

A **zoonosis** (plural **zoonoses**, or **zoonotic diseases**) is a parasitic disease which is found among the vertebrates, i.e. a parasitic disease transmitted among warm blooded animals/vertebrates and there is a potential risk of transmission of these diseases from other vertebrates to humans (**Anthropozoonosis**) and vice versa from humans to other vertebrates (**Zooanthroponesis**).

Anthropozoonosis

- **Trypanosomiasis**
- **Leishmaniasis**
- **BSE**
- **Bird flu**
- **Plague**
- **Covid 19**

Zooanthroponesis

- **Staphylococcus aureus,**
- **influenza A virus**
- **Tuberculosis**
- **Cryptosporidium parvum, and**
- **Ascaris lumbricoides**

Hyperparasite: A parasite whose host is a parasite,
Nosema parasitizes digenean trematodes which in turn is
a parasite of fishes



Housefly

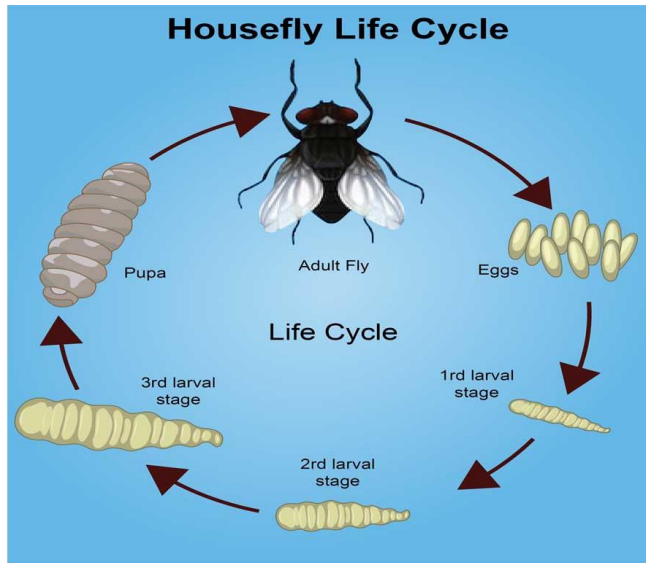
Scientific classification

Kingdom:	<u>Animalia</u>
Phylum:	<u>Arthropoda</u>
Class:	<u>Insecta</u>
Order:	<u>Diptera</u>
Family:	<u>Muscidae</u>
Genus:	<u>Musca</u>
Species:	<i>M. domestica</i>

Binomial name

Musca domestica

[Linnaeus, 1758](#)



The life cycle of a house fly begins in the egg stage.

Eggs:-A female house fly is capable of laying up to 150 eggs in a batch. Over a period of a few days, she will produce five or six batches of eggs. Female house flies favor damp, dark surfaces such as compost, manure and other decomposing organic material for egg laying. House fly eggs resemble individual grains of rice.

Larva :-Within a day, house fly eggs hatch into larvae, also known as maggots. Maggots are legless, white insects that feed from the egg-laying site for three to five days. During this time, maggots molt several times. They then choose a dark place to pupate.

Pupa:- Fly pupae are similar in function to butterfly cocoons: their hard, brown shells protect the inactive, developing flies.

