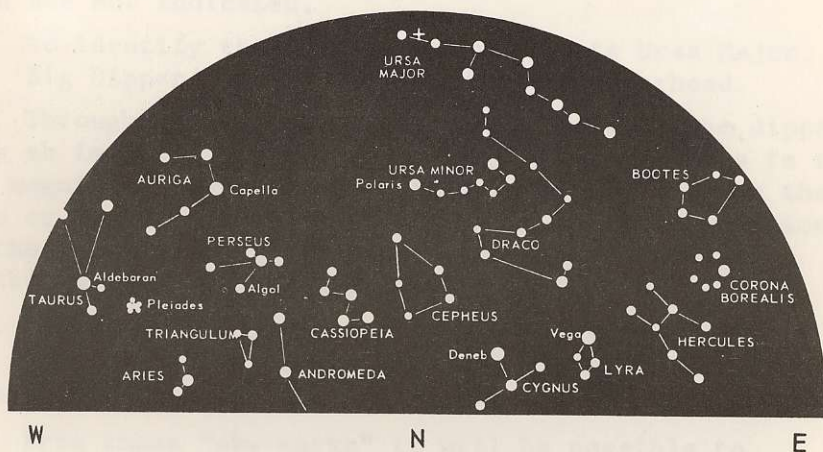


# THE VICTORIA NATURALIST



## STAR MAPS FOR MARCH



Observer facing North

T H E V I C T O R A N A T U R A L I S T

Published by

THE VICTORIA NATURAL HISTORY SOCIETY

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March, 1968

COVER PICTURE

Courtesy of the Dominion Astrophysical Observatory

COVER STORY

By E.E. Bridgen

The cover picture this month is a chart of the night sky looking directly North, and represents the sky as it may be seen at this time of year about 10.30 in the evening. It will serve the same purpose as the guide books used in other studies of Nature.

The stars shown on the chart are of magnitude 5 and brighter, and from these the outlines of the constellations may be followed. Feint stars which may also be seen are not indicated.

To identify the constellations locate Ursa Major, the 'Big Dipper', which will be directly overhead.

Through the two end stars of the bowl of the dipper, draw an imaginary line down the sky until it comes to the 2nd magnitude star, Polaris, in Ursa Minor. This is the Pole or North star which is always in the same position in the heavens, as it is towards this star that the Earth's axis of rotation points.

Continue this imaginary line until it reaches the conspicuous "W" formation, Cassiopeia, which is thus always opposite the Big Dipper.

From these "sky-marks" it will be possible to trace gradually the outlines of the other constellations.

East of Cassiopea are Cygnus, the Swan, and Lyra, the Harp, indicated by the bright stars Deneb and Vega. Cygnus, often called the "Northern Cross" will be completely visible only in the early morning hours.

To gain a deeper appreciation of the heavens, use binoculars, particularly in the regions of Cygnus, through which the Milky Way passes, the small constellation of Lyra, and the clusters of the Hyades, marked by the bright star Aldebaran, and the nearby Pleiades, both in Taurus.

These are all wonderful and beautiful to behold, and the binoculars will bring intense enjoyment of the wonders of the Heavens.

#### BITS OF BOTANY

Out of a total of 519 Vancouver Island species observed and listed during 1967, only seven were new to my annual listings:-

*Callitriche verna* L. (vernal water starwort) Mt. Prevost.

*Crepis Modocensis* Greene (low hawkweed) - Sand dunes, Island View Beach.

*Scirpus subterminalis* Torr. (water club-rush) Pike Lake.

*Panicum miliaceum* L. (broom corn or millet) - Cowichan Bay Road.

*Galeopsis tetrahit* L. (hemp nettle - Somenos Creek.

*Lysimachia nummularia* L. (creeping jenny) - Holland Avenue.

*Filipendula occidentalis* (Wats.) How. (queen-of-the forest) - City garden.

The first three are native plants and the other four could be classed as adventives i.e. "immigrants" to North America and now more or less established.

In addition to these seven, *Linaria elatine* (L.) Mill. (sharp-leaved fluellen) was collected August 21, 1967, in a vegetable garden on Holland Avenue; the only previous record of it for Western Canada had been a collection of two plants made in Thetis Park Nature Sanctuary, August 3, 1959. This is a European plant occurring locally in parts of Great Britain but distributed from Denmark southward into North Africa and Western Asia. It has long been established in the Atlantic States and is now to be found in parts of

California and, more recently, it has been collected in Oregon State.

