VICTORIA NATURAL HISTORY SOCIETY

The VICTORIA NATURALIST

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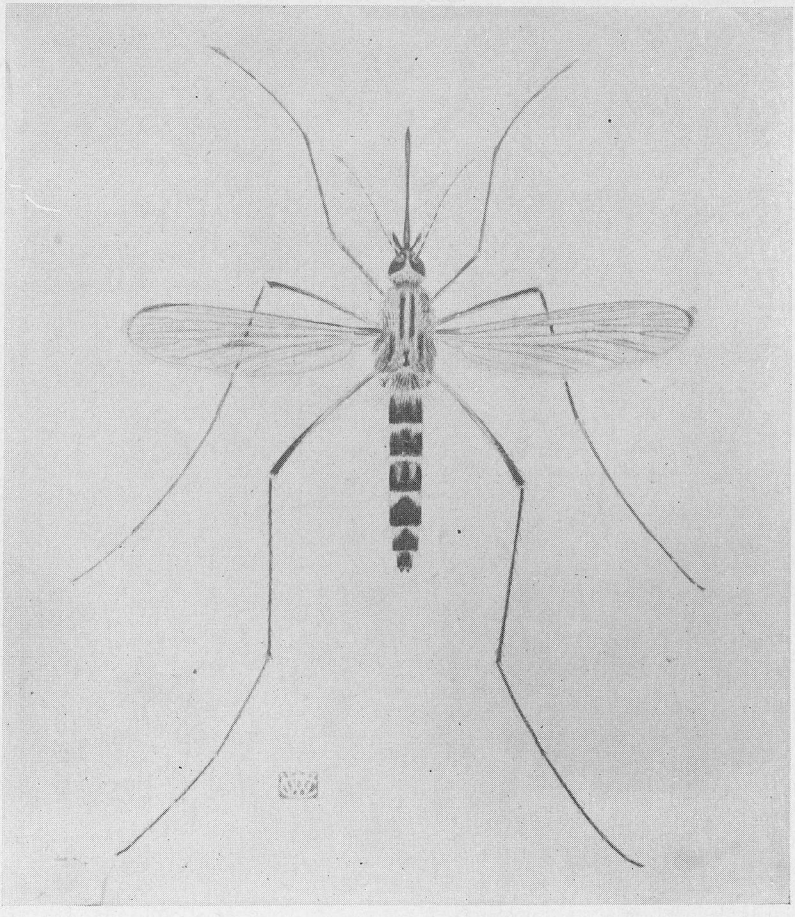

