

Lab #3

Identification of Common Lice & Fleas

Phylum Arthropoda

Class: Insecta

Order: Anoplura (sucking lice)

Hematopinus sp., *Linognathus sp.*

Order: Mallophaga (chewing lice)

Bovicola (=Damalinia) sp.

Trichodectes sp., *Felicola sp.*

Menacanthus sp., *Menopon sp.*

Order: Siphonaptera (fleas)

Pulex irritans

Ctenocephalides sp.

Echidnophaga sp.

What you should accomplish during Lab # 3

1. Become familiar with morphologic structures important for the identification of lice & fleas.
2. Learn how to identify important lice & flea genera common to this region.

PROTOCOL

1. Lice & Fleas

- Review schematic diagrams of lice and fleas 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 lice use *Haematopinus* - head width, tarsal claws, spiracles, spiracular plates, setae,
 - 2) For fleas use *Ctenocephalides* - combs (genal and pronotal), head shape

2. Lice

- Memorize the morphological features that distinguish the lice Orders Anoplura (sucking lice) & Mallophaga (chewing lice).
- Review “Anopluran (sucking) Lice of Select Hosts” and “Mallophagan (chewing) Lice of Select Hosts” on page 18.
- Utilize morphologic keys and host specificity to examine lice of the following genera: *Haematopinus*, *Bovicola*, *Linognathus*, *Trichodectes*, *Menopon*, *Menacanthus*.
- On the Demo table, examine louse nits.

3. Fleas

- Memorize the morphological features that distinguish the flea Order Siphonaptera.
- Review “A Generic Key to Select Fleas” on page 18.
- Examine the adult fleas: *Centocephalides sp.*, *Echidnophaga gallinacea*, and *Pulex irritans*. Review the preferred host of each flea.
- On the Demo table, examine flea frass & flea larvae.

Anopluran (sucking) Lice of Select Hosts

Swine

- *Haematopinus suis* (the only pig louse)

Equids

- *Haematopinus asini*

Canids

- *Linognathus setosus*

Cattle

- *Haematopinus eurysternus* -- complex claws on all legs
- *Linognathus vituli* -- simple claw on first leg

Birds

- Do not have anopluran lice

Mallophagan (chewing) Lice of Select Hosts

Cats

- *Felicola subrostratus* (only louse on cats)

Equids

- *Bovicola (=Damalinia) equi*

Canids

- *Trichodectes canis*

Cattle

- *Bovicola (=Damalina) bovis*

Birds

- *Menopon gallinae* - one row of dorsal setae per abdominal segment
- *Menacanthus stramineus* - more than one row of dorsal setae per abdominal segment

A Generic Key to Select Fleas

Ctenocephalides felis & *C. canis* (cat & dog fleas)

- Rounded head, with Pronotal and Genal Combs

Pulex irritans (human flea)

- Rounded head, withOUT Pronotal and Genal Combs

Echidnophaga sp. (stick-tight flea)

- Squared head, withOUT Pronotal and Genal Combs

Lab #3

Exercise & Lab Discussion

1. Identify Common Lice & Fleas

Workings in Groups, utilize your knowledge of Lice & Flea Morphology to determine the Identity (Genus) of the provided specimens. Also be prepared to identify characters of each mite that allowed you to determine the identity.

<u>Specimen Label</u>	<u>Genus</u>	<u>Explain your Id</u>