

**Study Guide – Texas 4-H Entomology ID Contest**  
**Phthiraptera**

1. Review the Phthiraptera YouTube video for your age level at the Bexar Entomology page.
2. Follow along with your 4-H Entomology Study Guide  
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the definitions for the key words for Phthiraptera.
4. Read the Phthiraptera Facts
5. Answer the study guide questions
6. Quiz yourself to identify the species of Phthiraptera and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

**Key Words to Know for Phthiraptera:**

Harmful

Haustellate & Mandibulate

Hemimetabolous

Parasite/Parasitic

Host

**Phthiraptera Facts:**

- All lice are parasitic and pests
- There are chewing and sucking lice and each have different mouthparts
- Lice are host specific, meaning they have locations and animals they feed on
- Lice do not have wings, because wings would make it harder to hide on the body of the host
- Lice are considered medically important pests

**Study Guide Questions (some may not be relevant to all age groups):**

Which louse has chewing mouthparts? (not for juniors)

Which lice have piercing sucking mouthparts?

Which lice are found on chickens?

Which lice are found on humans?

Which lice are found on swine?

Which lice are found on cattle?

Junior Species (1): Head louse

Intermediate Species: (4): Head louse, chicken head louse, hog louse, short-nosed cattle louse

Senior Species: (4): Head louse, chicken head louse, hog louse, short-nosed cattle louse

**Study Guide – Texas 4-H Entomology ID Contest**  
**Phasmatodea**

1. Review the Phasmatodea YouTube video for your age level at the Bexar Entomology page.
2. Follow along with your 4-H Entomology Study Guide  
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
3. Review the definitions for the key words for Phasmatodea.
4. Read the Phasmatodea Facts
5. Answer the study guide questions
6. Quiz yourself to identify the species of Phasmatodea and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

**Key Words to Know for Phasmatodea:**

Mandibulate  
Hemimetabolous  
Herbivorous  
Camouflage

**Phasmatodea Facts:**

- There is only one species to know – Texas Giant Walking Stick
- Phasmatodea are hemimetabolous.
- Phasmatodea are considered inconsequential.
- Phasmatodea have chewing or mandibulate mouthparts
- Phasmatodea are camouflaged.

**Study Guide Questions:**

What do walking sticks eat?  
Why are walking sticks camouflaged?  
What type of lifecycle do walking sticks have?  
Do walking sticks have wings?  
What do walking sticks feed on?

**Study Guide – Texas 4-H Entomology ID Contest**  
**Psocoptera**  
Intermediates & Seniors Only

7. Review the Psocoptera YouTube video for your age level at the Bexar Entomology page.
8. Follow along with your 4-H Entomology Study Guide  
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
9. Review the definitions for the key words for Psocoptera.
10. Read the Psocoptera Facts
11. Answer the study guide questions
12. Quiz yourself to identify the species of Psocoptera and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

**Key Words to Know for Psocoptera:**

Mandibulate

Hemimetabolous

**Psocoptera Facts:**

- There is only one species to know: book or bark lice
- Psocoptera are hemimetabolous.
- Psocoptera have chewing or mandibulate mouthparts
- Psocoptera are very small insects and can be considered pests in some situations.
- Psocoptera live on a variety of materials – they may feed on fungal material on bark, moldy grains in a pantry, or book pages (especially when in humid environments)

**Study Guide Questions:**

Name the places book/bark lice can be found.

Name the food book/bark lice can feed on.

Are Psocoptera beneficial?

What lifecycle does Psocoptera have?

What mouthparts do Psocoptera have?

**Study Guide – Texas 4-H Entomology ID Contest**  
**Dermaptera**  
Intermediates & Seniors Only

13. Review the Dermaptera YouTube video for your age level at the Bexar Entomology page.
14. Follow along with your 4-H Entomology Study Guide  
(<https://entomology.tamu.edu/extension/youth/4-h/4h-contest/>)
15. Review the definitions for the key words for Dermaptera.
16. Read the Dermaptera Facts
17. Answer the study guide questions
18. Quiz yourself to identify the species of Dermaptera and if they are a pest/beneficial/inconsequential and where they are found in nature and/or their host.

**Key Words to Know for Dermaptera:**

Mandibulate  
Hemimetabolous  
Cerci

**Dermaptera Facts:**

- There is only one species to know: earwigs
- Dermaptera are hemimetabolous.
- Dermaptera have chewing or mandibulate mouthparts
- Dermaptera are considered inconsequential – some species are predator and some are plant feeders, but neither are considered significantly harmful.
- Dermaptera live in leaf litter, under rocks, and under debris (areas that are cooler and wetter)
- Dermaptera have modified appendages on their abdomen called cerci that are for defense.

**Study Guide Questions:**

What is the common name for Dermaptera?

Are Dermaptera beneficial, pests, or inconsequential.

What are the pinchers on the end of Dermaptera abdomens called?

Why are those pinchers used?