

FOR FARMERS' STOCK BREEDERS AND GARDENERS

Blackflies Are Annoying Pest

It is common knowledge that blackflies are among the most annoying and injurious insect pests that afflict wild and domestic animals and man, but it is only recently the investigations carried out by certain officers of the Entomological Branch, of the Dominion Department of Agriculture, have thrown light on the identity and number of the species in Canada, and their distribution, breeding places, and habits.

Like mosquitoes, only the female blackflies are bloodsuckers; but unlike mosquitoes, their attacks are confined to the daylight hours. They are usually most numerous in the early part of the season, in late May and June, but may persist in smaller numbers throughout the summer, and often are abundant again, in some localities, in late summer and autumn. Although their worst attacks are usually experienced in wooded or forested country, they are sometimes a severe pest in more open regions in which satisfactory breeding places occur.

A recent study of the species in Eastern Canada, by an officer of the Entomological Branch, at Ottawa, showed the presence of twenty-three species of these troublesome insects in this region, twelve of which are new to science. The majority of them were reared in Ontario and Quebec, in the Ottawa, district, from fast-flowing rivers, streams and rills in which the insects pass their larval life, or were collected on the wing, or in the act of sucking blood. It is probable that most of them are widely distributed in the eastern provinces. A total of thirty-eight species of blackflies are now known to occur in various parts of Canada, and it is probable that further study will bring to light the existence of additional species. Five of these species are widespread throughout the Dominion; fifteen of the others have been found only in the West and eighteen only in the East.

The importance of blackflies as bloodsuckers has long been recognized, not only in Canada, but also in other parts of the world. Among the most famous and spectacular outbreaks of blackflies, or buffalo or turkey gnats, as they are sometimes called, are those that have occurred in the lower Mississippi valley of the United States, and in parts of southeastern Europe. In both regions, at various times, blackflies have caused the deaths of many thousands of wild and domestic animals. Recently blackflies have been shown to carry certain disease-producing organisms. For instance, in parts of Africa, and in Mexico and Central America, blackflies were found to be the transmitters of a parasitic worm (filaria) that causes disease in man. In Canada, and other parts of North America, a very common species is the carrier of a serious and prevalent protozoan blood disease of wild and domestic ducks, which is frequently fatal to young birds.

It is possible that further studies will show them to be of greater importance as disease carriers than is at present known, but whether this proves to be so, or not, their blood-sucking proclivities alone place them in the category of insect pests of major importance in Canada.

Nature Notes For September

(By E. W. Hart, Division of Botany, Central Experimental Farm)

September, the beginning of autumn, when, perhaps, the most beautiful and conspicuous wild flowers are in their full glory, brings to mind the words of the poetic naturalist Wordsworth, who said in his "Thoughts on the Seasons":

"What pensive beauty autumn shows,
Before she hears the sound
Of winter rushing in, to close
The emblematic round!"

Golden flowers are the emblem of September. Goldenrods transform whole acres into "Fields of Cloth-of-Gold" assisted by sunflowers, black-eyed susans, toadflax, ragwort, sow-thistles, and hawkweeds. The purple Michaelmas daisies add the final touch of imperial splendour to the September landscape. This riot of gold seems as though it had come to stay forever when Keats reminds us that:

"-----to set budding more,
And still more, later flowers for the bees,
Until they think warm days will never cease."

But even the imperial purple of the Michaelmas-daisies has a rival in the incomparable hue of depth and brilliancy of the cardinal flower, a red richer than that of the bird which shares its name can boast. Because the vivid beauty of the cardinal flower or red lobelia cannot be hid, and few withstand the temptation to pick it, extermination may be the result. However, it is fortunately easy to cultivate from seed.

The other wild flowers which claim attention this month are the turtle-head and the Joe-Pye weed. Most persons are familiar with the inch-long pink and white turtle heads, and have watched with much interest and amusement the way in which they appear to eat bees.

