

FERNDALE SCHOOL.

SOME FLIES.

Flighty, fitting, fluttering fly!
Whence, and whether, and how, and why?



THE OX GAD FLY.—(Magnified.)

TEACHER.—We have studied this fly before. (ED. REV. Jan., 1888 and Jan. 1890.) From the enlarged drawing you can make out the three parts of its body.

SCHOLARS.—The head, the thorax and the abdomen.

T. The two wings and six feet are attached

S. To the thorax.

T. It belongs to the order *diptera*, we know from

S. Its having only *two* wings—*di* standing for *two* and *ptera* for *wings*.

T. Two small, club-shaped objects, the rudiments of another pair of wings are seen behind the wings. You remember we called them “balancers,” because we could scarcely imagine any other satisfactory use to which they might be put.

JACK.—But many flies have *four* wings. Perhaps the balancers are only a hind pair broken off.

T. But then you see that the *four winged* flies—the *Hymenoptera*—never become two winged by breaking off a pair of wings. Who ever saw a two winged bee, or wasp, or sawfly? And then the “Daddy-long-legs” has a pair of balancers behind his two wings so long that they do not look like the base of wings at all.

THE HOUSE FLY.—(*musca domestica*.)

There are plenty house flies about in August. You can all get specimens, and no one will complain of your cruelty to them, considering how cruelly they tease us. What differences do you notice between the house fly and this figure?

S. The three parts of the body are very much more distinctly separated,

T. The wings

S. Are differently veined.

T. The “balancers”

S. Are scarcely noticeable.

T. The skeleton of the fly, like all insects, and like the lobsters, is its outside covering.

S. Is the hard covering thin bone?—it looks blackish.

T. No. It is more like a thin sheet of horn, and called *chitin*—pronounced like *ki-tin*.

S. The thorax of the fly is made then of a tubular piece of chitin.

T. There are no less than 51 different pieces of chitin, jointed together in the thorax and each has its name. But we will leave the finer anatomy of the fly until you wish to take it up in college, or when you have leisure. Small, strong muscles run up from the firm shell of the thorax to the base of the wings, which give them the motion necessary for flight.

S. How fast can they move their wings?

T. Faster than a boy can his arms.

S. Yes. A boy can hardly move his arms like a wing faster than once per second.

T. Very good. By very interesting experiments it has been shown that the house fly may move its wings nearly 600 per second. It generally flies about five feet per second; but when alarmed can go 30 or 35 feet per second—one-third of the speed of a swift race horse.

S. And how many little eyes are there in its two great compound eyes? You told us there were a great many.

T. About 4,000. But like the number of strokes of the wing, you can hardly realize it. When we get our school microscope we will have a look at these small eyes and at some other things about the fly, and you will all have to draw what you see. One thing more, let us try to see. How the fly eats.

S. I see it stretch out a sort of a trunk with a broad end.

T. Yes. It has no biting parts in its mouth. Only a trunk through which it can send down a liquid if necessary, and then suck up its food when it is dry. This trunk we shall examine when we get our microscope, and we shall see then who can make the best drawing of it.

LIFE HISTORY OF THE HOUSE FLY.

JACK.—Why are there so many house flies during this hot weather, and where do they all come from?

T. A very good question. They are more numerous in some places than in others, and there is a reason for it, don't you think?

S. Yes. There is a reason for everything.