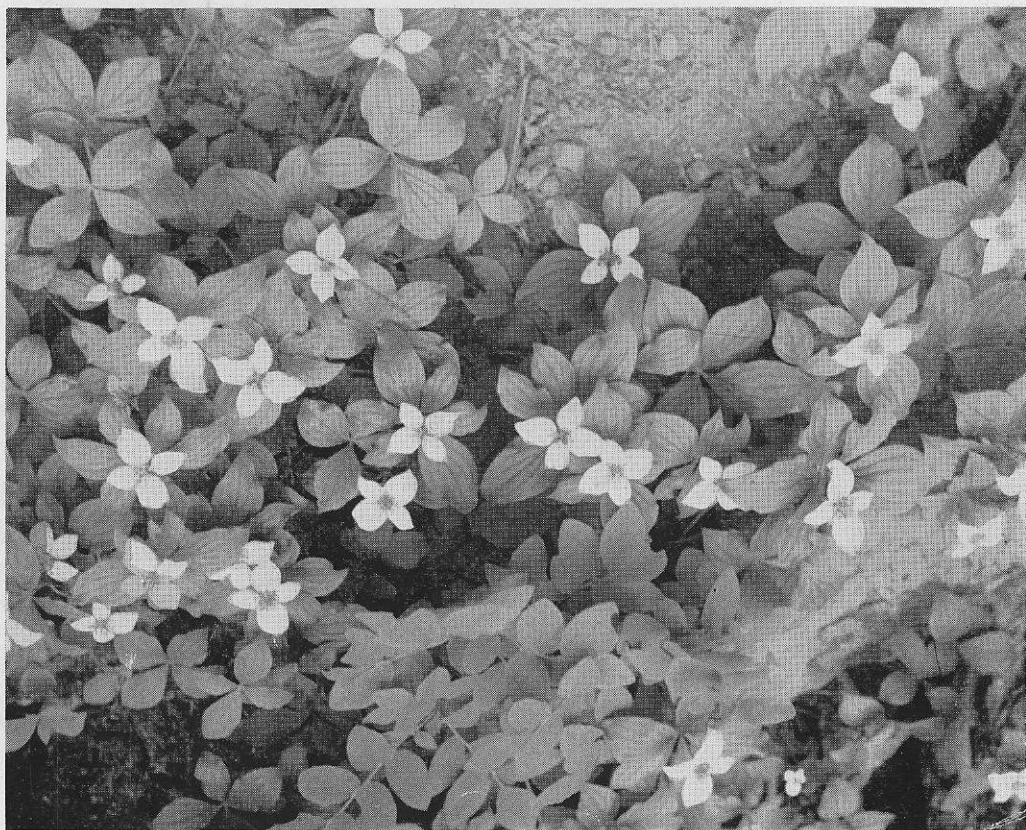


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(Photo by G. A. Hardy.)

Bunchberry.

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BUNCHBERRY or DWARF CORNELCornus canadensis L.

by Geo. A. Hardy

The bunchberry, as it is locally known, is a relative of the lofty flowering dogwood, that prince of our native trees. What the midget lacks in stature, however, it makes up in a wider geographical distribution. While its noble cousin occupies a small strip of territory along the coast, the bunchberry has an almost circumpolar distribution in the northern areas of the globe.

The subject of our illustration (front cover) is a low growing combination of a woody and herbaceous perennial; the woody underground stolon or stem sends up at intervals a herbaceous flowering branch some four to six inches in height, culminating in a false whorl of four to six curve-veined leaves. In the midst of this whorl the showy white bracts frame the central group of tiny greenish flowers - a perfect replica in miniature of the inflorescence of its magnificent cousin. Later, the flowers give way to a compact bunch of coral-red berries, from which this plant derives its common name.

The creeping habit of the bunchberry enables it to form extensive groups and mats over suitable terrain, flowing in graceful undulation over logs, ridges and even ascending rotting stumps, resulting in a showy green mantle alternately either spangled with snow-white stars, or bejewelled with coral beads. It is at home in our cool moist woods from sea level to well into the timberline woodlands.

