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San Diego Botanic Garden Hosts Medicinal Plants Research Symposium to Bridge Traditional Knowledge with Modern Science and Invigorate Local Collaborations

Consortium of researchers, tribal governments, and community partners collaborate to celebrate plant-based solutions and foster new medical discoveries

San Diego, Calif. (March 12, 2024) – San Diego Botanic Garden (SDBG) hosted its first Medicinal Plants Research Symposium on February 27, bringing together leading researchers from academia, industry and nonprofits, along with tribal governments and other community partners to celebrate accomplishments from the first phase of its collaborative Medicinal Plants Project and look ahead at the future of medicinal plants research.

Launched in 2022 with funding from The Conrad Prebys Foundation, the project was initiated to create the first medicinal plant collection and consortium of its kind in the United States. As many as 40% of all drugs found in modern pharmacies today are directly or indirectly derived from plants. Yet, the rate of plant-based drug discovery has declined in recent decades, in part due to lack of readily available medicinal plant collection resources. Led by SDBG, the consortium brings community collaboration to the forefront, connecting experts of diverse backgrounds across industries and sectors to uncover new and expanded plant-based medicines in an innovative way.

“The symposium has been an incredible opportunity for us to look back on successes of the past two years and also forward to the future,” said SDBG Director of Medicinal Plants Ben Naman, PhD. “Our partners have been paramount to the development of our collection, guiding us on everything from plants of focus and their traditional uses to conducting vital plant research and biomedical evaluations. We are honored to play a role in bridging researchers with Indigenous knowledge holders and industries in a way that isn’t conventionally done.”

Critical to this work is partnering with Indigenous communities, who have used plants as medicine since time immemorial and still do to this day. As the original native inhabitants of what is now San Diego County, the Kumeyaay, Cahuilla, Cupeño, and Luiseño people have lived in this region for more than 10,000 years, using native plants to heal and nourish. The Jamul Indian Village of California (a federally recognized Kumeyaay nation) and the Pala Band of Mission Indians (a federally recognized Cupeño and Luiseño nation) are key partners in the ongoing medicinal plants project at SDBG, educating and advising on traditional practices, tribal sovereignty, and participating in decision making about medicinal plant research and development.

“This experience was nothing short of amazing, and we are looking forward to doing more with our collaborative partnership,” said Bryn Fragua of Flower Hill Institute, a nonprofit founded and operated by members of the Jemez Pueblo of New Mexico. Flower Hill Institute Co-Founders Brophy Toledo and Roger Fragua added, “We’re already talking about next steps including identifying and growing native medicinal plants together to help conserve the plants against pressures of urbanization and climate change, and preserving our knowledge about plants in our native language for our young people and the generations to come.”

On the laboratory side of the project, SDBG is working closely with Salk Institute for Biological Studies and California State University San Marcos on potential drug discovery using genomic, transcriptomic, and metabolic methods to study a specific group of medicinal plants under controlled growing conditions. Two species of focus include the California yerba santa (*Eriodictyon californicum)* and California sagebrush (*Artemisia californica).*

“The medicinal plant garden and research program at SDBG is integrating traditional knowledge with modern research to harness the power of plants to empower communities,” said Todd Michael, PhD, a research professor in the Plant Molecular and Cellular Biology Laboratory at Salk Institute. “We are building something that could transform research.”

In addition to the formation of a 16-partner research consortium of organizations throughout the region, project successes at SDBG within the first two years include:

- Construction and operation of a new 2,100 square foot medicinal plant greenhouse.
- Addition of 648 newly acquired medicinal plant taxa to the Garden’s living collection from field expeditions, partner organizations, and responsibly sourced commercial nurseries.
- Three new educational gardens within SDBG, including a healing herb bed in The Hamilton Children’s Garden; a Native California herbal garden; and new medicinal garden adjacent to the Native Plants & Native People trail that was developed with the Jamul Indian Village of California 25 years ago.
- In-person and online educational programming about medicinal plants and their foundational role in modern medicine for visitors and community organizations, including a special workshop last week that included healers and teachers from Brazil, Georgia, New Mexico, Arizona, and San Diego, along with recurring folk herbal classes.
- Launch of a new mobile phone app, which will be available this spring and will allow visitors to locate and learn about medicinal plants via a self-guided tour throughout the Garden. Featuring more than 50 plants, the tour includes audio translations, and will be available in both English and Spanish.

Looking ahead, SDBG will work with the consortium to continue to evolve the program and expand into new partnerships, regions, and plant species of focus with a goal of becoming a resource for medical and botanical researchers, traditional knowledge holders, native and Indigenous communities, conservation institutions, and other interested groups worldwide.

Partners involved in this project include the academic institutions of California State University San Marcos, Kumeyaay Community College, Salk Institute, University of California San Diego, and University of Southern California Alzheimer's Therapeutic Research Institute; non-profit companies Flower Hill Institute, the San Diego Branch of the Ludwig Institute for CancerResearch, Sanford Burnham Prebys Medical Discovery Institute, and SRI International (formerly Stanford Research Institute); small and large for-profit companies Aquillius, Cellibre, Ionis Pharmaceuticals, Pathlight Healing, and Wildflower Biopharma; and Native American Indian tribal governments from the Jamul Indian Village of California and the Pala Band of Mission Indians.

Funding for the medicinal plants collections and research consortium is made possible by The Conrad Prebys Foundation, the Dickinson Family Foundation, and philanthropic donors. For more information, please visit www.sdbg.org.

About San Diego Botanic Garden:
Established in 1970, San Diego Botanic Garden (SDBG) is a 37-acre urban oasis located in Encinitas, California, just north of San Diego. The Garden's four miles of trails and 8,000 square foot glass conservatory display more than 5,300 plant species and varieties. A premiere institution for botanical science and conservation, SDBG is actively involved in conservation horticulture, botany, and applied plant sciences to address our biggest local and global challenges, from biodiversity loss to climate change, food insecurity to environmental degradation. SDBG has the largest public bamboo collection in North America; gardens representing different regions and flora of the world; and demonstration gardens showcasing fruits and vegetables, water-smart ornamentals, and native plants. Through an array of educational programming, events and activities for both children and adults, the Garden aims to create, share, and apply plant wisdom to the world. Learn more at sdbg.org. | FB @SDBotanicGarden | Instagram @sandiegobotanicgarden | Twitter @SDBGarden | TikTok @sandiegobotanicgarden

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