

2. Class: Arachnida Characteristics:

1. Arachnids are free living animals mostly on land, some live in water and few are ectoparasites, like, Mites and Ticks.
2. Body divided into two distinct regions as follow:
 - a) Cephalothorax derived from the fusion of head and thorax. It bears two kinds of eyes, lateral and median eyes, walking legs and two cheliped.
 All Arachnids have eight legs, but Antennae and Wings are not found.
 - b) Abdomen is segmented.
3. Reproduction is sexual. Lifecycle includes indirect growth. The larva is called nauplius that has six legs only and undergoes moulting.

Egg -on land- → Nymph larva → Adult.

A-Order: Scorpionidea

Family: Buthidae

Buthus sp. (The scorpion)

1. Cephalothorax covered dorsally by carapace and bears a pair of chelicerae, a pair of pedipalps and four pairs of walking legs.
2. Abdomen with six broad segments anteriorly, followed by six narrower that ends in sting, which held over the back when the animal walks.

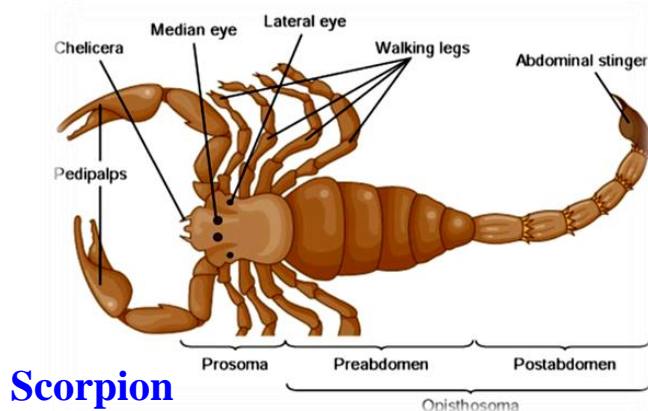
B- Order Araneae (spiders)

Family: Pholcidae

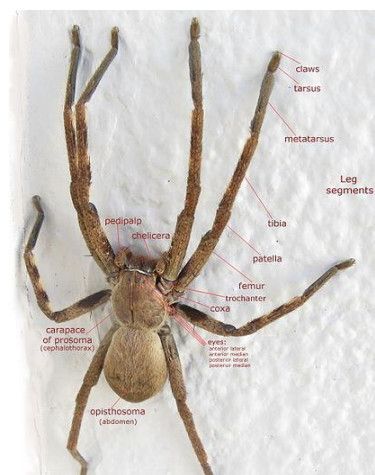
Pholcus sp.

1. Cephalothorax bears a pair of chelicerae, a pair of pedipalps and four pairs of walking legs.
2. Abdomen joined to cephalothorax by slender pedicel

Poison apparatus opens on the fangs of the chelicerae, Silk apparatus always present at end of abdomen, below anus.



Scorpion



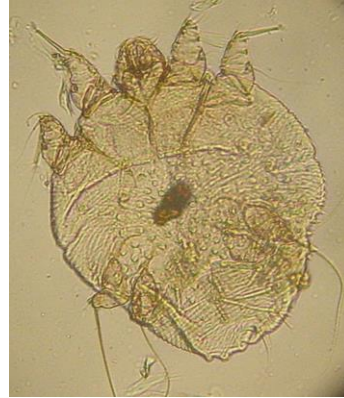
Spider

Class: Arachnida**Order: Acari (mites and ticks)**

1. Cephalothorax bears four pairs of legs in adults; only three pairs at hatching.
2. Abdomen broadly joined to cephalothorax (no pedicel).

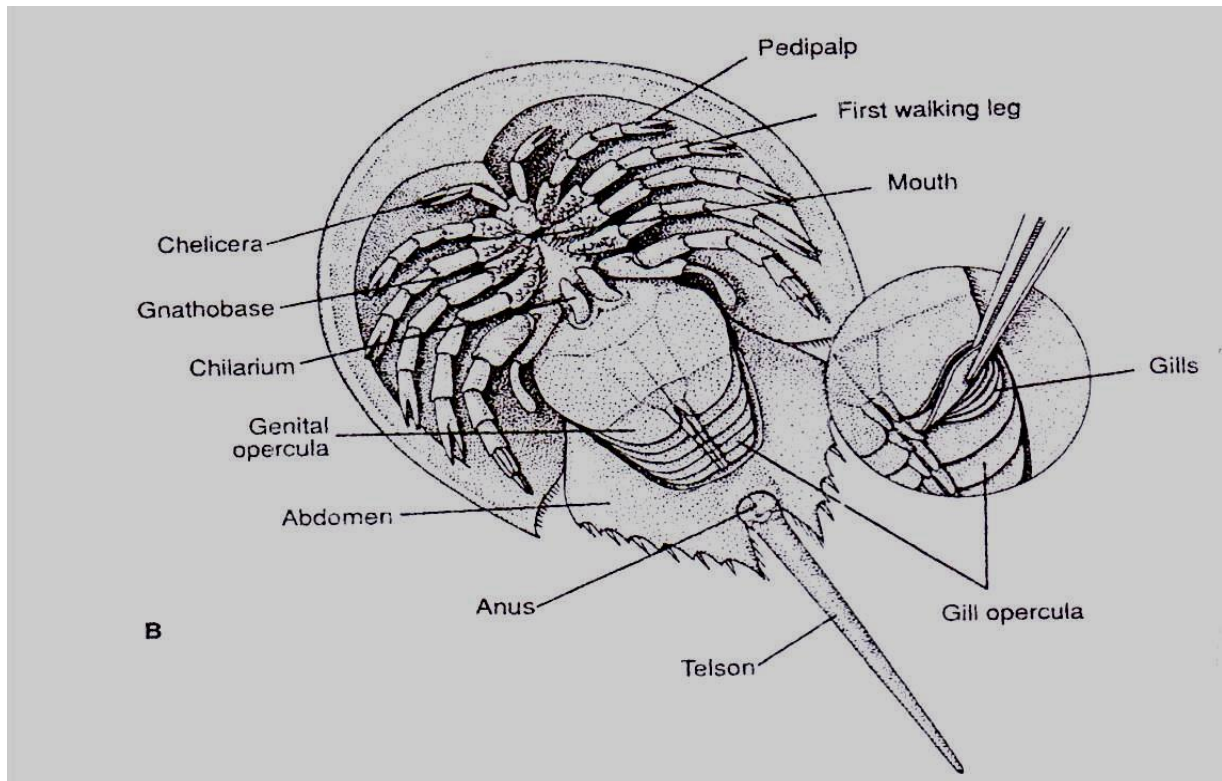
Tick ex. *Amblyomma americanum*

Mite ex. *Sarcoptes scabiei*

**2- Class: Merostomata****Order: Xiphosura****Family: Limulidae*****Limulus sp.* (horseshoe crab)**

1. The body consists of unsegmented cephalothorax and segmented abdomen.
2. They have unsegmented horseshoe-shaped carapace (hard dorsal shield) and a broad abdomen-which has a long **telson** which used for anchoring when animal is burrowing through the sand or righting self when turned over.
3. Abdomen bears six pairs of spines along the sides and on its ventral side, also have five or six pairs of appendage modified as gills.





Ventral view of Limulus, the horseshoe crab