

The Bonsai Collection of Stellenbosch University Botanical Garden

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A panoramic view of Stellenbosch, Western Cape, South Africa.

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South Africa has long been recognized for its picturesque landscapes, large wildlife species, and stunning plant diversity. Housing roughly 10 percent of the world's vascular plant biodiversity (about 30,000 taxa) on less than 1 percent of the earth land surface, it is the only country in the world that contains its own floristic kingdom (the Cape Floral Kingdom) within the confines of its borders. With plant endemism rates as high as 70 percent in the Western Cape, South Africa has continued to fascinate plant explorers, botanists, and horticulturists. Flowering geraniums (*Pelargonium* spp.), bird-of-paradise (*Strelitzia reginae*), and the calla lily (*Zantedeschia aethiopica*) are just a few of the South African plants that are now known to gardeners worldwide.

A Garden Grows in Stellenbosch

The town of Stellenbosch is located in South Africa's Western Cape province. It lies on the eastern flank of the Cape Flats, situated at the base of the commanding Hottentots-Holland Mountains, which provide an inspiring back-

drop to the municipality. The Stellenbosch University (originally called the Stellenbosch Gymnasium) was established in this agricultural and wine-producing region in 1866. In 1902, the University made efforts to establish the first botanical garden in Africa to be housed in an institute of higher education. Augusta Vera Duthie was the first lecturer in botany at Stellenbosch and undertook this initiative in order to grow plant material for educating botany students at the school. In 1902, the first garden was laid out in front of the Main Building where it remained for twenty years. In 1922, under the guidance of Dr. Gert Cornelius Nel, the garden was moved to accommodate the growing collections and to establish a permanent site. The 1922 design included transectional and circular order beds for botanical education and were inspired by the world's oldest botanical garden in Padua, Italy. As Stellenbosch University Botanical Garden (SUBG) has developed over the decades its plantings and design have changed in response to the evolving mission of the garden and the priorities set

forth by the curators. The garden today features a mix of historical, ornamental, and scientific collections.

Some of the botanical wonders that the garden displays to attract visitors include the Santa Cruz water lily (*Victoria cruziana*), giant Dutchman's pipe (*Aristolochia gigantea*), jade vine (*Strongylodon macrobotrys*), many orchid species, carnivorous plants, a fern house, a tropical greenhouse, and herb and vegetable gardens. It also houses scientific collections such as the South African taxonomic reference collection for the expansive genera *Oxalis* as well as plants of conservation concern that are threatened in the wild such as the king sundew (*Drosera regia*) and the geophyte *Haemanthus pumilio*.

The garden also features quintessentially South African collections such as towering groves of giant white bird-of-paradise (*Strelitzia nicolai*), succulent gardens, and a fynbos garden (fynbos is the primary vegetation group of the Cape Floral Kingdom). Its two succulent greenhouses have a storied history based on the extensive collections development undertaken by the SUBG's first curator, Dr. Hans Herre, who accrued vast holdings of succulent flora such as the South African near endemic family *Aizoaceae*. These greenhouses feature some of the garden's most unusual plants such as a quiver tree (*Aloe dichotoma*), the stunningly beautiful *Drosanthemum bicolor*, and the sprawling, contorted gymnosperm, *Welwitschia mirabilis*.



This 1966 photo shows one of the Stellenbosch University Botanical Garden greenhouses filled with succulents, *Welwitschia mirabilis*, and other plants.



MILES S. SAX

Clockwise from upper left: Narrow-leaved bird-of-paradise (*Strelitzia juncea*); A formal pond at Stellenbosch University Botanical Garden displays water lilies, including the platter-like Santa Cruz water lily (*Victoria cruziana*); *Drosanthemum bicolor*, a South African succulent with showy flowers.

A Unique Bonsai Collection

One collection in particular at SUBG stands out for its distinctive character—the bonsai collection, whose plants have played a central role in the development of a unique horticulture practice in Africa. Known as the Western Cape Heritage Bonsai Collection, it is the oldest and largest public bonsai garden in Africa. What makes this collection special is the wide variety of indigenous species used, its development by

a cast of interesting characters, and the display of the internationally recognized African styles of bonsais.