*Cornus* comes from the Latin signifying horny, from the tough nature of the wood of some species of the genus. *Canadensis* means belonging to Canada. In the higher regions and northward is another closely related species, known also from Europe and which is there often called the dwarf cornel, with the scientific appellation of suecica meaning of Sweden. This species has the central flowers purple, instead of green. Where the two types meet they often hybridize producing individuals to which the name intermedia has been given.

The berries are avidly consumed by birds, but are not considered a delicacy by the more fastidious *Homo sapiens*.

BRITISH COLUMBIA NEST RECORDS SCHEME

The nest records scheme sparked so energetically by Mr. Timothy Myres of the Department of Zoology, University of British Columbia has been in operation for three seasons with increasing success according to the Annual Report recently received. The scheme is based on a system of cards which are issued to participants at the beginning of each season. Details of each nest located by each observer are entered on the cards and the cards are returned to the University at the end of the season for study and analyses. In this way a great mass of information on the nesting habits of birds can be gathered which will increase in value as more material is added.

The total number of cards in the collection now is 3,400 representing nearly 5,000 nests or broods; 1,714 cards were added during this past season. The number of species for which there are now cards is 169, one hundred more than were represented in 1955.

In spite of the relative success of the scheme so far, a great many persons who could be of help either have not learned of the operation or have not yet participated. A few of our own members have been contributing each season but many more could do so. In his report Mr. Myres stresses the fact that even small numbers of records, repeated many times over by numerous observers, is of scientific value. He requests that persons write to the scheme spontaneously in February or March and ask for cards and return them in September.

A copy of the mimeographed Report will be sent on request; simply drop M.T. Myres a note, care of the Department of Zoology, University of B. C., Vancouver 8, B. C.

G.C.C.

Several members of the Society attended the meeting of the Victoria Lapidary Club held in the City Hall Board Room on Feb. 10, when Dr. S.S. Holland of the Department of Mines spoke on jade and similar rocks.

Dr. Holland gave the audience a most interesting talk on the history of jade and nephrite, used by the Chinese for many centuries, and also by various tribes of British Columbia Indians who made cutting tools and ornaments from these materials.

Specimens of Jadite, Nephrite and other associated rocks were shown the members and his talk included an account of where same can be found in this Province.

THE KILLER WHALE (Grampus rectipinna)

It was on Sunday, January 19th, that Alice, the white killer whale appeared at Foul Bay, accompanied by two males, and played there, close to the shore, for most of the afternoon, affording a large number of spectators a unique opportunity of watching these animals at close quarters. Again on February the 11th, two were seen at Ten Mile Point cavoring and playing among the kelp beds.

As killer whales are of fairly frequent occurrence in these waters, the following account, which is condensed from an article by Gordon Pike, a member of the Pacific Biological Station at Nanaimo may be of interest.

The killer whale fully justifies its name by its actions in victimizing any marine animal of size sufficiently large to tempt its rapacious appetite. Stories of the ferocity of killer whales emanate from wherever these animals are encountered - and their distribution is world-wide, ranging from the Bering and Greenland Seas in the north to the pack-ice surrounding the Antarctic continent in the south. They are frequently seen in British Columbia waters, both on the inside passage and along the west coast of the island chain, at all times of the year.

The killer whale has the characteristic streamlined body form of the dolphin family, but is readily distinguished from its relatives by its conspicuous colouration and the high triangular-shaped dorsal fin, which may be four feet or more in height in the large males. In young animals and females the fin is smaller and somewhat recurved. The general body colour is glossy black on the dorsal surfaces and white on the underside. A conspicuous, white, lens-shaped patch occurs behind and slightly above the eye on each side of the head.

