Argasidae - Soft Ticks

- Leathery body without plates or scutum
- Ventral gnathostome
- Feed on multiple hosts - generally live in burrows or nests and lay multiple batches of eggs
Argas
• *Argas* are primarily parasites of birds
• live in nests and burrows
• live for up to 12 years
• egg > adult in as little as 30 days
• lay clutches of 25 to 100 eggs
• adults may live up to 2 yrs without feeding
Pathology

- Pathology - anemia, secondary infection at wound site
- Disease transmission - Fowl borreliosis (*B. anserina*)
- Tick paralysis in chickens
Ixodidae - hard ticks

• Shield or scutum - covers part of female, entire male
• gnathostome anterior
• One, two or three host ticks, depending on species
Note: The life cycle of a 3-host tick may take 1-2 years depending on whether or not the tick can find a suitable host between life stages.

1. Female tick lays eggs on ground.

2. Six-legged larva feeds on a small mammal, then drops off to the ground and molts.

3. Eight-legged nymph feeds on a small mammal, then drops off to the ground and molts.

4. Eight-legged adults feed and mate on a larger mammal, including livestock and pets, then drop off to the ground. Males die soon thereafter and females begin to develop eggs.

Life Cycle of 3-Host Tick
3 host tick

- Larvae on host 1
- nymphs on host 2
- adults on host 3 - mate and drop off - eggs laid on ground and hatch into larvae “seed ticks”
Examples of 3 host ticks

• *Amlyomma americanum* - Lone star tick – vector for *Cytauxzoon felis, Ehrlichia*

*Rhipicephalus sanguineus* - Brown dog tick, kennel tick
This tick is often found breeding in indoor kennels
Vector for *Ehrlichia, Babesia canis*
• *Dermacentor variabilis* - American dog tick - vectors Rocky Mountain spotted fever

• – *Ixodes scapularis* - Lyme disease
2-host tick

- *Rhipicephalus evertsi* - Red-legged tick
- Larvae and nymph feed on same host
- Adults feed on second host
- First discovered in game farms in FL and NY in 1960 - eradicated 1962
- Transmits bovine and equine babesia, theileria and heartwater (*Ehrlichia (Cowdria) ruminantium*)
One host tick

- All stages feed on the same host
- Adult females drop off and lay eggs on the ground
- E.g., *Rhipicephalus* (*Boophilus*) *annulatus*
- Bovine babesiosis, anaplasmosis
- This tick eradicated from US except for occasional reintroduction into S. Texas
Tick Pathology

- Blood Loss
- Wounding
- Tick paralysis - toxins
- Tick worry
- Damage to hides
Diseases transmitted by ticks

- Viral – African swine fever
- Bacterial – *Rickettsia* spp., *Ehrlichia*, *Anaplasma*, *Borrelia*, *Tularemia*
- Protozoal – *Babesia*, *Theileria*, *Cytauxzoon*
Tick control

- Acaracides – **significance of wildlife hosts**
- Vaccines - Commercial tick vaccine for cattle based on the *Rhipicephalus (Boophilus microplus)* Bm86 gut antigen
- habitat modification
- Breed susceptibility