

of the globe he will take an intelli all that concerns that place after-make any mistake as to its location. beauty, the eye and the mind are memory stored with a never failing Memories that make sunshine on rightens the monotony of the work-

student of human nature an ample ial for study, and in mixing with his s to strengthen the bond of brother-spite of difference in birth, blood, or world over "a man's a man for

frivolous, whose ambition soars no e galeties of Paris, and the extrava-on found in the Rue de la Prix, there ore to be got than amusement in the pow the world wags for her sisters in

red to the last. He may appreciate found in other countries, and have tion for their systems, but, no maton he belongs, he turns his face dent that "East, West, Hame's best" t is "Hame."

an inn where travellers stay, breakfast, and then go away; inner stay, and are full fed; bill who lingers all the day.
s soonest has the least to pay." CARRIE E. KEITH.

HOCKEY

a origin of Hockey is obscure, and it is een it was first originated, the name pposed to have been derived from the 'Hock-day," meaning a holiday; some hat the name originated from "Hock," ooked sticks with which the game is

layed by the village youths, it later ong the school-boys of our large Eng-d it is only of recent years that it has women. England is undoubtedly the where it is played to a great extent. Canada, where it is played on ice, it is as it is a much faster game than when

it has found favor among both men The latter, however, appear to be more s there are two or three ladles clubs e. The girls of the public schools play and game, this being their chief winter

his year been offered if the ladies can eague between some of the neighb will have to be won two years in suc-it becomes the property of any one be hoped that the Victoria ladies will , and be able to claim the "cup"

SELECTIONS

coffin adds a nail, no doubt grin so merry draws one out."

nerry heart goes all the way, r sad tires in a mile-a."

is worth a hundred groans in any

s a comely fashion to be glad.

wasted of all days is that on which one

ime, who steals our years away, of the past will stay our joys renew

l worldly joys go less ing kindness.

appiest heart that ever beat, in some quiet breast ound the common daylight sweet

Rest mother, when the day is o'er e hand her little child to bed, half reluctant to be led. his broken playthings on the floor, eals with us, and takes away ngs one by one, and by the hand o rest so gently, that we go wing if we wish to go or stay."

A Happy World

ou and I-just you and I, uld laugh instead of worry; e should grow-just you and I. good time might get started what a happy thought t'would be, ou and me-for you and me

The Great Theorem

an or woman is a better thing to find ind note. He or she is a radiating vill, and their entrance into a room is er candle had been lighted. We need they could prove the forty-seventh do a better thing than that—they estrate the great theorem of the

he Road to Laughter-town earn the road to Laughter-town,

have lost the way? have young hearts, though your hair

m a little child each day, the lilt of his laughter gay, his dancing feet as they stray; ws the road to Laughter-town, o have lost the way!

Mers



I do not intend to go deeply into the subject, therefore will only deal with one of the most important orders, namely, "Lepidoptera," which is divided into two sub-orders, "Rhopalocera," the butterfiles, and "Heterocera," the moths. The name Lepidoptera, like most other scientific The name Lepisoptera, the flow of the words, is derived from the Greek; (LEPIS) which signifies a scale, and (PTERON) a wing. The butterflies and moths constitute the order of scale-winged insects. The appropriateness of the name will no doubt be recognized by every reader, who has, perhaps unintentionally, rubbed off the minute scales which clothe the wings of a butterfly or moth. These can readily be seen under a good glass or microscope. It is surprising the number of people we meet who are not familiar with the life history of the butterfly; for the benefit of those, I will do my best to point out the different stores which the butters in a second continuous continuo out the different stages which the butterfly undergoes before becoming a perfect insect or imago. Commencing from the first stage, the eggs of but-terflies consist of a membranous shell, containing a

fluid mass consist of a membraneous sine, containing fluid mass consisting of the future caterpillar, and the liquid food which is necessary for its maintenance and development until hatched. The forms of these eggs are various; some are spherical, others hemispherical, conical, cylindrical, barrel-shaped and also resembling a turban; many of them are angled and others depressed at the ends. As there is a great variety in form of the eggs, so also there is in color; brown, green, blue, red and yellow eggs occur; although green or greenish white eggs are the most common tints. At the upper ends of the eggs of insects, there are one or more curious structures known as micro-ples (little doors) through which the spermatzota of the males finds ingress and are fertilized; these cavities can only be seen with a good micros

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nature student can take up.

