The VICTORIA NATURALIST

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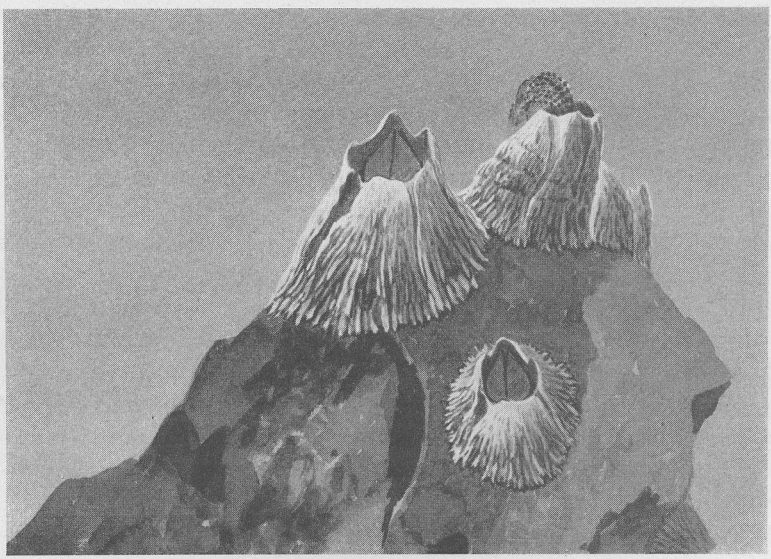

Balanus cariosus.
(F. L. Beebe.)

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OUR COVER

This barnacle is one of the more familiar species seen on the rocks around our coast at about one-quarter tide level. The size varies greatly up to 1¼ inches in diamater and 2 1/2 inches in height. The normal shell is a steep-walled cone with downward-pointing spines, giving it a thatched appearance. When crowded, which is usual, it takes on a tubular form and may lack the spines.

One of the most interesting aspects in the study of barnacles is their method of reproduction. They are 'hermaphrodites', that is, both male and female reproductive organs are present in each individual. For some reason, all the barnacles of one species, in a large area, will produce young at the same time. At certain seasons of the year these young may be seen drifting like clouds through the sea. Since barnacles produce a large number of eggs, a vast number of larvae may be present in these areas. The young, which are free-swimming for some time after they are hatched, are eaten in large quantities by various species of fish. Barnacle larvae may therefore form a very important source of food for fishes of commercial importance.

The question naturally arises: What is a barnacle? Simply answered, a barnacle or cirriped is a crustacean, a relative of the crab, lobster and sand-flea, that has attached itself permanently to some object larger than itself. A shell has developed in which it lives, and its legs have become modified into most efficient sweeps for the capture of the small sea-creatures and organic material on which it feeds. The barnacle has no heart or circulating system as found in the higher animals. Body fluids flow through passages among the muscles and other organs. Simple eyes are present beneath the skin of the 'prosoma', the bag-like portion of the body which corresponds to the head. The eyes are sensitive to light; the shadow of a hand passing over barnacles in a tide pool will cause them to close their cover-plates.

(From 'The Barnacles of British Columbia,'
by Ira E. Cornwall, F.G.S.)

SALMON RESEARCH IN THE NORTH PACIFIC OCEAN

The General Meeting of the Society for December was held in the Provincial Library on Tuesday the 11th; the speaker for the evening being Dr. R.E. Foerster, Principal Scientist at the Pacific Biological Station at Departure Bay near Nanaimo.

Dr. Foerster outlined the work that was being carried on with reference to the salmon in the north Pacific, particularly where they can be found and where their principal spawning grounds are located.

He advised that in 1953 an International Fisheries Commission was formed at a meeting held in Tokio, and a treaty was drawn up between the United States, Japan and Canada, by which it was agreed that Japan would abstain from the carrying on of any fishing operations in the ocean east of 175 degrees longitude, it being understood that the salmon fisheries were now being fully exploited in this area. This agreement is to last for five years. In 1958 the whole situation will be reviewed. This understanding, which is being upheld, is very valuable to Canada, which benefits to a considerable extent by its existence.

