

Singapore Botanic Gardens: Gardens of Heritage

Text by Ada Davis
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Recently declared a UNESCO World Heritage Site, the first in the nation, the Singapore Botanic Gardens is rich with heritage and interesting landscapes that support biodiversity in a city of more than five million people. It has a long history that spans more than 156 years, almost to the time of Singapore's founding, and a walk through its grounds can yield first-hand experiences with its heritage.

The Gardens dates back to 1859, when the Agri-Horticultural Society was granted 22 hectares by the colonial government for its establishment. The property contained six hectares of jungle that supported a wealth of biodiversity, including the Malayan Tiger, and this fragment of jungle still exists today as the Gardens' Rain Forest. Seven Heritage Trees, trees identified and protected by the National Parks Board (NParks) for their botanical, social, historical, or cultural values, are found there. These trees are native as well as huge examples of their species. Three belong to the Meranti genus of dipterocarps (*Shorea gratissima*, *S. macroptera* and *S. pauciflora*). This family, Dipterocarpaceae, is one of the most important components of tropical forest in Southeast Asia, much of which has been cleared for other purposes, such as the cultivation of African Oil Palm (*Elaeis guineensis*). Together with the Rain Forest's Jelawai (*Terminalia subspathulata*), Jelutong (*Dyera costulata*), Antoi (*Cyathocalyx sumatranus*) and gigantic strangling Johore Fig (*Ficus kerkhovenii*), these trees enable the Gardens' visitors to have some understanding of the great forest that once clothed the island of Singapore.

More than 50 other Heritage Trees are scattered around the Gardens' grounds, each with its own interesting history. The most famous of these is the "five dollar Tembusu" (*Cyrtophyllum fragrans*), a stately tree that graces one of the lawns in the oldest part of the Gardens at the Tanglin Core. It is in fact a Singapore icon, appearing on the back of the Singapore five dollar note, and many of today's Singaporeans have fond memories associated with it. But the historic value of this more than 150 years old tree goes beyond recent history, providing clues into what the surrounding landscape may have looked like early in the Gardens' development. In contrast to the more upright form that Tembusu trees have in their natural habitat, the result of rapid growth upwards to reach the top of the forest canopy and sunlight, the "five dollar Tembusu" instead is broader and has a long and low branch that indicates that it developed in a more open environment. Historical reports suggest that this part of the Gardens was once covered in a secondary vegetation type known as *belukar*, and the "five dollar Tembusu" provides living evidence to support this.



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1. A boardwalk makes the treasures of the Gardens' Rain Forest accessible to visitors. This quiet part of the Gardens is a six hectare piece of jungle that came with the Gardens when it was granted to the Agri-Horticultural Society in 1859. It contains seven Heritage Trees that have seen generations of visitors to the Rain Forest (Photo: National Parks Board).
2. The Rain Forest provides homes for a variety of biodiversity, such as the Common Plantain Squirrel (*Callosciurus notatus*; shown here), the Many-lined Sun Skink (*Eutropis multifasciata*) and the Paradise Tree Snake (*Chrysopelea paradisi*), along with a host of birds (Photo credit: National Parks Board).
3. The "five dollar Tembusu" in Tanglin Core. Today, it is surrounded by a fence to protect its root zone and famous low and long branch. This tree is an icon of the Gardens and Singapore itself, as it is featured on the back of the five dollar note (Photo credit: National Parks Board).
4. The Tiger Orchid that was planted by Niven in 1861 measures five metres across today. Recently, a low fence was introduced around it to protect it (Photo: Yam Tim Wing).
5. Although Palm Valley was not created until after Lawrence Niven left his position, it is a good example of the English Landscape design style employed in the Gardens. Palm Valley was developed by James Murton, who maintained the design style of his predecessor while introducing species of botanical interest (Photo: Singapore Botanic Gardens and National Parks Board).

At the opposite end of the Gardens, the Bukit Timah Core contains remnants of the former Economic Garden, where species of economic potential were trialled during the late 19th and early 20th centuries. The White Gutta (*Palaquium obovatum*) Heritage Trees are a good example from this period, having been planted in 1897 by former director Henry Ridley. The latex from trees in the genus *Palaquium* was used to insulate early undersea telecommunication cables.

But it is another latex-producing species that Ridley and the Gardens are most famously associated with—the Pará Rubber tree (*Hevea brasiliensis*). When Ridley first arrived to the Gardens in 1888, the Economic Garden contained at least 1,000 rubber trees that were just beginning to mature and set seed. They were the offspring of 11 seedlings that had been planted by former superintendent James Murton. Ridley experimented with different ways to tap the latex, selected the best strains, and developed techniques to enable the raw product to be preserved for export. Both Ridley and his successor, Henry Burkill (director from 1912 to 1925), were responsible for sending out millions of rubber seeds and seedlings throughout Southeast Asia and beyond, leading to the transformation of the region's economies. The third-generation descendants of the first rubber trees can be seen by visitors, and an on-site Heritage Museum contains interactive exhibits on Ridley's work with rubber, providing further opportunities to engage in this part of the Gardens' history.

The Heritage Trees are not the only living examples of the Gardens' heritage. For instance, in Tanglin Core there is a Tiger Orchid (*Grammatophyllum speciosum*) that was planted in 1861 by Lawrence Niven, the first appointed manager of the Gardens. Impressively, this plant,

which dates back to just two years after the Gardens' establishment, is still thriving today. At five metres across, this orchid is not easy to miss, and lucky visitors may even catch it in bloom.

