

## Entomology.

### The Pea Weevil.

A correspondent, "W. B. B.," writing from Smithville, C. W., requests us to furnish him with some information respecting the so-called "Pea Bug," and the best means of preventing its ravages. The term "bug," though popularly applied on this side of the Atlantic to insects of every kind and description, is only used by naturalists to denote those that belong to the order Hemiptera, the members of which are generally similar in appearance to the well-known but ill-favoured disturber of our slumbers. Those that belong to the other orders have their own proper English names, for instance, Beetles, Butterflies, Moths, Bees, &c. The insect before us is not a "bug," but a "beetle," belonging to the order Coleoptera, or Shelly-winged insects. It is distinguished from other families of beetles by the name of "Weevil," which includes all those hard-shelled insects whose head is prolonged into a long and slender snout, or broad muzzle, at the end of which the mouth and jaws are situated.

The "Pea Weevil" (*Bruchus pisi*, Linn.) is so fully described by Dr. Harris that we cannot do better than quote his remarks upon it, in a slightly abbreviated form. "In the spring of the year," he states, "we often find among seed-peas many that have holes in them; and, if the peas have not been exposed to the light and air, we see a little insect peeping out of each of these holes, and waiting apparently for an opportunity to come forth and make its escape. If we turn out the creature from its cell, we perceive it to be a small oval beetle, rather more than one-tenth of an inch long, of a rusty black colour, with a white spot on the hinder part of the thorax, four or five white dots behind the middle of



each wing-cover, and a white spot shaped like the letter T on the exposed extremity of the body." The accompanying cut shows the Weevil greatly enlarged, the stroke, at the side of the figure, indicating its natural size.

This insect belongs to a family of the great Weevil tribe called *Bruchidae*, the members of which feed on leguminous or pod-bearing plants, such as the pea, locust, lupine, mimosa, senna, etc. "During and immediately after the flowering season, they wound the skin of the tender pods of these plants, and lay their eggs singly in the wounds. Each of the little maggot-like grubs hatched therefrom, perforates the pod and enters a seed, the pulp of which serves for its food till fully grown."

"Few persons while indulging in the luxury of early green peas, are aware how many insects they unconsciously swallow. [The reader need not be alarmed; they are quite harmless when boiled.] When the pods are carefully examined, small discoloured spots may be seen within them, each one corresponding to a similar spot on the opposite pea. If this spot in the pea be opened, a minute whitish grub, destitute of feet, will be found therein. It is the Weevil in its larva form, which lives upon the marrow of the pea, and arrives at its full size by the time that the pea becomes dry. This larva or grub then bores a round hole from the hollow in the centre of the pea quite to the hull, but leaves the latter, and generally the germ of the future sprout, untouched. Hence these "buggy peas," as they are called by seedmen and gardeners, will frequently sprout and grow when planted. The grub is changed to a pupa within its hole in the pea in the autumn, and before the spring casts its skin again, becomes a beetle, and gnaws a hole through the thin hull in order to make its escape into the air, which frequently does not happen before the peas are planted for an early crop. After the pea-vines have flowered, and while the pods

are young and tender, the beetles gather upon them, and deposit their tiny eggs singly in the punctures which they make upon the surface of the pods. This is mostly done during the night, or in cloudy weather. The grubs, as soon as they are hatched, penetrate the pod and bury themselves in the opposite pea. Sometimes every pod in a pea will be found to contain a Weevil-grub; and so great has been the injury to the crop in some parts of the country, that its cultivation has been given up. These insects diminish the weight of the peas in which they lodge nearly one-half; this occasions a great loss where they are raised for feeding stock, or for family use. Those who eat whole peas in the winter after they are raised, run the risk of eating the Weevils also; but if the peas are kept till they are a year old, the insects will entirely leave them."

With regard to the mode of checking the ravages of this destructive insect, we cannot think that our correspondent's recipe is of any use whatever. He states that he was informed that "Buckwheat, sown thin amongst peas, would prevent bugs." A few of the Weevils might possibly attack the buckwheat, but it is most probable that they would unanimously prefer their accustomed and most natural food. An exceedingly simple remedy, however, has been recommended, but, like almost all insect remedies, to be successful it should be generally adopted. It consists merely in keeping the seed-peas in tight vessels, over one year, before planting them. Another remedy is to put them into hot water for a minute or two just before planting; this will kill the weevils, and quicken the sprouting of the peas. There is a danger, however, in this mode, of killing the sprout as well as the weevil. As the insect is limited to a certain period for depositing its eggs, Dr. Harris states that "late-sown peas escape its attacks. Those sown in Pennsylvania as late as the 20th May, were entirely free from weevils; while in Rensselaer County, New York, peas sown on the 10th of June, six years in succession, never had an insect in them."

"The crow black-bird," Dr. Harris adds, "is said to devour great numbers of the beetles in the spring; and the Baltimore oriole splits open the green pods for the sake of the grub contained in the peas, thereby contributing greatly to prevent the increase of these noxious insects. The instinct that enables this beautiful bird to detect the lurking grub, concealed as it is within the pod and hull of the pea, is worthy our highest admiration; and the goodness of Providence which has endowed it with this faculty, is still further shown in the economy of the insects also, which, through His prospective care, are not only limited in the season of their depredations, but are instinctively taught to spare the germs of the peas, thereby securing a succession of crops for our benefit and that of their own progeny."