Even so strong and vigorous an insect as the bumblebee must struggle to gain admission to this flower before maturity. He will try and try again until the pollen is ready to dust him over, when he is admitted. At the moment when he is forcing his way in, causing the lower-lip to spring up and down, the eyeless turtle seems to chew and chew until the most sedate beholder must smile at the paradoxical show. Of course it is the bee that is feeding, though the flower would seem to be masticating the bee with the keenest relish.

The gorgeous magenta Joe-Pye weed is often seen growing together with turtle-head or near it, as it favours the same damp situation.

Towering above the surrounding vegetation of low-lying meadows, this vigorous plant spreads clusters of soft fringed bloom that, however deep or pale of tint, are ever conspicuous advertisements, even when the goldenrods, sunflowers and Michaelmas daisies enter into close competition for insect trade. Slight fragrance, which is doubtless heavy enough to the delicate perception of butterflies attracts crowds of them. Thus a patch of Joe-Pye weed in September is an excellent place for the collector. Joe Pye, an Indian medicine-man of New England is said to have earned fame and fortune by curing typhus fever and other diseases with decoctions made from this plant.

The grocer keep the eggs in a cool place.

Eggs should also be kept clean and this means keeping fresh litter on the floor and clean straw or shavings in the nest. Washed eggs do not keep as well as those that have not been washed. If eggs get dirty they must either be washed or dry cleaned, as no one wishes to buy dirty eggs. The producer's responsibility does not entirely end when he sells his eggs. He should be interested in how they are handled until they reach the consumer. Eggs may spoil in the consumer's hands by being held in too high a temperature.

Producers should insist that

Pruning Gardens Makes Flowers Last Longer

CUT BACK FADED BLOOMS AND FOLIAGE; IT WILL USUALLY RESULT IN NEW GROWTH BY FALL.

It is a waste of color and beauty to neglect the garden in the summer months. When our flowers have become hardy and begin to blossom, we give them an occasional weeding and watering, and little else. Although we enjoy the fruits of our efforts, the hot summer days seem to take much of the early enthusiasm, and we let things slide.

Probably the best way to assure a continuous season of bloom is to prune flowers carefully. We think of pruning as having something to do with trees or shrubs, but this term may often be applied to the operation of cutting off the faded flowers of annuals and cutting back the top growth of perennials which have finished blooming. This will give a fall crop of flowers if they are so treated.

Putting off faded flowers from annuals to prevent the energy of the plant being put to seed making will cause them to flower again and again. Oftentimes, this is true also of bedraggled foliage, which can be cut back severely, and will thus let the plant put forth more of its efforts in making flowers.

Alyssum can be trimmed with a shears. Annual larkspur can be cut back, although better effects will be obtained if new seed is sown and new plants grown.

This is not a general rule to apply. In the case of the poppy, for instance, the blooms must die and be renewed only by succession sowing of new seed. Others, like the zinnia and marigold, need only have their faded flowers removed and the original plants will continue to grow and produce

NATURE NOTES

While aphids, ants, and wood-boring beetles have been numerous of late, house flies of all kinds (except "Cluster Flies") have been very few this fall. The Cluster-flies (*Pollenia rudis*) are those noisy, medium-sized flies that buzz about the outside walls in the sun-shine, and are fond of getting inside the upstairs windows in some mysterious way. At night and in dark weather they seek the ceiling corners where they cluster together till a sunny day draws them to the window again.

Miss Verna Phillips of Harrington sends in an insect for naming. It is a fine specimen of the Dog-day Cicada, *Tibicen canicularis*. This is one of the few insects which have a choice of popular names, amongst them being "Annual Cicada," "Harvest Fly," and "Lyre-man." By some mistake it is often called the "Locust" here, an insect which it does not in the least resemble. (The true locusts are the grasshoppers, and the locust of Palestine and the East is but a very large grasshopper with a body two and a half inches long, and a wing spread of nearly six inches.) The body of the Cicada is large, with a wide, blunt head which has the compound eyes prominent on the outer angles. Between these eyes are three small auxiliary eyes called "Ocelli." Many other insects have ocelli, and perhaps these may have a special use, such as in the dark or under conditions that we are not aware of. "At the end of July or the beginning of August, it begins its doleful but resounding buzzing hum in the tree-tops," says my note-book. Young readers are urged to preserve these little notes in a "scrap-album" of their own.

