

I can detect no difference between the English *cerella* and the American *cereana*. The honey-bee is not a native of America. It was introduced from Europe; and *cerella* or *cereana* was probably introduced with it.

The creature in its perfect state is a brownish moth, measuring when its wings are expanded about an inch across. In repose the wings hang down like the sides of a table. The fore-wings are longer than the under wings, and appear as if roughly squared off. The female has a beak-like formation on the head, and a remarkable ovipositor which works with a telescopic motion enabling it to deposit its egg in crevices, out of harm's way. There are two broods; the first of them appears in May, and the second in August. If you take your stand by the hive at the close of the day, you may see the female moths hovering with a bee-like motion near the entrance of the hive. Their object is to dart between the guards, and find their way to the interior. Notwithstanding their amazing agility, they do not always succeed in this. I have more than once seen *Achroia grisella* seized by the bees, and torn to pieces with the utmost fury; and I doubt not that *G. cereana* often meets with the same fate. When the door of the hive is passed, however, the chief danger is over; and the moth proceeds to lay its eggs in suitable places within the hive. It is wonderfully tenacious of life: Langstroth tells us that Mr. Tidd of Boston, Mass., cut a female in two, and the abdomen went on thrusting out its ovipositor, and depositing eggs, in the slits which Mr. Tidd made with his penknife in the board on which it lay.

The larvæ, as soon as they burst from the egg, begin to spin silken tubes or covered ways, sheltering themselves under their work, and pushing it forward, extending the covered galleries through the hive to the broodcomb, on which they thrive most. In appearance they are waxen grubs with horny heads.

They are slightly hairy; and I imagine that the hairs serve as feelers. At any rate, the creatures are extremely sensitive darting back into their galleries—or, if exposed, throwing themselves into the most violent contortions—at the slightest touch. What Réaumur says of the moths I may say also of the caterpillars. "They are the most nimble-footed creatures that I know."

The bee-moths delight in ill-constructed hives in which there are accumulations of old comb. Their presence in any number is a sure sign of weakness in the rightful inhabitants. A hive in which they have well established themselves has a very offensive smell.

To keep them under, the modern hives with moveable frames should be used. Affected comb should be cut away and destroyed. It should be remembered that masses of web and broken comb thrown on the refuse heap will afford both food and protection to any larvæ that may remain in them; and in due time perfect insects will come forth to invade the hives again.

#### THE GRAIN MOTH.

##### III.

We will lastly consider the insects which affect the farmer through his stores. "When goods increase they are increased that eat them, and what good is there to the owners thereof saving the beholding of them with their eyes." *Ecc. V. II.*

Solomon said this with reference to the human parasites and adherents of the rich; but it is true also as regards the insect world.

Among the insects that damage the farmer's stores are various species of *Tinea*.

#### TINEA GRANELLA.

This, in its perfect state, is a small moth which is about  $\frac{1}{3}$  of

an inch long. It has glossy fore-wings, marbled with grey and brown, and spotted. Its hind wings are dark. There are two broods in the year. The first appears in May and the second in August.

The caterpillars as soon as they are hatched begin to eat the grain, and to spin a web, mingling with it the rejected fragments of their food, and, as they increase in size, the grain itself. Where the creatures abound, the whole surface of the grain in the bin will be found tangled into a crust of webs and damaged grain.

The caterpillars that do the mischief are yellow or buff in colour, and have reddish heads. When full-grown, they are half an inch long. They creep into some nook or crevice to spin their cocoons, which are about the size of a kernel of wheat. The chrysalis is brown and shining.

To remedy, in a measure, the effects of the caterpillar, the grain should be passed through the fan. To prevent them, it should be kept in barrels or small tight bins, in cool and dry apartments.

There is another very small but very destructive grain-moth met with in the states.

#### THE ANGOUMOIS MOTH (*Butalis cerealella*)

The larva of this eats out the heart of corn and wheat, and becomes a chrysalid in the hollowed grain.

Kiln-drying and fumigation have been tried for the destruction of the creature. But "prevention is better than cure," and early threshed and safely stored grain is likely to escape the ravages of the insect.

#### THE CHEESE FLY (*Piophilæ casei*)

This is a very small fly only  $\frac{3}{20}$  of an inch in length. It is glossy black, and has transparent wings. Its hindmost and middle legs are yellowish.

The maggots are well known. Some epicures do not regard them as disadvantages; indeed they go so far as to consider the cheese improved by their presence. Perhaps if they saw the creatures through a microscope they might not relish the cheese so well. A good deal depends upon how we see things.

A philosopher thus viewing one;

"We turned the instrument up and down

Till getting a proper sight he

Exclaimed—as he gazed with a puzzled frown—

"Good gracious" and "Highly-tighty,"

"The sight is enough to alarm the town,

A mite is a monster mighty."

From t'other end, of the tube, the mite

Regarded our scientific,—

To his naked eye, as you'll guess, the sight

Of a man was most terrific,

But reversing the microscope, made him quite

The opposite of "magnific."

"One sees the truth through this tube so tall,"

Said the mite as he squinted through it,

"Man is not so wondrously big, after all,

If the mite-world only knew it."

#### MEMORANDUM.

Whether a thing is large or small

Depends on the way you view it."

—*Fun in Science and Practice Vol. II. No. II.*

#### THE MEAL MOTH (*Pyralis farinalis*)

#### THE CLOTHES' MOTH (*Tinea vestianella*)

THE FUR MOTH (*Tinea pellionella*) and some others, are more or less mischievous; but their intrusions are upon the domestic department; and remedies against them are known to every careful housewife.