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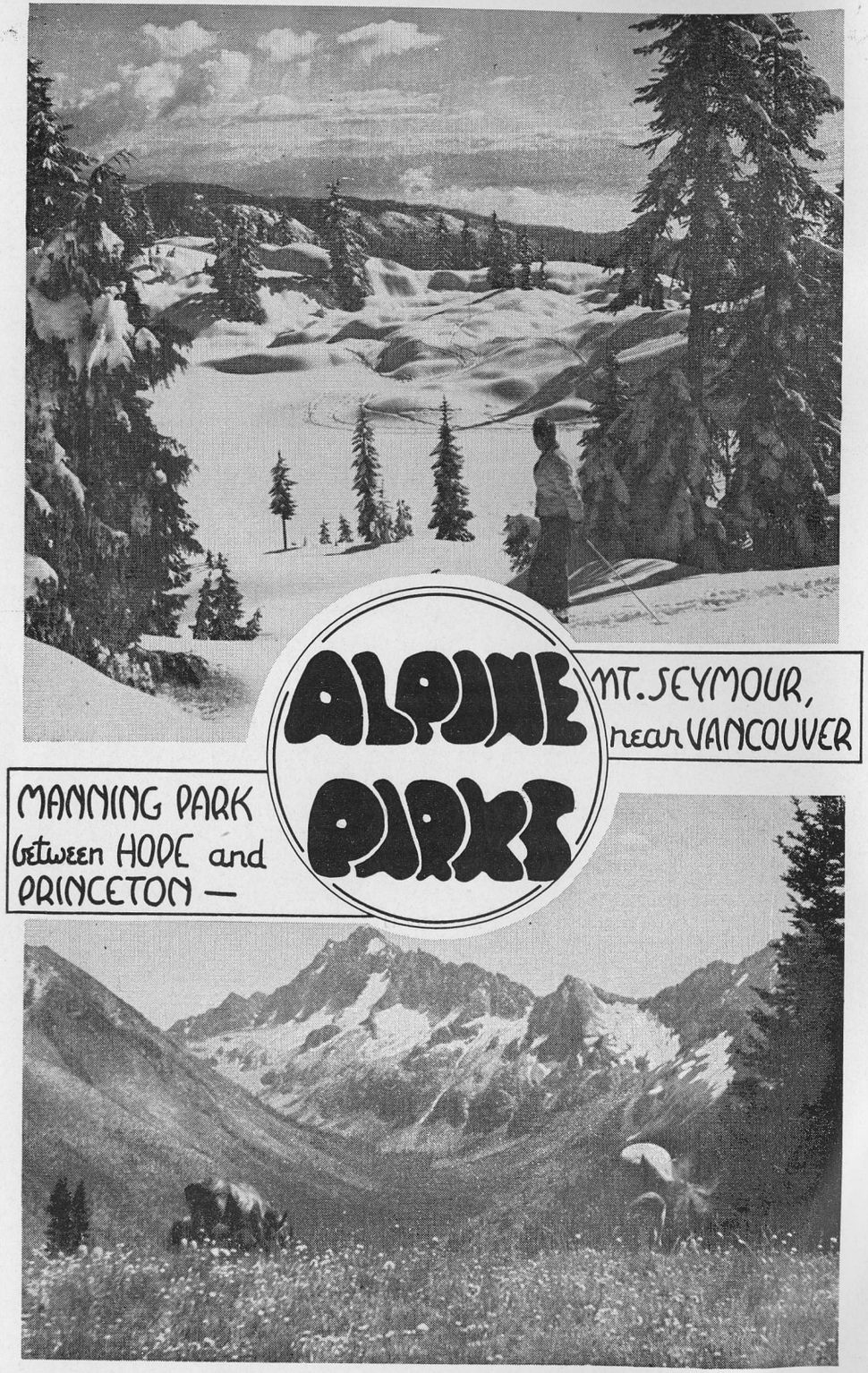

THE VICTORIA NATURALIST
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The last monthly meeting, falling as it did on VE Day, May 8th, was naturally not well attended, however the few present were privileged to hear a very interesting talk on Manning Park given by Mr. C.P.Lyons of the Forestry Branch, the main points of which appear in this issue.

At this meeting the resignation of Mrs. Watson as Secretary was accepted with extreme regret, and it was left to the Directors to find a successor.

THE PLANNING OF MANNING PARK

LOCATION: An area of 171,500 acres lying on both sides of a mountain summit and located almost equidistant between Hope and Princeton along the new Hope-Princeton Highway. The southern boundary coincides with the International boundary for approximately 16¼ miles. The Westerly half of the park drains into the Skagit River and the easterly portion drains into the Similkameen River.

TOPOGRAPHY: The park is deeply incised east and west by the valleys of the two main drainage streams which meet at the summit of Allison Pass almost in the center of the park. Into this main valley from north and south flow many large creeks, all having a well defined valley bottom and the characteristic round-shouldered mountain range between.

COVER: The forest cover is extremely varied. West of the summit, the Coast forest types prevail, but east of Allison Pass the forest stand is typically Interior in character. The alpine region is especially rich in flowers. Rhododendroms grow in great profusion along the Hope trail, and generally the entire area may be called a botanist's paradise.

CLIMATE: For practical purposes one half the park may be regarded as in the Coast belt and the other half in the Interior. As such, both regions have typical weather. Fog and mist have been noted on the west side within several hundred feet of the summit, while the eastern side was experiencing a hot summer day.