Miss McKenzie, teacher at the Brackley Point School, brought in a specimen of an insect new to me. It was one of the Serpoid Flies called *Pelecinus polyturator* Drury. (That is Drury the entomologist who first discovered and named it.) The specimen was a female, about 55 m. m. long, with the abdomen about five times the length of the head and thorax, and composed of six slender cylindrical segments (joints). The male is only 22 m. m. long, and both are jet black. The larvae of *Pelecinus* are parasitic on the grubs of our June Bugs, so that we may class it as a beneficial, though seemingly rare, insect.

Several collectors have brought in the wood-boring beetle *Leptura canadensis*, which like the previous insect, has no popular name. Wood borers have been plentiful this year as has been already remarked. This *Leptura* has a tapered body with blackish wing-covers, each with a reddish basal patch; (basal means, next the thorax.) It is the grub that does the boring.

Some of the collections I have examined this year showed insufficient preparation. The commonest fault was a drooping of the wings, caused by removing the insect from the mounting-board before the body-juices had properly dried out. There is a useful little pamphlet entitled "Directions for collecting and preserving insects" issued gratuitously as a circular by the Dominion Dept. of Agriculture, Entomological Branch, Ottawa. It is written by Dr. McDunnough, and

Horses Liable To Hot Weather Itch

A common trouble with horses at the commencement of hot weather is Summer Itch. It is usually a form of eczema and is induced by changes of foods. Sudden allowances of green grass or of new hay or new oats tend to bring it on. Flies, dust and lack of grooming are also contributory causes.

A horse that is susceptible to the trouble should not be given young grass, new hay or new oats during hot weather. If grass must be fed the horse should always be accustomed to it and not suddenly turned on to pasture. A good supply of old oats and hay should always be reserved for the feeding of work horses in Summer. New hay and oats should complete their sweating and maturing before fed to horses.

In many instances the spores form on the legs and are licked and bitten until they become chronic and very difficult to heal. In some cases they occur just behind the knee or in front of the hock joints where the skin is thin. Some horses have itching, jelly-covered sores upon their legs in Summer that disappear in Winter.

When Summer sores start, iodine form one part and lard seven parts should be applied daily. Chronic Summer sores have to be cut out or sloughed out by a veterinarian. Bathe itching parts of a horse's body with a solution made of Epsom salts and water two or three times a day.

NEWSY NOTES

BY AGROLOGA

PRESERVING FENCE POSTS

Here is a little matter which should appeal to my farmer friends, and might be put to the proof next spring. We know what a nuisance it is to be always putting in new fence posts, as must be done every spring under present conditions; but a writer in "Popular Mechanics" shows us how to make them last for years. The ends of the posts which were to be put into the ground, were first soaked in lime water. Then they were dried and painted with dilute sulphuric acid. The posts became as hard as stone, and the writer says he knows of posts so treated, that have stood for twenty-five years! And apparently their condition was as good as the day that they had first been put in. He warns us that only thoroughly dry posts should be treated in this way.

Certainly this treatment is simple and inexpensive, and so is worth a trial. Lime-water does not mean whitewash—it is a clear fluid! And the "recipe" would have been a shade better if we knew the percentage of the dilute acid. The post, one supposes, must be dry so that the lime-water will soak in.

The first and greatest nuptial flight of Ants took place in this district on August 29, and it was followed by rain the following day; this seems to be the usual sequence.

A smaller flight took place on Sept. 18th, and the next day (Saturday) was signalized by a violent eastern rain-storm, 1.61 inches here. The male ants, winged like the females, may be observed at these times; they are about one-eighth the size of their consorts. Before these ants "took off", the wingless little brown worker ants might be seen running about among the "aviators," just as if they were making adjustments.