The eggs are laid upon the food plant (singly, in small clusters, or in a mass) upon which the caterpillar, after it is hatched, is destined to live. The female reveals wonderful instinct in selecting plants which are appropriate to the development of the larva.

An interval of about ten days to a fortnight separates the time when the egg was deposited from the time when the larva is hatched.

The second stage of the insect is known as the larva or caterpillar. In general, caterpillars have long, worm-like bodies, consisting normally of thirteen rings or segments, the first constituting the head. The bodies of caterpillars are variously ornamented, many quite smooth, and others with horny projec-tions, spines and eminences. The coloration of larvae is remarkable, multitudes of them are green in color, being thus adapted to their surroundings, and secura measure of protection: many are brown and exactly mimic the color of twigs and branches upon which they rest when not engaged in feeding. A few are gaily colored, but in almost every case, they closely resemble the object upon which they rest. Caterpillars in their social habits are often gregarious, living in colonies. These as a rule build for themselves webs of silk amongst branches, in which they are in part protected from their enemies, and also from the inclemencies of the weather; this is very common with our tent caterpillars. Most caterpilla are solitary, and no community life is maintained by the vast majority of species. Caterpillars, in the process of growth, from time to time, shed their skins. This process is called moulting.

Moulting takes place, as a rule, at regular intervals. The young larva, having emerged from the egg, grows for a number of days, until the eperdemis, true skin, has become too small. At this period it stops feeding for a short time. During this period development certain changes are taking place, and the skin splits along the middle line, from the head the extremity of the last segment, the caterpillar crawls out from the skin, which is left behind, being ttached to some leaf or branch or to whatever it may be fastened. Usually four or five moults take place

before the larva turns to a chrysalis or cocoon.

The duration of the larval state varies greatly. In temperate climates the majority of species exist in the caterpillar state for from two to three months, and, where hibernation takes place, for about ten months. Many which hibernate do so immediately after emerging from the egg and before having made first moult; the great majority of species, however, hibernate after passing one or two moults. With the approach of spring they renew their feeding upon the foliage of their proper food plant, or are transformed shrysalids, afterwards emerging as perfect in-The larval or caterpillar stage having been sects. mpleted, they are transformed into a pupa, or

The perfectly developed insect is known technically as the imago. The insect as it first emerges from the chrysalis, is provided with small, flaccid wings. Hanging pendant on a twig, or to the side of a rock, or whatever it may be, the insect remains fanning its wings, while by a strong process of circulation, a rapid injection of the blood into the wings and other organs takes place, accompanied by their expansion normal proportions, in which they gradually attain a more or less rigidity. Hardly anything in the range of insect life is more interesting than this rapid development of the butterfly, after it emerges from the chrysalis. The body is robbed of its liquid conthe abdomen is shortened up, the wings become hardened, and the perfect insect is seen aloft in the air, sunlight and breeze.

One of the most singular and interesting facts in the animal kingdom is what has been styled "protec-Certain colors and forms are possessed by animals which adapt themselves to the surroundings, in such a manner that they are in a greater or less degree secured from observation and attack; or they possess forms and coirs which cause them to approximate in appearance to other creatures which for some reason are feared or disliked by animals which might prey upon them. Some but-terflies, for instance, resemble dried leaves, etc., while some moths mimic bees, birds, etc. -- are often

istaken for such and passed by unnoticed even by the keen observer or collector.

A question which is frequently asked by those who are not familiar with the subject, relates to the man-men in which to distinguish between moths and butterflies. A partial answer can be made in the light of the habits of the two classes of lepidoptera. Butterflies are dirunal in their habits, flying between sunrise and dusk, and rarely taken awing at night. This habit is so universal, that the insects are called by Entomologists the "dirunal lepidoptera," or simply spoken of as "dirunals." It is, however, true that many species of moths are also dirunal in their habough most of them are nocturnal, or crepuscular, that is, flying at dusk in the evening, or the twilight of the early morn.

