Sharing in Africa's Secrets

by Terrence Walters, Executive Director

For decades, the most intensive research studies and conservation initiatives for cycads have taken place in southern Africa. In fact, of the eleven genera of cycads worldwide, the two genera endemic to the African continent, *Encephalartos* and *Stangeria*, are probably the best known from a biological, systematic, and conservation perspective. This scientific work has been accomplished by a diversity of individuals—from those at botanical institutions and universities in southern Africa to the local nursery growers, landscapers, and enthusiasts. Their commitment to this special group of plants stimulated the creation of the highly-regarded South Africa Cycad Society

Given their accomplishments, I wanted to revisit these individuals in South Africa (I had visited in 1993 during the Cycad Conference) to learn their secrets for success. I also wanted to share with them and their institutions the potential that Montgomery's palm and cycad collections have to offer to the African scientific community. So, in May, my wife, Deena, and I left for a month-long trip to southern Africa to exchange secrets with fellow cycad scientists, garden administrators, and other conservation-oriented folks.

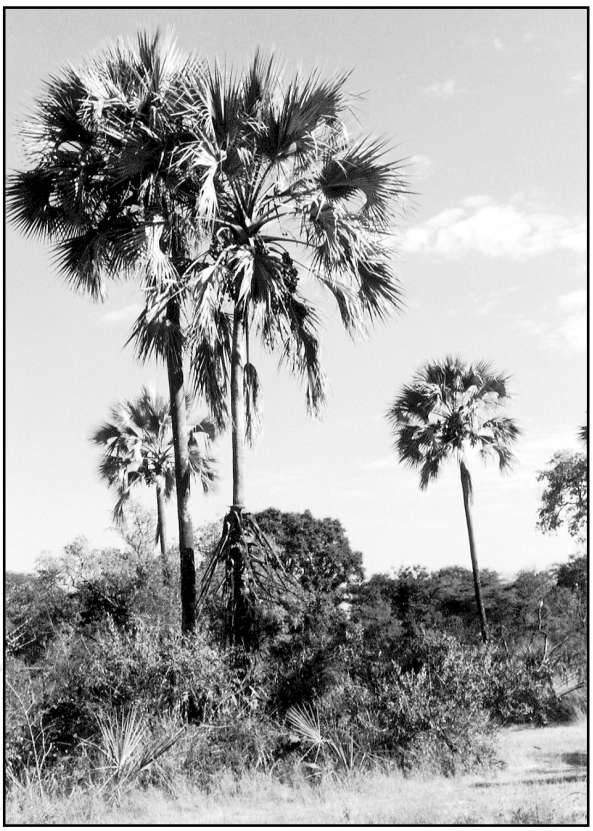
Dr. John Donaldson, Research Scientist at Kirstenbosch and one of the leading cycad scientists in the world, was our host in Cape Town. Kirstenbosch (one of eight National Botanical Gardens in South Africa) is an outstanding garden set in an unusually beautiful setting—at the base of famous Table Mountain. The Kirstenbosch Cycad Collection is extensive, representing the majority of South African species. In addition to field studies of numerous species in the wild, Dr. Donaldson makes use of the garden's collection to promote the propagation, conservation, and horticultural care of these rare cycads. At my lecture to the garden's scientists and horticulturists, I focused on similar issues relevant to the scientific development of Montgomery's palm and cycad collections. Afterwards, Deena and I drove north to the quaint wine-producing town of Stellenbosch.

Dr. Piet Vorster, a botanist at the University of Stellenbosch, was our host in this bucolic region just an hour outside of busy Cape Town. Dr. Vorster has undertaken extensive taxonomic research on many native South African cycads and continues to be a vital player in the country's extremely active cycad society. After meeting with various scientists, students, and the curator of the university's garden, I presented an hour-long talk which focused on Montgomery's developing database and mapping protocols.

After a few educational days in Stellenbosch, we headed for Durban by way of the Garden Route along the southern coast. Durban is a vibrant resort city with beautiful beaches and tropical weather. The climate and soils of the area are outstanding for growing cycads and palms, as well as most other tropical plants. Chris Dalzell, who manages Durban Botanic Garden for the city's Parks Department, takes advantage of these resources, overseeing a remarkably healthy and diverse collection of intensively planted cycads and palms. Chris kept us busy for two days touring a number of gardens and visiting nurseries associated with the Parks Department. We talked at length about future cooperation between our institutions and how we could support each other as we both develop *ex situ* plant collections. I was excited to see the great success Chris was having with the vegetative propagation of endangered cycads. Before my visit to Durban was over, I gave a relaxing evening lecture to scientists from the local university, the garden's horticulturists, and a large number of extremely enthusiastic individuals from the local branches of the cycad and palm societies.

