



Lecture (6)

Insect as pests



Insect pests

- **Pests**, are organisms that come into conflict with humans.
- The current philosophy of contending with insect pests is to minimize damage using as many different techniques as possible without injuring the environment.
- **In order to protect our self from biting and disease carrying insects, we have devised methods to alter normal population growth of many insect pests by reducing their chance for survival.**

Examples of Pests of phylum Arthropods

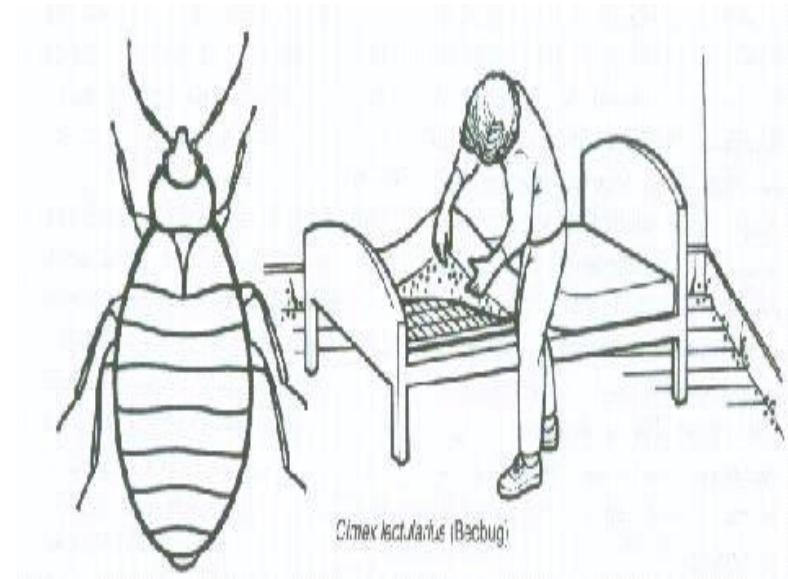
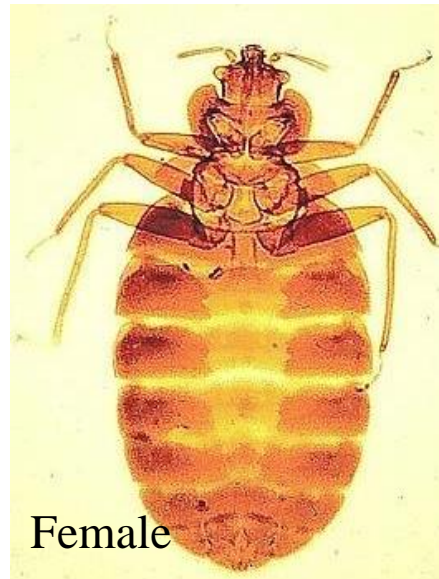
eg. 1. *Cimex* sp.

...Bed bugs are parasitic insects that prefer to feed on human blood. The name of the "bed bug" is derived from the insect's preferred habitat of houses and especially beds or other areas where people sleep.

Bed bugs are mainly active at night (nocturnal).

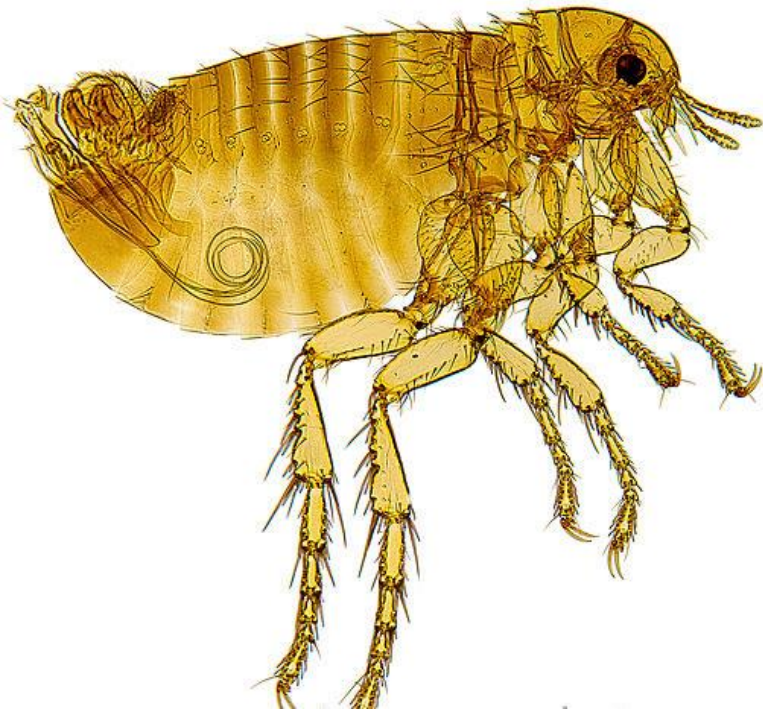
...Bed bugs are obligatory hematophagous (bloodsucking) insects.