Butterflies have long, thread-like antennae, provided with a swelling at the extremity, giving them a somewhat club-shaped appearance. This form of antennae is very rare among the moths, and only occurs in a few rare genera found in tropical countries, which seem to represent connecting links between the 'butterflies and moths." All true moths which are found in the United States and Canada have antennae which are not club-shaped, but are of various other forms. Some have a thread-like appearance, tapering fine point, some pectinated, prismatic, or with little hook or spur at the end, and also many other odifications and variations of these forms

British Columbia, we all know, is noted for the best game country in America. Such is the case with the Lepidoptera of B.C. Although we do not have the number of bright colored insects that occur in Tropics, we certainly have one of the richest fields as regards numbers of species on the continent. Up to we have listed in B.C. nearly two hundred butterflies, and about a thousand species of moths. This does not include the micro-lepidoptera, which constitute the minute moths. Very little work or systematic collecting has been done with the micro-lepidoptera, as the average student or collector spends most of his leisure time in working up with butterflies or moths, or some other branch of Entomology. There still lies unknown wealth and variety in this small and interesting family.

Before concluding, I must not forget to mention the B.C. Entomological Society, which was organized under difficulties several years ago in Victoria by a enthusiastic students and collectors. Since then great interest has been taken, and good work accomlished in classifying and making additions to our list in various orders, and also inducing new members join our ranks, and today we have a flourishing little society, which is affiliated with the Entomological Society of Ontario. Thanks and great credit are due to our Honorable Secretary, R. V. Harvey, M.A., for compiling correct data and notes dealing with Entomoloky in general which is published quarterly by the society, and distributed among its members This little bulletin tends to keep up interest and to show the society's members what is being done in ield work, etc. Without doubt there are a number of students who are not aware of an Entomological so in British Columbia, therefore it is to be hoped that all persons interested in the study should become members by making application to our worthy secre tary, Mr. R. V. Harvey, of Victoria, and by so doing will help to encourage and advance the study tomology throughout the Province of British Columbia. E. N. ANDERSON.

THE WILD FLOWERS OF VANCOUVER ISLAND

When the days begin to shorten and the leaves became a rich gold before they die; when the evening falls in mist and the day opens with the first sparkle of hoar-frost, then the huntsman takes his gun and goes in search of sport or game. I, too, am a hunter, but not like him. My weapon, when I need one is not a gun, but a small knife, and my game bag is paper, or else a tin box and a short piece of string. It is not the mellow autumn days that call me to the voods, but the bright, clear days of spring—the time

When the clean, lengthening days of March begin and the first flowers are out in the gardens, I go off to my favorite field (now, alas, being cut up for building lots) and search in the crannies among the rocks

for some delicate purple blossom, hanging its head like a snowdrop among the grass-like leaves which grow all over the field, for the wild crocus (Sisyrinchium grandiflorum) is the harbinger of the wild flowers as the snowdrop is of those in our gardens. This early flower has a smaller cousin, known by the sweet name of Blue-eyed grass, which blooms in July. This flower grows plentifully upon the prairies and is much loved by the children there. While we are looking for the crocus, let us look in the shelter of that clump of fir trees to see if the smooth flat leaves of the American Cowslip—the Peacock (Dodoccatheon Hendersonii) are yet above the ground. We know that, flower and will not be in bloom for some time.

Then follow weeks of wild delight and neglect of

all else but tramping far and wide over the country, of looking up in old diaries to find when such and such a flower may be expected, of allowing for the cold winds and rain, or the exceptionally bright weather, of wondering if certain flowers will be as fine or as plentiful as usual or more so, and of filling every vase in the house with the glorious trophies of our chase.

Of course, all the world knows when the Easter lillies are in bloom, and many who care but little for other wild flowers are looking out for the first of them. The children usually find them first. How they love the lilies! And more still do they love the little yellow violets which grow so plentifully on Beacon Hill, though it needs sharp and loving eyes to distinguish them readily among the profusion of butter-cups. They love the wild blue violet too, but that must be sought further afield.

