

JADA VOELLINGER AND JOSEPH HORZEMPA. Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV, 26074. Validation of the antimicrobial activity of *Nymphaea odorata* extract.

We previously screened a library of nearly 4000 extracts of plants, marine life, and fungi from the National Center for Natural Product Research to identify compounds that exhibited antimicrobial activity. From this screen, *Nymphaea odorata* (Fragrant Water Lily) extract significantly inhibited the growth of *Burkholderia cepacia* (an opportunistic pathogen frequently associated with drug resistance). The objective of this project is to validate the antimicrobial activity exhibited *N. odorata*, extract and to isolate and identify the compound(s) responsible for this activity. For this project we conducted ethanol extractions on three different parts of the plant: the rhizome, roots, and stems. These antimicrobial properties of these extracts will be determined using two different drug resistant bacteria, *Acinetobacter baumannii* and *Pseudomonas aeruginosa*. Here, we will utilize both disk diffusion and time-to-kill assays to determine the presence of antimicrobial compounds. The results from the first round of tests showed that the extracts were not inhibiting the growth of these bacteria, so the extract concentration was increased for subsequent investigations. Moreover, the gram-positive bacterium, *Staphylococcus aureus* was also tested for susceptibility. (Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence)