Ectoparasites live on or in the skin but not inside the body. They are one of the most commonly encountered presenting complaints in veterinary medicine. It is important for veterinary technicians to know about ectoparasites.

Fleas

- **Ctenocephalides felis or canis** (dog and cat fleas)
- **Xenopsylla cheopis** is the oriental rat flea and is known for **plague** organism *Yersinia pestis*
- Wingless insects, tube-like mouth parts, jump
- **Feed on blood**, so are an **important cause of anemia** (especially in infested puppies or kittens)
- Female fleas lay around **50 eggs per day**
- Some eggs fall off into the **environment** where they hatch or remain in their cocoon until vibration, carbon dioxide, or heat is detected in the environment where they seek the next host; they may survive up to a year without a meal at this stage
- **They** require a blood meal to reproduce
- Most common in regions that are **humid and warm**
- **Once monthly flea prevention** is recommended (especially in endemic areas) - Frontline, Advantixx and Revolution are effective against fleas and are all topical applications which are applied directly to the skin at the nape of the neck
- Vector for transmitting **tapeworm Dipyidium caninum** when the infected flea is swallowed

Ticks

- May transmit rickettsial diseases:
  - **Ixodes - deer tick** - transmits *Borrelia burgdorferi* (Lyme disease)
  - **Dermacentor** - the American dog tick - primary vector for transmitting Rocky Mountain Spotted Fever (Rickettsia rickettsii)
  - **Rhipicephalus - brown dog tick** - transmits *Ehrlichia* spp.
- Once monthly flea and tick preventatives are recommended (Frontline or Advantixx most commonly)
- Ticks have **8 legs and feed on blood**; mouth parts are called the **capitulum**
- Ticks should not be removed with fingers but instead with forceps or tweezers so that the tick is grasped at the mouthparts at the site of attachment and pulled straight back slowly; this is to prevent the mouthparts breaking off in the host’s skin which could lead to irritation and infection
- Ticks are the most common ectoparasite implicated in transmission of **Tularemia** (rabbit fever), along with mosquitoes and horseflies; the causative agent is the bacterium Francisella tularensis
- **The ear tick is Otobius megnini.** It is seen most commonly in livestock but may also infest dogs and other small warm-blooded mammals; its body is covered in spines and it sucks blood from inside the ears
Mites

Mites are arachnids, meaning they are 8-legged. The most common mites to know for boards are:

- **Demodex**
  - *Not typically pruritic* unless secondary pyoderma is present
  - This mite is located in the **hair follicle** and so a deep scraping is necessary in which the scraping actually draws a small amount of blood, and the follicles are squeezed during scraping
  - **Cigar-shaped** mite
  - Treated most commonly with oral ivermectin or Lyme Sulfur dip
  - **Demodex canis** is the canine mite
  - Seen mostly in young animals or animals that are immunocompromised
  - Not contagious

- **Scabies**
  - *Very pruritic*
  - Can be **zoonotic**, but infection is **transient** and self-limiting in people (humans have their own scabies mite)
  - **Superficial dweller** and may be hard to find; multiple scrapes may be necessary
  - Most commonly treated with selamectin (Revolution), Lime Sulfur dips, or milbemycin
  - **Sarcoptes scabiei** is the canine scabies mite
  - **Notoedres cati** is the feline scabies mite

- **Cheyletiella**
  - *Very pruritic*
  - Known most commonly as **walking dandruff**
  - **Superficial** mite

- **Ear mites**
  - *Very pruritic*
  - **Otodectes cynotis** is the ear mite of cats and dogs
  - Observed microscopically on a **mineral oil swab**
  - Treated most often with topical ivermectin (0.01%) (Acarexx)
  - Debris in ears often looks like **dark coffee grounds**

Lice

- Infestation with lice is known as **pediculosis**
- Lice are **pruritic**
- Lice are species or **host-specific**
• Transmitted via direct contact
• Lice are mostly seen in cases where there are crowded and filthy living conditions, but lice in general are uncommon
• May be biting or sucking in nature
• The feline louse is Felicola subrostratus (a chewing louse)
• Trichodectes canis (chewing) and Linognathus setosus (sucking) are the lice found in canines
• Hematopinus (sucking) in cattle
• May be seen with the naked eye
• 6 legs and wingless
• Treated with fipronil or selamectin most commonly

References