By way of the majestic Drakensburg Mountains, we next drove to the capitol city of Pretoria, one of my favorite South African cities. Pretoria was the venue for the 1993 International Cycad Conference which I attended when I was a cycad scientist at Fairchild Tropical Garden. At that time, Hans Heilgendorff guided me through Pretoria National Botanical Gardens. On this trip also, the Curator of the garden, along with his new cycad horticulturist, treated me to a personal tour. Large new tracts of the garden had been opened up for collections, new plantings had been installed, and new areas for educational exhibits and public events had been constructed. The cycad collection was as beautiful as I had remembered it. The garden must be commended for their use of the collection in the landscape design. For my afternoon lecture at the garden, I had an outstanding turnout of palm and cycad horticulturists and enthusiasts, all with many questions and wonderful comments about Montgomery Botanical Center.

Our last stop before flying to Zimbabwe was the Lowveld National Botanical Gardens in Nelspruit. Johan Hurter, the Horticulturist at the garden, filled my entire day with tours of his extremely large and magnificent garden, the nursery, the famous seed orchards associated with the conservation collections, and various private collections in Nelspruit. In the early 1980s, Lowveld seriously began collecting the endangered species of *Encephalartos.* It was soon realized that a display collection was unsatisfactory for seed production and research; cones were being stolen and the



equipment used in artificial pollinations distracted from the garden's aesthetic appearance. The staff also realized that more plants of a species were needed to maintain genetically viable populations and that such numbers could not be accommodated within a display area because of space limitations and lack of public appeal. Thus, a completely new approach to the management of endangered plant species was adopted by Lowveld. They established seed orchards of approximately 50 to 100 individuals per species in a section of the garden that became closed to the public. Only seeds of known provenance, or produced from plants of known provenance, were used. Lowveld and Johan must be commended for their commitment to cycad education, conservation, and propagation. Their support of both a public display area and a protected research/conservation area is rather unique in the world for a botanical garden.

Ian Turner's private botanical garden, Springs Farm, contains one of the largest cycad collections in the world. He cares for literally thousands of plants! Set on the outskirts of the Zimbabwe's capitol city of Harare, Springs Farm has also developed internationally recognized collections of orchids, bromeliads, succulents, tree ferns, and palms. The climatic conditions, soil, and topography of Springs Farm, along with Ian's love of all plants, are conducive to growing almost every cycad species in the world.

My early mornings with Ian were spent critically reviewing small portions of Ian's collection, and then we would be off to visit some of the botanically and geologically diverse areas of eastern Zimbabwe. I met with key personnel at two gardens during our travels. Vumba Botanical Garden, south of Mutare, has an extensive, but still relatively young cycad collection thanks to Ian's plant donations. The National Botanical Garden in Harare has a rich diversity of palms. I met with individuals at this garden to set up future seed exchange between our institutions. During our time in the field, I had the opportunity to see an extensive native population of one of my favorite palms, *Raphia farnifera*. Fruits of this species are eaten by vervet monkeys. Cleaned seeds were scattered all over the valley floor, indicating that the monkeys had recently finished a meal. Later, during a short visit to northwestern Zimbabwe, I saw extensive stands of the palm *Phoenix reclinata* as well as populations of *Hyphanea petersiana* along the Zambezi River.

Ian assisted in scheduling my lecture for the Palm & Cycad Branch of the Aloe, Cactus, & Succulent Society of Zimbabwe. Held in Harare, the lecture was attended by over 50 people from the society, the community, and the National Botanical Garden. The large comfortable auditorium was a wonderful place to talk about Montgomery's past, our Master Site Plan, and our plans for the future. Beginning at 6:00 p.m., I lectured for 45 minutes. We then paused for about an hour to eat and socialize, and of course to have tea. This intermission gave me the opportunity to interact with various officers and members of the succulent society. The enthusiasm and love of cycads and palms by the members showed me why this society is so healthy and productive. At 7:45 p.m., I continued with my lecture, which was then followed by many questions concerning Montgomery. Michael Kimberly, Honorary President of the society, presented me with a beautiful statue and a book on Zimbabwe succulents to complete what had been a most delightful evening.

The world's cycad community, including enthusiasts, students, educators, and scientists, is fortunate to have so many supporters in southern Africa. These individuals, who truly love cycads, are undertaking whatever they can to promote, protect, conserve, and propagate their native species. Fortunately, they were willing to share with me some of their secrets for success. Hopefully, this information will allow me to make Montgomery Botanical Center an even greater asset towards their endeavors.