



University of Mosul
College of Veterinary medicine
Department of Microbiology
Practical parasitology
2023 -2024

***Assist Lec : Enas saadi Hussein**

Class :Arachnida

Family :Dermanyssidae

Dermanyssus gallinae

1. Attacks the fowl, pigeon, canary and other cage birds and also many wild birds, it may also feed on man.
2. It is called the **Red mite** of poultry, only red when it has recently fed on its hosts blood, otherwise it is whitish, greyish or black.
3. The engorged adult female is about 1mm long.
4. The dorsal shield does not quite reach the posterior end of the body and its posterior margin is truncated.
5. The setae on it are smaller.
6. The anus is on the posterior half of the anal plates.
7. The chelicerae are long and whip like.

Life cycle:

The eggs are laid, usually after blood meal, in cracks in the walls of the poultry Houses → hatch, → six legged larvae which does not feed → protonymphs, → Deutonymphs → adults .



Importance of this parasite:

The nymphs and adults causes:

1. Irritation and anemia.
2. Listless.
3. Reduce in egg production.
4. It is vector of *Borrelia anserina* the cause of **spirochaetosis** of the fowl.



Family :Sarcoptidae

Genus :Sarcoptes

S. scabiei

1. The cause of scabies (sarcoptic mange) of man, sheep, goats, cattle, pigs, equines, dogs and rabbits.
2. *S.scabiei* burrow more deeply into the skin causing marked thickening rather than the formation of scabs.
3. The body of this mite is globose. The legs are short. The predilection sites for the mites are areas such as the ears.





Family :Psoroptidae

Genus :Psoroptes

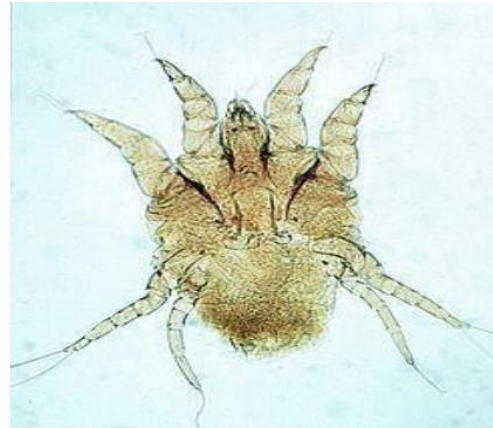
p. ovis : the body mite of sheep.

P.equi : the body mite of horse.

P.natalensis : body mite of cattle.

P. cuniculi : occurs in rabbit.

1. The cause of Psoroptic mange of the sheep, goats, cattle and equines.
2. The mites do not burrow into the skin, but are parasitic in its surface layers, causing the formation of thick, heavy scabs rather than thickening of the skin.
3. The body is oval.
4. There are no dorsal spines.
5. The legs are longer and project beyond the margin of the body.



Diagnosis :

For confirmatory diagnosis, skin scrapings until the blood is oozing and must be examined by using **10% KOH** to clearing the skin scrap from debris and fatty materials.



Family : Demodicidae

Genus : Demodex

The mites live in the hair follicles and sebaceous glands of various mammals, causing demodectic or follicular mange. The parasites which occur on different species of hosts are usually regarded as distinct species, although it is difficult to distinguish between them morphologically, since the main difference is that of size. Most of the species are called according to their hosts, for instance:

D. canis : occurs in dog.

D. ovis : occurs in sheep.

D. caprae : occurs in goat.

D. bovis : occurs in cattle.

D. folliculorum : occurs in man.



The parasites are elongate, with a head, thorax which bears four pairs of stumpy legs and an elongate abdomen which is transversely striated on the dorsal and ventral surface. The eggs are spindle shaped. Infection is transmitted by direct contact.

Diagnosis:

The mites can be found in deep scrapings and in the contents of pustules and abscesses.



