

Herpetology Labs 1: Morphology of Amphibians and Reptiles

Correct identification of organisms is critical for making valid observations in the field. One of the most accurate methods of identification is to “key out” a specimen using a published dichotomous key. This week, we will begin to develop the skills needed to create and use keys to identify different herpetile species. Identification often starts with morphology, so today we are going to begin by learning the external anatomy and corresponding terminology. This is a very basic introduction and is by no means exhaustive. As with all of the labs, please work in groups.

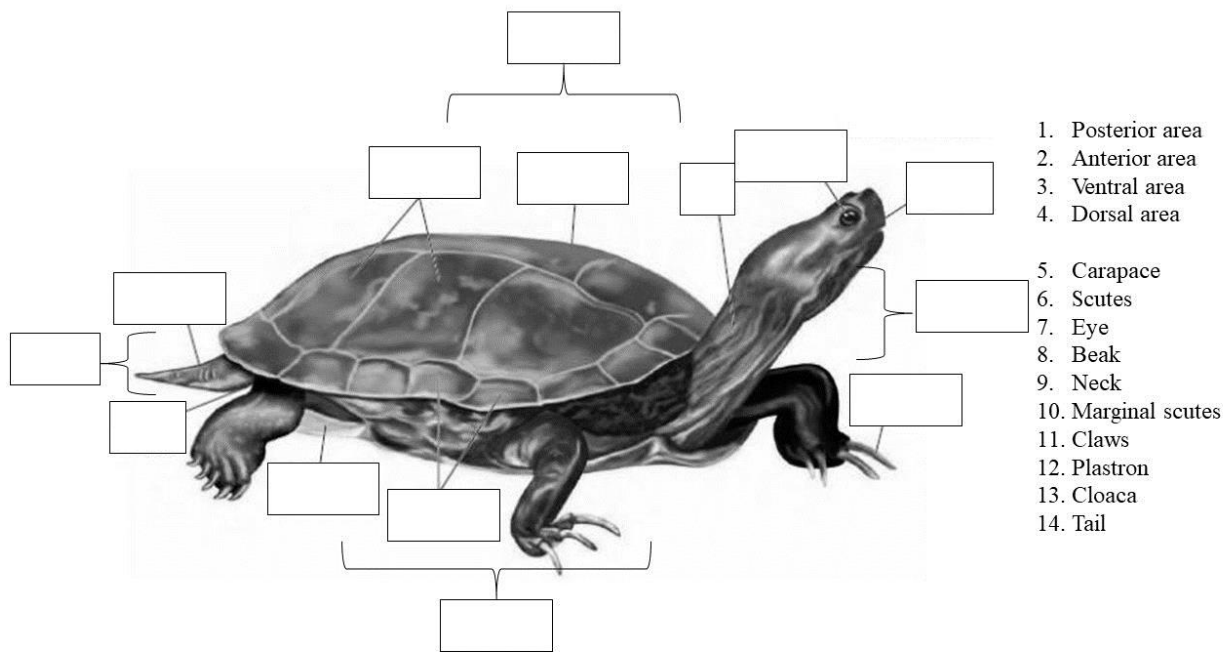
Goals:

1. Begin to gain a familiarity with the external anatomy of herptiles.
2. Start to develop the ability to identify morphological characteristics while learning the correct terminology.
3. Apply terminology to specimens in the lab.

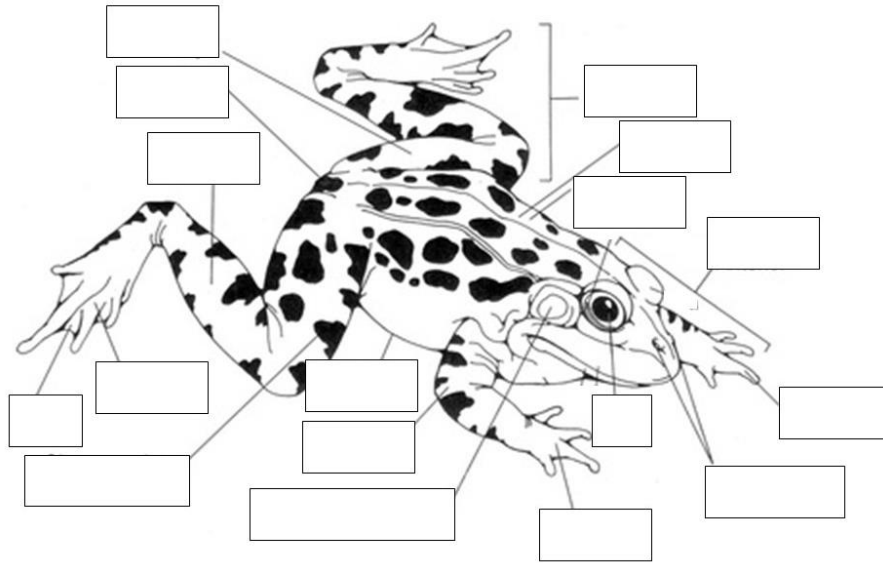
To complete this lab, at a minimum, you will need to use your textbook and field guides. If you do not have these materials yet, please share.

Part 1: Basic Morphology. Label the following diagrams with the terms provided. To make things a bit easier to start with, the four basic regions or areas (terms 1-4) are indicated with brackets, “{”, in this first exercise.

Testudine. 1 pt each.



Anura. 1 pt. each.



1. Posterior area
2. Anterior area
3. Ventral Area
4. Dorsal area

5. Digit
6. Hand
7. Foot
8. Web
9. Chromatophore
10. Cloaca
11. Thigh
12. Trunk
13. Eye
14. Tympanic membrane
15. Forelimb
16. Hindlimb
17. Nostril

Part 2: Terminology. Define and sketch the following vocabulary terms. Sketches do not have to be extensive, but make sure that necessary pieces are present (e.g., nuptial pads will need reference to rest of the body). The parts are numbered so that you can draw them on the back or on separate paper. Leave some room between terms as we will be adding to these later. *Italicized items only need to be sketched; no definition is necessary.*

Amphibians (2 pts each):

1. Nasolabial groove

2. *Male vs. Female Salamander*

3. Vocal sac: sausage vs. round vs. paired shapes

4. Dorsolateral ridge

5. Cranial crest

6. *Back foot/toes of a slender salamander*

7. Nuptial pad (and number the toes)

8. Paratoid gland

9. Snout-Vent-Length

10. Tympanum

11. Gills on a neotenic salamander

Reptiles (2 pts each):

1. Autotomy

2. Bridge

3. Carapace

4. Gular region

5. Caudal

6. Dewlap

7. Rostral

8. Keeled Scales

9. Plastron

10. Boa/Python vs. Viper labial pits

Part 3. Real Animals. Next, using the various specimens around the room, you will try to find these various morphological characters. For each number above, write down the scientific and common name for each of these terms. (1 pt each).

Once everyone has finished Part 3, we will reconvene to discuss your results and examples. Were there any you couldn't find? Any that you are unsure about? We will take some time to make sure everyone is on the same page before you turn this handout in.

This is not test. Feel free to adjust your answers as we work through this as a group.

This is also a good time to emphasize that several of these labs cannot wrap up until everyone is done. Help each other! The greatest way to test your own knowledge and understanding is to teach another person.