

## Entomology.

## The Turnip Caterpillar.

SOME few weeks since we received a communication from a valued correspondent—Mr. A. Fisher, of the Windfalls of Blenheim, County of Brant, C. W.—respecting the ravages committed among the turnip crops in his neighbourhood and the adjacent township of Dumfries, by a multitude of small caterpillars; we have also been informed of their occurrence in the vicinity of St. Mary's, C. W. We regret that we have been obliged to defer affording him the information he desires regarding the name, etc., of this injurious insect, in consequence of our space having been so much engrossed by the all-absorbing topic of the recent Provincial Exhibition; however, what we now present to our readers, even though too late, perhaps, to be of much advantage this season, will we trust, prove serviceable, should these caterpillars make their appearance another year.

The flies he sent us, and which he considers to be the parents of the eggs from which these larvae are produced, prove, on examination, to be specimens of an (*Ophion purgalus*, Say), which, like all the rest of its family, is parasitic in its larval state on other insects. What he supposed, therefore, to be the depredators, were, in reality, their greatest enemies and our true friends, to whom, indeed, we no doubt owe it, that these noxious caterpillars have not spread over a greater portion of the country. His account, however, of the habits and appearance of the caterpillars affords us much valuable information, as he has been a careful and patient observer of them. He states that "the eggs are deposited on the under sides of the leaf, and vary from about 150 to 200 in number; they are of a light green colour, arrayed in symmetrical order on the under part of the leaf, generally near the tip, and fastened securely together and to the plant, by a viscous substance. These eggs, deposited at night, are hatched by the heat of the sun in a few days, and from them are produced numbers of little worms, at first of a pale greenish yellow colour, and less than an eighth of an inch long. These remain for a day or so on the leaf, and at first almost on the spot where they were hatched, eating only the under side of the blade; and in this way the numerous frayed leaves are caused, which is the first sure sign that the pestiferous insect host is upon the crop. In damp weather the caterpillars grow at a great rate; but from comparing their habits and progress last year with this, I am of opinion that the late scorching draught had the effect of considerably retarding their progress. This, at least, is true, that at this date last year (and the plague spots appeared first exactly at the same time this year, viz: about the 18th of August,) the worms had attained to nearly an inch in length; whereas I have not seen any of this year's brood above a quarter of an inch. Last year they committed most serious ravages in Dumfries, eating up first the leaves, and then the heads. They continued in force up to the time of the October frosts, and indeed till the turnips, or what remained of them, were lifted. In fact, if this creature is allowed to go on and multiply, it will become a pest no less fatal to the turnip, than the midge is to the wheat. The only way in which it can be kept down is by picking off the leaves when they appear infected. In this way a couple of children will destroy literally hundreds of thousands in one day, as the various broods which afterwards spread as single and independent foragers over the whole field, are at first congregated on one leaf. Many of my farmer friends have this year adopted this plan at my recommendation, and the result is that they have greatly, if not in all cases entirely, got rid of the vermin. Hand-picking, then, I believe is the only effectual remedy, and it ought to be resorted to at once, for the caterpillar in favourable circumstances grows at a great rate, and attains the size of an inch and a half, consuming every day more

than ten times its own weight, either of the leaves or bulbs of the turnip, which seem to be its special, if not only food. The end of this creature in the caterpillar form is a chrysalis, which state it assumes in October, and drops into the ground, where it remains till the next year, to come forth in multiplied armies in the winged state."

Such is Mr. Fisher's account of this destructive insect. From it we should judge (not having seen the larvæ or imago, as they have not occurred in our neighbourhood), that it is identical, or, at all events, an allied species, with the turnip-caterpillar of England (*Athalia centifolia*, Albin), which has often proved to be a most obnoxious insect enemy. It belongs to our old friends (or rather foes), the *Tenthredinidae*, or saw-flies—a family of Hymenoptera to which we have before referred in this department of THE CANADA FARMER, and in which a large number of our most destructive insects are included. So long ago as the year 1720, this insect was observed in England, and it is recorded that whole fields were at that time destroyed by it; in 1782 it was so numerous that many thousand acres were obliged to be ploughed up; and again in 1835, '36, and '37, it was exceedingly abundant and injurious. The fly is described by Professor Westwood as "a pretty yellow and black species, which first appears about the beginning of June, depositing its eggs within the parenchymatous tissue of the leaf, introducing her saw between the edges of the cuticle; and from which, in five or six days, the larvæ are hatched."

With regard to the best remedy for counteracting the ravages of these insects, we quite agree with Mr. Fisher in giving the preference to hand-picking; in very many cases, indeed, it has been proved to be the most effective mode of getting rid of insects. Children can be employed at a trifling expence to collect and destroy the caterpillars, and if this is done, as suggested, when they first appear upon the leaves, the numbers that can be thus got rid of in a short space of time, are almost beyond computation. Another remedy, kindly transmitted to us by a correspondent—Mr. Joseph Howes, of Nissouri,—is the following:—"Take a pound and three quarters of soap, a similar quantity of the flower of sulphur, two pounds of camphoons or puff ball, and fifteen gallons of water,—when the whole is well mixed by the aid of a gentle heat, sprinkle the insects with a small watering-pot, and it will instantly kill them." He also states that simple soap-suds have been found efficacious.

