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Antibiotic Potential of Flathead Fungi and Flora

Widespread overuse of antibiotics in medical and agricultural industries has resulted in extensive antibiotic resistance at the global level, which poses an immediate threat to human health. The most commonly used antibiotics are currently synthesized from fungi & bacteria, yet other organisms such as lichens, bryophytes and pteridophytes have sparked scientific interest as potential sources of antimicrobial compounds, but only a small fraction of species have been tested. The overarching goal of our research is to determine whether locally occurring fungi, lichens, bryophytes, and pteridophytes have antibiotic potential against several pathogenic bacteria. One-hundred-and-ten plant and fungal specimens were collected, identified, dried and deposited in the FVCC herbarium. Samples were later prepared for antibiotic analyses using ethanol extractions and tested using the Kirby-Bauer disk diffusion method. Extractions from 9 different lichen, 3 bryophytes, and 1 pteridophyte species inhibited growth of *Staphylococcus epidermidis,* but none inhibited that of *E. coli*. Our continued research in this area will involve testing extractions from additional fungal, plant and lichen species against these bacteria, and combining various extracts to determine whether we can produce more synergistically effective antibiotics.