What is our largest-leaved wild plant? I pulled a leaf of Burdock (*Arctium minus*) the other day, which will take some beating: the blade or lamina, exclusive of the stalk (petiole), was just 18 inches long and 12 inches wide. Neither of the standard manuals give the size of Burdock leaves, so I added a note of my observations.

The other night I was shown a snapshot of Mr. Reddin's pool at Southport; it is fast becoming a very pretty water-garden. Some years ago a friend took me across to see it; but at that time only a little preliminary work had been done to it. I noticed, however, that the Pickering Weed (*Pontederia*) had been introduced, and was displaying its handsome spikes of blue flowers. Now, I am told, there are beds of water-lilies, Sagittaria, and other aquatics, and a fine stand of Wild Rice. The latter, I believe, is looked upon as difficult to grow, but Mr. Reddin evidently knows how to do it! I hope some day to again visit this enticing spot.

THE FERNS OF P. E. ISLAND

No matter how simply one attempts to draw up an analytical "Key" to any department of nature study, one cannot wholly avoid the use of scientific terms, so in the following paper care has been taken to explain them where necessary. To begin, we head the

Ferns are leafy plants, destitute of flowers, the leaves or fronds usually raised on a stem called the stipe. The frond is generally rolled crosser-fashion (circinnate) in the bud, and when mature usually bears on the under surface, or along the margin, small sporangia (or sacc) which split open and discharge the spores. The sporangia which are fairly minute, are clustered in dots, lines, or clusters, called sori; and these again are sometimes covered and protected by a thin membrane called an indusium. The spores or reproductive bodies are all of one kind and size in this order.

FAMILY I. POLYPODIACEAE

Familiar ferns of various habits. Sori on the lower surface of the frond; sporangia stalked (microscopically) and provided with a vertical ring opening transversely. Vernation (that is, young leaves) circinnate.

(A) Fronds all flat, or only slightly revolute.

*Sori without indusia.

(1) Fronds oblong in outline, 4-10 inches high, pennatifid or cut nearly to the rachis into linear-oblong segments; evergreen and sub-coriaceous. Sori large, round, disposed in rows. Stipes articulated to the creeping rootstock. On rocks, Dunk River; rare? Common Poly-pody—*Polypodium vulgare* Linn.

(2) Fronds triangular, longer than broad to 10 inches high; 2-3 pennatifid; pinnae sessile, decurrent, the lowest pair deflexed and standing forward; rachis winged. Sori roundish, near margin. Veins free (not anastomosing). Stipes not articulated. Plant usually dark green. Beech Fern—*Phlegopteris polypodioides* Fee.

(3) Fronds ternate, the divisions

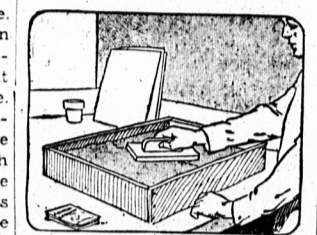
Summer Color Indoors for Winter

SOW SEED NOW IN BOXES THEY WILL BE READY TO BLOOM WHEN THE SNOW FLIES.

When seed pods begin to ripen, and that burnt fall look comes to the garden, we begin to realize that the flowering season is over for another year.

The fall blaze of color is to come, we know, but after it things begin to fade and droop in earnest, and very quickly. It is at this time of year that we begin to think of saving some of this gorgeous color to brighten the winter months indoors.

Some annuals may be saved over, if they are scrupulously pruned back, and kept in a dark place for a period of time, but the best



Start Seeds in Flats or Boxes and Transplant to Pots. Firm Soil Well.

method is to start afresh, and plant new seeds which will be ready for big pots in late September.

A very small seed bed is all that is necessary. It will only take up a corner of the garden, and if you are not planting perennial seed in the cold frame, use it for this purpose. Fine soil will be necessary in either case. Sift the top layer, so that the seed will come in close contact with it. An application of human manure is also helpful for retaining moisture but, it must be fine in texture.

Some provision should be made for screening the tiny seedlings from the hottest sun. A piece of cheese cloth, stretched over the frame or bed, is fine protection. Newspapers can also be used, although they do not let in much light, and are difficult to keep in place.