At this time too, in deep damp woods, the Trilium may be found plentifully—that most regular of flowers, with its whorle of three broad leaves, its three green sepals and the pure white petals. This flower, like the Hydrangea changes color as it fades, from white through different shades of pink, almost to a purple

·In these same fir woods, its white bulb so loosely holding to the moss in which it grows that a careless touch pulls up the whole plant, grows the sweet quaint Lady's Slipper (Calypso Borealis), sweetest, earliest and best known of all that strange order, the Orchids. Everyone knows the little purple shoe, but who could think of the score or more other orchids which grow near here? Some know the tall, brown, leafless one of the deep woods, or the little green Fly-orchis of swampy ground by sight, but few look into them. These, and all orchids, have the peculiar shoe formation so noticeable in the larger single flowers, and many of them are parasitical, and there fore leafless and without any green. How many people know the large, red orchis, standing from a to eighteen inches in height, which blooms in May and has a straight red stem with numbers of hooded shoes clinging to it? Or the strange corkscrew arrangement of the florets on the spiral orchis (Spiranthe Romanzoriana), which may be found on the Golf Links in July? These and many others are there for those who seek them; but all orchids, even the Lady's Slipper, are shy.

Soon after the white and yellow early flowers come the blues of later spring. Then among the but-tercups and yellow Painter's Brush, appear the little blue and white Lupin and the tall Star Hyacinth (Camassia Lettlinii). Among these there is a much neglected flower that deserves to be thought more of-Poison Camass (Zygadinus elegans). It is a beautiful flower when one looks into it, though not at all showy, and its creamy cones blend so well with the bright blue of its neighbors. The Lupin, too, has less known relatives. The tall, blue Lupin is grown in

not know that both of these can be found, plentiful and tall, in fields quite close to Victoria. Indeed, last summer I picked a bunch of Lupins to take to a lady visiting in Victoria, within a stone's throw of the house where she was staying, and not know that they grew wild! There is also a large yellow Lupin, which grows in great clumps but is not From a distance it looks like a broom bush whose flowers, instead of being the rich golden

tint of the broom, have taken on a pale, lemon hue.

At this time, in the clefts of rocks, grows a pretty pink flower—the Valerian (Valerianella gongesta) It has a square stem and smooth, light green leaves and each plant produces a close cluster of tiny pink blossoms, which, like the stone-crop, brightens the bare rock on which it grows.

While the Lupins and Camass are still striving to produce larger and yet larger spikes of blossom, mmer flowers of red and orange begin. The gracefu Columbine may be found in open woods, the five little dove's beaks in its blossom pointing affectionately t gether. Then, on banks and cliffs, grows the Red Painter's Brush, so much prettier and rarer too than its cousin dressed in yellow. This plant is very well named, for its red-tipped leaves, which en flowers look exactly as though they had just been dipped in a pot of scarlet paint. Now, too, one can gather large quantities of the gorgeous tiger lilies, but be careful not to pick them too full blown, or their

pollen will be shed all over you.

In June and July, among the white and purple onion flowers there is another of the lily order (Brodiaea grandiflower), for which I have tried to find an English name. It is nameless in Victoria. Inside its six blue petals stand three peculiar white projections which are quite stiff and horny to touch; its leaves

fade away before the blossom comes out.

Some bright day towards the end of June with me and walk along the Goldstream Road between Langford Lake and Goldstream, and you shall see large beds of one of the loveliest of the Ericaceae, and probably find a good many blossoms of a broad his more levely still. These are the two Pyrolas (Pyrola rotundifolia and Pyrola elliptica), the a tall, pink lily-of-the-valley and the long-leafed one carrying at the top of its slender stem dozen flowers, the buds like little red balls and the open blossoms almost like tiny red passion-flowers. The Ericaceae, or heather tribe, is an order which everyone should know, for so many of our wild flowers belong to it. The largest and most plentiful of them are the Arbutus and the Sallai, and if one searches a patch of Sallal ground month by month, one is almost sure to find some gem of loveliness growing among it. All the Ericaceae have smooth, tough leaves and woody stems; the flower has five petals or is a bell with five points at the lip, and is nearly always white or deep pink in color. Inside the petals is a circle of ten stamens standing two by two at the

Near to the Pyrolas I once found a single group of a peculiar flower called the Pinedrop (Allotropa pterospora). It is a saprophite and so leafless and it is shaped rather like one of the dark orchids, but its flowers and stem are striped red and white, which gives it the appearance of a fine sugar stick growing out of the ground.