...A number of adverse health effects may occur due to bed bug bites, including skin rashes, psychological effects, and allergic symptoms

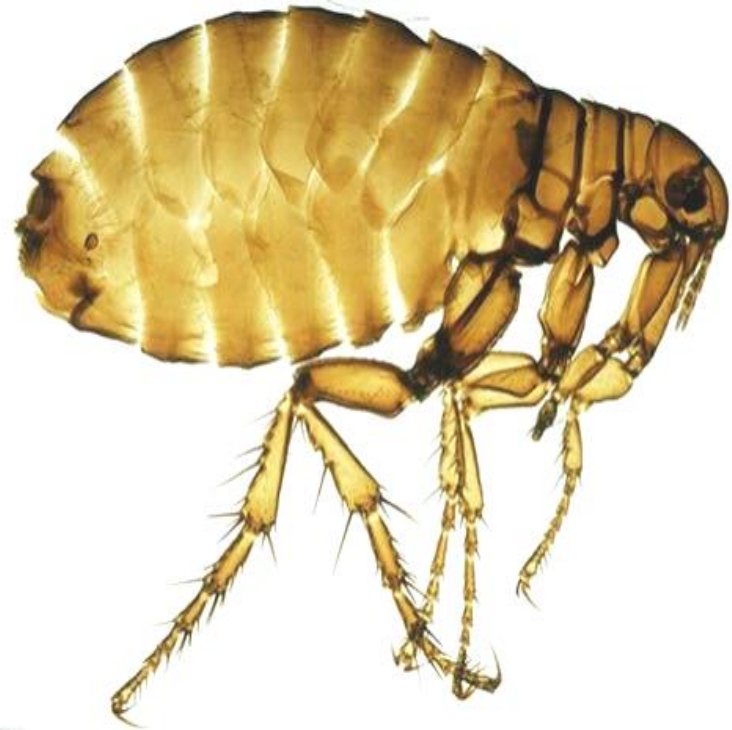


eg. 2. *Pulex* sp.

...Human fleas, a group of blood sucking insects that are important carriers of disease and can be serious pests. Fleas are parasites that live on the exterior. They are the transmitter of plague and typhus



Male



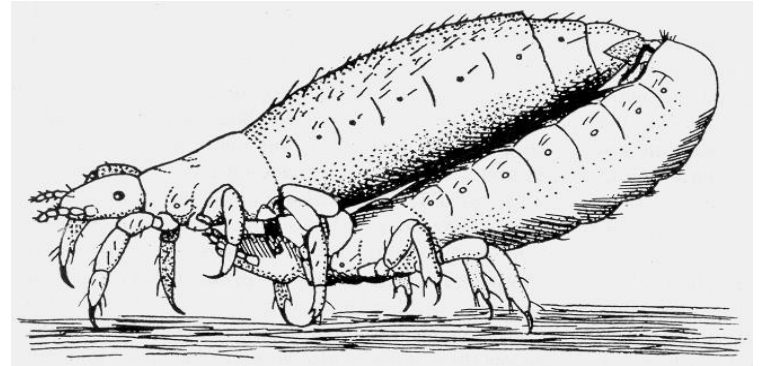
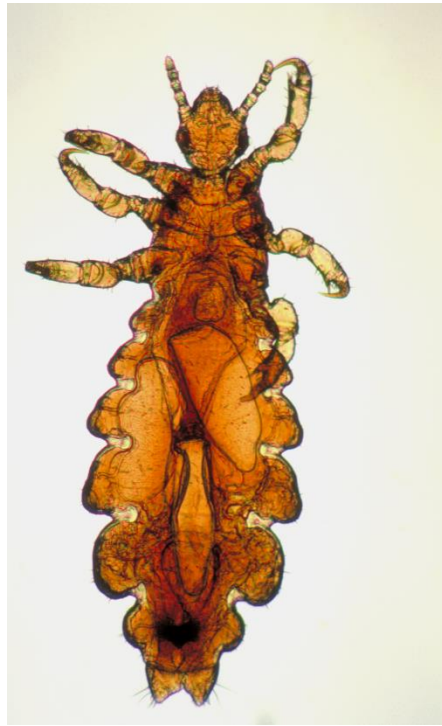
Female

eg. 3. *Pediculosiss capitis* (Head lice)

...Head lice are spread through direct head-to-head contact with an infested person. From each egg or "nit" may hatch one nymph that will grow and develop to the adult louse.

