Lecture No.41 PARASITOLOGY DR. Raad H.H.

 **"Mites "**

**ORDER: Mesostigmata (= Acariformes)**

1. about 250 described species are parasitic on vertebrates
2. spiracles located just posterior and lateral to the third coxae
3. usually a tube (tracheal trunk) extends anteriorly from each spiracle and can be seen through the cuticle. This is termed the peritreme
4. bristle-like organ, the tritosternum, usually present immediately ventral and behind the gnathostoma
5. generally, heavily scleratized bodies
6. typical genera and species
	1. *Varroa jacobsoni* (honey bee mite) commonly found on European honey bees (*Apis mellifera*); the mite is actually a species complex and not just one species
	2. ***Dermanyssus gallinae*** **(Red fowl mite)** commonly found on chickens and pigeons; cosmopolitan
	3. *Ornithonyssus bacoti* (tropical rat mite) often found infesting mice in laboratory rodent colonies; cosmopolitan
	4. ***Ornithonyssus bursa* (Tropical fowl mite)**
	5. *Sternostoma tracheacolum* (canary lung mite) in respiratory tract of canaries; cosmopolitan



 ***Dermanyssus gallinae***

**ORDER: Prostigmata**

1. spiracles either between chelicerae or dorsal on the mid-portion of the body
2. generally poorly armored
3. some species parasitic as adults; others only as larvae
4. typical genera and species
	1. ***Demodex canis*** (dog follicular mite) "**Demodecidae**" , may cause red mange in canids when secondary *Staphlococcus pyogenes* invade lesions; many other species of the genus in various animals; all cosmopolitan. i.e. *Demodex injai* on dogs; *Demodex folliculorum* and *Demodex brevis* in humans; *Demodex cati* and *Demodex gatoi* on cats; *Demodex equi* on horses; *Demodex phylloides* on pigs
	2. ***Psorergates ovis*** (sheep itch mite) can cause dermal problems in sheep
	3. *Pyemotes tritici* (straw itch mite) on grain beetles may attack mammals
	4. ***Eutrombicula alfreddugusi*** (North American **chigger**) "**Trombiculidae** "and some other genera have larval stages that feed on blood. Nymphs and adults free-living. Often brightly colored. Some species may transmit scrub typhus, a rickettsia.
	5. *Hannemania penetrans* (Anuran trombiculid mite) with larval stages encysting in reddish or orangish "mite pockets" in skin of frogs in North America



***Demodex canis***



**ORDER: Oribatida (oribatid mites)**

1. stigmata and tracheae usually present, opening into a porose area
2. mouthparts drawn into a tube, the camerostome, which may have a hood-like sclerite covering it
3. none parasitic

**ORDER: Astigmata (itch mites)**

1. no tracheal systems; tegumental respiration
2. claws absent; sucker-like structures on pretarsi
3. many species and genera
	1. ***Chorioptes bovis*** (mange in a variety of mammals; pierce skin but are non-invasive)

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* 1. ***Dermatophagoides*** **spp**. (dust mites that can result in allergies)
	2. ***Cnemidocoptes laevis*** (depluming mite of chickens, pheasants, and ducks) *"****Cnemidocoptidae***"
	3. ***Cnemidocoptes mutans*** (**scaley-leg mite** of chickens) *"* ***Cnemidocoptidae*** "
	4. ***Notoedres cati*** (ear and facial mange in rodents, cats, and dogs; invasive where females burrow into the dermis)

* 1. ***Psoroptes ovis*** ; many subspecies (mange in a variety of mammals; pierce skin but are non-invasive)
	2. ***Otodectes cynotis*** (mange in felids, canids, mustelids; pierce skin but are non-invasive)

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* 1. ***Sarcoptes scabiei*** (many subspecies where females invade and tunnel through dermis causing intense dermatitis)



* 1. ***Dermatophagoides pteronyssinus*** (European house-dust mite) and *Dermatophagoides farinae* (American house-dust mite) both have worldwide distributions. Live in bed clothes, mattresses, carpets, and house dust and may cause allergies

* **Family Sarcoptidae ( burrowing mites )**

**Genera :**

 ***Sarcoptes***

**Characters** :

spherical shape ; scutum wrinkled ; legs two groups , frontal 2 pairs long and posterior 2 pairs short not extends body mite.

 Other genera  ***Notoedres***, ***Trixicarus***

* **Family Psoroptidae (Non burrowing mites )**

**Genera** :

 ***Psoroptes***

**Character*s:*** oval shape ; scutum not wrinkles ; legs long and extends body mite.

Other genera  ***Chorioptes ,Otodectes***