327 Week 5: Amphibian Lab

# Station 1

1. Draw and Name three layers of the epidermis.

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2. Name 6 characteristics that distinguish amphibian characteristics.

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3. Name the three modern Amphibian groups and the groups of fossil tetrapods that likely gave rise to each of these modern groups (see your notes from last week).

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4. What is the taxonomic name for all modern amphibians?

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5. Sketch the generalized differences in the circulatory systems between fishes and amphibians.

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# Station 2 - Salamanders and Newts

1. What is the difference between Caudata and Urodela?

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2. Name several examples of paedomorphic characters found in salamanders. What does paedomorphic mean?

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3. Which four families are found in our region?

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4. Name the major types of bones in the forelimb (5 names)

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# Station 3 - Ambystomidae

1. Name a species of Ambystomid that is most likely to be found locally (know what they look like).

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2. How are Ambystomids currently playing a role in local politics in Sonoma County? (Ask somebody if you don’t know)

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3. Where do these species spend most of their time?

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4. What is the larval stage like?

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# Station 4 - Dicamptodontidae

1. What is the local species of Dicamptodontidae (Also know what it looks like and its common name).

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2. Where do these species spend most of their time?

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3. Describe differences between larval and adult forms

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# Station 5 - Salamandridae

1. Why might the name for this family be considered a misnomer?

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2. What is the Genus of Salamandarids that is found locally?

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3. Name three species (common names) found locally. Describe how to tell them apart?

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4. What do you call the type of coloring found in these species (i.e. why colored that way - how displayed?)

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5. Provide any special information related to handling newts.

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# Station 6 - Plethodontidae

1. What internal trait is characteristic of Plethodontids?

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2. How do the larvae compare with the adults?

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3. What external characteristic will allow you to recognize a Plethodontid slender salamander?

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3. Examine the distribution of Ensatina. If I told you that this genus formed a ring species, what do think that would mean (you can ask if you don’t know)?

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4. Which genera are common to our region?

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5. Be able to recognize the plethodontid species on display. Make notes that help you distinguish these species.

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# Station 7 - Frogs and Toads

1. Name the Order of Amphibians that contain the frogs and toads.

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2. Describe important alterations to the axial skeleton (Urostyle, illium, vertebrae). Why do you think these alterations have occurred?

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3. Describe alterations to hindlimbs related to jumping.

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4. What alterations to sensory structures in anurans might be related to jumping?

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5. Describe the current thinking on the origin of frogs (major ancestral group).

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# Station 8 - Scaphiopodidae

1. What is the common Scaphiopodid species (and common name for this group) found in our part of the country.

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2. What external structure distinguishes this group (Provides name) and what is used for?

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3. What is aestivation and what does it have to do with these toads? (Ask if uncertain)

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# Station 9 - Bufonidae

1. Why are the bufonids considered the “true toads”?

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2. What external gland is notable in bufonids and how are they used ?(think glandularly)

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3. Name a genus of bufonids found in the western US.

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4. Name species of bufonid found in Sonoma County.

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# Station 10 - Hylidae

1. Name the species (and common name) found commonly locally.

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2. What external features would you note in order to recognize tree frogs specimens. What function might these features serve?

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3. Why are we not investing heavily in the current species name for this organism?

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# Station 11 - Ranidae

1. What external characteristics are likely to help you identify a ranid frog?

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2. What is the genus of ranid frog commonly found in the western US?

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3. Name the four species found locally. (Which are considered native?)

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4. Which species should NOT be handled if encountered? Why?

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5. Which species are often purposely killed when found in the western U.S.? Why?

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# Station 12 - Caecilians

1. What morphological characteristics distinguish the Caecilians?

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2. What is the name of this order?

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3. In what sort of environment are these species found?

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4. How do Caecilian origins. Differ from those of salamanders and frogs? (see Phylogeny from Station 1)

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# Review

List the species of Amphibians (species name and common name) profiled in today’s lab that are found in Sonoma County, based on the distribution maps provided.

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