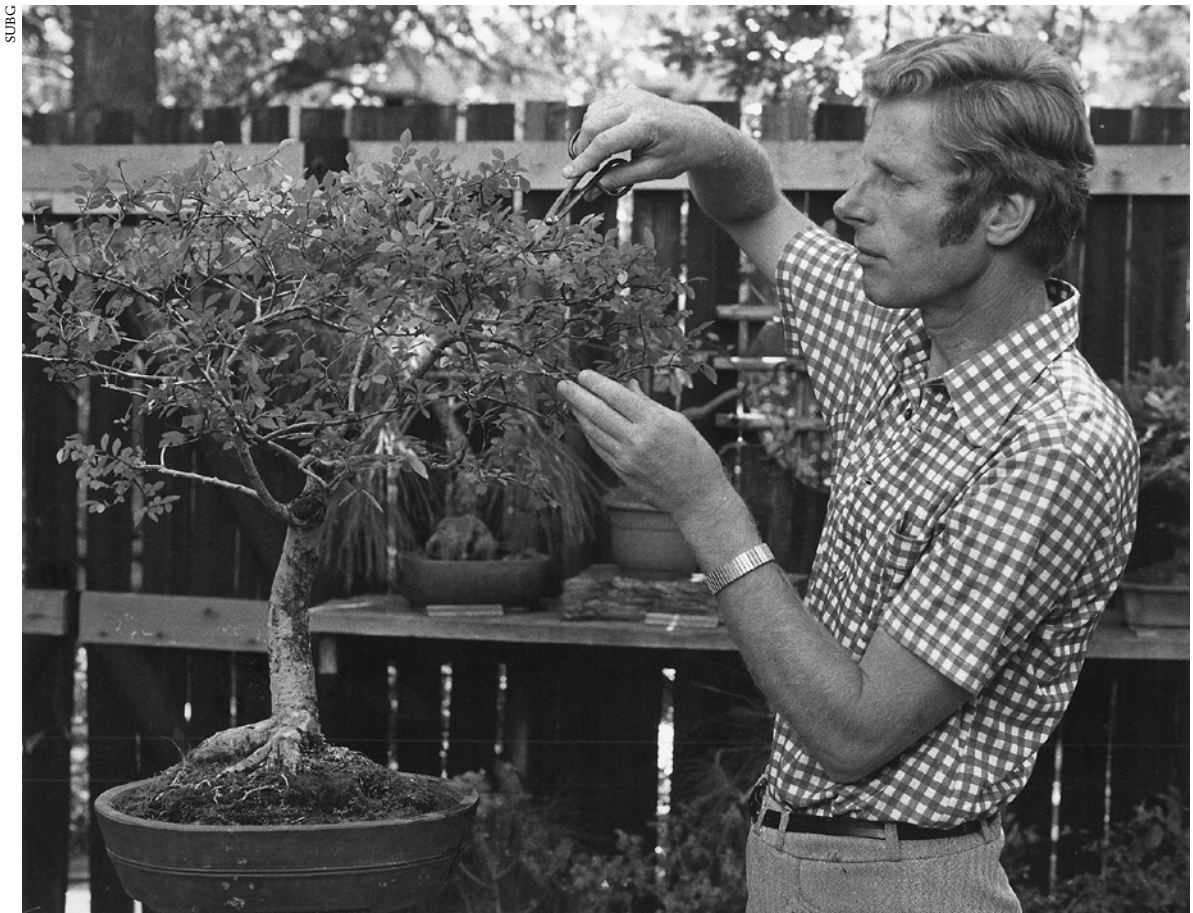
Originally established in 1972, the bonsai collection was incorporated into the gardens by Wim Tijmens, SUBG curator from 1962 to 1999. Wim is recognized for establishing much of the SUBG layout and design that provide the defining elements of the landscape today. His passion for the temperate flora of East Asia took

him on many trips to China and Japan. Many of the stately temperate-climate tree species that are found throughout the garden were acquired during his tenure.

Wim's passion for Asiatic horticulture led him to mastermind the creation and development of the bonsai collection. Much of the success of the garden's bonsai collection and its special focus on African trees can be attributed to his vision. In an article in the Stellenbosch local paper (Tijmens 1968) Wim wrote about a visit to New York and the bonsai in the Brooklyn Botanic Garden: "In South Africa we can give the art of bonsai our own character by using indigenous species. It will create overseas interest and also highlight our own flora." He mentioned that bonsai specimens of some South African trees such as the yellowwood

(*Podocarpus falcatus*) were already housed in New York in the collection of Frank Okamura, who maintained the Brooklyn Botanic Garden's bonsai collection from 1947 to 1981.