Fortunately most of the attractions lie in the Interior belt and not only have drier weather but more open stands of trees and a minimum of ground cover. Snow to a depth of 6 feet has been reported on the summit at Allison Pass and can be expected to be at least 3 feet deep most winters.

The probable length of the summer season will be from June 1st to October 1st and there can be a reasonable expectancy of fine weather during that period.

HISTORY: Few areas in British Columbia have such a varied and romantic history as pervades the historical travel routes of fur trader and gold seeker through Manning Park. The Similkameen River and Valley which form a great part of the southern boundary of the parks was the most important route of all.

The earliest journey by a white man in the Similkameen was made January 1813 by Alexander Ross, a clerk in a fur company. The next record is contained in Archibald McDonald's map of the Thompson River District, dated 1827, which indicates a journey made by McDonald in October of the previous year.

During the following years several trails were constructed for the first tourist use of the region and by 1929 when large scale work was started on the Hope-Princeton Highway the Three Brothers Mountain and Lightning Lakes areas were well enough travelled to give rise to numerous requests for park and game reservations. Immediately, the Sheep Breeders Association protested against any reservations over the Three Brothers area that would prevent grazing. A prolonged controversy over the damage done to wild life by sheep grazing resulted in a game reserve being established in 1936 with about half of it overlapping the Three Brothers Reserve.

The final step came on June 17th 1941 when the reserve was classified a Class "A" Provincial Park and named "Ernest C. Manning Park".

RECREATIONAL POTENTIALITY: Any attempt to assess the relative value and potentiality of this park as against other provincial parks must take into full account the fact that an important highway will pass through the area. Of all British Columbia parks of comparative size, Manning Park is unique in this regard. This means that a portion of the travelling public, exclusive of tourists and the holiday visitors, will stop from curiosity or convenience for a short interval and so publicize the attractions. Travel along the Similkameen River will also promote interest in summer homes and camping. There is no objection to the construction of summer homes which would be held under Park Use Permits. The favourite places will be in the vininity of Lightning Lake or the small lakes lying near the proposed road and along the Similkameen River.

The easy access from the Coast to the Interior is a strong drawing card and the fishing, hiking, horse-back riding and scenic aspect will further serve to make this park a public favourite.

If the road is kept open in the winter there is a definite possibility that Manning Park may become a winter sports area. The one drawback is that the open alpine slopes lie slightly over 2,000 feet above the road, but if these thousands of acres could be made accessible, they would leave nothing to be desired. It may be safely assumed that 90% of the winter visitors would arrive from the coast.

PROPOSED DEVELOPMENTS: There are four main zones of high attractiveness around which recreational activity will be centered. They are the Three Brothers Mountain area, the Lightning Lakes, the Skyline Trail and a narrow strip bordering each side of the Similkameen River extending in length from Allison Pass to Copper Creek. A recreation plan is based on the following brief outline of proposed preliminary developments.

Lightning Lakes should be brought into easy reach of the public by a road featuring an attractive entrance at the junction with the highway. This entrance would be the hub of the park. It would combine a gas station and information bureau together with a headquarters for a commercial concession. Nearby would be stables and pasture.

A public campsite on one side of the first lake and a tourist lodge and cabins on the other side would provide the necessary accommodation. From here fishing parties could radiate to all the lakes and have easy access to alpine country by the Skyline Trail.

Trips to the Three Brothers Mountain are essentially of three or four days duration. Therefore development work should be based on making these alpine areas accessible by trail and allowing a concession for a secondary lodge at timberline.

ATTRACTIONS: Manning Park can capitalize on offering two well mated attractions. They are fishing and horseback riding. The biggest thrill in riding comes in climbing out of the valley bottom and seeing the panorama of mountain peaks gradually unfold. An added feature in being able to enjoy these views from a high narrow ridge that has very aptly led to the name "Skyline Trail" for this travel route.

FISH AND GAME: No attraction will outrank fishing in the lakes and streams of Manning Park nor can a holiday reputation be more rapidly spread than by keeping the waters reasonably stocked with healthy fish.