Most of the modern botanists have taken this plant out of the genus *Linaria* and named it *Kickxia elatine* (L.) Dum., a suitable designation for a plant with long slender prostrate stems which sprawl out in all directions as if expecting to be treated like a door-mat.

Now for 1968. So far (i.e. up to Feb. 7th) 25 local wild-growing plants have been found bearing flowers, most of them very ordinary species such as dandelion, chickweed, cat's ear, groundsel, shepherd's purse etc. However, I would like to use this opportunity to ask all Natural History Society members to be good enough to let me know whenever they find anything they feel is unusual. We never know when something very interesting may make its appearance.

M.C. Melburn

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MORE NAMES FOR THE DRAGONFLY: The dragonfly (see page 88) has been given a number of names, I am told. Among these are:- devil's darning needle, snake doctors, snake feeders, horse stingers, and mule killers.

Editor.

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NATURE'S TEACHINGS: I have it yet - a shabby brown book with its title Nature's Teachings stamped in gold. It has no publication date but, from internal evidence, it was probably written before 1900. I remember how, fifty years ago, I was fascinated by its old-fashioned rather inadequate drawings. Then, the preface was beyond me although I am sure its general theme was explained to me. Briefly, the author, the Rev. J.G. Wood, was trying to show that most human inventions had been anticipated by Nature. From this he argued that in Nature lay the prototypes of inventions not yet revealed to man. The great discoverers of the future would, therefore, be those who looked to Nature for Art, Science or Mechanics. This message, it seems to me, is even more important now than when the book was written.

Editor.

PARASITES: INSECTS AND MOLLUSCS.

As stated before, the insects form the largest single group of animals and amongst them we find a correspondingly large number of parasites.

The larvae of the Solitary or Hunting Wasps are parasitic on numerous other insects and can be classed accordingly to the prey they select. While the adults are mostly vegetarians themselves, they must have meat for their larva, and for this they use, according to genus or species, caterpillars, spiders, grasshoppers and so on.

Ammophila excavates a subterranean chamber at the end of a short tunnel. When completed she goes forth to capture her prey consisting of a caterpillar that is paralyzed by injecting her poison into its nerve ganglia, and then it is taken to the nursery where an egg is deposited. A few more caterpillars, similarly treated, are added but no more eggs are laid. The burrow is closed, and the larva after devouring the caterpillars, eventually emerges as an adult. (\*\*\*) see end of article.) Sometimes Ammophila's larva is in turn parasitized by a Tachina fly.

This fly can be seen watching the excavating process and, as soon as the wasp leaves to fetch a second caterpillar, the fly enters the burrow and deposits her egg before the wasp returns and seals up the burrow. As the fly's ova hatch faster than the wasp's, the meat supply is gone before the latter hatches, and the wasp's larva perishes.

A sneaky way of exploiting a fellow insect is demonstrated by Bombex and Psithyrus. The Bumblebee Queen (Bombex) emerges in spring and, in a suitable spot, excavates a small subterranean den in which she constructs containers for honey and pollen. These she fills and lays about half a dozen eggs that develop into workers. During this period they are fed and looked after by the queen. Later the workers take over, and the queen begins to lay eggs that develop into males and females and are tended by the workers. A pleasant little family indeed!

But this happy state does not always prevail. Often, and mostly shortly after Bombex has started raising the workers, Psithyrus appears. She is similar in size and appearance to the Bombex queen and insinuates herself

into the hive and apparently is accepted as a member of the family. When she judges that there are enough Bombex workers for her purpose, she stings the Bombex queen to death and begins to lay her own eggs which develop into males and females only and are looked after by the Bombex workers. This, of course, is the end of the Bombex family as the queen is killed before she starts to produce males and females, and the workers are sterile.

There are also wasps that parasitize other wasps in a similar manner but bumblebees can be studied more easily as they are of a more peaceful disposition.