While there had been some bonsai in the garden since at least 1968, it wasn't until the bonsai collection of Mrs. Becky Lucas was donated in the 1970s that a bonsai-en (a structure or space specifically for bonsai) was specially constructed at the SUBG. Lucas is widely acknowledged as the first practitioner of bonsai in South Africa, starting as early as 1939. Over the years, Lucas built up an impressive collection of miniature trees; she was remembered for having over 300 potted specimens on her tiny patio. She made several trips to Japan, spending considerable time studying with Japanese bonsai masters, and was a powerhouse in the promo-



Wim Tijmens, Stellenbosch University Botanical Garden curator from 1962 to 1999, is seen working on a bonsai specimen in this undated photograph.



Louis Nel with his outstanding *Buddleja saligna* bonsai trained in the Pierneef style.

tion and instruction of bonsai in South Africa. When she donated her collection, SUBG curator Wim Tijmens had some trouble explaining the significance of the gift to the University's chancellor, who didn't know what bonsai was.

The next big donation to the collection came from the Reverend Gerjo van der Merwe, a minister in the Dutch Reformed Church. According to his family, he was one of the first bonsai enthusiasts to grow indigenous bonsai from seeds in South Africa. From Van der Merwe's personal notes his deep love of nature and the belief in the healing power of trees shines through as an obvious motivator for his bonsai passion. Because he was often transferred, he decided to use soil from the family farm in Boplaas in which he transported small trees with him on his travels. "I believe that the growing of bonsai is a healthy help to heal this broken relationship. By growing trees from your own

region and to take it with you is a strong way to keep and protect the association with a specific place and the sense of belonging."

The third significant donation of bonsai to the collection was that of Louis Nel. His collection was donated on March 20, 2012. Nel was internationally known as the king of *Buddleja saligna*, an evergreen South African species commonly known as false olive or squarestem butterflybush. Nel started working with bonsai in 1974 and his skill and reputation quickly grew. Throughout his life he was a regular contributor to bonsai magazines and participated in many international bonsai demonstrations. A number of his trees won international competitions; an outstanding example is SUBG accession 2012-1, one of Nel's *Buddleja saligna* bonsai. This tree now stands as one of the garden's premier specimens, highlighting a South African native plant as well as a style of

bonsai training, known as Piern-eef, which originated in South Africa and has gained international repute.

In 2010, the garden's bonsai house was moved because the shade of nearby large trees created conditions that were not ideal for bonsai. The bonsai collection is now housed in a large area adjacent to the visitor center and gift shop, giving it a central stage in the garden.

Plant Species in the Bonsai Collection

The SUBG bonsai house contains many familiar bonsai subjects such as conifers and maples. But as one makes one's way through the collection it quickly becomes clear that the plant material is anything but traditional. A wide assortment of tree species from South Africa compose the majority of the collection, interspersing widely variable forms, textures, and unconventional styles. The non-traditional approach to the use of plant material and styles that have developed in South Africa have set bonsai culture here on its own unique and diverging path from bonsai's origins in China and Japan. The South African ethos of exploration, questioning of status quo, and adaptation is expressed through the developed bonsai culture and exemplifies the meaning of horticulture as an expression of the interaction between the human and plant. The miniature trees that make up the collection are a mix of classical and contemporary styles of bonsai. Many subjects exhibit the traditional strict, regimented, and controlled aesthetic associated with Japanese style, but with the collections use of unusual plant material,



A Japanese black pine (*Pinus thunbergii*) bonsai started by South African bonsai pioneer Becky Lucas over 70 years ago.



This dormant Natal fig (*Ficus natalensis*) bonsai, recently donated to Stellenbosch University Botanical Garden by Tobie Kleynhans, shows the species' distinctive aerial roots.

it trend towards the less exacting and playful penjing style of China. The tree species found in the SUBG collection weave their own story of the development of bonsai in South Africa.

The oldest trees in the collection date back to the 1940s and were created by South African bonsai pioneer Becky Lucas. Her original trees are the classic bonsai subject, Japanese black pine (*Pinus thunbergii*), which is native to Japan, China, and Korea. As Lucas continued to develop her passion and skill in bonsai, she mostly used the traditional Eastern pallet of plant species including trident maple (*Acer buergerianum*), deodar cedar (*Cedrus deodara*), and Atlas cedar (*Cedrus atlantica*). As the SUBG collection developed over the decades and new bonsai growers added their contributions, many other familiar bonsai subjects joined the collection including dwarf Japanese garden juniper (*Juniperus procumbens* 'Nana'), lacebark or Chinese elm (*Ulmus parvifolia*), and *Ligustrum ovalifolium*, which oddly goes by the common name California privet despite being native to Japan and South Korea.