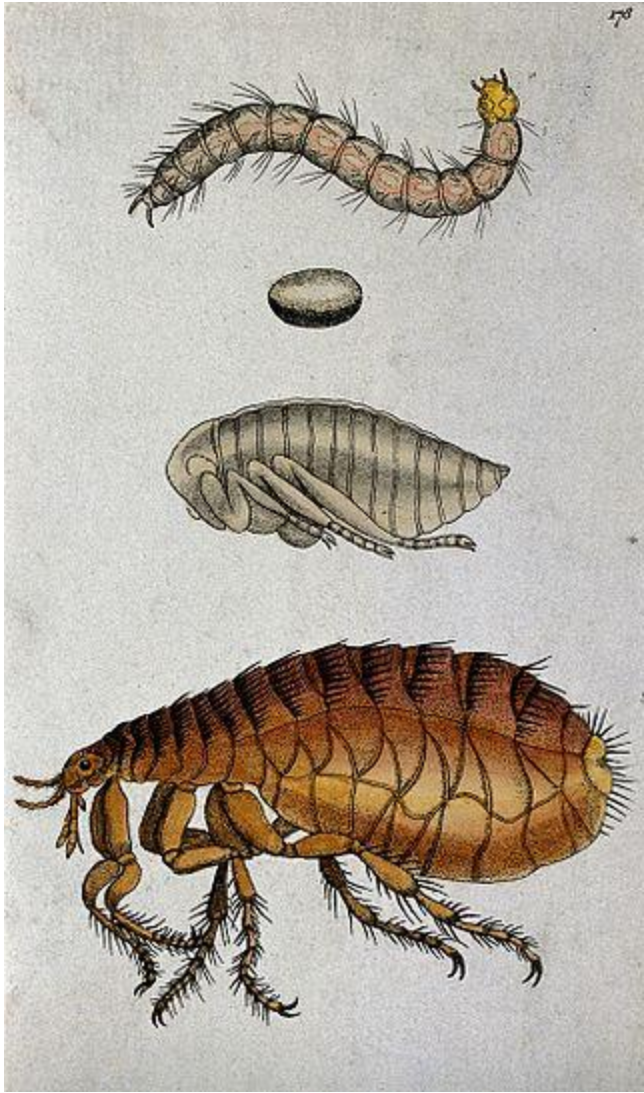
Adults:-Over the course of three to six days, the pupae develop legs and wings, ultimately emerging as full-grown house flies. Within two to three days, female house flies are capable of reproduction.

Houseflies as Vectors of diseases:- House fly can fly for several kilometers from their breeding places, carrying a wide variety of organisms on their hairs, mouthparts, vomitus, and feces. Parasites carried include Cysts of Protozoan parasites—e.g. *Entamoeba histolytica* and *Giardia lamblia* and Eggs of Helminths— e.g., *Ascaris lumbricoides*, *Trichuris trichiura*, *Hymenolepis nana*, and *Enterobius vermicularis*.

Houseflies do not serve as a secondary host of any bacteria of medical or veterinary importance, but they do serve as mechanical vectors to many pathogens, such as those causing typhoid, cholera, salmonellosis, bacillary dysentery, tuberculosis, anthrax.

Control of House fly

1. One approach is the **elimination as far as possible of potential breeding sites**. Keeping garbage in lidded containers and collecting it regularly and frequently, prevents any eggs laid from developing into adults. Unhygienic rubbish tips are a prime housefly-breeding site, but if garbage is covered by a layer of soil, preferably daily, this can be avoided.
2. **Physical controls** include screening with small mesh in windows and doorways to prevent entry of houseflies into buildings.
Fans to create air movement or air barriers in doorways can deter houseflies from entering, and food premises often use fly killing devices.
3. **Insecticides can be used**. Larvicides kill the developing larvae, but large quantities may need to be used to reach areas below the surface.



Flea, the common name for order **Siphonaptera**, includes 2,500 species of small flightless insects that survive as external parasites

As a vector

Fleas act as vectors of various bacterial, viral and rickettsial diseases of humans and other animals as well of protozoan and helminth

- Bacterial diseases carried by fleas include murine or endemic typhus and bubonic plague.
- Fleas can transmit Rickettsia typhi, Rickettsia felis, Bartonella henselae, and the myxomatosis virus.

They can carry Hymenolepiasis tapeworms and Trypanosome protozoans.

The chigoe flea or jigger (Tunga penetrans) causes the disease tungiasis, a major public health problem around the world.^[36] Fleas that specialize as parasites on specific mammals may use other mammals as hosts; thus, humans may be bitten by cat and dog fleas.

Xenopsylla cheopis, can carry the Yersinia pestis. The infected fleas feed on rodent vectors of this bacterium, such as the black rat, *Rattus rattus*, and then infect human populations with the plague, as has happened repeatedly from ancient times.