

E.J.H. Corner — Mabblerley's mentor — and his contributions to the Singapore Botanic Gardens' heritage

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ABSTRACT. The life and work of E.J.H. Corner during his time at Singapore Botanic Gardens, and how this contributed to the Gardens' eventual inscription as a UNESCO World Heritage Site, is discussed.

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It is a pleasure to contribute to this celebratory publication for Professor David Mabblerley, my former colleague at the Royal Botanic Gardens, Kew, and frequent visitor to the Singapore Botanic Gardens (SBG). One of the people that SBG and David have in common is Professor E.J.H. Corner (1906–1996), who was Assistant Director at SBG, 1929–1942, and later David's PhD supervisor at the University of Cambridge (1970–1973). While I have known David for some years, unfortunately I never had the chance to meet Professor Corner, but that lack has been to some degree compensated by the biography of Corner by his former student (Mabblerley, 1999) and that by his estranged son, John Kavanagh Corner, who honoured me with the job of reading the draft manuscript and offering suggestions prior to its publication in 2013 (J.K. Corner, 2013). It is largely these works from which the following notes have been drawn up and, as stated in the preview printed in the latter book, the reader is sent on an emotional roller coaster through the life of this extraordinary botanist. Here, however, I will concentrate on Professor Corner's work at and contributions to SBG and its heritage, now Singapore's first UNESCO World Heritage Site.

Edred John Henry Corner's association with Singapore began in 1928 when, as a recently graduated student from Sidney Sussex College, Cambridge, he met R.E. Holtum (1895–1990), who had by then for three years been Director of the Straits Settlements' Botanic Gardens, headquartered in Singapore. Holtum was seeking a mycologist to add to SBG's small scientific team, and Corner fitted the bill. He was instructed to contact the Colonial Office in London and apply for the post, which turned out to be that of Assistant Director. He sailed to Singapore to take up this position in early 1929, aged 23. Though mycology may have been Holtum's reason for acquiring Corner's services, the latter was in fact an all-round biologist, whose interests in the tropics soon spread beyond the world of fungi (though these were not forgotten). Besides fungi, his letters to friends at home mention 'hordes of mosses', seaweeds and the inaccessible canopy of the towering tropical forest, which he later conquered by means of trained botanical monkeys.

Soon after taking up his post on 1 March 1929, Corner began exploring the Malayan forests, especially those closest at hand in Johore, across the Causeway north of Singapore. (Most of Singapore's natural forest vegetation had already been highly modified, but that on the hills in Peninsular Malaya was more intact). Later he also travelled up and down both of Johore's Sedili Rivers (Kecil and Besar), which were to inspire his seminal study of freshwater swamp forest published much later (Corner, 1978). Though employed to study fungi he found that during the year these had two seasons of abundance, when they kept him very busy, but outside of these periods he could study plants, especially the huge diversity of forest trees. However, in Singapore the government proposed to abandon the officially recognised forest reserves, because most no longer had economically viable supplies of timber and policing them was difficult. One exception was the Bukit Timah forest around the highest point on the island. Nevertheless, illegal logging was impacting this last refuge, and too little was being done to prevent theft of timber. Corner took it upon himself to stop the plunder, and got a Chinese logger into court where he was heavily fined despite protests from the Chinese Chamber of Commerce. By 1936, the forest on Bukit Timah was preserved due in no small part to the lobbying efforts of Holtum and Corner during the preceding years. Today it is the Bukit Timah Nature Reserve, the largest surviving tract of semi-virgin forest in Singapore, home to many of the tallest trees on the island, and an important site for SBG's research.

By 1931, one tree was already attracting Corner's particular attention — the durian (*Durio zibethinus*), a species that would later give its name to the Durian Theory, his pioneering attempt to explain the origin of tree species and the ancient tropical forest (Corner, 1949; Mabberley, 1999: 84). 1931 may also be the year when Corner began to work with his famous botanical monkeys (see below). In 1933, Corner went on home leave to Britain, returning to Singapore in 1934. During the return voyage the ship docked at Colombo (Sri Lanka) and the captain told him they would be there for eight hours only. Corner obtained a car and drove up the long steep road to Kandy to visit the famous Peradeniya botanic garden founded by the British in 1821. How long he had there is difficult to guess, but it was enough for him to obtain fruits of the tropical American Cannonball tree, *Couroupita guianensis* (Lecythidaceae), whether with or without the permission of the garden's authorities we don't know. What is probably the same huge tree grows at Peradeniya still, and is presumably the mother of two officially recognised Heritage Trees in Singapore, both planted by Corner in the 1930s: one in SBG's Ginger Garden, the other in Tanglin Road opposite the British High Commission (Taylor, 2019: 13). Amongst Corner's diverse responsibilities, beyond those of the Botanic Gardens itself, was the planting of roadside trees in Singapore, and Tanglin Road was one of those planted during the 1930s, as recorded in the Gardens' annual reports. There is also a fine Broad-leaved Mahogany (*Swietenia macrophylla*) a little further up Tanglin Road, which I assume he planted, and which has now also been conferred Heritage Tree status.

