OBITUARY

MARGARET ANN DIX
(MAY 19TH, 1939 – JUNE 2ND, 2025)

Award of the "Medal Ricardo Bressani" with Michael W. Dix, at the UVG, 2017. Modified from the personal archive.

Margaret was born on the island of Jersey in the English Channel, at La Planque, her family's farm. She earned a bachelor's degree with first-class honors in zoology, with a minor in limnology, from the University of London, and later completed a master's degree in zoology at Mount Holyoke College in Massachusetts. Under the guidance of Edward O. Wilson, she studied ecology and entomology at Harvard University. There she met her colleague and life partner, biologist Michael W. Dix, with whom she began a closely intertwined professional and personal journey starting in 1966. Their life together began as an adventure and left a lasting impact on their family, students, colleagues, and the field of Neotropical biological science.

In the late 1960s, Margaret and Michael selected Central America and Mesoamerica, respectively, for their doctoral fieldwork. In 1972, after receiving a Latin American Teaching Fellowship from Tufts University, they chose Guatemala as their destination. This decision marked the start of a lifetime dedicated to teaching, research, and conservation in the country. Partnering with the *Fundación Universidad del Valle de Guatemala* (FUVG), they developed the curriculum for the country's first Licentiate degree in Biology by the end of 1972, working together with Mario Dary-Rivera, who was developing the curriculum at the University of San Carlos de Guatemala, the country's public university. In the early years of the program, Margaret and Michael taught all the biology courses at both universities, training the first generation of biologists in Guatemala, including Margarita Palmieri and Ana Maria de Merida. The foundation laid by Margaret and Michael not only thrived in academia but also left a lasting impact on Guatemala, its people, and natural resources.

Margaret left a lasting impact on her students, not only through her classes but also through hands-on laboratories and fieldwork. Along with Michael, the

Fieldwork at Agua Blanca, Jutiapa with Ximena Leiva, 2014. Photo by M.L. Maldonado.

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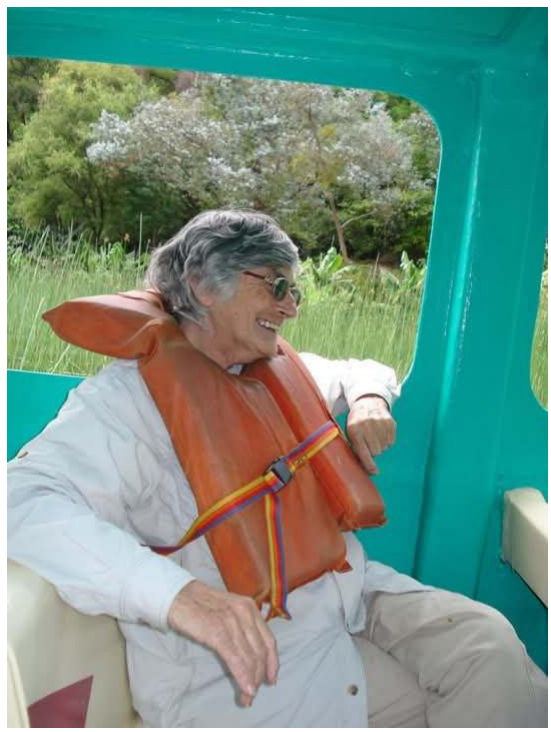
University's academic community, and students, she helped lead the reforestation of the area around the American School of Guatemala (CAG for its Spanish acronym) and the University of the Valley of Guatemala (UVG). The ravine reserve area at the central campus later became the Botanical Garden and Biological Collections, which were named in honor of Margaret and Michael Dix in 2024. After the February 1976 earthquake in Guatemala, construction started on the pond in the lower part of the reserve, where Margaret introduced her students to freshwater ecology. That same year, the Science Building was inaugurated, with laboratories designed by Margaret and Michael. These spaces are still used today to teach the new generation of biology and chemistry students.

In 1978, with the arrival of the first scientific equipment from abroad, the Center for Environmental Studies and Biodiversity (CEAB for its Spanish acronym) was established. The first project was led by Michael Dix in collaboration with the National Forest Institute (INAFOR) in 1977. It focused on identifying and eradicating the pine weevil, Dendroctonus spp., in pine-oak forests. The project ended due to the impact of Guatemala's internal armed conflict. From 1977 to 2001, Margaret served as Director of the Department of Biology at UVG. Whenever a curious and interested student approached, she enthusiastically shared her experience, knowledge, and ideas for future research to promote their curiosity and critical thinking skills. Margaret and Michael worked closely as scientific advisors with the teams from the Ministry of Environment and later the National Commission for Protected Areas.

