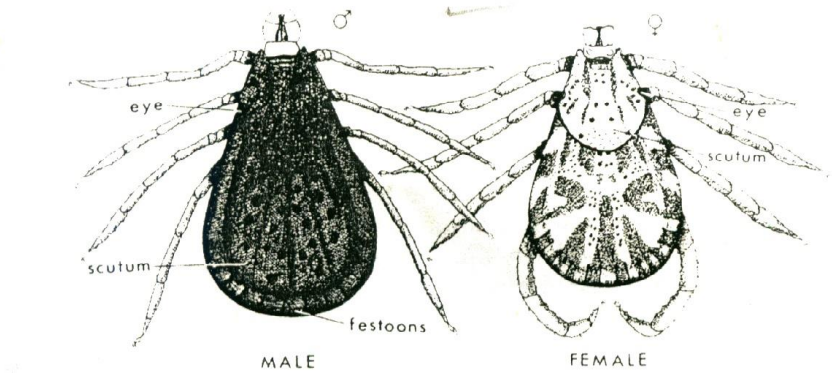
TICKS

Ticks together with mites belong to the class Araachnida. They have 4 pairs of legs and a body that is divided into 2 regions (in some mites) or undivided (ticks). Ticks are divided into 2 families: Ixodiidae (hard ticks) and the Argasidae (soft ticks).

Hard ticks: have a hard, shield-shaped plate, the scutum, which covers the anterior part of the dorsal surface of the female, or the whole dorsal surface in the male. The mouthparts are visible from above and have a pair of cutting and piercing chelicerae. These are embedded in the host, and the mouthparts form a tubular channel through which blood is taken up and saliva injected.



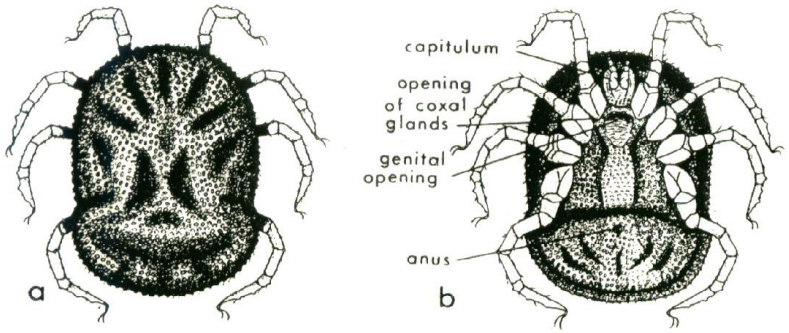
Adults of male and female *Dermacentor* species, showing sexual differences in size of scutum. Festoons are present.

Hard ticks of medical importance include:

Ixodes sp. *Dermacentor, Amblyomma, Haemaphysalis* and *Hyalomma*. They are vectors of typhuses such as Rocky Mountain spotted fever (*R. rickettsi*) and Boutonneuse fever (*R. conori*). In addition, they spread Lyme disease (*Borrelia burgdorferi*). The Q-fever (*Coxiella burnetti*) and tularaemia (*Pasteurella tularensis*) and many arboviruses: Russian spring-summer encephalitis, tick-borne encephalitis, Omsk harmorrhagic fever, Kyasanur forest disease, Colorado tick fever and Crimean-Congo haemorrhagic fever.

Tick paralysis can also follow the bites of many hard ticks. The symptoms spear some days after a female tick commences feeding. There is an acute ascending paralysis affecting the legs with the result that the person cannot walk or stand and has difficulty in speaking, swallowing and breathing, due to paralysis of the motor nerves. It can be confused with paralysis due to poliomyelitis. Young children are the most severely affected. Death can result due to respiratory failure, but if the tick is removed, the patient makes a full recovery within a few days or weeks. Tick paralysis is caused by various neurotoxins present in the tick's saliva which is continually pumped into the host during the long period (1-4 weeks) the tick is feeding on the host.

Soft ticks: have a folded cuticle without a dorsal plate and the mouthparts cannot be seen from above. Unlike the hard ticks which feed on one host for many days, the soft ticks typically live in the nest or burrow and take many shorter feeds.



Adult *Ornithodoros moubata,* (a). dorsal view. (b). ventral view

The most important genus of soft ticks in terms of spread of disease is *Ornithodoros* which transmits *Borrelia duttoni* which causes endemic relapsing fever. Other genera sometimes found on man are *Arges* and *Otobius*. Soft ticks can also transmit Q fever. The wounds made by ticks often become infected, particularly if the ticks are forcibly removed leaving their mouthparts embedded in the skin. A tick should always be removed gently. The process can be aided by smearing its abdomen with oil or fat or by dabbing with an anaesthetic such as chloroform. Houses infested with soft ticks can be sprayed with various insecticides such as malathion.