Man's Deadly Enemy--The Fly

Spreads disease far and wide and causes many thousands of deaths annually. One fly now means millions a few weeks later.

By B. K. Mann

"Baby Bye, here's a fly!
Let us watch him, you and I.
There he goes, on his toes,
Tickling, tickling baby's nose."

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THAT little old ditty and scores of others like it dedicated to the fly have led most of us to believe that this winged insect is one of the beauties of nature and a joy forever, when as a matter of fact it is a pestiverous pest and to its activities can be traced much of the disease and death of the world.

It is estimated that in New York City last summer nearly 8,000 deaths from typhoid fever and other contagious diseases were due to the spread of dangerous germs by the musca domestica, as this diminutive bit of creation is known to science. Ir Chicago, half that many deaths were probably due to the fly, and in other cities a like proportion, while throughout the United States many tens of thousands of men, women and children die every year because of the fly pest. If the death toll that the world pays to the fly could be counted up, it would be found that the sacrifice mounts up into the hundreds of thousands of humans every year.

Scatters disease far and wide.

THIS winged mite breeds in the deadliest filth, manure, offal, excrement, decayed garbage and the like, it feeds on it and carries it and its death-dealing germs everywhere with comparative freedom, even to "tickling baby's nose" and depositing infection that helps to increase the enormous mortality of infants every summer season. We are alert to the dangers of the mosquito and boards of health everywhere are fighting it vigorously, yet science says that the fly is much the more dangerous of the two. If men and women were alive to the danger in the fly, there would be no temporizing with it—there would be instituted at once this very spring a war of extermination which would be waged without let-up until the very end.

Both by its habits and its anatomical structure the fly is adapted to the spreading of disease germs. Almost without exception all kinds of flies are bred in filth of one sort or another. Also every known sort of fly feeds upon filth; the pest has a keen scent, if that term may be used, for filth, and will go straight to it if there is any within a hundred yards or so, and crawl around on it and feed on it. The fly's body and legs are especially well adapted to accumulating disease germs from this filth and carrying it. On each of its legs the fly has two pads that secrete a sticky fluid; this sticky substance goes to the tips of about 1,200 fine hairs on each of the six legs and all told there are 7,200 individual hairs, whose sticky ends are splendidly adapted to collecting filth and germs. This flying microbe collector proceeds with its filth to human habitations and there deposits untold thousands of germs as it crawls over meat and bred and fruit and vegetables or swims in the milk and wades through the butter.

Disgusting? Yes, and dangerous. But just the same, we will allow the fly to go on this summer as in other summers, scattering disease and multiplying death, unless we wake up very suddenly to the seriousness of the pest.

What scientists say.

THIS so-called harmless insect is one of the chief sources of infection which in New York City causes annually about 650 deaths from typhoid fever and about 7,000 yearly from other intestinal diseases," said Dr. Daniel D. Jackson of New York in a report made last year upon the danger of the fly pest.

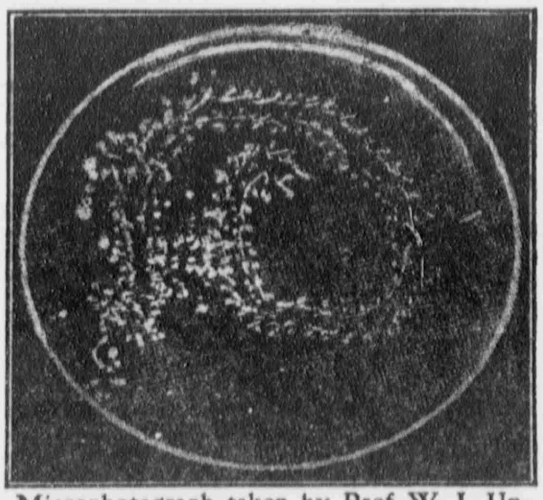
"The relationship between the activity of flies and the deaths from typhoid fever and other intestinal diseases is proved. Several epidemics of dysentery of a malignant type have been known to radiate from a single point and to disappear entirely when disinfection was enforced. On several occasions the writer has traced local epidemics of typhoid fever to transmission by flies, and by staining fluids demonstrated the transit of flies from the latrine to the kitchen with their germ burden.

"They are attracted equally by food and filth, and this commingling of tastes makes the ominous buzzing in the pantry much more to be dreaded than the high-keyed note of the mosquito in the sleeping room above."

Enlarged view of head and feet of fly monster, showing how excellently it is adapted to gathering microbes.

