The Effects of Blue Light on the Circadian Rhythm of Madagascar Roaches

Gonzalez, Jonathan (School: Buford High School)
Hernandez-Medrano, Estefania (School: Buford High School)

With the development of electronic devices, the blue light that is emitted from them allows for humans to be exposed to them. The exposure to blue light can be damaging during the nighttime, disrupting the natural circadian rhythm. The purpose of this experiment is to see how far the effects blue light can have on Madagascar Roaches.In this experiment, if the Madagascar Roaches are exposed to blue light, there will be disruption in their circadian rhythm, which includes an increase of behavior when the roaches should be asleep which is accompanied with a shift in the circadian rhythm. For each trial there was an experimental group that consisted of five male roaches, exposed to blue light, and a control which was one male roach and was not exposed. Blue light was turned on 30 minutes before their sleep to mimic the disturbance. After this, the roaches were monitor every three hours to check their behavior which included movement and antenna movement for five days. Based on the data collected throughout the experiment, roaches who were exposed to blue had experienced an increase in their behavior as well as a shift in their circadian rhythm. Not only that but it also adds into the collection of studies of Madagascar Roaches. With the data that was collected from the experiment, it will allow for awareness on the effects that blue light has on this experiment.