

Biosurfing

You need to read this assignment online to follow the [blue links](#).

Go to [Biodiversity Hotspots](#)

1. In your own words, define a biodiversity hotspot?
2. How many biodiversity hotspots have been identified?
3. Which hotspot is geographically nearest to you?
4. How many endemic insects are in this hotspot?

Use the Species Database to see the threatened species. PubMed and Highwire are indexes to articles published in medical and scientific journals.

5. Check out [PubMed](#) and [Highwire](#) by looking for an article on one of the threatened mammals or amphibians in this hotspot. Give the article's citation in the proper [format](#). Note that PubMed and Highwire are *not* the citation.

Go to [The Tree of Life](#). Click on [phylogeny](#) in the text below the tree.

6. Paraphrase into your own words, what is meant by "the phylogeny of organisms"?

7. Click on the root of the tree. What domain are animals in?
8. Follow that domain. Which of the following is most closely related to fungi? Animals, plants, bacteria

Habronattus is a genus of jumping spiders, and the species *Habronattus americanus* is a colorful and elegant little spider. In the search window, type *Habronattus americanus*. You should see a page of search results, with the first one listed as *Habronattus americanus*. Click on this link. You'll end up on the leaf page for this neat jumping spider.

9. What is an obvious difference between male and female *H. americanus*?

Click back and forth to check out the different spider species in the *Habronattus americanus* group.

10. Do you think it's easier to distinguish the different species of spiders in the *H. americanus* group based on the appearance of the males or the females?

Go to [California State...](#)

What is the ecological *niche* of the California State:

- 11. Bird
- 12. Reptile
- 13. Marine mammal
- 14. Freshwater fish

The San Francisco Bay Estuary is the nation's second largest and perhaps the most biologically significant estuary on the Pacific Coast. Millions of shorebirds and waterfowl stop by during their annual migrations between Alaska and South America. Many over winter here. San Francisco Bay is the only site along the Pacific Flyway where close to a million shorebirds have been counted in a single day Go to the [U.S. Fish and Wildlife Service](#) and follow the link to the Flyways page. [Audubon California](#) is a helpful reference.

15. How many shorebirds pass through San Francisco Bay each day during winter migration?

How is it possible for such a large number of similar bird species such as curlews, avocets, and stilts to exist in an apparently homogeneous habitat? They all eat aquatic snails, insects, worms, and some small fry of fishes.



American Avocet



Long-billed curlew



Black-necked stilt

16. Mark the Pacific Flyway route of the Long-billed Curlew and American Avocet on the map.



17. These birds are found in San Francisco Bay. Type Birds into the [Tree of Life](#) search box and follow the links to identify their family.

- a. To what family do they belong?
- b. What do they eat?