This same scientist, Dr. Jackson, captured a fly last summer on South street, New York, which upon examination was found to be carrying in its mouth and on its legs over one hundred thousand disease bacteria. He had been walking over decaying matter and was probably on his way to the nearest milk pitcher when caught.

At the time of an epidemic of typhoid fever in Chicago in 1902 the health authorities satisfied themselves that flies were responsible for its spread. At that time a lot of flies were captured at random in the typhoid district, and put in eighteen different tubes. In five of these tubes were found typhoid germs in large numbers.



Microphotograph taken by Prof. W. L. Underwood showing the bacteria deposits made by a house fly in walking across a glass of beef jelly. There were many millions of disease germs in these tracks.

When the Eighth United States cavalry was stricken with typhoid at its camp in Puerto Principe the authorities came to the unquestionable conclusion that the disease was not due to bad water, but to flies. That regiment had more than 250 cases of typhoid, many of them fatal, before the epidemic was stamped out.

In a report made to the city authorities of New York, Dr. Jackson, who is quoted above, made the following statement:

"We have estimated that proper sanitation as to flies will reduce the typhoid deaths in New York from 650 to 360 a year, and the diarrhoeal deaths from 7,000 to 2,000 a year. This latter figure provides that germ-infected flies are not permitted to contaminate the milk supply either before it reaches the city or after. This saving of over 5,000 lives a year will also be accompanied by the additional saving of some 50,000 cases of sickness."

Contagion mystery explained.

THE source of contagion in so many typhoid epidemics is often a mystery. Most of these epidemics may be attributed to the fly pest. Flies probably poisoned the milk supply of the community or other foods, filling it with millions of dangerous bacteria.

Some time ago Prof. William L. Underwood of the Massachusetts Institute of Technology made an interesting experiment to determine the disease carrying habits of the fly. He induced a chance fly to walk over a glass of beef jelly and then he took a micro-photograph of its tracks. In the few seconds in which the fly promenaded back and forth over the jelly it deposited millions of dangerous disease germs. The photograph is reproduced herewith. Each light spot in it represents a colony of germs, greatly enlarged, of course. Professor Underwood estimated that one of these colonies contained 46,000,000 germs of typhoid fever, diphtheria, malaria and other diseases.

It has been conclusively shown that many of the cases of typhoid attributed to defective plumbing are not to be laid at the door of the plumber, but the fly. Without reservation, Prof. L. O. Howard, entomologist of the U. S. department of agriculture, makes the above statement, and he adds that the fly is the principal agent in the spread of typhoid above all others.

Little, but oh my!

THE fly is little, but it is so numerous that its numbers more than make up for its littleness. It is short-lived, also, but it multiplies marvelously. Its rapid breeding makes it dangerous and demands a united fight upon it.

It is conservatively estimated that an average female fly will lay at least 120 eggs, although some put the figure at 1,200 for the season. There are about ten generations of flies in a season. If these factors are put together, it can be seen that under favorable circumstances one single fly will produce offspring whose numbers are almost beyond belief.

Just to illustrate: If it were supposed that each fly that is hatched were to live and reproduce its 120 flies and each of these were to live and reproduce its 120, the resulting offspring would number up into the quintillions. The first fly would produce 120; these would produce 120 times that, or 14,400; the fourth generation offspring would be 1,728,000; the fifth, 207,360,000; the sixth, 24,883,200,000; the seventh, 2,985,984,000,000; the eighth, 358,318,080,000,000; the ninth, 42,998,169,600,000,000; the tenth, 5,159,780,352,000,000,000.

Would cover the world.

THESE figures are so enormous that they do not mean anything but unbelievable immensity to the average person, and yet, one fly would produce that number of offspring in a single season if nothing happened to prevent.

This enormous number of flies, counting twenty flies to cover a square inch, would cover an area of more than 64,000,000 square miles, twenty times the area of the United States! A single fly and its offspring, unmolested, would in one season cover an area of more than 64,000,000 square miles, twenty times the area of the United States! In the same time several flies, unmolested, would cover the face of all known land, and make of the seas also a solid mass of flies.

Fortunately, the fly meets with many accidents in the course of its existence and only a small percentage reach maturity, and yet at that they multiply tremendously when unmolested.

On the other hand, when you annihilate a fly, you destroy potential billions of flies. The evil is great, but its prevention is comparatively easy.

The American people have so far considered the fly chiefly as a joke. Some day it will be looked upon as one of man's worst enemies and dealt with accordingly. Science is calling for a crusade against the pest and the sooner mankind generally falls into line, the sooner will the enormous sacrifice of life to the fly pest be ended.