It was about the year 1892 that the Japanese began to fish the area around the Alaskan Peninsula, and they had their own way there for a considerable length of time. They had been taking possibly 120,000,000 fish from the Kamchatka (Russian) area. The Russians then began to have an interest in that part of the ocean and just prior to the World War in 1914 began to grant limited lease rights to Japanese fishermen. In consequence the Japanese turned to the open Pacific, and began to operate in Bristol Bay off the coast of Alaska. There began to be considerable consternation in the U.S.A. over these Japanese 'Mother-ships' at work there, but when the Japanese realized the American reaction to their fishing there, they agreed to withdraw.

The sockeye salmon, a study of which has been the chief concern of Dr. Foerster for many years, is the principal fish in this part of the Pacific ocean, and has a high commercial value. Various means are being tried in an endeavour to ascertain where these salmon spawn, and where they can be found at different times of the year, so the scientists of the three countries involved are carrying out separate investigations to this end, the

information being pooled.

A warm current from the tropics flows northward along the Japanese Islands and then turns north-eastward across the north Pacific. This current divides at the Aleutians, part of it turning northward, while the remainder divides again, some flowing north close to B.C. and the Panhandle, but most of it flowing southward along the California Coast. That part which flows close to B.C. whirls around south-westward and ultimately joins the south bound current. This leaves an ocean area in the centre called a 'gyro'. This 'gyro' area is under investigation of two sorts (1) oceanographic and (2) experimental salmon-catching. Sockeye salmon are found as far south as 40 degrees latitude, all along the Aleutians and along both the east and west coasts of Kamchatka peninsula. The Japanese therefore followed the salmon out to the 175th parallel and into the 'gyro', which is low in oxygen and rich in plankton, and therefore ideal for salmon. In this oceanic area there is a great welling-up of cold water from the lower depths bringing phosphates to replenish the growth needs of the plankton, and thus making it a very rich food area for salmon. It can be seen therefore that it is important to know if the origin of the salmon in that area is Asiatic or American.

The problem has been how to distinguish such origin, and this is being approached in different ways:

1. By the study of parasites. During the juvenile stage the salmon pick up parasites, and research workers have now found four species of parasites that lend themselves as indicators. So far this line of research has been carried out under considerable difficulties, but it seems now that the Russians may supply salmon specimens from Kamchatka as research material. So far it has been found that there are two species of parasites that are common over there but seldom seen in American samples and vice versa.

2. Researchers are also studying the osteology of the salmon, i.e. the study of skeletal structure, head bones, tail bones, etc. It seems that head bones may have evolved differently for one or two species of salmon, if not for all.

3. Serology. American workers particularly are analyzing blood samples; the results so far show good promise. A group of workers in Seattle have recently proved that by this method they really can distinguish races of fish.

4. Morphology. Studies are being made in the morphology of sockeye, pinks and chums with respect to the formation of fin-rays, gill-rakers and other features. They examine thousands of samples from both eastern and western waters and

chart the differences. And finally (5) scale Studies. Research is being done in the study of the annual rings and the circular bands of the scales of fish. There is a scale pattern for each race of fish. One might almost compare it with finger-printing. It has now been found possible by this method to determine which races come from different areas in our own waters. Researchers can be given fish samples for scale study and they can get a 70 to 80 per cent correct determination as between fish of Alaskan waters and fish of Californian waters. Therefore it is thought possible to extend this method to find out which fish are of Asiatic and which of American origin.

The tagging of salmon has also been tried. Japan has been doing this for a long time with indifferent results, largely because of gill-net damage. Half their tagged salmon die and little was learned. However, sufficient work has been done to indicate a return of the salmon from those central areas to Japan and to the Kamchatka peninsula. Recently, one of the U.S.A. stations tagged 7371 salmon, of which about 3500 were sockeye, but only 20 fish were recovered. Also many of them were immature fish and would not return to coastal waters that year. However all these departments of research are being continued and the more understanding obtained of the movements of the salmon should result in better fishing.

The speaker gave an interesting talk on this part of the work being done at the Biological Station at Nanaimo, and elsewhere, and it was much appreciated by the audience.

Dr. A.O. Hayes, our President, was in the chair, and advised the members that another effort is now being made to have the B. C. Government pass legislation to protect all eagles, hawks, owls, etc. in the Province, as these and other predators are necessary to keep the balance even on our wild life.

EDITOR'S NOTE:

This little magazine belongs to the members of the Society, and, to a large extent, is dependent on the contribution of articles and notes from the members.

In this issue we were pleased to receive two articles on local bird life, which assist materially in making the 'Naturalist' interesting.

