

Lab #2B

Identification of Common Tick Species

Phylum Arthropoda
Class Arachnida
Suborder Metastigmata (Ticks)
Family Ixodidae (Hard Ticks)
Dermacentor variabilis
Rhipicephalus sanguineus
Amblyomma americanum
Ixodes scapularis

What you should accomplish during Lab # 2B

1. Become familiar with morphologic structures important for tick identification.
2. Learn how to identify the 4 major tick genera common to this region.

PROTOCOL

1. Tick Morphology

- Review schematic diagrams of ticks that are labeled with commonly used morphological terms. (Appendix D)
- Using an *Amblyomma americanum* specimen; examine the morphological features listed below. Making drawings with labels will be helpful for future reference.
 - 1) *Amblyomma americanum* - scutum, capitulum (distinguish the: basis capitulum, hypostome, palps), anal groove, anus, festoons, spiracle

2. Common Tick Genera

- Use the "Morphologic Characters of Select Ticks" (page 13) and "Key to Common Ticks" (page 14) to identify the following ticks:
Amblyomma, *Dermacentor*, *Ixodes*, *Rhipicephalus*.
- Also determine the gender of each specimen.

Morphologic Characters of Select Ticks

Hard Ticks (ixodid)

Dermacentor variabilis

- scutum ornate (white or silver mottled coloration)
- short fat palpi
- rectangular basis capitulum
- anal groove posterior to anus
- festoons present

Amblyomma americana

- scutum ornate (single or multiple white dot(s))
- long thin palpi
- rectangular basis capitulum
- anal groove posterior to anus
- festoons present

Rhipicephalus sanguinius

- scutum not ornate
- short fat palpi
- hexagonal (lateral points) basis capitulum
- anal groove posterior to anus
- festoons present

Ixodes scapularis

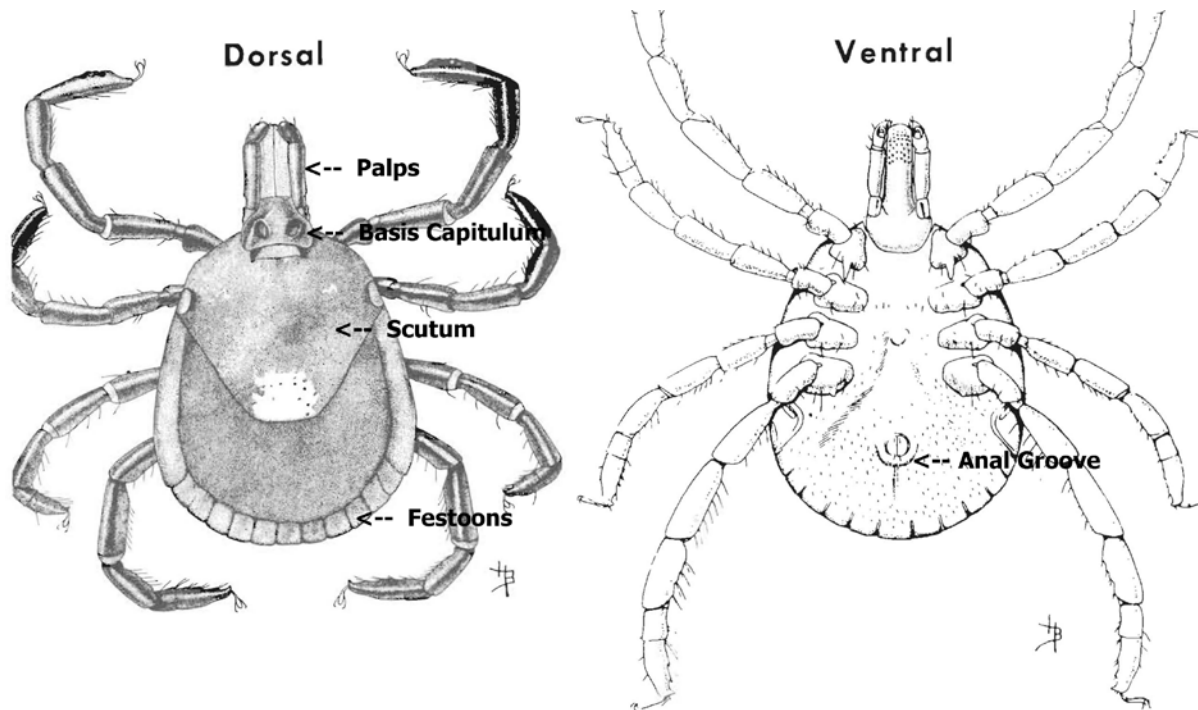
- scutum not ornate
- long broad palpi
- rectangular basis capitulum
- anal groove anterior to anus
- festoons absent

Key to Common Ticks

1. Scutum ornate. White, silver, light gray coloration [mottled or dot(s)]Go to: **3 & 4**
2. Scutum not ornate.Go to: **5 & 6**

3. Long thin palpi ***Amblyomma sp.***
4. Short thick palpi ***Dermacentor sp.***

5. Long Palpi, Festoons Absent, Basis capitulum square, Anal groove anterior to anus. ***Ixodes sp.***
6. Short Palpi, Festoons Present, Basis capitulum hexagonal, Anal groove posterior to anus. ***Rhipicephalus sp.***



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Exercise & Lab Discussion

1. Identify Common Ticks

Working in Groups, utilize your knowledge of Tick Morphology as well as "Key to Common Ticks" (page 14) to determine the Identity (Genus) and Gender of each of the tick specimens being projected on the Lab Monitors. Also be prepared to identify characters of each tick that allowed you to determine the identity & gender.

<u>Tick Label</u>	<u>Genus</u>	<u>Gender</u>	<u>Explain your Id</u>