

AUTUMN G. DODSON, EMILY YOUNG, DEANNA M. SCHMITT, Department of Biological Sciences, West Liberty University, West Liberty, WV 26074 and CLAUDIA OSPINA, Inter American University of Puerto Rico, Bayamon, Puerto Rico. Investigating the antimicrobial activity of a crude leaf extract derived from *Piper* species.

A growing number of human pathogens are becoming resistant to most common antibiotics. Each year, antibiotic-resistant infections are responsible for 35,000 deaths in the United States and billions of dollars in health care costs. This problem is magnified by the fact that very few new antibiotic therapies have been developed and approved for human use in recent years. Historically, plants and other products found in nature have served as essential sources for the discovery of novel antibacterial agents. *Piper* species are aromatic plants whose secondary metabolites have been shown to have wide ranging human health effects including anti-tumor, anti-diabetic, and anti-inflammatory activity. In collaboration with Dr. Claudia Ospina at Inter American University of Puerto Rico, we generated a crude chemical extract from *Piper* leaves and will be assessing the antimicrobial activity of this extract against a broad range of bacterial species known to exhibit multidrug resistance. Future studies will involve isolating the active compounds (and/or fractions) from the *Piper* crude extract using column chromatography and/or HPLC. The pure compounds will be characterized using different spectroscopic techniques such as NMR, IR and MS. We anticipate isolating and identifying several bioactive compounds from the crude *Piper* leaf extract that exhibit antimicrobial activity.