Mites

Suborder Mesostigmata - Symptoms caused by this group are dermatitis, hyperkeratization, scratching and itching.

Family Dermanyssidae

Dermanyssus gallinae - red mite or roost mite. Common on wild birds, especially pigeons and does present problems for domestic livestock and pets frequently.

Life Cycle
- The mites are hidden in the crevices during the day and attack the birds at night.
- Eggs are deposited in the cracks and hatch in 2-6 days.
- The six-legged larvae do not feed and molt in 24 hours.
- After two or more blood meals, the nymphs molt and become adults. The nymph takes about 10 days to reach the adult stage. Full growth is reached in 9 days.
- Adult mites may survive without a blood meal for 4-5 months.
- Spread from farm to farm by sparrows, pigeons egg flats, people, egg cases, etc.

Pathology
- Damage may be very extensive. Feather loss and inflammation on chest and legs. Local epidermal hyperplasia. Necrosis of feather follicle due to vascular disruption. Anemia due to mite feeding.
- Egg production is greatly reduced, feed conversion reduced.
- There may be deaths in newly hatched chicks. The fowl lose flesh and become unthrift.

Control
- Multi-treatments required.
- Roost - nests (harborage)
- On birds: Systemic drug in water.

Orithonyssus sylviarum - Northern fowl mite, O. bursa - tropical fowl mite. Can be found on all birds, wild and in production or pets.

Life Cycle
- Eggs deposited on feathers on fowl.
- Hatch into non feeding larvae which molt in about 12 hours and become nymphs which feed.
- Protonymphs molt in 1-3 days into nonfeeding deutonymphs which in turn molt to adults in 3-4 days.
- Adults spend most of life on host but some may be found on roost and in cracks.
- In the absence of fowl, it will attack man causing itching by its bite and by crawling.
- It may survive for 3-7 weeks in absence of avian host.

Pathology
- Mites are a serious pest of fowl causing loss of weight, decreased egg production, decreased feed conversion, and death. Large economic losses.
- The feathers become matted and blackened and severe scabbing develops, particularly in the region of the vent. Most common around vent area.
- Year round pest in current poultry production.
- Transmitted via birds, rodents, man, egg cases, and flats.
- New Birds are most commonly affected.

Control
- Monitor and treat early (treatment requires multiple applications)
- Stop routes of transmission.
Suborder Astigmata

Family Sarcoptidae - Sarcoptes itch or scabies mites
Sarcoptes scabiei - varieties cause scabies in man, sheep, goats, cattle, pigs, dogs, & horses.
- Tends to be host specific but will transmit between host species.
Notodernes cati - mange of cats.
Morphology --- Round, globular, numerous setae
Life cycle and epidemiology (Sarcoptes scabiei var. suis)
- Form burrows in the skin in which female deposits eggs.
- Eggs hatch in 3 to 8 days and larvae migrate to the skin surface and molt twice forming 2 nymph stages.
- The adult stage is reached 4-6 days after eggs hatch and entire life cycle takes 10-14 days.
- Transmitted via contact.
- Can live off of the host for up to 6 weeks, especially during winter when temperature is lower.

Pathology
- Swine -- Mange concentrated about top of the neck, shoulders, and ears and along the back, although it may be found over the entire body. The skin is cracked and thickly encrusted with scabs. Causes weight loss and irritation, feed conversion is decreased.
- Cattle -- Itch mites occur where hair is short, namely, on the brisket and around the base of the tail. REPORTABLE in cattle
- Dog -- mange usually appears first on the muzzle, around the eyes and spreads to the back and abdomen.
- Sheep -- mange occurs principally around the face and causes "black muzzle".
- Cats -- Notoedric mange begins at the tips of ears and gradually spreads over the face and head.

Treatment
- Swine -- Must treat sow as she is the carrier for transmission to piglets.
- No products are ovidical; therefore, multiple treatments will be required for all species.
- Systemics are best if available. (Ex. Avermectins and Fluralaner)

Family Psoroptidae
Otodectes sp. - Ear mite of cats, dogs, rabbits -- ear irritation & scratching injury
Psoroptes ovis -- Scab mite of sheep, rabbits, cattle, horses. REPORTABLE. Prevalent in Southwestern US, rare elsewhere in North America.

Suborder Prostigmata

Family Demodicidae
Demodex canis - red mange of dogs
Morphology -- Elongate mites in hair follicles
Life cycle and epidemiology
- Mites found in hair follicles and sebaceous glands
- Eggs are laid in hair follicles
- Larvae are 6-legged and several generations of nymphs before adults
Pathology
- There are 2 forms of demodectic mange in dogs
- Squamous or crusty form where the skin is thickened, darkened and wrinkled
- Pustular where there are pustules and severe dermatitis - possible bacterial involvement
Predisposing factors
(a) age, (b) condition (immune suppression), (c) other illness or infection, (d) genetics.