It cannot be too strongly stressed, that a fish and game management plan is an integral part of most of the recreational plans. In practice this should take the form of a definite government policy to see that this attraction is protected and even enhanced.

PUBLIC CAMPSITES: It is not possible to estimate the complete scope that a public campsite system may eventually take. A preliminary plan can only indicate what areas are definitely needed and suggest others that have potentiality and should be kept free for this purpose.

Along the Hope-Princeton Highway will be several desirable stopping places that may be used for picnicing and camping to a somewhat lesser degree.

ORGANIZATION SITES: An important part of any large park plan in the United States is the designation of areas suitable for organizations and group activities. In British Columbia, the beginnings of a similar realization that there is a public responsibility to city children is evinced by boys' and girls' camps sponsored by various clubs.

As yet, Manning Park appears "out of bounds" but it has the features to make it a successful headquarters for such activities.

In conclusion, few parks have so many desirable features as those found in Manning Park. The easy access from centers of large population will make it well known to both holiday and casual travellers.

In order to perpetuate the fullest public enjoyment of the park for years to come each phase of activity must be planned in detail. The preliminary work has been started, and it is most encouraging to note that from the very beginning the interest and co-operation of various clubs has followed this endeavour. Mutual help and advice is certain to pay dividends.

C. P. LYONS,
Assistant Forester.

CRAB LIFE HISTORY

To dwellers on the sea coast, a fascinating field is opened up by the dropping of the tide. This world is inhabited by large numbers and varieties of living creatures, prominent among which are the crabs. If one turns rocks over, or moves seaweed in tidepools, crabs are sure to be seen scuttling to other cover. In British Columbia twenty-eight species of true crabs have been recorded, of which more than half are fairly common around Victoria. Their habitats vary greatly; the common shore crabs dwell under rocks near the high tide mark; the spider crabs cling to and live on kelps and other seaweeds; the commercial crabs live and burrow on sandy bottom; while the small pea-crabs spend most of their lives inside other living organisms, such as clams or in worm's burrow.

Crabs do not hatch from the egg as miniature replicas of their parents, but as tiny organisms with little resemblance to the adult form. In fact the young are so unlike the adult that until about a century ago they were classified under the genus Zoea and Megalopa and different 'species' were described. We now realize the true relationship, but a great deal of work on these stages of development needs to be done as only a few life histories have been traced out fully.

The fertilized eggs, when laid by the female, become attached by flexible membranes to the hairs on the appendages of the abdomen or tail. The abdomen is carried turned up under the body of the crab and thus the egg mass is well protected. A crab in this state is called 'berried'. While the eggs are developing, the female cleans and aerates the egg mass frequently by movements of the abdomen and pincers. The yolk material shows through the transparent shell in freshly laid eggs and is vivid in colour being red, orange, green, purple, brown, black, etc. As the yolk is gradually used up by the developing embryo, the egg mass becomes grey or brownish in colour.

The embryonic period, or the length of time the eggs are carried, varies considerably in the different species. The smaller forms seem to have a much shorter incubation period than the larger. For instance, the common shore crabs carry their eggs about two months while the edible crabs are 'berried' about nine.

When the egg hatches, the last embryonic stage, the prezoea or protozoea (fig.2, page 47.) is set free. The protozoea stage is usually of short duration and is soon replaced by the first larval stage or first zoea (fig.3 and 10). In this stage the larvae are free-swimming and therefore leave the protection of the female. Before reaching the adult form, however, they must undergo two metamorphoses. The young crab is now a gnome-like little creature, perhaps .5mm. in length, transparent but splotched with vivid colours, red, yellow, brown, etc. with large facetted eyes, and is very active when viewed under a microscope. The Zoea swims through the water by means of an enlarged portion of the first two pairs of maxillipeds (mouth-feet), which are furnished with long plumose hairs, and make effective paddles. Most zoeae are attracted by light and thus are to be found in the upper layers of the water. They feed on small living creatures which they catch in the water by means of their mouth appendages. As they grow they cast their skins two to five times, according to the species. During this stage of growth the legs and other appendages can be seen developing (fig.7 and 13), although they are not functional until after the next metamorphosis.