RED LETTER DAYS

by Enid Lemon

I am sure that all of us on reflecting some of last year's activities, whether they lie in the field of botany, geology or ornithology, have a few instances that remain very permanently in our minds. I was lucky to have three such "Red Letter Days".

On September 23rd in the late afternoon I was at a very favourite spot of mine on Haro Road. Everything seemed very quiet and very little bird life about me. How wrong I was! In a few minutes I found myself surrounded by a flock of some 200 or so golden crowned kinglets. You might say "that is nothing strange, you hear them all the time up in the trees". Quite so, but how many of us have the opportunity of seeing them on the willows at eye level. I stood quietly with my back to a cedar tree feasting my eyes on the beauty of the golden crowns of these fascinating little birds. This must certainly have been a migration, as very few of these kinglets are to be seen in the Victoria area during the summer months.

My second memorable occasion was my "first" of the northern phalarope at Albert Head. These belong to a small but interesting group of shore birds with the female of the species wearing the bright colours and not the male which is usual. Another bird which is peculiar in this respect is the electus parrot from South America. The hen is a brilliant red, which one would think was visible for miles around as she sits on her nest, whereas the male is grass green in colour.

My third and most memorable "Red Letter Day" was on August 20th at Sahtlam on the Cowichan River, where a friend of mine has a summer cottage. The day before we had gone fishing, in the evening, and much to my joy had seen the dipper or water ouzel having his evening meal. It is intensely interesting to watch this unique little bird suddenly dash from a rock where he has been standing and dive under the water, at apparently the swiftest spot he can find and come up with a small snail or caddis fly larva. Nature has provided him with an extra large oil gland and very tight feathers, plus a third eyelid, thereby he comes up from his feeding trips none the worse for wear.

On Sunday evening, after supper, I was sitting on the bank of the river enjoying the peace and tranquility of the

scene, when I heard the most exquisite song. This I traced to our little brown feathered friend, who most obligingly stood on a rock in the middle of the river for a full half hour. It is hard to describe the beauty of this bird's song, but I think John Muir's quotation from Bent's is very eloquent. "The more striking strains are perfect arabesques of melody, composed of a few full, round, mellow notes, embroidered with delicate trills which fade and melt in long slender cadences. In a general way his music is that of the streams refined and spiritualized. The deep booming notes of the falls are in it, the thrills of the rapids, the gurgling of the margin eddies, the low whispering of the level reaches, and the sweet tinkle of separate drops oozing from the ends of the mosses and falling into tranquil pools."

Of all the song birds I have heard, the dipper is only beaten in musical eloquence by another drab looking and smaller bird, the nightingale. This last experience of mine on the beautiful Cowichan River truly filled my heart with joy and made me so eternally grateful that I had been given the eyes to see and the ears to hear some of the beauty that is all around us, which is passed unnoticed by so many of our fellow beings.

A SHRIKE IS BANDED

502-78606.

by Grace M. Bell -

As I sit here on the afternoon of December eighteenth 1956, a shrike can be seen in a small leafless fruit tree a hundred yards or so away in a field which is the back lot of houses on Central Avenue near Saint Patrick Street. The bird flies down onto the ground and then up again into another tree in the next lot over the fence. It is there for about ten minutes then drops down into a patch of long grass, small shrubbery growth and wild rose.

On the twelfth of December I banded a shrike. It did not feel particularly fat or full, the breast bone was fairly sharp. The bird was no doubt very hungry.For all the birds it catches there must be so many, many more which get away. The feet are not strong which lessens its chances of catching the bird attacked.

We have at our place a small outdoor wire bird house into which birds can come or go at will. It possibly gives them a feeling of protection when feeding. There are three openings which can be closed for trapping. One such has attached to the slide door a string reaching into the kitchen through the window. The shrike found its way in, killed a linnet and was preparing to fly out with it when spotted in the act from the window, the string pulled and its flight to freedom for the time being cancelled. With the other openings at the base of the trap closed the bird took its kill sometimes in its claws but mostly in its bill, to one place and then another about the cage. Several times it appeared to trip as if the prey were entangled in the ventral feathers or the legs. It was unable to get a satisfactory landing base in the trap, but did finally manage steady footing on a small branch either end of which poking into the wire formed a perch. The shrike decapitated the linnet and began to eat the head; first crushing the skull through from side to side across the top. This predator did not take the eyes first as the sharp-shinned hawk has been seen to do. The linnet was a female, banded in February, 1954.