An entirely different Phylum with parasitic members is Mollusca. It is not generally known that freshwater mussels like Unio and Anodonta are temporary parasites on fishes. The ova develop inside the parent's shell into larvae which, when ejected, attach themselves, according to species, to the gills or fins of passing fishes. There they become imbedded in the skin and live there as parasites for about ten weeks during which time they develop into young mussels. They then release themselves, drop to the bottom, and become independent.

Anthony Dehen.

\*\*\* Note: Since writing this article, I was pleased to see in the November, 1967, issue that observations on this type of parasitism were made right here in Victoria by Dr. L.G.Saunders and described by him in Entomological Incident on page 33.

A.D.

OBITUARY

On January 30, 1968, Mr. Edwin Waller Adshead, a former officer of our Society, died suddenly in Victoria at the age of 88.

From April 1, 1950 to May 31, 1954, Mr. Adshead was our Treasurer. In later years, although not an officer of the Victoria Natural History Society, he continued to be interested in natural history, especially in geology and the Audubon Society.

Mrs. Adshead, who was also a keen member and was much interested in botany, predeceased Mr. Adshead in February, 1961.

### THE H.R. MacMILLAN PLANETARIUM

A new and very interesting addition to the Vancouver Centennial Museum will be finished in September this year - The H.R. MacMillan Planetarium, built at a cost of a million and a half dollars and named after its donor. Mr. Dave A. Rodger will be the first Curator, to whom I am indebted for some of the background information.

A Planetarium is a dome-shaped building equipped with optical-mechanical devices which project on to the ceiling the thousands of stars visible in the night sky. The Zeiss projector - dumbbell shaped - has two main units with pin-point openings pierced in different sizes to project the stars of the northern and southern hemispheres. The rising of the sun, the moon and the planets are shown with different projectors so that their speeds are always correct in relation to each other. The projector has three axes (1) the daily motion of the earth showing the sky rotating from east to west, (2) the latitude axis showing the sky from any position on earth, and (3) the precession axis which shows the changing sky as the earth does its 26,000 year wobble. (Yes, we wobble!)

The earliest attempt at a planetarium was made in France in 1768 with the stars reproduced on a rotating dome. This proved both inaccurate and impractical, and the real pioneer work on a projector was carried out at the Carl Zeiss Company in Jena, Germany in 1919 by Professor Walter Bauersfeld. In 1923 the first planetarium was demonstrated at their factory. Modifications and improvements to this first prototype were carried out and all future projectors were based on the Model No.2. The H.R. MacMillan Planetarium will have one of the most modern Zeiss projectors in the world and will have nearly 100 additional projectors to dramatise the universe; to explain the earth's position in the galaxy, and how we learnt this; to show the origins of the constellations; to reproduce an exploding star. The problems and excitement of a flight to the moon become increasingly topical as the date for the real Apollo flight approaches. Slide projectors and film projectors can show the vivid spectacle of meteor showers; or the shimmering colours stretching from the horizon to the zenith of the northern lights; the dramatic appearance of a comet - a head of cloudy

brightness with a nebulous tail extending for as much as 100,000,000 miles.

Ninety-three million miles from us burns the sun with surface temperatures of 10,000 degrees F. and an internal temperature of more than 100,000,000 degrees. Fantastic flares of hot gases and flames billow out from the surface of the sun to distances of 10,000 to 100,000 miles in a matter of a few seconds and then fall back to the surface. Truly a spectacle worth seeing! The moon, 240,000 miles from us is cold, hostile, gaunt, pitted with craters, and perpetually silent. It has neither wind, nor weather, nor water, nor plants, nor life. No atmosphere slows down the stream of meteorites which hits the surface constantly at high speed. The craters of the moon - some of which resemble a 'splash' are probably caused by meteor impact, and possibly volcanic action, and some people think they reveal the places where gases have seeped through the moon's crust. Because no atmosphere moderates the heat of the sun, a person on the moon in sunlight would be in a temperature of 214 degrees F. at midday and -243 degrees F. at midnight. It is a burnt out rock.

From a comfortable chair in the Planetarium one can enjoy an instant astronomy - no need to live to 1985 for the return of Halley's Comet, nor, indeed, to stay up all night, for here the beauty and mystery of the universe are swiftly and vividly portrayed. The study of astronomy in no way diminishes the enigma of the universe - it deepens it, and for every hard fact that becomes known ten more questions arise. Isaac Newton, the greatest astronomer who ever put calculations on paper, wrote with disarming modesty: "I do not know what I may appear to the world; but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

Pamela Odgers.

