Standards: SB4 a,b

Ecological Relationship Lab; SB4 a,b

The **purpose** of this lab is to understand and demonstrate that everything in an ecosystem is connected and all organisms play a crucial role in the food chain.

Directions: Obtain a card from your teacher to determine your role in the ecosystem. Follow the verbal directions from your teacher to work through the lab. Answer the post lab questions below.

1) Write a few sentences describing the roles that you played during today's activity. What were some of your "connections" with other organisms?

2) List the five species interactions that were possible in this activity.

3) What is symbiosis? Describe a symbiotic relationship you had during this activity.

4) Explain the difference between a population and a community. Provide a specific example of each.

5) Describe which factors of an ecosystem are *not* part of a community. Explain your reasoning.

6) What would happen to organisms in the ocean if all the protists died? Explain your answer.

7) *SB1c Connection*: All living things must be able to make proteins, and protein molecules always contain nitrogen. Explain how the nitrogen used for making proteins in a lion's body traveled from the atmosphere to the lion. How will it be returned to the atmosphere after the lion dies?

8) Use your knowledge of energy flow within ecosystems to offer a simple explanation for the following statement: "All flesh is grass."

9) Explain why an energy pyramid is used to represent the amount of energy at each trophic level.

10) Describe how DDT moves through an aquatic food chain. Explain how this almost resulted in the extinction of the bald eagle.

11) Only about 10 percent of the energy is passed from one trophic level to the next. Explain where the other 90 percent of the available energy goes.

12) Consider one organism you played during the activity and describe your niche as that organism.

13) Draw a simple food chain with at least four trophic levels. Label each trophic level and be sure your arrows are correctly oriented.

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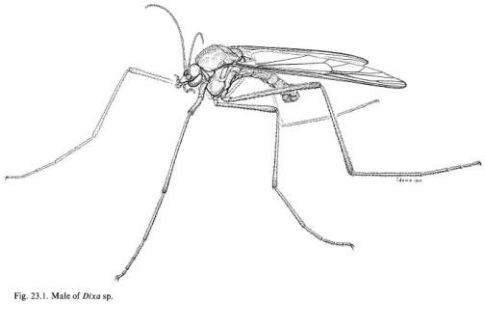

Fig. 23.1. Male of *Dixa* sp.