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Phylum: Arthropoda

Class: Arachnida

Order: Acarina

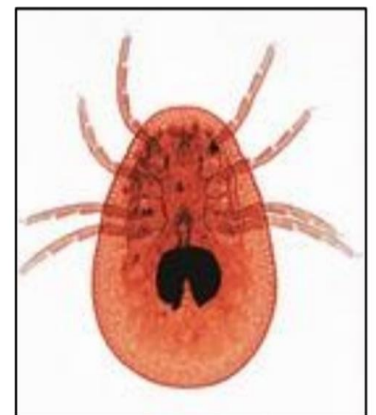
Family: Argasidae

Genus: Argas (the fowl tick)

Species : *Argas persicus* (soft tick)

The members of this family characterize by having skin like coat with no scutum, capitulum and mouth parts in nymphs and adult located on ventral surface of the body.

The members of this species called fowl ticks and its commonly distribute in highly and moderate temperate areas it attacks chickens, pigeons, ducks and wild birds also could attack human. Its oval in shape and the anterior part of the body narrower than the Posterior one, engorged female tick have red to blue in color due to the blood, while non-engorged one have brown to yellow in color, also dark color of intestine could be seen.



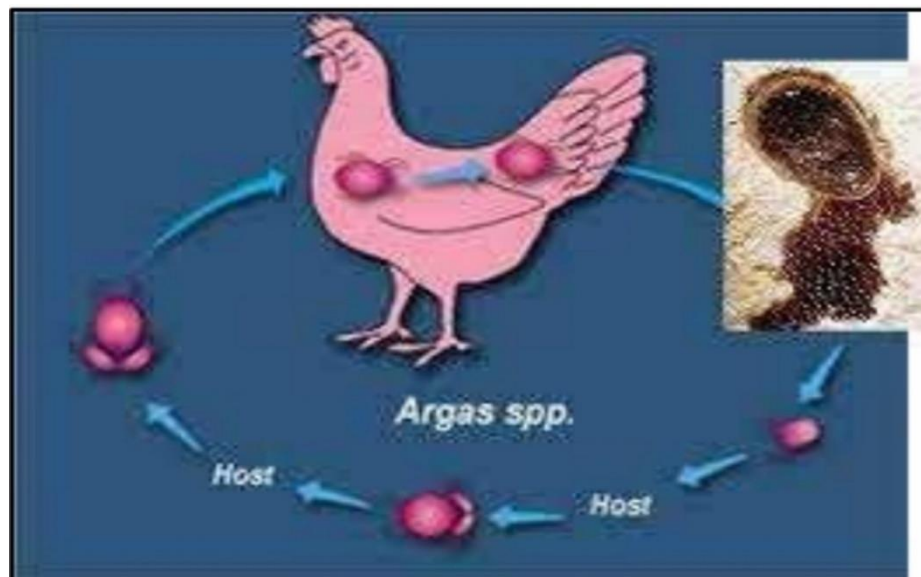
Argas persicus



There is a difficulty in recognition between males and females but could be distinguished by the shape of the genital opening which is larger in female than male and located in the anterior portion of the ventral surface in both sexes.

Life cycle :

Eggs are laid by females in cracks of the walls of houses, 20-100 eggs in each time, then they hatch to larvae with three pairs of legs feeding on the host, then they moult to nymphs, there are two nymph instars feeding also on the host, moulting after this to adults.



Pathological effects of *Argas persicus* on host:

1. Anemia in case of heavy infestation.
2. Sleeplessness and loss of productivity.
3. It is a vector of *Borrelia anserina* and *Aegyptianella pullorum*.



