Scent of Science

Wyoming hosts diverse sagebrush (Artemisia) and conifer species, including Juniperus and pines, yet their bactericidal properties are largely unexplored. We evaluated antimicrobial effects of extracts from several Artemisia species (A.a nova, A. frigida, A. tridentata vaseyana, A. tridentata tridentata, A. tridentata wyomingensis, A. cana), and juniper species (J. osteosperma, J. horizontalis, J. scopulorum). Additionally, we studied lodgepole and limber pine (Pinus contorta and P. flexilis, respectively), Engelmann spruce (Picea engelmannii), tumbleweed (Salsola tragus) and fetid marigold (Dyssodia papposa). We also utilized various plant parts, including the flowers, arils, berries, leaves, and stems, from different plant species. Extracts were tested using the Kirby-Bauer method on Staphylococcus aureus, Escherichia coli, and Pseudomonas aeruginosa. Results suggest potential for these plants as antimicrobial agents, with A. nova and A. tridentata vaseyana showing strong activity, particularly against S. aureus and P. aeruginosa. Among conifers, J. scopulorum, especially berries, exhibited the strongest effect against S. aureus. Not all plants showed antimicrobial properties. These findings also highlight potential for further ethnobotanical research into their traditional uses.