Between 1997 and 2002, Margaret, along with Michael, launched the Master's Degree in Environmental Studies, developed with support from the Ministry of Energy and Mines of Guatemala (MEM for its Spanish acronym), to enhance the professional quality of its graduates. Her interdisciplinary approach and passion for knowledge were evident in every class, project, and mentorship. Over the years, Margaret taught courses for undergraduate and master's students in general biology, sociobiology, terrestrial and aquatic ecology, vertebrate and invertebrate anatomy and physiology, and water resources management. The variety of courses she taught demonstrated that she was a multidisciplinary academic who could integrate knowledge across fields and share her curiosity and enthusiasm for learning with others.



At lake Atitlán, 2010. Photo by Hugo Villavicencio.

Since 1973, Margaret has actively participated in the Guatemalan Orchid Association (AGO for its Spanish acronym). She believed that science should be accessible to everyone, so at the AGO, she promoted citizen science before it became widely popular. Her collaborative work with Michael led to the publication "Orchids of Guatemala: A Revised Annotated Checklist" in 2000, as well as the taxonomic review of the genus *Lycaste* in the compendium "Flora Mesoamericana", both edited by the Missouri Botanical Garden, making it an essential reference for Guatemalan botany. Additionally, she authored several scientific articles on aquatic ecology and epiphyte diversity; those about orchids were published in this journal.

Margaret, together with Michael, served as a vital link between Guatemala and the international community of orchid researchers, generously paving the way for scientific collaboration and exchange at a time when such connections were difficult. Through her expertise, hospitality, and intellectual rigor, she connected foreign specialists with Guatemalan orchids and landscapes, fostering lasting relationships with figures such as Carlyle A. Luer and Calaway Dodson of the Marie Selby Botanical

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With Milena Montúfar and Claudia Santizo at the UVG ecology laboratory, circa 1987. Photographer unknown.

Checking the biological collections at classroom C-102 A from the UVG, circa 1990. Photographer unknown.

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With Gerardo Salazar, in Mataquescuintla, 2008. Photo by M.L. Maldonado.

Gardens; Carl Withner of the Brooklyn Botanic Garden; Mark Whitten from the Florida Museum of Natural History; Joseph Arditti of the University of California, Irvine; Gustavo Romero of the Oakes Ames Orchid Herbarium at Harvard University; Miguel Angel Soto Arenas and Gerardo Salazar of the Mexican Association of Orchidology and UNAM; Robert L. Dressler of the Lankester Botanical Garden and the Missouri Botanical Garden; and Henry Oakeley of the Royal Botanic Gardens, Kew. These, along with many other colleagues, regarded Margaret as a trusted partner and collaborator, recognizing her as a prominent Neotropical orchidologist devoted to the exploration, study, and conservation of Guatemalan flora. The scope of her interdisciplinary research and teaching exceeds what can be captured in a few pages. Her collaborative spirit led to the creation of multiple research programs at UVG, including the CDC (Centers for Disease Control and Prevention) malaria program, which had a multiplying effect on university research. With funding from the National Academy of Sciences, she established biological control projects targeting the malaria vector (*Salvinia* spp.).

Along with Michael, she was part of the scientific team that helped establish the Maya and Sierra de las Minas Biosphere Reserves, inspiring students to conduct basic research, which is documented in numerous theses under her mentorship. Meanwhile, she supported Michael in successfully advocating for the university's acceptance of the donation of the FUVG Farm in Alta Verapaz and the creation of the Quetzal Refuge Reserve in Suchitepéquez, on the Atitlán volcano. Both sites became important locations for future research at the Center for Environmental Studies and Biodiversity.

Her passion for limnology motivated Margaret to dedicate herself to saving important bodies of water in Guatemala, including Lake Izabal and Lake Atitlán. Her love for Lake Atitlán prompted her to support the Atitlán Study Center (CEA for its Spanish acronym) at UVG's Altiplano campus, both in person and remotely through May 2025. By that time, she had left behind

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At the scientific station in the Reserve " Refugio del Quetzal", Atitlán Volcano, Suchitepéquez, 2003. Family archive.

the draft of her final paper, which highlights a decade of work on the lake.