STAR MAPS Our cover is a photograph of one of the 12 star maps in the 28 page booklet STAR MAPS which may be obtained free by writing to the Dominion Astrophysical Observatory, Victoria, B.C.

Editor.

METAMORPHOSISOrder Odonata, Dragonflies and Damselflies23 families, 4,870 species.

As a child in Eastern Canada, I had seen, with delight, the flash of colour as dragonflies hovered and darted with unimaginable speed over lake and stream. Now, in early summer on Canada's West Coast, I knelt on a patch of damp grass watching the emergence of one of them - the last stage of the incomplete metamorphosis of this insect - from egg to nymph to adult. The nymph, a dark brown creature, had just emerged from the bottom of the lake, made its way slowly but purposefully across the grass, climbed up the dead stalk of a rock garden plant and was now clinging tenaciously to this stalk. This nymph had developed from an egg laid on or just under the surface of the water, as long ago as five years or as recently as one year, when its parent skimmed low over the water. During this time, the nymph had grown, moulted, grown and moulted as many as twelve times feeding all the while voraciously. Two things made him a highly successful and rapacious predator, the first, a lower lip, the second, a tracheal gill. The lip, a highly specialised piece of equipment approximately half its body length, is hinged and ends in a pair of strong grasping jaws. When not busy catching small aquatic animals, which is seldom, this lip is folded back over the face, the jaw end forming a mask-like camouflage. The tracheal gill, located at the caudal end of the alimentary canal functions not only as an organ of respiration but also as an organ of locomotion, and the resulting underwater jet propulsion moves the nymph to his next meal at great speed, his lip unfolded at the ready.

The adult dragonfly, although it has relatively normal biting mouth parts, is also a hungry fellow. As many as 100 mosquitoes have been found in the mouth of one which was captured in flight. It, as well as the nymph, is equipped with special parts for efficient capturing of food. Rows of stiff bristles lie along each side of its long, slender legs and, when in flight, these bristles are slanted forward, forming a basket of sorts to catch the adult flying insects, mosquitoes, flies and even honey bees. There they are held until the dragonfly can

grasp them in its jaws. Both nymph and dragonfly are in their turn food for fish.

The eyes of the dragonfly are compound and, for an insect, long-sighted as he can see motionless objects almost six feet away and moving objects two or three times that distance. They are large, made up of 10,000 to 30,000 facets, and cover most of the front part of his head. They can neither be moved nor focussed.

The wings, two pairs of almost equal size, are intricately veined and almost always transparent. This accomplished aerialist, who has been clocked at 60 miles per hour, uses his wings for steering, his body and legs maintaining his balance. Hovering like a helicopter in front of flowers or when seeking his prey or when resting as he occasionally does, his wings are in their usual horizontal position. In flight, the stroke of the hind pair of wings is timed to meet the oncoming air before it has been disturbed by the forward pair of wings - thus operating in antiphase. Although, today the wing span of the larger species is 7½", the fossil remains of an ancestor of the Carboniferous era had a 30" wing span.

While some insects owe their colouration to refracted light from the arrangement of their surface cells, the dragonfly's body contains pigment. Many are the hues of blues, greens and browns displayed by the different species and these colours are often brilliant and sometimes metallic.

As I watched the nymph clinging to the stalk, during his last moult, the skin along the back of the head and thorax split open and slowly the head and then the thorax of the adult appeared. The wings pulled free from the two small raised cases on the nymph's back, were small, crumpled and scarcely recognizable. After a fairly long resting period, the long slender abdomen was arched upward from the enveloping case of the nymph and pulled free. Now the wings, each fore and hind set glued together, began to enlarge, the blood flowing, at last, through the intricate vein tracery in the gossamer tissue. The still seemingly one set of wings finally stood up vertically from the body, attaining their full size and, as they dried, separated into two pairs which, in the end were lowered to the normal horizontal position. In a few moments, with startling suddenness, the dragonfly was gone into the air, its movement alone making it conspicuous since the beautiful metallic blue colour which would mark its flight over the lake that summer would not appear for another day or two. I glanced down. The empty skin of the nymph still clung to the stalk.

