

Genus- Argas



Morphology , Lifecycle , Pathogenesis , Prevention & control



DR.R.K.SHARMA.

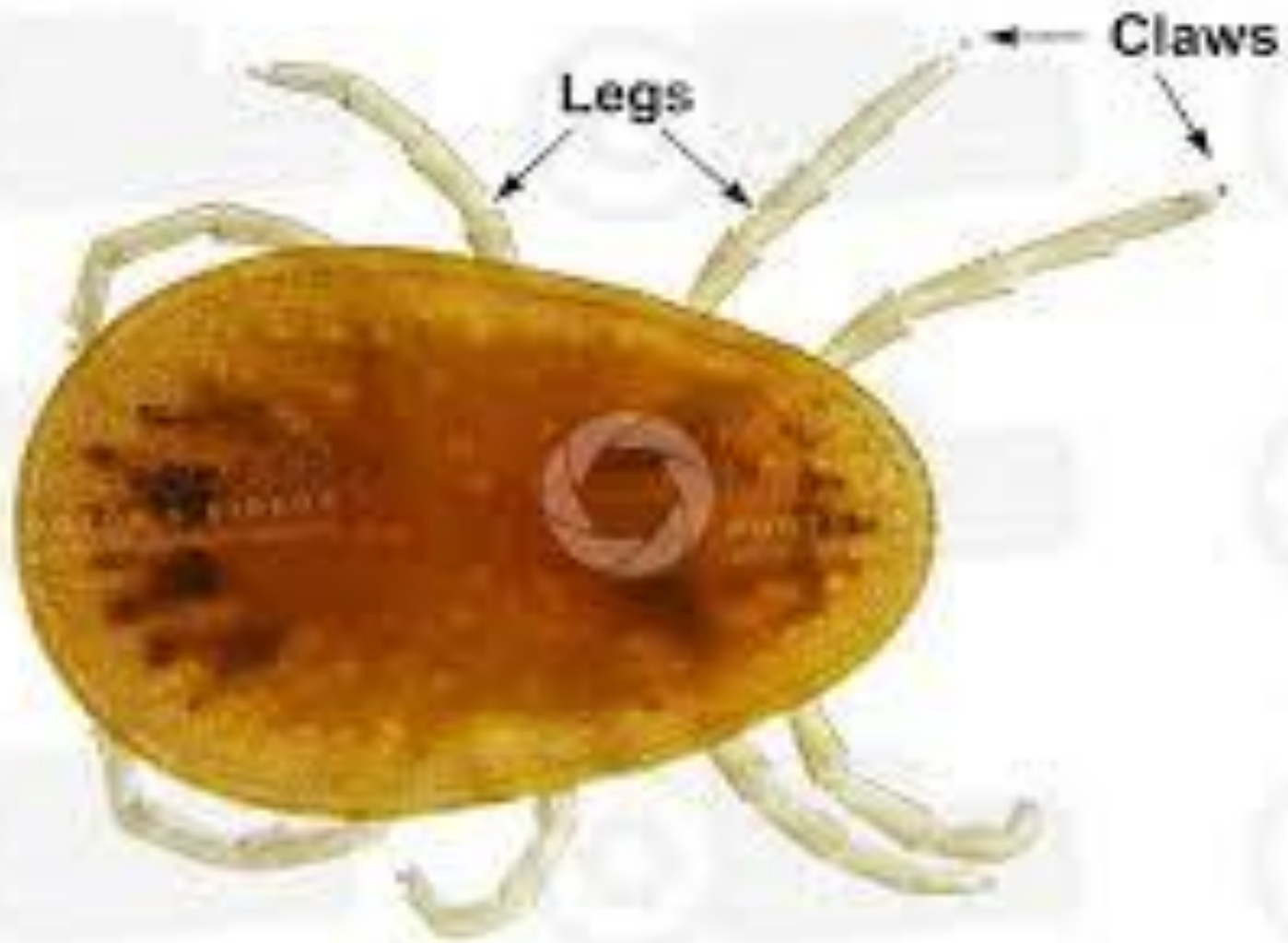
Deptt. Of Vety. Parasitology

Morphology : Argas

- ❑ It was first reported by Lorenz Oken 1818 .
- ❑ *Argas persicus*, also known as **fowtick** or **poultry tick**.
- ❑ They are small soft-bodied tick that is found primarily on domestic fowl such as chickens, ducks, and geese.
- ❑ *Argas persicus* appears yellowish-brown when starved and slatey-blue when engorged.
- ❑ They are found on an animal host, in cracks and crevices of buildings or in nests.



