

House Fly



House fly. Photo courtesy of Alex Wild, alexanderwild.com.

The house fly, *Musca domestica*, is the commonest of all the flies found around humans. The house fly's association with humans dates back to the origins of agriculture and animal domestication, particularly horses. Unfortunately, this fly can carry a wide variety of microbes that cause disease.

Adult house flies are about $\frac{1}{4}$ inch (5-7 mm) long. The most distinctive feature of this fly is the color of the abdomen, which is reddish toward the base with a dark line down the middle. In addition, the thorax is gray, with four dark lines down the back.

Each female house fly can lay about 500 eggs in her two-week lifespan, and if half of these are female, these 250 females can then each lay 500 eggs resulting in as many as 125,000 offspring. In the summer the time from egg-laying to a new adult can be as short as two weeks depending on the temperature! Thus, in two months that single female and her offspring could produce a huge number of offspring! And that's just one female house fly.

The maggots can complete their development from egg to

adult in as little as one week. At the end of the last larval stage the maggots crawl to a dry, cool place and transform into pupae. Adult flies can emerge from the pupae in as little as 3 to 6 days depending on the temperature.

In the Sacramento Valley house fly populations build to huge numbers by the end of summer, feeding on a variety of materials that become abundant during this season, including tomatoes and other vegetables left in the field after harvest, poultry manure, garbage dumps and compost piles.

House flies generally feed on liquid or semi-liquid substances, but they can also liquefy solids by salivating on them or by regurgitating their stomach contents on the food. The stomach contents include digestive enzymes, plus what they fed on previously. Depending on what they fed on before, such as fecal material, this could be a really bad thing. Think of having a house fly land on your hamburger after it's visited a nice pile of dog feces. Because they feed often, they poop constantly, another factor that makes house flies dangerous carriers of pathogens.

Two of the most important inventions in human history are indoor plumbing and window screens. These two inventions changed our relationship with house flies. Prior to the invention of both, the leading cause of human death and illness was due to pathogens carried by house flies. House flies are capable of carrying more than 100 human pathogens on their bodies, as well via their regurgitation and feces. Pathogens carried by house flies include bacteria that cause typhoid, cholera, salmonellosis, and bacterial dysentery, as well as the eggs of parasitic worms, and the Protozoa that cause giardiasis and amoebic dysentery.

So next time you go to a picnic and see a house fly land on your hamburger you'll have a very different appreciation for this lowly insect.