

Lab #2A

Identification of Common Parasitic Mites

Phylum Arthropoda

Class Arachnida

Suborder Mesostigmata (Mites)

Ornithonyssus sp.

Dermanyssus gallinae

Suborder Astigmata (Mites)

Sarcoptes sp.

Psoroptes sp.

Chorioptes sp.

Otodectes sp.

Suborder Prostigmata (Mites)

Demodex sp.

What you should accomplish during Lab # 2A

1. Become familiar with morphologic structures important for parasitic mite identification.
2. Learn how to identify important mite genera common to this region.

PROTOCOL

1. Mite Morphology

- Review schematic diagrams of mites that are labeled with commonly used morphological terms. (Appendix D)
- Examine these morphological features using the suggested specimens as models. Making drawings with labels will be helpful for future reference.

1) For mesostigmatid mites use *Ornithonyssus* - chelicera, palp, tarsus, tarsal claw, stigmata, anus, anal plate.

2) For astigmatid mites use *Otodectes* or *Sarcoptes* - chelicera, palp, tarsus, tarsal claw, pedicel, sucker (caruncle), epimerae.

2. Common Mite Genera

- Utilize the “A Generic Key to Select Mites” (page 10) to identify the following mites: *Ornithonyssus*, *Dermanyssus*, *Sarcoptes*, *Psoroptes*, *Chorioptes*, *Otodectes*, *Demodex*.
- Review the diseases, hosts, and site of infection for the previously listed mites.

A Generic Key to Select Mites

Ornithonyssus (northern fowl mite, tropical fowl mite & tropical rat mite)

- abdomen distinct & posterior to 4th pair of legs, legs long & thin
- long chelicerae with large chelae (claws)
- anus in anterior half of anal plate

Dermanyssus (red chicken mite or roost mite)

- abdomen distinct & posterior to 4th pair of legs, legs long & thin
- long chelicerae with very small chelae (claws)
- anus in posterior half of anal plate

Sarcoptes (sarcoptic mange mite; swine, dogs, humans but others also)

- round body, without a distinct abdominal region
- 3rd & 4th legs well separated from 1st & 2nd legs
- 3rd & 4th legs do not extend beyond the body margin
- caruncle (sucker-like structure) on long unsegmented pedicels at the tips of front legs
- epimerae of first pair of legs fused to form a Y (neck-tie)

Psoroptes (scab mite of sheep, cattle, horses, rabbits)

- oval body, without distinct abdominal region
- 3rd & 4th legs well separated from 1st & 2nd legs
- all legs extend beyond body margin
- caruncle (sucker-like structure) on long segmented pedicels at the tips of front legs
- epimerae of first pair of legs do not fuse

Chorioptes (chorioptic mange mite of cattle, sheep, goats, horses)

- oval body, without distinct abdominal region
- 3rd & 4th legs well separated from 1st & 2nd legs
- all legs extend beyond body margin
- caruncle (sucker-like structure) on short unsegmented pedicels at the tips of front legs
- epimerae of first pair of legs do not fuse

Otodectes (ear mite of dogs, cats, fox and ferrets)

- oval body, without distinct abdominal region
- 3rd & 4th legs well separated from 1st & 2nd legs
- all legs extend beyond body margin
- caruncle (sucker-like structure) on short unsegmented pedicels at the tips of front legs
- posterior ends of the 1st & 2nd epimerae join to form a triangular shape

Demodex (demodectic mange of canids; also a follicle mite of humans)

- elongate (cigar-shaped) body, with distinct abdominal region
- very short stumpy legs

Lab #2A

Exercise & Lab Discussion

1. Identify Common Mites

Working in Groups, utilize your knowledge of Mite Morphology as well as "**A Generic Key to Select Mites**" (page 10) to determine the Identity (Genus) of the provided mite specimens. Also be prepared to identify characters of each mite that allowed you to determine the identity.

| <u>Mite Label</u> | <u>Genus</u> | <u>Explain your Id</u> |
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