Strandings of killer whales on the coast of British Columbia give us some information on the size attained in this locality. Of 20 stranded at Estevan Point on the west coast of Vancouver Island in 1945, the largest male measured 22 feet in length, and the largest females measured 19 feet 5 inches. Of 11 stranded at Masset on the Queen Charlotte Islands in 1941, the largest male measured 20½ feet and the largest female 18 feet 8 inches in length. From other localities male killer whales are reported to reach lengths of 30 feet. It would seem that the males do not attain so great a size in this locality and that there is not so great a disparity in the size of males and females as hitherto reported. Little is known of the life history and breeding habits

of the killer whale. It is thought that the gestation period is about a year as it is with most cetaceans, and that the young are about 7 feet in length at birth. Activities which appear to be associated with mating have been observed in almost all months of the year.

The robust but streamlined body form and the powerful jaws, each armed with 10-14 pairs of strong interlocking teeth, ideally adapt the killer whale to a swift and voracious predatory existence. It is the only cetacean which habitually preys on other warm-blooded animals. Hunting in packs of usually from 2 or 3 to 40 individuals, it is known to attack seals, walrus, porpoise, white whales, narwhals and even the large baleen whales. Large sea lions take refuge in the presence of killer whales. Fur seals, especially the pups, during their annual breeding season in the vicinity of the Pribilof Islands, are attacked by large numbers of these enterprising killers. Sea birds, fish and cephalopods (squid and octopus) are included in the diet. Salmon stop biting when killer whales are around, but we still lack proof that salmon, or any other commercially important fishes, are preyed upon in large numbers. Killer whales have been known to attack small boats, and with regard to their fearless attacks on large marine animals, it seems wise for any observer to avoid molesting them, and to temper curiosity with caution.

A singular cunning has been attributed to this marauder by competent observers. In attacking a large whale, a pack of killer whales is reported to act in a manner comparable to a pack of wolves attacking a deer. A vanguard incapacitates the whale by laying hold of the tail as the remainder of the pack moves in to tear at the lips and tongue. The California gray whale has been observed to lie prone on the surface, belly up, with no attempt to resist, when approached by killer whales. Attacks on large whales are not always fatal. Humpback whales have been noted to defend their young successfully when attacked. Power, wit and speed are combined in the killer whale's reputed strategy when challenging seals which have taken refuge on ice flows. A thump on the under-surface of the ice flow serves to throw the seals into the water for summary treatment. A similar tactical manoeuver is reported to be used in dislodging young walrus which have mounted the mother's back for protection.

The killer whale has been observed, on occasion, to exercise his athletic prowess in a form of water polo in which a floating object improvises as the "ball" and is playfully tossed about with the flukes or bunted with the

head. Antarctic whalers exploit this "game" by throwing large chunks of blubber into the water as killer whales move in to attack whale carcasses in tow or moored to the factory ship. There are two reports of killer whales playing this game with the paravanes of mine-sweepers operating off the Queen Charlotte Islands.

The foregoing account, which was prepared as an answer to some of the many requests for information on killer whales received by the Biological Station, suggest the need for a more precise understanding of the life history and habits of this species on the Pacific Coast.

The Estevan Point episode was taken from a report of the Provincial Museum, written by Dr. Clifford Carl.

#### THE MONTHLY GENERAL MEETING

The General Meeting for February was held on the 11th in the Provincial Museum; the speaker for the evening being Mr. R. R. Lejeune of the Dominion Forest Biology Laboratory at Victoria.

Mr. Lejeune's account of the history of the Ambrosia Beetle gave some indication of the patience and skill required to ascertain just what part in nature's scheme this small beetle plays, and what steps are required to control its activities. Actually this beetle is one of nature's devices for the disintegration of fallen trees, which, with the assistance of various fungi and other intricate processes, will reduce the trees to life giving soil. All this is very necessary, but when the lumber companies leave fallen logs in the woods in the Fall, and do not have them moved early enough in the Spring, this beetle gets to work and bores through the bark into the living wood, making tunnels and side corridors in which to lay its eggs, with the result that the wood is rendered practically useless.

To combat this, Mr. Lejeune told the audience, was just one of the many activities of the forest biology laboratory.

His talk was illustrated with slides and charts, and was given in most interesting way; the Society wish to thank him for giving his time and knowledge for their entertainment and instruction.