Considerable variation exists in the size, shape and colour of the zoea. Some are almost globular, while others are armed with long slim spines as in figures 3-7 and 10-13; some even have spined spines. These elongated spines are considered to be helpful in keeping the animal afloat in the water. The zoeae are very transparent when alive, so much so that the action of the heart and other 'works' can be observed under the microscope.

The next larval stage is the megalopa (large eyes) (fig. 8 and 14) and in this stage the larva more nearly resembles its parents, differing mainly in the abdomen, which is provided with pleopods (swimming feet), by means of which the animal is able to swim swiftly through the water. All the appendages are now functional; when not swimming the creature can crawl freely on the bottom.

The first young crab stage (fig.9) emerges from the megalopa and differs from the adult only in size and certain juvenile characters. It attains adult size after going through successive moults extending in some species over a number of years.

Josephine F. L. Carl.

On page 47 will be found illustrations depicting various stages in the development of crabs.

Fig. 1. A ripe egg. 8,14 The megalopa stage.
" 2,10. The prezoea stage. 9.The first young crab stage.
" 3-7)
11-13) Zoea stages. 10a. Tail of a zoea.

All figures are much enlarged.

(Plate- Courtesy of "Museum News" Vol.III No.4,1928)

BIRD NOTES: Mr.E.F.G.White reports seeing a Barn Swallow showing decided traces of albinism.

The tail feathers and part of the back were pure white, the bird was seen at Cordova Bay in June.

Miss A. Ewert reports having watched at close range a Black-throated Gray Warbler bathing in a small pool in Mrs. Bevan's garden, this is a rare bird here.

MOSQUITOES:

Vancouver Island, with the exception of certain localities, is fortunate in being almost free from the hordes of mosquitoes which are such an unbearable nuisance in most parts of the Fraser Valley. It is true that where there is a small tidal marsh, where salt marsh mosquitoes breed in great numbers in spring and early summer and in moist places in the woods, mosquitoes may be troublesome locally but their numbers bear no comparison to the clouds of mosquitoes which occur in the Fraser Valley and which have caused the shutdown of lumber mills and stoppage of fruit picking on numerous occasions.

Broadly speaking, the mosquitoes of this region are divided into two main groups, Culicine and Anopheline. It is the latter group which is responsible for the transmission of malaria but as they occur in the Fraser Valley and southern Vancouver Island in small numbers only, there is little likelihood of the occurrence of malaria. When at rest, Anopheline mosquitoes rest with the body elevated at an angle to the surface they are clinging to, whereas Culicine mosquitoes always rest with the body parallel to the surface. In the case of the larvae, or wrigglers, the reverse holds good; the Culicine larvae hanging suspended at an angle to the surface of the water while the Anopheline wrigglers lie parallel to the surface.

Several kinds of mosquitoes are of economic importance in the Fraser Valley but of these, two species are predominant in their lust for blood. These are Aedes aldrichi and Aedes vexans. Aedes aldrichi is a small mosquito, greyish in colour with two dark stripes on the thorax. The abdomen is black with white bands and the legs are also black. It is a vicious biter and the bite is painful. It breeds in flooded cottonwood and alder swamps and is more abundant than any other species. Its small size often enables it to penetrate ordinary No.12 wire screening. It may migrate considerable distances and there is evidence that it may travel as far as 15 miles from its breeding grounds.

Aedes vexans is a larger insect, brown in colour, with the abdomen conspicuously banded with white. The legs have also narrow white bands. Its breeding habitat is flooded meadows and it is the dominant species in such localities. The eggs are laid in grass sod and remain there through the winter, hatching out when the meadows are flooded in the spring. As an indication of the enormous numbers that may be present in a piece of meadow land that is subject to flooding, as many as 3218 wrigglers have been hatched from a single square foot of sod. Not all the eggs hatch at one flooding, however, and they may remain dormant in the grass until a flood of sufficient height reaches them. Like the preceding, this species may migrate a great distance from its breeding grounds, perhaps as much as 10 miles.