Argas persicus

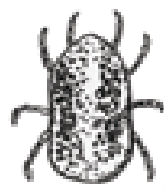
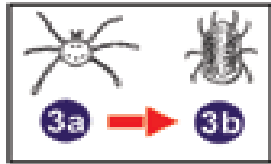


Argas reflexus

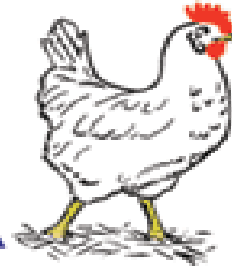
Life cycle : Argas ticks

- ❑ Argas ticks have a multi-host life cycle.
- ❑ Mating and the laying of eggs occurs off the host and in sheltered areas such as bird nests.
- ❑ Six-legged larvae hatch from the eggs in the sheltered area.
- ❑ Once a suitable host is found, they begin to feed for a few hours to a few days.
- ❑ The larvae finish feeding and leaves the host for an area of shelter.
- ❑ The larvae then moult to become the first nymph stage. The first nymphs stage then move onto the second host to feed.
- ❑ This second host may be the same individual as the first and is likely the same species.
- ❑ The first stage of nymphs transforms to the next nymph stage when it leaves the host and moults once more.
- ❑ After the last nymph stage e.g 7th , it leaves the host to moult into an adult.
- ❑ The adults can continue to feed on the host feeding quickly and detaching from the host after each blood meal.
- ❑ Females often lay eggs after each meal when off the host.

Larvae molt into the first nymphal stage after leaving the first host.

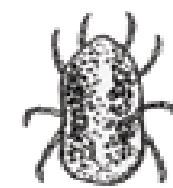


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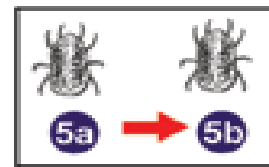
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4 Nymphs feed on a second host.



5

Nymphs leave host and molt in shelter area.

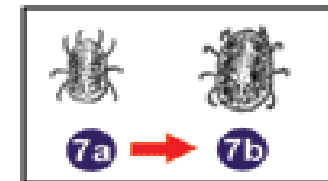


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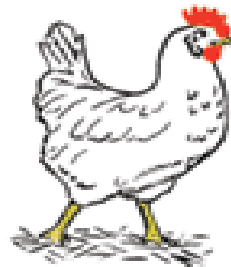
6 Nymphs feed on a third host. This cycle is repeated for up to seven nymphal stages.



7

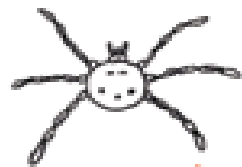


After 2-7 nymphal stages, nymphs leave the last host and molt into adults in the shelter area.



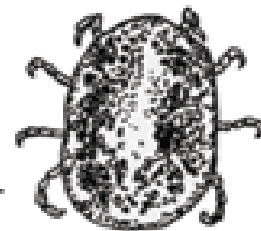
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2 Larvae attach to and feed on first host.



1

Eggs hatch into six-legged larvae.



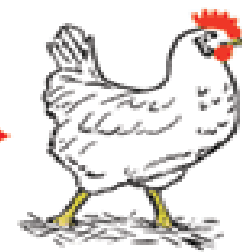
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Mating and egg-laying occur off the host.

8

Adults may feed several times on host, returning to shelter area between meals.

i



i = Infective Stage
d = Diagnostic Stage

Life cycle : Argas

Pathogenesis

- ❑ *Argas* transmits *Borrelia anserina* in saliva.
- ❑ Young birds appear to be especially susceptible to the larvae of *A. persicus*
- ❑ Avian spirochetosis caused by *Argas*, include drop in egg production, depression, polydipsia (increased thirst), drowsiness, anorexia, loss of appetite, green diarrhea, ruffled feathers, pale combs, weight loss, paralysis of the legs and wings (flaccid paralysis), and also abrupt death, when heavily infested with the larval stage.
- ❑ Tick paralysis is included in Avian spirochetosis . The flaccid paralysis ascends throughout the body. Incoordination first occurs followed by paralysis of the hind limbs, forelimbs, and then leads to respiratory distress and failure. Death then follows. Blood loss during infection could occur as well and result in clinical anemia.