WILD FLOWER NOTES

As of this date (February 17th) there are at least 25 wild-growing plants which are flowering within the boundaries of Greater Victoria. Many of the first 18 are plants which have continued to bloom right through from the fall months, for example, mayweed, cat's-ear, ground-sel, yarrow and petty spurge.

However, at least the last 7 species do truly recognize a change of seasons and all of them have shown by their flowering dates that this is the earliest spring since (and including) 1952.

	<u>Flower'g Date.</u>	<u>Earliest Flowering Date</u>
	1958	1952 - 1957
Skunk cabbage	January 21	February 2, 1955
Red alder	February 1	March 9, 1954
Bird cherry	February 1	February 2, 1955
Scouler's willow	February 1	February 2, 1954
Blue-eyed Mary	February 6	March 11, 1955
Spring-gold	February 8	February 27, 1953
Red-flowering currant	February 11	February 14, 1953

It would seem that the flowering dates of trees and shrubs vary less due to weather conditions than do those of the herbaceous plants, although some of the latter do vary but slightly in their flowering dates. The white trillium is one of these:-

April 8 - 1952 )  
 April 3 - 1953 )  
 April 1 - 1954 ) A "spread" of only  
 April 8 - 1955 ) 9 days.  
 April 7 - 1956 )  
 March 31, 1957 )

Any wagers on the date of its first flowering in 1958?

Thanks largely to the energy and persistence of Dr. A.F. Szczawinski, Curator of Botany, Provincial Museum, the trillium has now been added to the list of protected flora of British Columbia. (Bill No.1 passed in the present session of the Legislature).

So, from now on -

NO PICKING !!

M.C.M.

BIRD NOTES

The very mild winter we are now experiencing has certainly had its effect on plant life, as will be seen from Miss Melburn's article in this issue, but it has possibly meant that there are fewer birds to be seen in the Victoria area than in a normal winter. This is due to the fact that, generally speaking, the up-Island temperatures are usually much lower than those at the south end of the Island, with the result that birds flock to this area for the winter.

The open season has been of considerable benefit to the seed eating birds, such as the skylarks and meadowlarks, which have been seen in good numbers.

The most unusual bird reported this winter was the tree sparrow. Two of these were seen by competent observers at Witty's Lagoon on February 16th. The last official record of these birds here was in 1896. Will any member who observes a bird which looks like a chipping sparrow, with the same red-brown crown, and a plain grey breast, please report same. Actually the tree sparrow is one inch larger than a chipping sparrow and has a small black spot on the breast. Moreover, the chipping sparrow rarely arrives before the second week in April.

Also seen last month in the Cordova Bay area was a flock of western bluebirds, reported to be not less than ten in number. At this writing, they are still to be seen in that area, if you are lucky.

Two reports have been received of Hutton's vireo. These birds are resident, but being shy and elusive they are rarely seen.

A whistling swan was seen at the beginning of February on the flooded fields in the Martindale Road district.

The absence of snow and frost has also apparently had its effect on the number of blackbirds remaining in the district. Near Sidney last month we saw a flock of not less than three thousand, of which about two-thirds were red-winged and the balance Brewer blackbirds. Starlings, too, have been observed in greater numbers. Forty were seen on Finnerty Road on February 9th, while individual birds have been reported on many occasions.

In the spring of last year a pair of Lewis woodpeckers nested in the McRae Road area, and raised six young. Four birds, possibly members of this family, have wintered here; two on Oliver Street, one at the C.J.V.I. radio station and one on McRae.

An all-black flicker was seen on Cedar Hill Cross Rd. on

January 11th. This unusual colour phase, called melanism, is the result of abnormal development of black pigment. This particular bird was with a flock of ordinary red-shafted flickers, and was difficult to identify, but close observation showed that it had a little colour in the shafts of the primary feathers, same being a very dull red.

A flock of horned larks wintered here this year. Fifty were seen in November on the road to Island View Beach, and ten were found near Martindale Road on February 4th.

A few of the earlier migrants should be seen this month. Last year the dates of arrival were as follows:

Violet-green swallow	March 3rd
Audubon warbler	" 23rd
Lutescent warbler	" 31st
Savannah Sparrow	" 30th
White-crowned sparrow	" 30th
Rufous hummingbird	" 31st

A small number of the white-crowned sparrows invariably winter here, generally in the company of the golden-crowned sparrows.