In the bright summer days also we find our two honeysuckles. The great flaunting trumpet honey-suckle throws its orange bunches wide over hedge and bush, but his dwarf, pink cousin, which is found best

on the Islands of the Gulf, crepes modestly along the ground, but is by far the prettier of the two. Time does not permit me to speak of very many

of our loveliest wild flowers and those I have mentioned are all of them quite common plants. All the flwers which I have spoken of are herbaceous ones. I have passed over entirely the bright flowering bushes and trees which line our streams and road-sides and brighten the woods. But all these deserve notice and the more one studies them the more beauty does one see. The visits of insects, the arrangement and growth of the parts of the flower, the adaptation of color and form to surroundings and conditions of life, and a thousand other details make the study of wild flowers an endless, ever widening, ever deepening delight to all who love beauty and Nature.

In closing, let me say a few words about the gathering of flowers. Careful picking of flowers does no more harm to wild plants than it does to garden ones. Nature has provided for the production of far seed than can ever come to full growth; and to produce seed is the one duty of a flower. Flowers ould be picked carefully, or better still, cut, so that the roots may not be torn up or even jarred in the earth and many of the early flowers that grow from bulbs should not be robbed of their leaves or the new oulb cannot be formed. We all regret the passing of the Easter Lily from Beacon Hill which is partly due to ruthless gathering, but I believe this is not the Lilies grow almost entirely in the leaf only cause. mould from the scrub oak and where the oak is gone the lily goes too. I know a field near the park where the owners have tried to preserve their lilies but, in spite of care, and though they are never picked, each year that field has fewer and fewer of its white fairies which tell that Spring has come.

M. I. GLADSTONE.

SOME OF OUR COAST BIRDS AND THEIR

By Walter F. Burton

I.—Black Oyster Catcher—(Hamotopus Backmani)
This bird is about the size of an ordinary pigeon
but jet black with long red bill and red legs.

It is called by the Indians "Red Nose," and is found in great numbers all along the entire coast of the Island. As will be seen, no grass or moss are used for the nest, the eggs, which are brown in color with black spots, being laid in July on the coarse stones of the shingly beach which surrounds the Island.

II.—Glancous Winged Gull—(Lamus Glances Cens) The common sea-gull which follows the steamers nd ships at all seasons of the year. It breeds abundantly in Jung along the coast, especially on Bare Island, which is our nearest point, where hundreds

come from every year. The nest and eggs are very similar to those of the Western gull and can scarcely be distinguished from

III.-Loon-(Gavia Immer)

A very familiar bird with prettily ated feathers, black throat and white breast. Its next is made of rushes and always close to the water's edge so that he bird can slide from it at any time into the water search of its food, which consists entirely of small fish. The eggs are laid in the beginning of May and are of a beautiful olive brown color, sparingly sp with a darker shade. These birds have been known to lay four different sets of eggs in a season.

IV .- American Water Ouzel-(Cincius Unicolor) These little birds, of a dark bluey-grey color, are always found by any swift-running stream, the swifter the better, and are the only birds known who can walk along the bed of a stream, under water, with wings expanded. They live on the caddis worm, which they find among the stones at the bottom of

the water. They build in the rocks close to or under a waterfall, where the spray can just reach without injury, and the nest is made of a large ball of me lined with dry leaves. They breed in the end of wirl or first days of May, the eggs being five in number of a

V.-Western Gull-Lanus Occidentalis

This bird has a white head with dark grey plumage. breeds in July in the Similkameen Valley and is very numerous along the west coast of the Island, where it remains until October, when it migrates to

Victoria. The nest is made of grass and moss, is built on the ground by the side of cliffs, and the eggs are olive brown in color, speckled with brown.