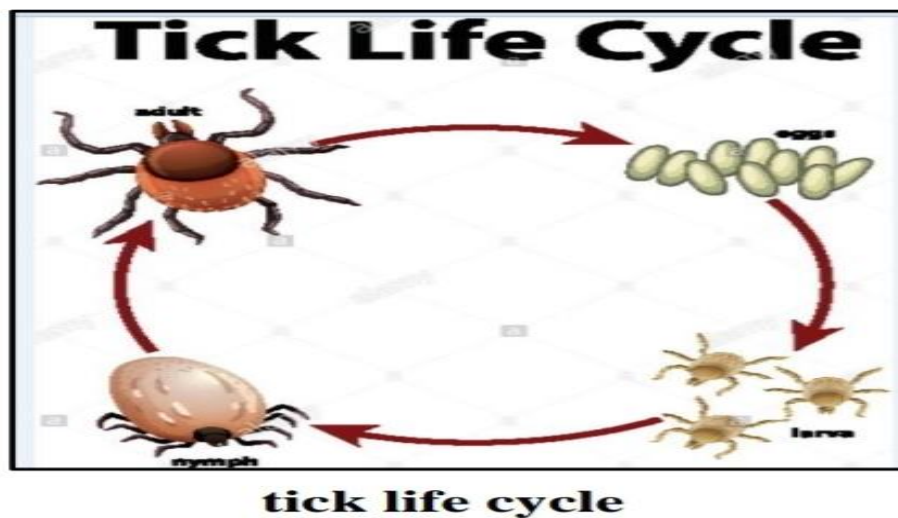
Family : Ixodidae

1. The species of this family have a hard chitinous layer called scutum which running a long the dorsal part of males and only a little anterior part of females, nymphs and larvae.
2. Mouth parts located at the anterior portion of the body and it can be seen when we looked it from the upper aspect.
3. When the eyes present, lies on each side of the scutum and two in number.
4. Adult have two stigmata on each side of both fourth coxae.
5. Posterior margin of the tick body were notched and called **festoon**.



Life cycle:

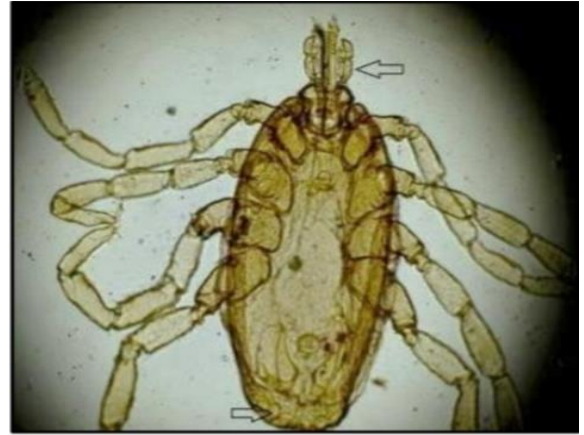
Females put its eggs in hidden areas down of the stones and mud masses cracks of the walls. Eggs hatch to larvae, moulting to nymphs then to adults.





Genus: *Hyalomma spp.*

1. Inornate tick or ornate some time.
2. Eyes present.
3. Festoons absent or present.
4. Hypostome and palps are long.
5. Spiracles are comma shaped in males and triangular in females.



Hyalomma sp.

Genus: *Rhipicephalus spp.*

1. Inornate ticks.
2. Eyes and festoons present.
3. Hypostome and palps are short.
4. Spiracles comma shaped , short in the female and long in the male.
5. Coxae 1 with two strong spurs .



Rhipicephalus sp.

Genus: *Boophilus spp.*

1. Inornate ticks.
2. Eyes present and festoons absent .
3. Hypostome and palps are short.
4. coxae 1 bifid .
5. Spiracles circular or oval.



Boophilus sp.



Important of ticks:

1. blood sucking.
2. Injuries done by their bites, which may predispose the hosts to attacks by blowflies, screw- worm flies and biting flies generally.
3. Transmit viruses, rickettsiae (Anaplasma), bacteria and protozoa like Babesia, Theileria .
4. Ticks paralysis: is caused by the injection of a (toxin) by certain developmental stages of ticks, chiefly the adult female, but some time by the nymph as a Dermacentor andersoni .
5. sweating disease caused by ticks Hyalomma transiens