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Cultural Convergence in the Classroom—Student Stories of Medicinal Plant Use May Predict New Sources of Pharmaceuticals on the Plant Phylogeny

Plants have been used since antiquity for healing various ailments and afflictions. Medicinal botany is the study of how these plants have been used traditionally as therapeutic agents. In this new course, students will make medicinal plant extracts and test them for antibacterial and antioxidant properties, authenticate herbal supplements, and present a medicinal plant species important to their own cultural background. Throughout the course, students will work collaboratively to compile medicinal plant species including plants presented by their classmates, reconstruct the plant phylogeny on which to superimpose the plant's medicinal applications, and identify plant groups depicting cultural convergence—closely related plants used by various cultures for the same medicinal application. These plant groups are assumed to possess evolutionarily unique natural products that have pharmacological potential for a specific application. We will work together as a class to write up the results to be submitted for publication in the peer-reviewed journal EvoS. For these students to be able to publish their work early on would be the culmination of student learning, with an impact transcending the classroom and potentially catalyzing their careers in science.