Our northwestern shrike, (Lanius borealis invictus) is a handsome bird. Members of its family, Laniidae, are not true Raptores, for they eat seed and insects as well as other live creatures. They breed in higher northern areas and work southward for their living during the winter months. There are but two species of this fine bird in North America. Perhaps part of a shrike's function is to disperse the smaller birds over a greater area; certainly there are an inordinate number of linnets (not to mention house sparrows) congregating daily right here in this small garden.

The bird I banded (with Mr. Clay's assistance) did not have a complete black mask as is pictured in the painting by Allan Brooks, but it did have a dark splotch back from the eye and we noticed the fine vermiculations on sides and flanks. The tail was mostly black, as also were the wings; but the general effect on first seeing it is, to me, grey in varying shades and white. The pattern can remind one of the mocking bird, but certainly not the behaviour. The size and the bill were somewhat robin-like I thought, but the notch and tooth on the upper mandible are unmistakable characteristics of the shrike.

Since starting this article a little while ago a large,

fluffed out shrike was on the garage roof peering down from the gutter at the bird house beside it. It disappeared below into the laurel at the corner of the bird-house. Small birds poured out of the house and dashed to height (the linnets) and under cover of a cedar hedge (the house sparrows). Any fox sparrows, towhees or golden-crowned sparrows would seek shelter close to the ground. An English sparrow "froze" in the plum tree nearby. I went quite close as he remained stretched almost exactly like a spur of the upward pointed branch.

The evening is closing in and only a small "chip" can be heard from a song sparrow, an agitated golden-crowned sparrow's scold and the wee-est suggestion of a fox sparrow "talking". None of them went to the bird house for the last fill-up of the day.

BIRD FIELD MEETING

The nineteen members who turned out for the field meeting on Saturday, November 24th, were fortunate in having a mild and cloudless day for the last meeting of the year.

They assembled at the bathing beach at the south end of Elk Lake, and were interested in the 45 Canada geese feeding close at hand in the field on the edge of the lake. The party then moved on to the other side of the lake by way of Brookleigh Road, and took the path along the shore which was formerly the right-of-way of the Victoria and Sidney Railway, which was abandoned about 1915. There were practically no birds in the field or woods around the lake, but on the water there upwards of a thousand ducks, included in which were at least 300 pintail, and many widgeon, shovellers and coot, also a goodly number of American mergansers, the male birds of the latter being in their full winter plumage.

Returning along Brookleigh Road an osprey was seen, which is unusual at this time of year since these birds are migratory.

Much of the countryside however was apparently destitute of birds, only nineteen species being observed, most of these being the wintering ducks.

While the party were trying to identify the sea birds on the lake, an American merganser was seen with a large

fish in its bill, too big apparently to be swallowed. Immediately it was surrounded by other mergansers and a regular melee took place, but as far as the observers could see at the distance, the fish was still intact. A heron, which had been perched on one of the high Douglas firs growing at the edge of the lake, had apparently been taking it all in, and swooped down on the group, stretching its legs out as if to land on the water. In the meantime the mergansers were working closer to shore, and finally the heron came down, wings outspread and its legs down, and landed in the water in the midst of the mergansers, and, we believe, appropriated the fish. The water was shallower here, and it is possible the heron did not swim, but was able to reach bottom with its long legs.

A.R.D.

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BIRD NOTES

A small flock of western bluebirds was seen by Mr. Guiguet on Discovery Island during the second week of December. It is apparent that these birds will again spend the winter in this vicinity. According to my records, this will be the seventh year. The house finches, which wintered here apparently for the first time in 1951, are now to be found in fair numbers in several localities. At the present time not less than a hundred can be seen most days in the trees surrounding Mrs. Bell's garden on St.Patrick Street in Oak Bay.

A Brandts cormorant was seen at Shoal Bay on December 14th. Three starlings were identified at Miss Lees' pool on Arbutus Road on December 4th. This is the only time we have seen them this year.

On December 10th we saw six white-crowned sparrows at Shoal Bay, three adults and three immatures. The golden-crowned sparrows, however, are more numerous, and can be seen in small flocks in several localities.

A.R.D.

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For the interest and information of our members we give below a list of eighteen publications in natural history, all of which can be obtained at the museum.