Although South African bonsai started out with traditional Eastern influences it has become adapted and transformed as a result of its interpretation in Africa. It is unclear what prompted the beginning of use of African plant species for bonsai in South Africa. It can be speculated that perhaps a lack of suitable imported plant material from Japan and East Asia during World War II might have limited availability.

The first African tree in the collection to be adapted for bonsai was the Natal fig (*Ficus natalensis*) by Ian Ross in 1948. The native range of *Ficus natalensis* extends from Mozambique, Malawi, and Zimbabwe to South Africa. It is cultivated in southeastern Africa as a shade tree and living fence. The genus *Ficus* is commonly used for traditional bonsai and has been



An African olive (*Olea europaea* subsp. *africana*, syn. *O. e.* subsp. *cuspidata*) bonsai created by Louis Nel.

a popular choice for growers for many centuries. For example, a specimen of *Ficus retusa* (syn. *F. microcarpa*) in the Crespi Bonsai Museum in Italy is purported to be over 1,000 years old.

Ficus natalensis was likely selected to be trialed in bonsai culture as a substitute for East Asian species because it has traits that emulate those of traditional bonsai species. Over the years Natal fig has proved itself as an excellent selection for development as bonsai and its popularity has expanded, making it a mainstay for growers in South Africa and abroad. *F. natalensis* makes up one of the largest groups of species in the SUBG collection, comprising around 10 percent.

Another African species that has become very popular for bonsai is *Olea europaea* subsp. *africana* (syn. *O. e.* subsp. *cuspidata*), a subordinate taxon of the commonly known European olive tree. The distribution of this subspecies ranges widely from Africa through the Middle East, India, and China. It is widely grown in parks and urban environments for its stress tolerance and cold hardiness (Joffe 2002). The species displays small, lustrous, evergreen leaves that form dense canopies, and greenish white

Popular South African Styles

Of the six styles described by Charles Ceronio, the three that have gained widespread adoption in South Africa are the flattop, Pierneef, and baobab styles (Adam 1992, Ceronio 1999).

Baobab style

This style focuses on mimicking the iconic African baobab tree (*Adansonia digitata*). Baobabs in the wild are considered to be one of the world's largest trees, not for their height, but for their impressive girth. These trees tend to grow with massive central trunks giving away to relatively short branches. Adapted to growing in regions with high summer temperatures, the genus is found throughout tropical Africa and Madagascar. For the baobab bonsai style the focus is placed on the upright trunk habit, giving the impression of a large central section while the branches are kept short. Seldom seen in collections, this style can be accomplished by using taxa such as the African baobab itself, corkwood (*Commiphora* spp.), or coral tree (*Erythrina* spp.). In order to convincingly emulate the thick trunk, bonsai trainers often select several upright stems and use twine or wire to pull the multiple stems together, thus fusing them into a single trunk. This style was principally developed by Charles Ceronio.



A baobab (*Adansonia digitata*) growing in South Africa's Kruger National Park.



A 28-year-old baobab bonsai created by article co-author Willem Pretorius.

Pierneef style

The Pierneef style is an open umbrella-shaped tree form. It invites the viewer to imagine the tree spreading wide over an expansive savanna landscape. The umbrella form itself is created by the tight zigzag branching pattern reminiscent of acacia species, such as *Acacia sieberiana* (syn. *Vachellia sieberiana*), found throughout Africa. The style was named after South African artist Jacobus Hendrik Pierneef (1886–1957) whose paintings often focused on landscapes, portraying them with dramatic flair and strong geometric overtones. Bonsai in this style favor leaning or naturalistic curved trunks. Single specimens or grouped trees can be trained in the Pierneef style and the over-arching branching pattern can be adapted to multiple layers in the tree's canopy. African plants used for the Pierneef style include *Acacia* species, *Olea europea* subsp. *africana*, and *Buddleja saligna*.

Flattop style

The flattop style is similar to Pierneef except that it lacks the drooping umbrella branches. This style is also very reminiscent of open savanna *Acacia* species. The form is exactly as the name states, branching upwards to form a horizontally expanding canopy, with short branch growth. The same species used to create Pierneef style bonsai can be used for the flattop style.