Although the Tiger Orchid is the only individual plant in the Gardens known to be associated with Niven, the design of the surrounding landscape bears his mark. Niven developed the Gardens in the style of the English Landscape movement, which emphasises free-flowing landscapes and naturalistic designs. This is in fact one of the most special features of the Gardens' heritage, as it is the only historic garden in the tropics designed in this manner.

One of the earliest landscape features laid out by Niven in 1860–1861 is the area known as the Bandstand. But the iconic gazebo that visitors find there today was not actually built until 1930, and for the nearly 70 years prior to this, the area was simply an open parade ground. In its early history, military bands played there, and crowds would gather around to listen. Musical performances continued through the years, with the gazebo providing an elevated platform where bands could perform after it was built. Concerts are still put on at the bandstand on occasion, allowing attendees to participate in a tradition that dates back to the early days of the Gardens.



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There are several other historic structures that grace the Gardens' landscapes. While not as famous as the gazebo at the Bandstand, the Victorian Gazebo that stands near Swan Lake is one example. It was built in the 1850s in Britain and was originally placed at Grange Road in Singapore. This gazebo was brought to the Gardens in 1969, and although structures of this type can be seen in Britain, they are rare in Singapore. Near the centre of the Gardens, Corner House is an attractive Black and White bungalow that was once occupied by E.J.H. Corner, the Gardens' famous assistant director who employed pig-tailed macaques to collect botanical specimens from tree tops. Visitors can appreciate its architectural style from the lush surroundings or experience it from within while dining at the restaurant housed there today.

But the most significant of the Gardens' "brick-and-mortar" heritage examples is Burkill Hall. Situated at the highest part of the Gardens in the National Orchid Garden, Burkill Hall was built in 1867 as a residence for Niven (it was later named in honour of two of the Gardens' former directors, Henry Burkill and his son Henry). This building is an Anglo-Malay plantation-style residence, and is characterised by a nearly pyramidal roof with greatly overhanging eaves that are supported by wooden pillars. There are verandas at either end of the upper floor which are connected by a long corridor that creates a wind-tunnel effect and cools the living quarters. Burkill Hall was built shortly after the era of nutmeg and clove cultivation and while other houses in this style were also built along Orchard Road, and also in Penang, Malaysia, they have all gone by the wayside, leaving Burkill Hall as possibly the only remaining unaltered example of its kind in the world.

On display next to Burkill Hall are numerous orchid hybrids that have been named for VIPs in a Gardens tradition dating back to 1956. Since the start of the VIP Orchid Naming Programme, more than 200 VIPs have had Gardens-bred hybrids named for them. Teams of orchid breeders have produced hybrids at the Gardens since 1928, their work being possible due to advances in orchid cultivation made by former director Eric Holttum, who had begun working at the Gardens in 1922. He employed a little-known laboratory technique that enabled the successful germination of orchid seeds, a feat difficult to accomplish because of their complicated biology. Holttum's method revolutionised the hybridisation of orchids and enabled large-scale orchid production in the region.



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6. Burkill Hall is possibly the last unaltered example of an Anglo-Malay plantation-style residence in the world (Photo: Benjamin Aw, Singapore Botanic Gardens and National Parks Board).

7. A long open corridor carries cooling breezes throughout the living quarters on the upper floor of Burkill Hall (Photo: Benjamin Aw, Singapore Botanic Gardens and National Parks Board).

8. The Victorian Gazebo is a lovely heritage structure that sits near the edge of Swan Lake (Photo: National Parks Board).

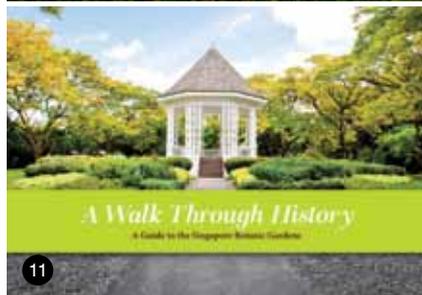
9. Holttum Hall is an architectural hybrid between the British Arts and Crafts style and local tropical Asian features. This heritage feature, completed in 1921, was built for Eric Holttum. Today, it houses the Heritage Museum and is a must-see for any visitor interested in the Gardens' history (Photo: Singapore Botanic Gardens and National Parks Board).

10. The iconic Bandstand has held a long tradition of hosting musical performances. Although most of the Gardens' performances are now put on at the newer Shaw Foundation Symphony Stage, concerts are still held at the Bandstand on occasion (Photo: Singapore Botanic Gardens and National Parks Board).

11. *A Walk Through History – A Guide to the Singapore Botanic Gardens.*

References

This article was adapted from *A Walk Through History – A Guide to the Singapore Botanic Gardens*. Written by Nigel Taylor and Ada Davis, and published by the National Parks Board in 2015, it is a handy and portable guide for those interested in a first-hand experience with the Gardens' unique features and its heritage.



Visitors can observe parts of the process developed by Holttum through the viewing windows of a modern laboratory at the Gardens' Botany Centre. Holttum Hall, the former orchid laboratory of Holttum and where this innovative technique was first employed, is nearby. Holttum Hall can easily be explored by visitors, as this historic building, completed in 1921, houses the Gardens' Heritage Museum today.

Thus, a walk through the Gardens will provide numerous opportunities to engage in its heritage. Living features such as its Heritage Trees, along with "brick-and mortar" examples like Burkill Hall, are complemented with opportunities to experience the less tangible aspects of its past, such as the tradition of enjoying musical performances on its lush lawns. All of these aspects of the Gardens provide a connection to the history that makes it worthy of being Singapore's first UNESCO World Heritage Site.

For more information, visit the Singapore Botanic Gardens' website at www.sbg.org.sg and Facebook page at www.facebook.com/SingaporeBotanicGardens. 