PLANTS PEOPLE
POSSIBILITIES

# The Temperate House

**Whether they be from forests on the slopes of the Himalayas, woodlands in New Zealand's verdant valleys or the bushland of the South African Cape, the trees and shrubs from areas with warm temperate climates are fascinatingly diverse. None of them would survive outside during the UK's cold damp winters, so they are brought together in the Temperate House where the temperature is maintained at 6-7°C over winter to ward off frost.**

## Construction – in instalments

In 1859, the Government allocated £10,000 for the purpose of constructing accommodation for Kew's collection of semi-hardy plants, to complement the Palm House which housed species from the tropics. Decimus Burton (1800-81), who had already been the architect for the Palm House, was directed to prepare the designs and the building contract was awarded to Messrs Cubitt and Co., whose final account for the work (the main block and octagons) amounted to £29,000.
Burton's design met Kew's horticultural needs, with its straight sloping roof that could be uncovered in the summer to allow rain in and so that air could circulate freely.
Wooden sash windows reduced draughts during the winter and could easily be repaired by the garden staff. The design also featured an ornamental façade with stuccoed piers topped with urns and a decorative stone cornice to hide the house's functional eaves.

The chosen site, set deep in the then new Arboretum, was raised two metres by the formation of a huge terrace, composed of sand and gravel excavated from the lake site.
Work began in 1860, with the octagons being finished in 1861 and the centre block in 1862, but the building was not completed immediately. Although the foundations for the wings had been partially laid, work was postponed indefinitely in 1863 and it was not until 1894 that approval was given for the final stage. Work restarted in August 1895 and the south wing was finished in 1897. Subsequently the north wing was built to a modified design (after the bankruptcy of the original contractor) in 1898.
The completed building measures 180m by 42m at its greatest length and breadth, and covers an area of 4,800m$^2$, which is about twice that of the Palm House.

## The original plantings

Plants were quickly established in the new glasshouse. The main block featured interesting subtropical crop plants, and when the south wing was added in 1897, its planting emphasized others, notably tropical fruit trees, ornamentals and some succulent plants from Mexico and the Old World. The north wing was planted from the first with Himalayan rhododendrons.
During the early decades of the 20th century, the collections were enriched by new plants coming from China. In 1924, a heavy teak annex was attached to the north octagon to hold the influx of new Chinese rhododendrons. Unfortunately, the low light transmission of this structure proved suitable only for shade-tolerant camellias.

## Restoration

Even after some plants had been transferred to the new Australian House in 1952, the Temperate House had become congested as the plant collections continued to increase.
By the end of the 1960s, the cumulative effects of more than a century's decay, with glass, masonry and metalwork falling in high winds, meant that the Temperate House was in need of a full restoration.
A survey and structural analysis undertaken in 1972 revealed that rust had weakened many parts beyond repair and complete replacement was necessary.

The architects carefully restored the


Chilean Wine Palm

original roof form and glazing pattern which, together with the ventilators, had been altered by repairs to the main block and had not been continued in the wings. Narrower glazing bars were used to increase the light transmission and allow the installation of semi-automatic ventilators. Unsightly coils of heating pipe, which lined several of the centre paths, were replaced by radiators and high level radiant panels. The boilers were moved to the nearby Stable Yard and the teak annex to the north octagon was removed completely.
Other improvements included repairs to the six large-capacity underground rainwater tanks and the restoration of the decorative cornice.

The restoration work was completed in the autumn of 1980. The final planting was undertaken during the summer of 1981, around the large specimens of Chilean Wine Palm *(Jubaea chilensis)* and Canary Island Date Palm *(Phoenix canariensis)* which remained in the House throughout the restoration.
HM The Queen officially reopened the restored house in May 1982.

## Plantings in the Temperate House today

Though modern technology, materials and layout have significantly reduced maintenance and halved the labour needed – the Victorians with their much longer working week employed eight people to look after this house in 1899 – the range and number of species displayed has been maintained. After the restoration, the plants grew at a prodigious rate, obviously relishing the improved conditions. Many flowered for the first time, including the King Protea *(Protea cynaroides)* which had last bloomed in Victorian times.

The plant collection is arranged geographically, as Decimus Burton originally intended. The south wing of the house, where the warmest and driest conditions prevail, contains predominantly African species. As its name suggests, the Bird of Paradise Flower *(Strelitzia reginae)* from Cape Province in South Africa, bears blooms that resemble gloriously coloured birds. A larger species, *Strelitzia nicolai*, rises up to the roof. Another fascinating plant is the Dragon Tree *(Dracaena draco)* from the Canary Islands. Once valued for the red resin in its bark, it is now very rare in its natural habitat.
The south octagon shows plants from the South African fynbos bushland, which is particularly rich in species of *Protea* and heather *(Erica)* and contains many plants found wild nowhere else in the world.

In the main part of the house are some of the taller trees, including a Date Palm *(Phoenix dactylifera)*, a Chilean Wine Palm *(Jubaea chilensis)* and the Coffin Tree *(Taiwania cryptomerioides)*. Citrus, Olive *(Olea europaea)* and Quinine *(Cinchona pubescens)* form part of the collection of useful trees, growing alongside Tea *(Camellia sinensis)* and chillies *(Capsicum* species). Special treatment for some of the Australian plants in this area includes regular burning to replicate the frequent bushfires they experience in the wild. A fine display of tree ferns *(Dicksonia* species) is best viewed from the gallery above to see the spiral arrangement of their fronds.

In the north octagon grow species from New Zealand and various Pacific islands, including the Kentia Palm *(Howea forsteriana)* from Lord Howe Island off the coast of Australia. This plant is well known as a cultivated display species in offices and shopping malls, but is rare in the wild. The north wing provides the cool shady conditions relished by many plants from China and the Himalayas. Among them are the Kashmir Cypress *(Cupressus kashmiriana)* as well as the Japanese Banana *(Musa basjoo)* and the Rice-paper Plant *(Tetrapanax papyrifera).*

Of particular interest to conservationists are the displays of plants from isolated islands. Because their distribution is so restricted, many of them are particularly vulnerable to habitat loss. Kew's horticulturists are propagating the endangered *Hibiscus liliiflorus* from Rodrigues Island in the Indian Ocean, *Nesocodon mauritianus* from Mauritius and the St Helena Redwood *(Trochetiopsis erythroxylon)*, which is extinct in the wild, for ultimate reintroduction to their native environments.



King Protea



Tree fern



Bird of Paradise Flower

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