Following his return to duties in 1934 he began to visit the Sedili rivers in Johore more frequently and made some remarkable discoveries, the most surprising being the strange leguminous Tahitian or Otaheite chestnut, *Inocarpus fagifer* (syn. *I.*

edulis), previously known only from Polynesia and Borneo. Sadly, the forest beyond the swampy margins of these rivers has nearly all gone, replaced by plantations of African Oil Palm. The marginal vegetation, however, in part survives, and it was the series of its transformations from the saline coastal areas to upstream, where the water was no longer influenced by the sea tides, that became one of Corner's most important floristic-ecological studies (Corner, 1978). Today, some of the results of his investigations can be seen replicated in the Keppel Discovery Wetlands of SBG's Learning Forest, a recreated freshwater swampland showcasing the serial vegetation types and key successional species based largely on his Sedili expeditions (Lim, 2017). One of these was nearly his last as he contracted the often deadly Japanese river-fever (Tropical Typhus), spending weeks in Singapore's General Hospital in delirium for days on end, the local archbishop calling on his cathedral congregation to pray for Corner's survival on a daily basis! This life-threatening experience did not deter him from visiting the Sedilis many times in later years, but he had apparently learnt that trousers must be worn, not shorts, as the disease is spread by mites that bite unprotected skin.

In the Singapore (Straits Settlements) Botanic Gardens' Annual Report for 1939 today's most well-known work by Corner was announced — *Wayside Trees of Malaya*, which was soon to be published in two volumes by the Government Printing Office in July 1940 (Corner, 1940). Like all great works it has stood the test of time, the revised third edition (Corner, 1988), long since out of print, still being a sought-after publication even if the classification and nomenclature employed are rather out-of-date, being written long before the modern molecular revolution fundamentally revised our view of relationships amongst higher plants. It was based on ten years of observations in the field, liberally illustrated with his own drawings and photographs, and described from life c. 950 species of trees, native and introduced, that might be encountered by the roadside or in villages of what is now Western Malaysia and Singapore. Employed as a mycologist at first, Corner had been distracted by the need to emphasise the value of forest and trees, whose conservation he saw as vital. His description of the different forest floras in the various areas of the Malay Peninsular at the start of the book's first volume gives a measure of how much he had travelled in the region, often using his local leave and free time to achieve what was clearly a labour of love. The preface is worth quoting:

'To write a book about Malaya for all who find beauty and inspiration in the life of the country has been my object. We sorely need books about natural history, whether they be for schools or for grown-ups because, in our exploitation and destruction of natural resources, we must not forget that one mark of civilisation is the regard men bestow on wild things. It has always seemed to us the duty of biologists to prepare from time to time books on natural history which will serve as guides and companions above all to amateurs, in whom the flame of knowledge burns brightest, that each generation may play its part in preserving the natural history and the wild life of the country. We have chosen trees as our subject because all the native richness of Malaya depends on the integrity of

its forests. If a delight in trees and a respect for their majesty can be created, even among a small body of persons, our country will never suffer the tragic domestication which many lands have tamely undergone. Botanists know too well that when forest is destroyed the ancient verdure of the earth is lost forever; trees depart in flames and no mantle descends to clothe our ignorance.'