After the first true leaves have appeared, prick them off and re-plant in another row, or in boxes. Keep them shaded for a day or two until they are rooted in their new locations and they are then ready for the full sun.

When they have developed into sturdy little plants, set them into small pots and after a few weeks into larger pots. This will give them a healthy start. Pay strict attention to their supply of moisture when in the seed bed, and more particularly in the pots, where evaporation is rapid due to the small amount of soil.

Many annuals and some perennials, can be grown for indoor use in this way. Here is a good list to start with: Lilliput zinnias, Russian statice, candytuft, dwarf nasturtiums, calendula, bush balsams and browallia.

petioled, subequal and often at right angles to the stipe, pinnate or partly bipinnate, the rachis wingless. Sori roundish, near margin. Stipes not articulated. Oak Fern—*Phlegopteris Dryopteris* (L.) Fee.

**Sori with indusia

(a) *Indusia marginal*

(4) Fronds ternate, at the summit of the erect brownish stipe which may be 3 feet high; the three divisions each bipinnate, dark green; indusia formed of the reflexed margin, making a continuous, slender, vein-like receptacle, connecting the tips of the veins. Brake or Bracken—*Pteris aquilina* L.

(5) Fronds of two forms (fertile and sterile) light green, about 5 inches high; ovate in outline, 2-3 pinnate, segments of sterile fronds broader, ovate to obovate—flabelliform, crenulate, decurrent at the cuneate bases. Margins of fertile fronds reflexed to the midrib to form the indusium, and rather pod-like at first, at length opening flat. Found at Dunk River by Dr. W. L. Holman, 1935; the only locality? Rock brake—*Cryptogramma Stelleri* (Gimel.) Prantl.

PLANTS OF COLOURED GLASS

Modernistic hostesses like the artistic glass plants that are fashionable in Paris. In their illustrations they look particularly lovely.

A bouquier plant has leaves of pale mauve glass, while the flowers are tiny bells of white glass with red edges.

Another glass plant possesses one-like leaves made of white leads and pale green "needles"

Safeguard Canada's Tobacco Seed

The importance of the distribution and registration of seed in the tobacco industry of Canada is stressed in the progress report of the Tobacco Division of the Experimental Farms, Dominion Department of Agriculture, for the years 1931 to 1934 inclusive.

The report which has just been issued states that for a number of years the Tobacco Division distributed on request one-quarter ounce packages of seed, free of charge, to bona fide growers. This service meant much to the small grower, particularly to the man growing garden lots, because he was furnished with seed of known and tested varieties. Subsequently, however, it was realized that the tobacco-growing industry was not being particularly benefited by such free distribution of seed. In the first place, too many varieties in all types were grown throughout the districts, and in many cases these varieties were given so many different names that to-day they have little significance. Indeed, the situation became a puzzling one to the grower, and at the same time the various experimental farms and stations were called upon to devote more time than their other duties allowed in replying to the thousands of requests for seed. As a result, it was decided that the production and distribution of tobacco seed should be transferred to reliable growers under the supervision of the staff of the Dominion Experimental Station in each district.

At the annual meeting of the Canadian Seed Growers' Association held at Regina in 1933, certain cigar and pipe varieties were accepted for registration. At the present time, there is available in the hands of growers registered seed of a number of varieties, for example, Resistant Havana, Connecticut Havana 30, Comstock Spanish Pomeroy, Parfum d'Italie, Beleg 3007, and Petite Havana.

Canadian agriculture and agricultural products form one of the outstanding features of the Canadian Government exhibition at the Great Lakes Exposition at Cleveland, Ohio. The Canadian section occupies a prominent position adjoining the grand staircase in the main building, having a fifty-foot frontage in the "Aisle of Flags." The exposition continues for 100 days, from 27th June to October 4.

The chairman of the Exposition's advisory committee, Dr. J. C. Blair, head of the horticultural department at the University of Illinois states that since the Exposition will be held just before frost, when gardens are in the fall bloom if should have the widest possible popular appeal. There will be a place in the Exposition for exhibits from everyone interested in any phase of horticulture, amateur, professional, and commercial growers, nurserymen, florists, garden clubs, associations, institutions, and educational agencies.