Beyond her remarkable scientific career, Margaret was a devoted mother who involved her children in her various academic and field expeditions. Alumni remember her for her strength, warmth, and intellectual generosity. Gerda Huertas, one of her students shared: *Among my most valuable memories are the field trips. What impressed me was that Margaret often traveled with Michael, accompanied by their three children, including the youngest, who was still a baby. On my first trip with them in 1983, while we did our summer fieldwork in ecology, Michael was shipwrecked in the Golfete of Lake Izabal, having stayed behind with the field supplies and luggage boat to ensure all students left safely for the field site wearing life vests and in daylight. As Margaret tended to her children and worried about Michael after the last boatload of students arrived without him until the early hours of the morning, she continued to attend to the students. I marveled at her strength in difficult moments. Her and Michael's support led me to improve my writing in Spanish, my licentiate thesis on waste from African palm refining, and later projects such as the economic importance of tillandsias in Guatemala. She was my academic mother and someone I could trust and whose example I would emulate in my own life.*

For her part, Ximena Leiva, a colleague on biodiversity issues, mentioned: *I got closer to Margaret working as a professional on biodiversity issues. I have a few pictures of her, but many of her hands, always patiently showing me something new.*

Mayra L. Maldonado also shared one of many treasured memories: *I will forever miss the few quiet afternoons in the Department of Biology at UVG, when she would sit with me in the orchid herbarium, with an identification guide in hand and the drawing stereoscope, helping me identify difficult specimens, and talking about how we could fix the world.*

Margaret Dix's legacy spans multiple generations. Her life exemplified a dedication to science,

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On the road to Agua Blanca, Jutiapa, 2014. Photo by M.L. Maldonado.

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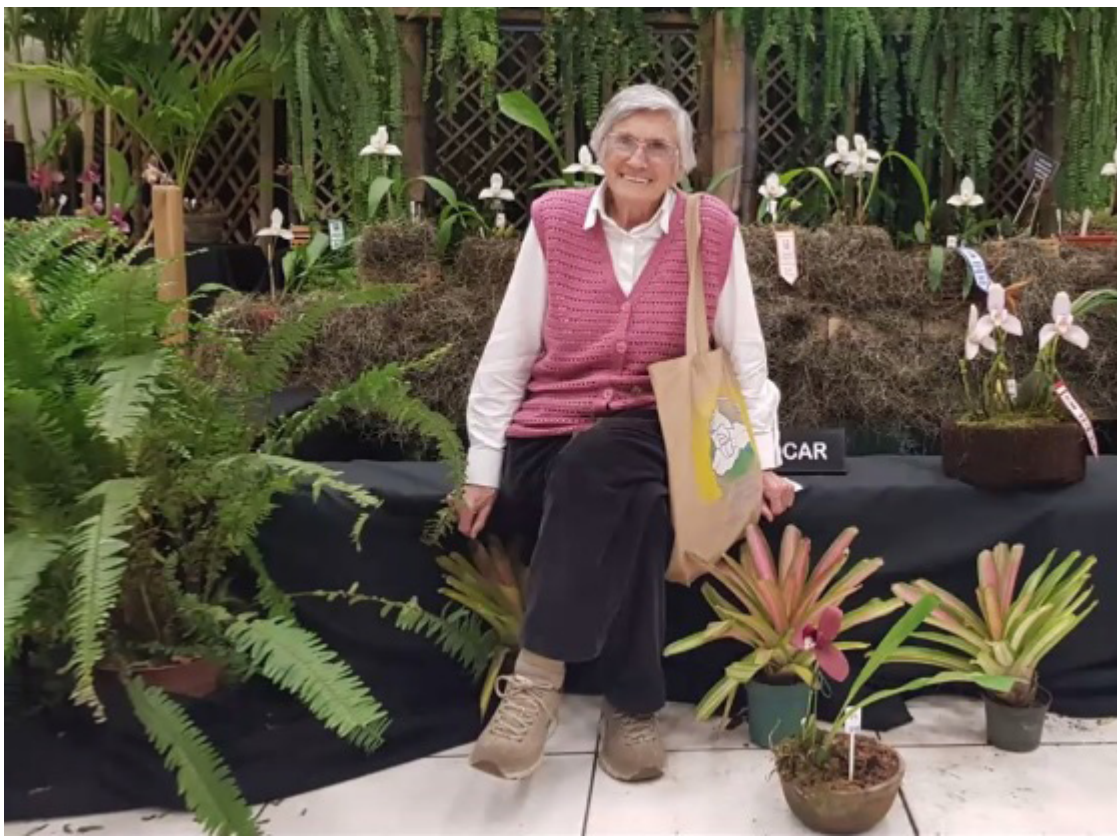
education, conservation, and humanity. Guatemala and the scientific community of the Neotropics are deeply thankful for her contributions. Today, many of her former students—who trained with discipline, dedication, and vision—lead environmental organizations, shape public policies, and promote sustainable development through influential roles in government, civil society, and academia. In each of them and their achievements, a part of her lives on legacy.



At the XLIV National Orchid Show by the AGO, in the venue "José Mariano Arzú Castillo", Guatemala, 2018. Photo by Maria Cristina de Bianchi.

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