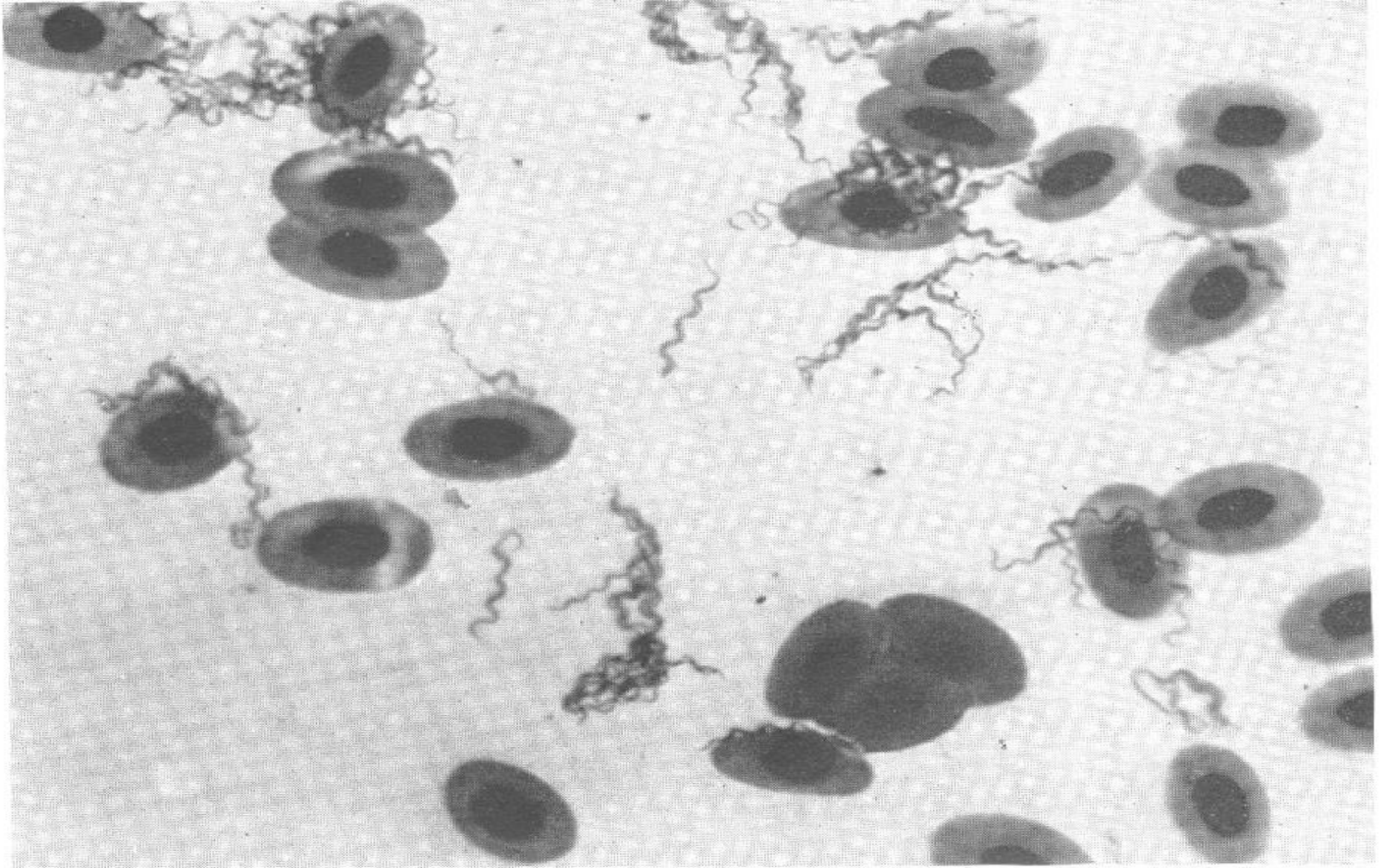


Figure 1. *Borrelia anserina* in turkey blood. This smear was made in the early stage of the disease. X 1,000.

Borrelia anserina in Turkey blood



Avian Spirochetosis in Poultry

SOURCE – GOOGLE

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PoultryDVMA

Anaemia in Poultry

Prevention / Control

- ❑ Controlling the larvae is important as it acts as a vector for *B. anserina*.
- ❑ Repeated treatments with **Malathion** spray helps to reduce the ticks and helps the birds recover.
- ❑ The elimination of tick larvae is key to reversing the effects of avian spirochetosis.
- ❑ Hydration is also extremely important as death most often results due to dehydration from prolonged paralysis.