Louis Nel's *Buddleja saligna* bonsai trained in the Pierneef style.



Mpumalanga, a painting by South African artist Jacobus Hendrik Pierneef, shows the umbrella-like tree forms often seen in his works.

flowers borne in axillary panicles. These combined characteristics make for a fine bonsai subject and *Olea europea* subsp. *africana* has become widespread in use. The earliest known African olive bonsai in the SUBG collection (accession # 2012-178) was from Gerjo van der Merwe and was started in 1960.

Over time an assortment of African tree species have been trialed for their use as bonsai and subsequently entered the collection. These have included taxa such as *Sideroxylon inerme*, an evergreen tree with lustrous, leathery leaves and round, purple-black fruits (specimen by van der Merwe from 1957); the kei apple (*Dovyalis caffra*), a spiny evergreen shrub with edible fruit (specimen by Wim Tijmens from 1960); *Gardenia thunbergia* (specimen by Becky Lucas from 1960); *Acacia galpinii* (specimen by Becky Lucas from 1964); and *Grewia occidentalis*, a sprawling evergreen shrub with pretty lavender pink flowers (specimen by Louis Nel from 1981). The use of unconventional trees for bonsai displays a spirit of exploration and nonconformity that is ever-present in South African culture.

The South African Bonsai Styles

One of the most curious elements of South African bonsai is the development of a series of distinctive styles that are unique to the plants and horticulture of the country. These bonsai interpretations diverge from the traditional styles found in China and Japan, giving rise to elegant forms seldom encountered in the world of miniature trees. The derivation of the South African bonsai styles comes from interpretation and mimicry of the architecture of an assortment of quintessentially African trees. These African styles are the Pierneef, the baobab, the flat top, the bushveld or natural, the wild fig, and the wonderboom (“boom” means tree in Afrikaans). South African bonsai expert Charles Ceronio is credited for development of many of these styles and he writes about them in detail in his book *Bonsai Styles of the World*.

Traditionally, trees selected to be used for bonsai are chosen because of particular desirable phenotypic characteristics such as small leaves or a unique branching habit. These characteristics give the trees the proper dwarfed effect in their mature states. Some plant species



The iconic umbrella-like form of *Acacia* is emulated in several South African bonsai styles.

from the South African flora are used to create bonsai that emulate the forms of other South African species. For example, *Buddleja saligna*, which grows as a shrub or small tree, has been expertly crafted into bonsai that mimic the form of the much larger paperbark thorn (*Acacia sieberiana*, syn. *Vachellia sieberiana*). The paperbark thorn, with its dominantly spreading, umbrella-like branches, is often cited as inspiration for the flattop and Pierneef styles of bonsai. The SUBG collection holds numerous excellent examples of these styles created from *Buddleja saligna*. When observing shrubby *B. saligna* in the wild one would not necessarily imagine it to be well suited for bonsai, but with its fine-textured silvery green leaves, the species proves to work exceptionally well. While *B. saligna* makes for fine architectural shaping,



Many plant species and bonsai styles are on display in Stellenbosch University Botanical Garden's bonsai house.

there is some question as to the longevity of this tree for bonsai because of the shrub's soft wood. The collection of *Buddleja* specimens at SUBG will stand as a long term trial of the species' suitability as a bonsai subject. Just over 10 percent (23 of 213 specimens) of the collection is made up of this single taxon.

The Western Cape Heritage Bonsai Collection Today

The collection has been looked after for the past 25 years by volunteers, mostly from the local club called Boland Bonsai Kai. The club members meet monthly and have workshops in the botanical garden. Beginners are trained separately at different workshops by senior members. This year the fourth African Bonsai Convention will be hosted in Stellenbosch. It will also be the first time that the directors of the World Bonsai Friendship Federation will meet in Africa. There will be a number of bonsai craft demonstrators from the United States, France, and England. The club will have tours during the conference to introduce visitors to the collection. It is an exciting opportunity to showcase the best bonsai Africa has to offer.

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Willem Pretorius is the current chairman of the South African Bonsai Association, the Western Cape Bonsai Forum, and Boland Bonsai Kai. A retired journalist and writer, he is a keen bonsai enthusiast who has traveled to Japan, China, Europe, and Namibia on bonsai tours.