The foot of Bowker Avenue is one of our favourite places of call. Here, when the tide is right, can be seen a flock of up to thirty black-bellied plover and about fifty red-backed sandpipers. With them is always a group of up to one hundred black turnstones and a few Aleutian sandpipers. Last Sunday, February 16th, six dowitchers alighted.

The Colonist magazine section for February 9th reported that the annual Christmas bird count taken in December last recorded 527 species. At the top of the list was Vancouver with 99 species and a total of 60,605 birds. Victoria came next with 90 species and 21,010 birds, while Toronto, with 112 bird-watchers in the field, and accounted for 77 species and 17,746 birds.

A.R.D.

The following is an extract from the magazine issued by the North Okanagan Naturalists Club.

More than 1200 students attend the Junior and Senior High Schools in Vernon, but only one is a member of our Club. Have we done enough to dispel the popular belief that although natural history students individually are ordinary people, collectively they are a bunch of fossils.

## NATURE'S NOTE BOOK

by Freeman King

When the leaves are gone from the broad leafed trees, they are dormant until the spring. Although there is no outward sign of life, the tree is not dead. The new buds which were formed before the fall are covered with an outer coat of wax or gum, which protects them from the wet and frost.

Within the newly formed bud are the new leaves, and if you examine them under a magnifying glass, you will see the complete young leaves as they will appear when they burst forth in the spring.

The wood of trees of the temperate zone is characterized by the presence of hard and soft layers. One can see these especially well in the Douglas and balsam fir, where the hard narrow growth shows up against the wide and softer layer, which is put on during the spring and early summer. The width of the individual annual ring varies greatly. Each annual ring is made up of two parts; an inner layer of early or spring wood, and another, usually more compact layer of the late or summer wood. The difference between these two parts is brought about by the fact that the tissues formed in the spring, when growing conditions are more favorable, are usually different in cell size, cell type, and cell arrangement from those formed later in the year. In the summer and especially toward the end of the growing season, the cells do not become so large, are more compact, and often thicker walled. There is also more wood fibre developed in the summer wood. It is this alternation of active growth and rest and the difference between spring growth and summer growth which cause the yearly increment known as annual rings.

The width of an annual ring depends upon light, climatic factors and soil. When the season is favorable, the rings are wide; when less favorable, they are narrow.

Studies of tree rings have provided information on climates of the past, as the climatic changes are reflected in the annual rings.

### SKYLARKS

Last week a small group of bird watchers visited the field where the towers for radio station CJVI are located on Cedar Hill Cross Road, and also the field opposite the army camp buildings on Finnerty Road. These two places comprise the main habitat of the skylarks in the Victoria area. At the time of our visit they were very active, rising from the ground twenty at a time and filling the air with song. We estimate there are not less than 80 skylarks in this area, which, to any lover of birds, is well worth a visit. A.R.D.

THE FIRST HORSES IN BRITISH COLUMBIA

by J.E. Michael Kew

The story of the evolution and spread of horses is of equal interest to the student of natural history and the student of anthropology. The genus *Equus*, to which our domestic horses belong, evolved in North America; it was an important game animal to the Indians from about 10,000 to 5,000 years ago. The wild horse seems to have spread from North America to the Asian, European and African continents during the third and fourth glacial periods. At these times there was a land bridge between Siberia and Alaska. The genus apparently became extinct in North America about 5,000 years ago; while at a shortly later date, approximately, 4,000 years ago, the first of the genus were domesticated in the near eastern area of Asia. After this the domestic horse became of increasing importance in European and Asian economic and military life.

When the Spanish explorers came to North America they brought horses for their cavalry corps; and the first domestic horses reached Mexico in 1519. The Indians were quick to realize the value of horses as mounts in warfare and in hunting, and consequently captured and stole Spanish animals for their own use. Once the basic facts of animal husbandry were learned by the Indians the numbers of horses increased quickly and they spread from tribe to tribe by trade, as war prizes and as loot. By 1700 the tribes on the Canadian prairies had horses.