E. Brooke

### TREE - FROG TADPOLES IN WINTER.

The tree-frogs which sound off early each year from the ponds on the outskirts of the residential areas assure us that what we call winter on the Pacific coast is pretty well over and that spring is on our doorstep. These little fellows, our most common amphibian, usually disappear in early fall and do not show again until February or March, the exact date depending upon local weather conditions. After an unusually mild winter they may appear much earlier. For example, in 1944, a frog chorus was first heard outside the city on January 19 which is probably the earliest date so far noted.

Ordinarily, the tree-frog or tree-toad (*Hyla regilla*) passes the winter in the adult stage. That is, all surviving tadpoles of the preceding summer will have transformed and the froglets will have moved from the ponds into the surrounding country side there to remain until ready to return to the water to spawn.

However, there is some evidence that, under certain conditions, some individuals may winter over as tadpoles in which case metamorphosis would presumably take place the following spring. In support of this conjecture is a record of several tadpoles collected on November 26, 1966, by Denis Rozell of 153 Olive St., Victoria. They were found in a pool alongside Franklin River road about  $3\frac{1}{2}$  miles west of Cowichan Lake and about at the same elevation as the lake, namely 535 feet. The pond was fed by a trickle of water and appeared to be part of the road drainage system.

The tadpoles were held at Victoria in an outdoor container and supplied with duckweed and pond water from a nearby fish pool. They were inactive during the normal cool weather of December and early January. They showed no signs of feeding but appeared to be in good health. Two of them had hind limbs in early stages of development at this time; one other showed no limb buds and was smaller in size. Unfortunately an accident befell the specimens about mid-January terminating the experiment, but there seemed no reason to suppose the tadpoles would not have survived the winter unless very cold weather intervened.

There seems to be no record in the literature of the tree-frog wintering over in the tadpole stage. The latest date for metamorphosis given by Wright and Wright (Handbook of Frogs and Toads, 1942) is September 1, presumably in the latitude of northern California.

G. Clifford Carl.

### MAN AND THE SOIL

Man has always been tied to the soil which, even in his nomadic days, gave him food, clothing and shelter. Yet, always, he has abused the soil. He has burned it, over-grazed it, and polluted it.

To understand human history, we must know the part played by soil. To understand today's local, national and international problems, we must consider the soil.

Perhaps we should speak of soils, for soil is very varied, and this variety has affected living plants, animals and man himself. The relationship is curiously intricate for without living organisms there would be no soils. The material covering the earth becomes soil only by being lived in and upon. It comes about by the interaction of air, water and life upon the rock materials. And the energy for this complex operation is furnished by the sun.

This brings us to the science of agriculture, so important to cities and civilisations. Yet many people have an illbred contempt for the man who lives by the soil.

Agriculture and soil management, forestry and the management of water and wildlife as well as urban development are all expressions of man's values.

In our land we can see how man has abused the soil. High prairies were plowed under, becoming often infertile and almost desert. We denuded our forest, thereby causing erosion and the washing away of soil that took centuries to build. Sometimes irrigation has leached away salts and minerals, thus impoverishing the land. On this continent we annually turn into blacktop one million acres of land that might provide food for the needy.

It is time the human race took stock of its living resources that come from the soil.

It is time to teach our children that good soil is fundamental to our life.

Freeman King.

NEW BOOKS FOR NATURALISTS.

A select list of new titles added to the stock of the Greater Victoria Public Library during November, December and January.