### Insects and the Cholera.

THE appearance of epidemic disease in Europe has turned the attention of the fearful among its inhabitants to the features presented by that Insect Life which always surrounds them, cholera or no cholera, but which, to their imaginations, are novel and concomitant with the disease now raging among them. We find the following in the columns of a late European newspaper:—

"The northern departments of France are at this moment suffering from a pest which to them is about as disastrous as an invasion of locusts in Southern latitudes. Vast and innumerable swarms of lepidopterous insects, belonging to the family of Noctuidæ, will settle down on a field of beets, and not leave it as long as there is still a fibre of the root left. Fire, acids, and every other powerful agent have been tried against them in vain; notwithstanding the most unremitting toil and care the insect multiplies to an alarming extent, so as to threaten the total destruction of beet, endive and cabbages, fortunately the only vegetables it chooses to attack."

These lepidoptera could only be destructive to the vegetation in their larval state, when their jaws or maxillæ are adapted to the mastication of those plants which constitute their entire food. In this state they do not fly, but are crawling, worm-like bodies or caterpillars. In the "perfect" or "moth" state the maxillæ are developed into spiral tongue-like processes, through which, as through a tube or sucker, they imbibe the various juices which constitute their sole nourishment. The amount of food taken by butterflies and moths in their perfect states bears no

proportion to the quantities which their larvæ or caterpillars consume.

But we shall be able to draw a timely lesson from the apprehensions of Europe at this time, if we discard from our minds the fear that the prevalence of insects is a prognostic of disease, so that, if the cholera does visit our shores, we need not add to our causes of apprehension should our noxious insects be tolerably plenty next year, as, indeed, they always are in a greater or less degree.

Fear is a great detriment to a healthful body, and brings its own punishment in the greater liability of those who entertain it to take the very disease which they frightenedly seek to avoid. Let us then not be alarmed at anything we may see in the multiplication of insects next year, and be confident that had we only looked in years past, we should have seen the same destruction, so that we can firmly await the dispensations of a kind Providence, undisturbed by auguries of evil, and with a calmness which has its origin in our own common sense and in a knowledge that "He does not willingly afflict or grieve the children of men."—*Entomologist*.

INFUSORIA.—The polishing slate of Bilin, in Prussia, forms a series of strata 14 feet thick, and is entirely composed of the siliceous shields of infusoria, of such extreme minuteness that a cubic inch of the stone contains 41,000 millions of distinct organisms.—*Mantell's Thoughts on Animalcules*.

## Poultry Yard.

### How to Raise Turkeys.

A farmer's wife writes the *American Agriculturist* as follows—"In the first place, select a good kind. The autumn or early in winter is the most favorable time for that—just before the birds are sent to market. Keep them well during the winter; make pets of them if you like. Mine eat from my hand, and answer to my call. In the spring, a few days before they begin to lay (which is about two weeks after moulting), put them in an enclosure, where it is most desirable to have their nests, and where they can not get out. After they have made their nests, they may be let at liberty, without any fear of roaming or straying. Next, take good care of the eggs. They should be gathered carefully every day and placed between layers of flannel or cotton, in a place of uniformly cool temperature, and turned over every day. In spring, after the turkeys begin to lay, it is often cold enough to freeze the ground, when, if the eggs are suffered to lie out, they will become chilled, and will not hatch. In warm weather, it is not so necessary to protect the eggs. As soon as the birds are hatched, feed them with warm bread and milk, well peppered, with boiled eggs added; or with lopped milk, thickened with cooked corn meal, canaille (wheat middlings) which is better. A little care in these matters will repay all efforts. Before I knew how to take care of the eggs, I had 30 eggs one year, and but one of them hatched. The next year I set 40 eggs, and nearly all of them hatched, and the birds lived. At present prices, raising poultry is a much more pleasant and easy occupation than the slavish drudgery of making butter and cheese. At least such is the opinion of a Cayuga Co. farmer's wife.

LOSS OF FEATHERS IN FOWLS.—It has been observed that all kinds of birds, kept in a state of confinement, are particularly subject to an extensive loss of feathers, rendering them naked and deplorable. This is altogether different from moulting, inasmuch as the fall of the feathers in the latter is occasioned by the new ones shooting out from the skin and pushing the old ones off, as is the case when young animals shed their teeth. In the disordered state in question, on the other hand, when the feathers fall, no new ones appear, or if they do, they seldom push far above the surface of the skin, but remain as mere stumps, arrested in their growth. It is a disorder apparently similar to that which in horses is termed out of "condition," when the hair becomes shaggy, rough, and staring, and is constantly coming off.

As the disorder termed "loss of feathers," is evidently a constitutional and not a local affection, it would be idle to seek for remedies in external applications, though stimulants might, perhaps, aid the operation of internal medicines. Amongst the latter, such as are known to act on the skin, particularly sulphur and antimony, may be tried. Good keep and cleanliness, plenty of fresh water, and an open range, will do more than any other treatment to restore the loss of feathers. Forge water, or water from the gas-works, might probably be of advantage, given as drink.—C. N. BEMENT, in *Country Gentleman*.