A remarkable circumstance in connection with these insects, has been mentioned by a writer in the "Philosophical Transactions." He states that the turnip saw-flies have been observed at times, proceeding in vast numbers from one part of the country to another, and even taking flight across the sea. A farmer declared to him that he saw them arrive in clouds, so as to darken the air; while the fishermen asserted that they had repeatedly seen flights of them pass over their heads when they were at a distance from land; and on the beach and cliffs, they were in such numbers that they might have been taken up by shovelfull. Three miles inland, they were described as resembling swarms of bees. This was on the east coast of England, many years ago. If this narration be correct, their singular propensity for emigration may account for their appearance in such widely-separated parts of the world, and at such irregular and unaccountable periods of time.

**BIRDS AND BATS.**—We know of nothing more cruel and heartless than the wholesale slaughter of the small birds so common in our towns. The farmer owes more to the birds than he is apt to admit. They destroy innumerable insects which would prey upon his fruits and injure his crops. If the robin, the cherry bird, the cat bird, or any other, is disposed to make a dive at the strawberry bed or the cherry tree, there are modes of preventing them from taking all. If they want a few, better let them have them than to kill them. Don't destroy the bats. They do an untold amount of good in catching the night-flying moths, some of which are the parents of the most destructive worms and insects; nor do they do any harm. There was a time when we, in common with most other boys, made a practice of striking down every bat we saw, with a sort of feeling that we were doing a good thing. It was a mistake, and we are sorry to have a single bat on our conscience. Bats do good and only good, and the farmer and the farmer's boy should be the last to harm them.—*New England Farmer*.

## The Household.

## Rules for Home Education.

THE following are worthy of being printed in letters of gold, and being placed in a conspicuous position in every household:

1. From your children's early infancy inculcate the necessity of instant obedience.
2. Unite firmness with gentleness. Let your children always understand that you mean exactly what you say.
3. Never promise them anything unless you are sure that you can give them what you promise.
4. If you tell a child to do anything, show him how to do it, and see that it is done.
5. Always punish your children for wilfully disobeying you, but never punish when you are angry.
6. Never let them perceive that they can vex you or make you lose your self command.
7. Never smile at any of their actions of which you do not approve, even though they are somewhat amusing.
8. If they give way to petulance and temper, wait till they are calm, and then gently reason with them on the impropriety of their conduct.
9. Remember that a little present punishment, when the occasion arises, is much more effectual than the threatening of a greater punishment should the fault be renewed.
10. Never give your children anything because they cry for it.
11. On no account allow them to do at one time what you have forbidden, under the same circumstances, at another.
12. Teach them that the only sure and easy way to appear good, is to be good.
13. Accustom them to make their little recitals the perfect truth.
14. Never allow of talebearing.
15. Teach them that self-denial, not self-indulgence, is the appointed and sure method of securing happiness.

**WHAT IS SALERATUS.**—Wood is burnt to ashes, ashes are lixivated, ley is the result. Ley is evaporated by boiling, black salts is the residuum. The salt under goes purification by fire, and the potash of commerce is obtained. By another process, we change potash into pearlash. Now put these in sacks and place them over a distillery wash-tub, where the fermentation evolves carbonic acid gas, and the pearlash absorbs it and is rendered solid; the product being heavier, whiter and drier, than the pearlash. It is now saleratus. How much salts of ley and carbonic acid gas a human stomach can bear and remain healthy is a question for a saleratus eater. Some people eat, saleratus will not harm the stomach. It is a ley.—*Ex.*

**A USEFUL HINT.**—A person leaving a warm room, and going into a colder, or into the open air, should carefully close the lips for a few minutes, until he has become, as it were, acclimated to the colder atmosphere, and breathe through the nostrils alone, by which the cold air is made to traverse the long, warm, nasal passage before it reaches the windpipe and vocal organs; and its temperature being thus raised, one common mode of "catching cold" is avoided. Most persons upon leaving a warm church or hot concert room immediately open their mouths to discuss the merits of those they have just heard, and many a severe cold is taken. It is equally common, but still worse, for a public speaker to do so, for his throat is more heated from his recent exertions, and he may, and often does, become hoarse for a month by such apparently trifling neglect.—*G. W. Smith's Clerical Eccelesion*.

**STRAWBERRY SHORT-CAKE.**—The following directions for making a strawberry short-cake are from Mrs. Noyes of the Oneida Community:

For a single cake (keeping, of course, the same proportions for larger quantities) take half a tea-cupful of sour cream; one cup of sweet milk; a small half tea-spoonful of saleratus, and flour enough to make a mixture somewhat softer than a common pie-crust. Spread it by patting with the hand (never with the roller) into a cake of the size of a pie-plate. Bake in twenty minutes. Sprinkle the cake while hot from the oven; spread the halves with butter (liberally, if it is good,) and cover them with strawberries, previously hulled and mixed with plenty of sugar. If the strawberries are large it is best to cut or smash them a little, so that they may be well sweetened. The cake thus prepared should be set in the oven two or three minutes before it is served, to harmonize the temperature of the berries with that of the cake.

"Of this dish," says "The Circular," from which the recipe is copied, "it may be said with more propriety than of Isaac Walton's baked fish, that it is too good for any but very honest people."