- |                           |   |
|---------------------------|---|
| Sheldrick, T.D.           | The Orphans of Tsavo.                         |
| Lawrence, R.D.            | Place in the forest.                          |
| Baskin, E.                | The Poppy and other deadly plants.            |
| Lilly, J.C.               | Mind of the dolphin.                          |
| Silverberg, R.            | World of the rain forest.                     |
| Gibbons, E.               | Beachcomber's handbook.                       |
| Vesey-Fitzgerald,<br>B.S. | Enquire within about animals.                 |
| Comfort, A.               | Nature and human nature.                      |
| Allen, D.L.               | Life of prairies of plains.                   |
| Worth, C.B.               | Naturalist in Trinidad.                       |
| Crowe, P.K.               | Empty ark.                                    |
| Keefe, J.F.               | World of the opossum.                         |
| Shepard, F.P.             | Earth beneath the sea.                        |
| Clark, Sir W.E.           | Man-apes or ape-men?                          |
| Flora, C.J.               | Sound and the sea.                            |
| Fitter, R.S.R.            | Britain's wildlife.                           |
| Mazzeo, J.A.              | Design of life.                               |
| Brock, S.E.               | Leemo: mountain lion.                         |
| White, G.W.               | Introduction to microscopy.                   |
| Frost, W.E.               | The Trout.                                    |
| McKervill, H.W.           | The Salmon people.                            |
| Ericson, D.B.             | Ever-changing sea.                            |
| Hardy, W.G.               | Alberta: a natural history.                   |
| Edwards, R.Y.             | Naturalist's guide to the Victoria<br>region. |
| Morris, I.                | Introduction to the algae.                    |
| Maxwell, G.               | Seals of the world.                           |
| Newman, L.H.              | Ants from close-up.                           |
| Reynolds, V.              | The apes.                                     |
| Amos, W.H.                | Life of the pond.                             |

List supplied by G.McBride, Circulation Dept., G.V.P.L.

MORE ON MACOUN. Mrs. Vera Walker who wrote the article on Professor Macoun (see page 95) says that good additional reading may be found in the Provincial Library and Provincial Archives.

BIRDS FOR THE RECORD

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

- |   |  |
|---|--|
| White-throated sparrow (1)  | Jan.13, 14; 27 -<br>on Alpine Crescent - Gordon and Gwennie Hooper |
| Pygmy owl (1) - Highland District -<br>(Feeding on varied thrush) | Jan.25 -<br>Miss Terese Todd                                       |
| Evening grosbeak (30 to 40) - Ernest Ave.                         | Jan.26 -<br>Mrs. Betty Watson                                      |
| Orange-crowned warbler (1)  | Jan.26, Feb.11 -<br>Lafayette St., - Mrs. P.M. Monckton            |
| Rufous hummingbird (1) -<br>Birch Rd. (Deep Cove) -               | Jan.31, Feb. 2 -<br>Mrs. Madeline Till                             |
| Great horned owl (1) -<br>Queen Anne Hgts.                        | Feb. 8 -<br>Babs Carl  |
- Violet-green swallows could be here before the next magazine deadline on March 10. Please be sure to phone in your first sightings.

JUNIOR JOTTINGS

This month has been a busy one for the Junior Branch of the Victoria Natural History Society.

The younger of the two groups started out by exploring and learning about the different aspects of plant and animal life on the Panhandle. Then the older group went to Goldstream to examine this dark and interesting rain forest. Varieties of lichens were numerous. In the dank and misty atmosphere Nature seemed to be storing up reserves for the summer.

The juniors also visited Thetis Lake Park this month and there they saw many interesting natural specimens to study. The next weekend the seniors went up to the new Lecture Hall at Thomas S. Francis Park, and, as it was a rainy day, they enjoyed some slides shown by Skip.

On the Friday and Saturday evenings of this weekend, the leaders took turns ushering at the excellent Audubon film, Northwest to Alaska.

On Sunday, January 28, the new Lecture Hall was officially opened with a very good attendance and a number of the Junior Branch assisting.

Jane Moyer.



ALBATROSS

We were some fifteen miles west of Sitka, Alaska, bucking into a heavy southwest swell on a grey overcast day in June when I saw my first albatross. It appeared out of the northwest and, quartering the wind, rapidly overhauled our ship. From a safe distance it made a complete inspection of us and, deciding we were harmless, took up its position a few yards above and behind our stern. No message was passed yet within minutes every man on the ship knew it was there. We normally sailed the inside passage and few of the men had ever seen an albatross yet all knew what it was. I cannot explain the relationship between seamen and albatross but I know that every man who could found some excuse to spend a few minutes on the stern that day. I doubt if many had heard of Coleridge or the Ancient Mariner but all found some titbit to offer the magnificent bird.

The albatross of literature is a snowy white creature, a far cry from the rather dingy dark colouring of our Black-footed albatross yet the long thin wings skimming the wave tops, occasionally rising to hang motionless over your head or circling far out over the ocean without a wing beat proclaim this is truly an albatross.

