

COLOR VARIATION IN VENEZUELAN GUPPIES (MECHANISMS OF EVOLUTION) 2

When biologist John Endler began studying a species of wild guppy (*Poecilia reticulata*) in the 1970s, he was struck by the wide color variation among guppies from different streams and sometimes even among guppies living in different parts of the same stream. Guppies from one pool sported vivid blue and orange splotches along their sides, while those farther downstream carried only modest dots of color near their tails. The pictures in Figure 2.1 show how the coloration of guppies can range from drab to bright.

Figure 2.1. Color Variation in Venezuelan Guppies



A guppy with drab coloration



A guppy with bright coloration

Endler photographed hundreds of guppies and carefully measured their size, color, and the placement of their spots. He began to see a pattern where guppies lived in a particular stream and whether the fish were bright or drab.

This led him to wonder: **What caused these trends in the coloration of the guppies?**

With your group, use the information that follows to develop a claim that best answers this question. Once your group has developed your claim, prepare a whiteboard that you can use to share and justify your ideas. Your whiteboard should include all the information shown in the diagram below.

To share your work with others, we will be using a round-robin format. This means that one member of the group will stay at your workstation to share your group's ideas while the other group members go to the other groups one at a time in order to listen to and critique the arguments developed by your classmates.

Remember, as you critique the work of others, you need to decide if their conclusions are valid or acceptable based on the quality of their claim and how well they are able to support their ideas.

The data provided in this activity are for educational purposes only.