...Lice feed on blood once or more often each day by piercing the skin with their tiny needle-like mouthparts. While feeding they excrete saliva, which irritates the skin and causes itching.

...Lice cannot burrow into the skin.



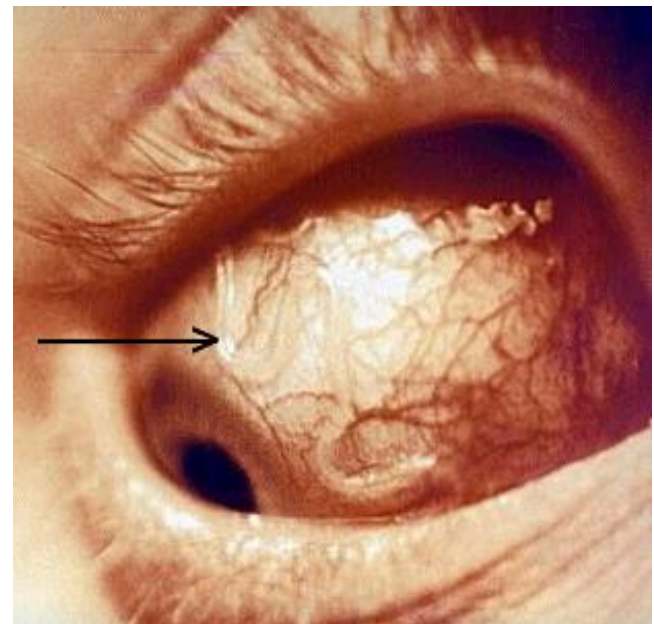
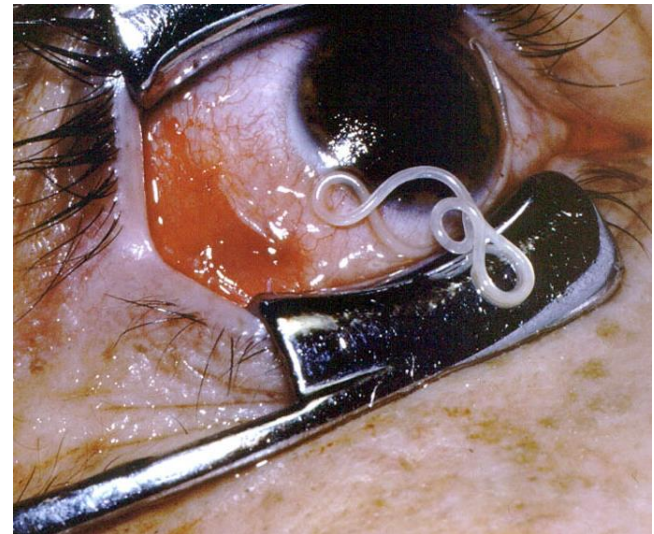
***Loa loa* filariasis (Class Nematoda)**

...Also known as loiasis, loaiasis, Calabar swellings.

...Is a skin and eye disease caused by nematode worm, loa loa. Humans contract this disease through the bite of a Deer fly or Mango fly (*Chrysops* spp), the vectors for *Loa loa*.

...*Loa loa* does not normally affect one's vision but can be painful when moving about the eyeball or across the bridge of the nose. The disease can cause red itchy swellings below the skin called "Calabar swellings".

The disease is treated with the drug diethylcarbamazine (DEC), and when appropriate, surgical methods may be employed to remove adult worms



Heartworm (*Dirofilaria immitis*)

...Is a parasitic roundworm that is spread from host to host through the bites of mosquitoes. The heartworm is a type of filaria, a small thread-like worm. The definitive host is the dog but it can also infect cats and humans.

...The parasite is commonly called "heartworm"; the adult actually resides in the pulmonary arterial system (lung arteries) for the most part, and the primary effect on the health of the animal is a damage to the lung vessels and tissue. Occasionally, adult heartworms migrate to the right heart and even the great veins in heavy infections.

...Heartworm infection may result in serious disease for the host. Prevention of heartworm infection can be obtained through a number of veterinary drugs. The drugs approved for use in the US are ivermectin