From early March to late October any excursion of ten to fifteen miles offshore should produce an albatross. To be certain, go to Tofino in August and beg, borrow or rent a ride on a boat going offshore. A box of bread or, better, a good supply of fish scraps for "chumming" is an invaluable tool. If you have been lucky in your weather, a seat on the stern where you can throw out a steady stream of scraps will soon provide a selection of pelagic species which would delight the soul of any list hunter. Petrels, shearwaters, Alcids of various species, perhaps a fulmar or a skua and with luck a flock of ten to twenty albatross will soon swirl around your boat.

A word of warning, the western Pacific is no place for a small open boat. A sudden squall can soon turn a pleasant outing into a terrifying experience if not tragedy. A sea fog can form in minutes and cover the whole area in a featureless blanket. A good compass, exact position and local knowledge are essential for a safe return.

Albatross have been seen from the Port Angeles ferry, but not yet from Clover Point. Some day sharp eyes will spot one and I, for one, will not question the identification.

Murray Matheson.

JOHN MACOUN (1831-1920)

John Macoun was born in Ireland, April 17, 1831. He emigrated to Canada with his family in 1850 and lived in Upper Canada. There, he devoted himself to farming, became interested in botany, and so furthered his education in this field that he became Professor of Natural History at the Albert College, Belleville, Ontario in 1868. In 1870, he joined the Geological Survey of Canada and made his first visit to British Columbia via the Peace and Fraser rivers, collecting vascular plants, mosses, lichens, and bird skins en route. In later years John Macoun published annotated lists of flora for the Ottawa, Nova Scotia and Vancouver Island regions. His collections of many thousands of specimens of plants were presented to the National Museum of Ottawa. Duplicates mainly from Vancouver Island are also in the herbarium of the British Columbia Provincial Museum.

In 1908, John Macoun with his wife and family moved to Vancouver Island. In previous expeditions to the Island, he had obtained much information and many collections of plant life and now planned to work up a whole history of the Island. Stationed at the Biological Station in Nanaimo, he made an intensive study and collection of sea life. John Macoun also investigated the disease causing rotting in timbers used in mines. His method of the use of creosote and salt was used successfully here and in Great Britain.

When retired, John Macoun wrote under the name of "Rambler" for the Sidney Review, answering questions and identifying plants for the home gardener.

John Macoun died in Sidney, B.C. on July 18, 1920. Named in his honour are 48 species of flora and fauna, a town "Macoun" in Saskatchewan and a mountain peak in the Rockies.

John Macoun and his associates found that the interior and west coast of Vancouver Island have the same botanical features as those characteristic of the Coast Range. But the southeastern part of the Island is of a different botanical type. Here the growth is influenced by a comparatively small amount of precipitation and, as a result, the flora is, in its composition more or less of a "dry belt" type. Also it is characterized by a number of species which belong to the southern flora and occur nowhere else in Canada.

Vera Walker.

PROGRAM FOR MARCH

- Executive Meeting: Dr. Carl's office at 8 p.m.  
Tuesday, March 5
- General Meeting: Douglas Bldg. cafeteria at 8 p.m.  
Tuesday, March 12  
Mr. Freeman King will speak on "Life in Goldstream River".
- Botany Meeting: Museum at 8 p.m.  
Wednesday, March 20  
Miss E.M.Valens will show slides of wildflowers and answer questions on wildflower photography.
- Audubon Wildlife Film: At Oak Bay Secondary School Auditorium. Mr. John Bulger will speak on "Wild Rivers of America".  
Friday and Saturday,  
March 22 and 23
- Bird Field Trip: Meet at 9:30 a.m. Monterey Parking Lot or 10:00 a.m. Colwood Plaza for trip to Witty's Lagoon.  
Saturday, March 23  
Leader: Mr. M. Matheson  
383-7381
- Junior Group: Meet every Saturday, Monterey Parking Lot, Douglas at Hillside 1:30 p.m. for field trips.  
Leader: Mr. Freeman King  
479-2966

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A CONSERVATION RECORD Miss Doris Page reports that there is a record, God Bless the Grass (Columbia C.L. 2432) by Pete Seeger. All the songs are his modern folksong type and are about conservation. Her favorite is "My little brother" about the poisoning of coyotes.

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# VICTORIA NATURAL HISTORY SOCIETY

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Minister of Recreation and Conservation

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Former Provincial Plant Pathologist

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