Other common mosquitoes are Culiseta incidens, the rain barrel mosquito and Aedes dorsalis, the salt marsh mosquito. The latter is never found far from salt water where it breeds in salt marches or even in rock pools. It is a fairly large mosquito, yellowish in colour and is a bad biter. Fortunately it is only of local occurrence.

The larval stage of the mosquito varies in length according to the species but ordinarily, in the case of those discussed in this article, lasts about 10 days. On maturity the larva changes to a pupa, which, like the larva, is active and moves freely in the water. The pupal stage lasts 4 or 5 days and the time from hatching of the egg to the emergence of adult mosquitoes may be from 15 to 20 days.

The chief method of controlling mosquitoes is by elimination of their breeding places by dyking and draining. Where there is no stagnant water mosquitoes cannot develop. Where such methods are impracticable, oiling the surface of ponds or swamps is the best remedy. When mosquitoes develop in lily pools in gardens the introduction of a few goldfish is a ready means of eliminating them.

W. DOWNES.

BOTANICAL GROUP EXPEDITIONS: Spring & Summer 1945.

Four expeditions were made during the season. Two of these were very well attended: one to Mount Douglas, April 21, and one to Thetis Lake, May 26. Of the other two one coincided with an Ornithological group visit to Braefoot, the other, last of the season, was probably affected by falling within the vacation months.

The Mount Douglas expedition gave an excellent opportunity of seeing the spring flora on the south slope of the great hill. Although recently ravaged by fire and perhaps because of it great masses of bloom, collinsia and sulphurweed, larkspur and mimulus of two species, fringe-cup and shooting-star, enlivened the rocky shoulders and the slopes above and below them. The little lace-pod had already developed its seed-vessels with their open-patterned borders. Over the surface of some black burnt soil vividly green liverworts and fruiting cord-moss had made their settlement. In the woods fawn-lilies, lady's-slippers and nemophila were seen, and on the sandy slope at the east corner of the Park the ground was gay with magenta flowers of calandrinia.

On May 5th five members went to Goldstream station and over the hill to the base of Humpback. Climbing up the west face they were rewarded with a continuous sight of the Sooke Hills flora. The successive sheets of lava maintain on their upper surface beautiful wild gardens where the white flowers of the tufted saxifrage vies with the purple bells of the satin-flower, though at the time of our visit the latter was beginning to wane. The collinsea had passed its early low stage and was seen as a plant a foot or so high, but there was abundance of rosy sea-blush and the shooting-stars were represented by two species, both were plentiful. Then there were violets, the yellow flowers of the smooth-leaved and the blue ones of the hooked species. The ruddy saxifrage was mostly over. We found parsley fern about the summit, its two forms of frond make it conspicuous despite its small size. The silver-back fern as well as the sword fern was also found. We saw plenty of manzanita and kinnikinnik, close relatives.

On June 4th we had a delightful ramble up the old Thetis Lake Road. The walk along the hilly avenue of forest gave us a variety of flowers, the small miner's-lettuce with its pink and white flowers, rosy sea-blush, broad-leaved stonecrop, coral-root with purple spots on white, violet-coloured broomrape, trilliums already turning purple, white clusters of saskatoon's flowers. There also we saw the scarlet orange of the common wild honey suckle, the pink bells of the salal, the large white blossoms of the thimbleberry, and the mingled flowers and fruit of the salmonberry were seen in the thickets.

On July 7th a small party set off for Cordova Bay. The excursion had been intended to take us to the shore at low tide to see seaweed but the wrong date had been chosen, so we had to content ourselves with looking into very insignificant rock-pools.