Premium lists containing full details of the competitive classes will soon be ready for distribution to those addressing requests to the Exposition headquarters at the Chicago Stock Yards.

The management announces that word has been already received from 30 state colleges, the Ontario Agricultural College and the United States Department of Agriculture that they will give active co-operation to the Exposition; and 33 state and national horticultural societies have indicated that their members will participate as exhibitors.

Continent-Wide Horticultural Show

Canadian growers of flowers, vegetables, and fruits will have the opportunity to compete in the first continent-wide exhibition devoted exclusively to horticulture that has ever been held.

The occasion will be the International Horticultural Exposition which will take place September 1 to 20, 1936, in the new International Amphitheatre at Chicago. Splendid facilities will be provided for the show and it will be staged by an advisory committee of prominent horticulturists.

Its sponsors proposed to give the same recognition to horticulture that for many years has been given to agriculture in the annual International Live Stock Exposition at Chicago.

Dr. G. I. Christie, president of the Ontario Agricultural College expresses the belief that the Exposition will have a strong appeal to many people throughout Canada. "The opportunity to see and take part in a display of such magnitude, featuring the best production of the garden, will be not only a pleasure but a real education and help," says Dr. Christie. "It will be another great educational institution where interested persons may enjoy the displays and visit and exchange views."

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The SNAPSHOT GUILD

DON'T INCLUDE TOO MUCH IN ONE PICTURE



This picture, while striking, is really two pictures in one.

ONE of the faults often seen in the work of an amateur photographer, especially of a beginner, is the inclusion of too much in one picture. He tries to "hog the whole show," as it were, with results that are uninteresting or distracting.

For example, from the top of a mountain or other eminence, he is impressed by a vast panorama of country—several hundred square miles of it spreading to the horizon in a great semi-circle—and promptly tries to compress it into a few square inches of film. The result on the film is little more than a wavy or jagged line—the horizon line—separating a white space from a dark space. He failed to note how all the interesting detail was swallowed up in the vastness of the scene.

Such a panorama may be saved by beautiful cloud effects obtained by using a color filter and, of course, it can serve, and may well be treasured, as a "record" picture of a visit, but vastness unrelieved by near-by detail generally makes a poor picture. Better to let the panorama be a background for something worth looking at in the foreground.

A foreground object—a single tree, a human being, a grazing cow, a nearby cottage on the mountain slope, often will make all the difference in a scenic picture between something interesting to look at and little or nothing.

Again, in nearby scenes, there is frequently material for two or even more complete pictures that the picture taker has crowded into one, with the result that the eye wanders from one point to another, producing a sense of irritation rather than of pleasure. All right in a three-ring circus, if you like, but not for a good photograph. Selection, leaving out what is not really required, is a lesson to be learned. The viewpoint should be chosen carefully, remembering that much that is extraneous may be eliminated, or at least made unobtrusive, by moving the camera to the right or left, up or down, nearer or farther away, by focusing from different planes, or by using different diaphragm openings in the lens.

But sometimes, you say, how can you help getting in several objects of competing interest when Nature or circumstance has them in the picture you want to take. It is true that this situation cannot always be easily avoided but, when you are confronted with it, you may find yourself lucky after all. Go ahead and shoot and then examine your print. Imagine a scene on a river. Your point of interest is a girl in a bathing suit about to dive from a row-boat in mid-stream. You have to snap the picture from the river bank fifty feet distant. You find when the print is finished that interest in the girl is rivaled by that in a small boy in the foreground at the right, fishing from the bank. Beyond, diagonally across the river on the left is a dam and picturesque old mill in a setting of willows. You have three pictures in one. What do you do? You take your print and mask each one of these interesting pictures from the two others, mark them and have the corresponding sections of the negative separately enlarged.

Many a fine picture is made by enlarging a selected portion of a miscellaneous composition.

JOHN VAN GUILDER

LIME

"(It Brings The Clover)"

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