In British Columbia the Kootenay Indians seem to have been the first to obtain horses - probably about 1750 from the Plains Indians to the east. It was probably about 1800 when the Interior Salish tribes - Thompson, Okanagan and Shuswap - obtained horses. In any event, Simon Fraser on his epic trip down the Fraser River in 1808, encountered mounted Indians as far north as Alexandria (between Williams Lake and Quesnel). The horses had outdistanced their original owners, the Europeans, in penetrating the continent.

JUNIOR BRANCH ACTIVITIES

by Freeman King

The last month has been very active. We have made trips to the Langford Lookout, and down to the pool below the bridge where the salmon come in the Fall. Landmarks were pin-pointed from the tower.

The next was to Goldstream, where hazel trees that were in full pollen were shown the group. Skunk cabbage was found in bloom. Along the stream edible water-cress was found. Different formations of rock in a cut were pointed out. The evolution of plant life from the fungi to the trees was shown to the boys and girls.

Next trip took us to Mount Douglas, to explore the old copper mine there. The entrance had gradually filled up until there is now hardly room to crawl in. Some of the group went in and secured specimens of the ore from the roof. From there we climbed to the summit where we found spring gold in bloom and buds of the satin flower breaking through. From the top compass points were explained.

Following that was a trip to the property of Capt. and Mrs. H. M. S. Bell near Beaver Lake where the group were shown the possibilities of being able to start a tree nursery, also where could be made a park-like site. Here, a large number of different species of ducks were seen on the small lake. From there we went along the old Victoria and Sidney Railway right-of-way to Elk Lake, circling the lake for a distance, then striking through the bush back to our starting point. Elderberry and Indian plum were out in full leaf. A number of meadowlarks were also noticed.

Our plans for next week are to go to Millstream to see the property that we have permission to roam around belonging to Mr. Henry Schmidt. Trips to Metchosin, Sandstone Creek, as well as a day's trip to explore at Leechtown are being planned.

It is hoped to get some of the juniors on CHEK T.V. in the near future.

We wish to thank all those who so kindly supply cars for our Saturday trips.

NOTICE OF MEETINGS1958

- Saturday**                    AUDUBON SCREEN TOUR  
**March 1:**                    At the Oak Bay Junior High School Auditorium  
    at 8 p.m.  
    Speaker: Mr. Olin Sewell Pettingill  
    Subject: Penguin Summer
- Tuesday**                    **GENERAL MEETING:**  
**March 11:**                    At the Provincial Museum at 8 p.m.  
    Subject: The Right to Live  
    Speaker: Mr. C. P. Lyons  
    A story of the inter-relationship of  
    animals, birds, insects and plants in four  
    most interesting life zones in British  
    Columbia. Movies in colour.
- Tuesday**                    **GEOLOGY MEETING:**  
**March 18:**                    At the Provincial Museum at 8 p.m.  
    Subject: Fossil localities of south Vanc'r  
    Island.  
    Speaker: Mr. A. J. Marrion
- Tuesday**                    **BOTANY MEETING:**  
**March 25:**                    At the Provincial Museum at 8 p.m.  
    Subject: Some of our Native Flora in Colour  
    Speaker: Mr. E. Stansfield.
- Saturday**                    **BIRD GROUP MEETING:**  
**March 29:**                    Meet at Clover Point at 9:45 a.m. for a tour  
    of the water front. Bring sandwiches. Noon  
    hour rest at the home of Mrs. J.R. Parris,  
    592 Island Rd. Leader: Mr. J.O. Clay.

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The following additions should be made to the text of "The Arbutus Tree" published last month. On page 101 the quotation in the introductory lines which are from Mr. C.P. Lyons, page 53, referred to in the same paragraph, should read "Did you know that Arbutus is the only broadleafed evergreen" (tree) "in Canada?" In the second paragraph, "for it sheds...in the autumn" should read "in late summer and early autumn, usually July and August."

A. O. Hayes.



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