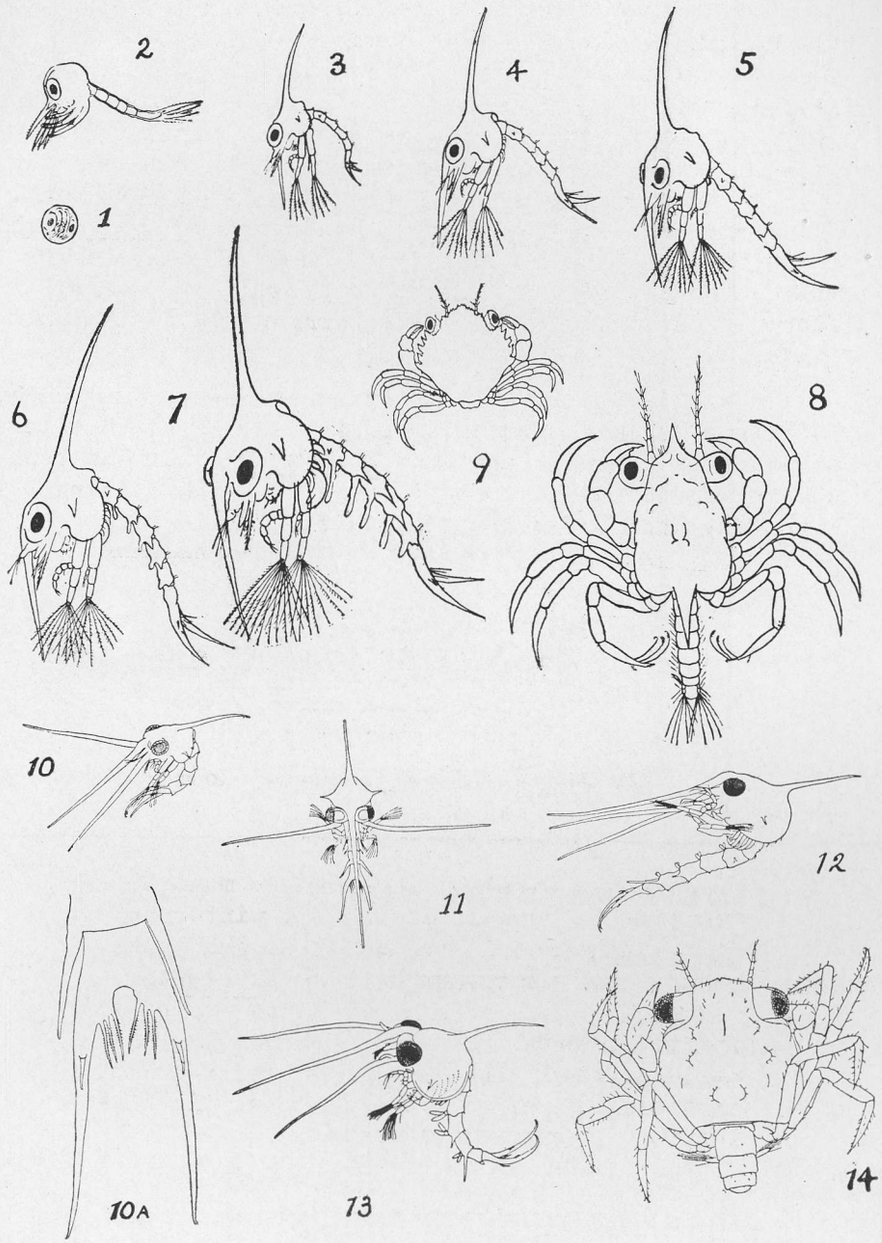
ROB'T CONNELL.

N O T I C E O F M E E T I N G

MONTHLY MEETING

Tuesday Sept.11th — Provincial Library Reading Room at 8 p.m.

This is the first of the regular monthly meetings to be held during the winter and your attendance is requested as there are a number of important matters to be discussed. A good program is being arranged and it is hoped that the chairmen of the various groups will report on their respective field trips which have been held during the spring and summer.



STAGES OF CRAB DEVELOPMENT

To

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VICTORIA NATURAL HISTORY SOCIETY

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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, 11th September, 1945

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