Wayside Trees and other aspects of Corner's forest research were greatly helped by his famous use of botanical monkeys — *Berok* or Pig-tailed Macaques — which he trained to collect botanical specimens from the inaccessible canopy of tall tropical forest (Fig. 1). Reports about their use appeared in various newspapers, both in Singapore and abroad, Corner not unreasonably claiming that these were the first monkeys to enter the Colonial Service. The exact dates when he began to consider, acquire and train these intelligent creatures are a little confused, but it seems that he first saw them being used to collect fruit from tall coconut palms in the northernmost reaches of the Malay Peninsula, perhaps as early as 1929. Shortly before the outbreak of war in Malaya in 1941 he had 5 animals in cages around his official residence at 30 Cluny Road (now the Corner House restaurant inside SBG). The fully trained animal, it was claimed, could understand as many as 17 different commands in Malay, but they were not without their problems and on one occasion Corner was badly injured by a fierce unprovoked attack from Puteh, a male he had trained over many years. His arm was left with the flesh hanging off the bone, requiring that it remained in a sling for many weeks during which a full recovery was in the balance. Sadly, when the Japanese forces overran Singapore in February 1942 the macaques had to be released or shot for fear they might starve or become the mistreated pets of the enemy. Meanwhile, Corner's injury saw him excused from duty in the Volunteer force against the Japanese, a happy consequence of which was that he was not taken as a prisoner-of-war.

The last chapter of Corner's time at the Botanic Gardens in Singapore is certainly the most controversial, being the years of Japanese occupation, 1942–45. It is told many years later by Corner himself in the *The Marquis* (Corner, 1981), and reanalysed by his son in the biography of his father. Late in life, Corner's former boss, Professor Holttum, in a letter the author has seen (Holttum, *in litt.*, 1989), disputed some of Corner's narrative, but this is impossible to verify due to the circumstances of war (one statement Corner made regarding damage to SBG's Rainforest or Gardens' Jungle by Japanese shelling is not borne out by a 1948 aerial photograph that shows an intact canopy). What is certain, however, is that Corner's persuasive stance with his Japanese overlords helped preserve many academic resources in Singapore that might otherwise have been destroyed or shipped off to Japan, including those at SBG. It has now been proved that at the start of the occupation he did bring a note from the Straits Settlements Governor, Sir Shenton Thomas, to the Japanese authorities urging them to preserve the scientific and cultural collections in the island's gardens and museums (Mabberley, 2000). And indeed Professor Hidezo Tanakadate, whom the Japanese sent to oversee such collections, was willing to accept Sir Shenton's request. However, it is likely that the Japanese love of plants and gardens independently helped preserve SBG's landscape and scientific collections, though their permission for Corner and



Fig. 1. E.J.H. Corner with two of his ‘botanical monkeys’ (date and photographer unknown), reproduced with permission from the archives of the Singapore Botanic Gardens.

Holtum to continue joint scientific research with their new overlords, and the former’s willingness to do so, surely helped a great deal. Given the difficulties of war, it is indicative of their respect that the Japanese saw fit to not only continue the tradition of military bands performing music in the Gardens at the Bandstand (a tradition begun in 1862), but also to order physical improvements to its infrastructure, such as the brick steps that lead down to the Plant House built by Australian prisoners of war (Taylor, 2012; Taylor & Wijedasa, 2013). A touching insight to Corner’s interactions with the Japanese is provided in *The Marquis*, in a photograph showing him posing with a Japanese soldier who had taken an interest in botany and received Corner’s encouragement, though he otherwise hated the military. The photograph, though miss-captioned, shows them standing proudly in front of SBG’s famous giant Tiger Orchid

planted in 1861, which was in flower (Taylor, 2015). After all this, the cruel reality for Corner was that he was branded as an enemy collaborator by his imprisoned British compatriots and forced to leave Singapore at the end of the war, while Holttum, whose activities were less conspicuous, appears to have suffered less from such accusations at the time. This was particularly unfair, as Corner had been instrumental in getting food supplies to Changi prison during the occupation, though it is possible its inmates were ignorant of his support for them.

Thus, Corner's time on the staff of SBG came to an abrupt and somewhat inglorious end, but this was not the conclusion of his association with our institution. In the 1960s, now as Professor of Tropical Botany at the University of Cambridge, Corner led ground-breaking major Royal Society expeditions to Mount Kinabalu, North Borneo (now Sabah) and the Solomon Islands, which included SBG staff. (A vasculum from one of the expeditions to Kinabalu is on display in SBG's Heritage Museum). Corner's leadership and the botanical outcomes of the expedition have resulted in Kinabalu being conferred the status of a Natural UNESCO World Heritage Site. This is a fitting tribute to Corner, not only for his botanical expertise, but also a positive outcome for a person who after the war had a troubled if brief career with a fledgling UNESCO project in the Amazon. I hope E.J.H. Corner is looking down on SBG approvingly for its UNESCO status awarded in 2015!

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