MAREN W. WENTZEL#, and SARA SAWYER, Department of Science and Mathematics, Glenville State College, Glenville, WV, 26351, Biology**. Investigating the frequency of Wolbachia infection in West Virginia arthropods.**

Wolbachia is an intracellular bacterial symbiont that infects the reproductive tissue of Arthropods, particularly insects. Wolbachia is transmitted primarily through the ova cytoplasm, and alters reproduction of their host. Wolbachia have been linked with male killing, feminization of genetic males, parthenogenesis, and most often with cytoplasmic incompatibility. Due to these effects on reproductive success, Wolbachia is a suspected driver of evolution and speciation in arthropods. Investigations of the frequency of infection in insects around the world suggest that an equilibrium has been reached with infection rates ranging from 20% to 65%. We are investigating the infection rate with Wolbachia in arthropods in central West Virginia to determine the frequency of infection in this area. Insects were collected in the summer and fall of 2015 from wooded and meadow areas of the Campus of Glenville State College, as well as in Lewis County in the area surrounding Stonewall Jackson Lake, and fixed in 95% ethanol. To date, 193 of the 284+ collected insects, have been identified to species. DNA is being extracted from the identified species, and infection determined by using the polymerase chain reaction (PCR) using Wolbachia specific primers. To date, 36 of 73 insects tested have been demonstrated to have Wolbachia infection. To get a clear understanding of the percent of infection in this area, more insects must be collected and sampled. Determining the infection frequency by Wolbachia is an important first step in understanding the impact of these bacteria on insect evolution and speciation in West Virginia.