Fifty Edible Plants of British Columbia. G.A. Hardy. 25 cents
The Amphibians of British Columbia. G. Clifford Carl. 50 "
The Reptiles of British Columbia. G. Clifford Carl. 50 "
Some Mushrooms and Other Fungi of B.C. G.A. Hardy. 25 "
The Birds of B.C.: (1) The Woodpeckers,
(2) The Crows and Their Allies. C. J. Guiguet - 25 "
The Barnacles of B. C. I.E. Cornwall - 50 "
The Birds of B. C.: (3) The Shorebirds. C.J. Guiguet 25 "
The Grasses of B.C. W.A. Hubbard - 50 "
The Birds of B.C.: (4) Upland Game Birds. C.J. Guiguet 25 "
The Mammals of B.C. I.McT. Cowan & C.J. Guiguet - -$1.00
The Ferns & Fern-allies of B.C. T.M.C. Taylor - .50 "
Occasional Paper Series: The Birds of the East Kootenay, British Columbia. by - Walter B. Johnstone 75 "
The Birds and Mammals of the Creston Region, British Columbia. J. A. Munro - 75 "
A Natural History Survey of the Manning Park Area, British Columbia. G. Clifford Carl, C.J. Guiguet, and G.A. Hardy - - - - - - - - - - - 75 "
An Ecological Study of Goose Island, British Columbia, with special reference to mammals and birds. C.J. Guiguet 75 "
Supplement to 'Flora of Southern British Columbia' (J.K. Henry) J.W. Eastham - $1.00
Review of the Bird Fauna of British Columbia. J.A. Munro & I.McT. Cowan - 2.50

BIRD NOTES:

There is a large flock of black birds comprising upwards of one thousand individuals to be seen on Martindale Road and Island View Beach Road. Amongst this group can be found Brewer's black birds, red-wing black birds and European starlings. It is also interesting to note that cowbirds have been seen with this flock on two or three occasions this year.

A.R.D.

JUNIOR NATURAL HISTORY PAGE

Bruce Crawford - - - Editor

GARTER SNAKES by Waldon Davis.

Garter snakes, which are found almost everywhere on Vancouver Island, will, as you know, emit a foul odor from glands at the base of the tail. This is done so that an enemy about to eat them or to handle them will think them too offensive to bother them.

When a garter snake is caught, he will perform this act but once you have tamed him he will cast aside this habit.

These snakes will eat worms and frogs, and some species which live near water and are often incorrectly called water snakes, will take tadpoles.

If you are worried about how big your cage should be, a simple rule to follow for all snakes is: 'For every foot of snake give one and a half or two square feet of cage floor space.'

SNAKES AS PETS by Waldon Davis.

The very best snakes as pets are the king snake and the indigo snakes. The former includes some nine species found from southern Canada and all through the United States and Canada. They are all constrictors and all are at least partially immune to the poison of some of the United States and Canada venomous snakes.

King snakes feed on other snakes as well as many different kinds of rodents. They make excellent pets if they can be made to eat. They thrive best if they are fed live food such as mice, guinea pigs or rats.

They tame easily even almost to the point of affection. King snakes attain a length of approximately thirty inches.

As for colouring there are so many species of different colours that it would be quite impossible to describe them all within the limits of this article; however I will describe one of them.

(to be continued)

NOTICES OF MEETINGS

1957

Tuesday Jan.8th: GENERAL MEETING: Provincial Library at 8 p.m.
Speaker: Dr.David B.Turner.

Tuesday Jan.15: BOTANY MEETING: Provincial Library at 8 p.m.
Speaker: Mr. C.P. Lyons.
Subject: "Some Plants to Know in British Columbia"

HIGH STRATEGY

Up in an alpine basin
Where the lichened spruces stand
And the snow lies deep and quiet
Over the quiet land,
From out a trapper's cabin
The owner comes and flings
Scraps of food acceptable
To the wild wintering things.

A squirrel spots the booty,
From his lookout in a tree,
Jumps to beat a whisky jack
With great alacrity:
A bluejay sights the plunder
And promptly flutters low
To cast a direful shadow
Across the splendent snow.

The squirrel, apprehensive
That a hawk is on his tail
Doubles back in terror
Before it can assail.
The bluejay, bright imposter,
Appropriates the food,
Then taunts his angry victim
With lack of hardihood.

Pisces.

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