



The autumn colours of *Acer saccharum* range from vibrant yellows to oranges and vivid reds



Kew's fiery *Fraxinus americana* will stop you in your tracks during mid-autumn



Several cultivars of *Nyssa sylvatica* have been developed, such as 'Wisley Bonfire'

The seeds of change

The arrival of large quantities of tree seeds from America in the mid-1700s transformed British gardens, including Kew. **Andrea Wulf** tells the fascinating story of John Bartram, who gave our treescape a colourful American accent

One morning in late autumn 1738, having camped in the foothills of the Appalachians, American farmer John Bartram woke before dawn and climbed a peak with only moonlight illuminating the path. As he reached the crest of the mountain, the glowing curve of the sun was emerging from the horizon and Virginia lay before him, stretching as far as he could see. 'I had', he

wrote, 'ye finest prospect of the largest Landskip that ever my eyes beheld.'

The hills were blanketed in trees – each crown adding to the patchwork of autumnal reds and rusty oranges. Once the sunbeams began caressing the foliage, the whole landscape was set alight. The leaves of red maples (*Acer rubrum*), scarlet oaks (*Quercus coccinea*) and flowering dogwoods (*Cornus florida*) were like drops of amber clinging

to the branches, against which were set the dark needles of conifers such as Eastern hemlocks (*Tsuga canadensis*) and white pines (*Pinus strobus*). Beneath the trees grew thickets of wild azaleas (*Rhododendron periclymenoides*) and evergreen kalmias (*Kalmia latifolia*).

As Bartram rode along the Shenandoah mountain range, there was such a great variety of plants that he could hardly contain

PHOTOGRAPHS: ANDREW WROBBERG/KEW; IMAGROBE/ALAMY; GLENN HARPER/ALAMY

his excitement. Tirelessly crossing ridges and streams and climbing trees in search of new treasures, Bartram filled his saddle bags with thousands of seeds.

Weeks later, back at his farm outside Philadelphia, Bartram neatly wrapped the seeds in paper – keeping each species apart – and packed them into several large wooden boxes, knowing that the gardeners in Britain would be delighted by this cargo. For the past five years, Bartram had dispatched similar seed boxes to Peter Collinson, a London cloth merchant and passionate gardener.

‘Forget not Mee & My Garden,’ Collinson had written to his business partners in Virginia, Pennsylvania and Maryland, pleading for seeds, but it wasn’t until he corresponded with Bartram that he regularly received the sought-after trees. When the boxes arrived in spring, Collinson distributed the contents among his friends, ‘the brother gardeners’ as they called each other, slowly populating England’s estates and gardens with forest trees from the North American colonies. And as ‘the brother gardeners’ watched the seedlings growing successfully, they asked Bartram to send more boxes.

One of his regular customers was the Earl of Bute – politician, plant collector and the ‘principal manager’ of Princess Augusta’s garden at Kew during the mid-18th century. Under his direction, large numbers of Bartram’s trees, bought from London nurseries, were planted in sinuous groves and clumps. Many of these species grace Kew and Wakehurst Place today, tingeing both gardens with dazzling autumn colour.

When we admire the glowing canopy of the bloodied leaves of *Nyssa sylvatica* or the fiery foliage of *Cornus florida*, we get a glimpse of what Bartram saw on his lonely autumn expeditions across the wilderness of the North American colonies. We see the same rusty-red foliage of the scarlet oak (*Quercus coccinea*) and white ash (*Fraxinus americana*), competing with the aubergine purple of the liquidambar (*Liquidambar styraciflua*) or the deep reds and oranges of the large fluttering maple leaves (*Acer saccharum*, *A. rubrum* and *A. saccharinum*).

Until Bartram began sending his boxes, autumn in England had been a fairly subtle affair, but the contents transformed the English garden landscape – and Kew’s. By the end of the 18th century, the annual leaf fall was preceded by an extraordinary display. English gardeners were so excited about this new colour palette that they were using Bartram’s trees as ‘living pencils’, Collinson wrote, painting a landscape with a wealth of new hues and shapes. ▶



The red maple’s leaves tend to change colour gradually, providing a long-lasting display

Below: *Rhus typhina* is twice as spectacular reflected in the pond near Kew’s Main Gate



Top: a rich tapestry of autumn colour still lights up the landscape of the eastern US states



Above: *Cornus florida* likes moist soil, and thrives at Kew near the Waterlily Pond



Above: a scarlet oak stands out boldly amid the golden-brown hues of Kew’s Arboretum

PHOTOGRAPHS: TOM TILL/ALAMY, DEREK HARRIS/THE GARDEN COLLECTION, JEREMY PARDOE/ALAMY, ANDREW MARGOBB/RBC KEW, JEAN POSTLE

In October 1761, Princess Augusta invited Collinson to Kew, where she and George III 'indulged Mee with a conversation on Kew Gardens & planting', as well as discussing the extension of the groves with the Duke of Argyll's amazing tree collection. A few months previously, the Duke, who was the Earl of Bute's uncle and one of Bartram's clients – had died, leaving thousands of rare deciduous and coniferous North American trees at his Whitton estate near Kew.

The Duke had adored his garden so much that he'd planted it before he built his house, and according to one newspaper he dragged his grudging and hungry guests, still wearing their slippers, through his groves. The Whitton collection was one of the finest in the country and Bute oversaw the transplantation of some of the coveted North American species to Kew a few months after Collinson's visit. Kew, as Collinson later wrote to Bartram, had become 'the paradise of our world'.

Bartram (together with Collinson) introduced more than 200 new species to Britain, but his greatest achievement was the scale of his plant enterprise – the quantities of seeds he sent from the colonies. Until Bartram showered tens of thousands of seeds on to the English garden, only a few North American trees and shrubs had been cultivated as choice rarities in Britain's botanic collections. By the end of the 18th century though, they'd become so common that they were available cheaply in nurseries from London to Yorkshire.

The tulip tree (*Liriodendron tulipifera*), for example, had been introduced to Britain in the 17th century by John Tradescant the Younger, who had collected it in Virginia. For a century it remained a highly prized rarity – as late as 1734 the Prince of Wales paid a staggering £21 for one plant (about half a head gardener's annual wages) – however by 1775 saplings were on sale for a little over two shillings each, and the English landscape had changed for ever.

If you go to the Azalea Garden off Princess Walk at Kew and see the majestic tulip tree that was planted around 1770, think of John Bartram and his bountiful seed boxes – because it was he who first brought large swathes of glorious autumn colour to our parkland and to Kew.

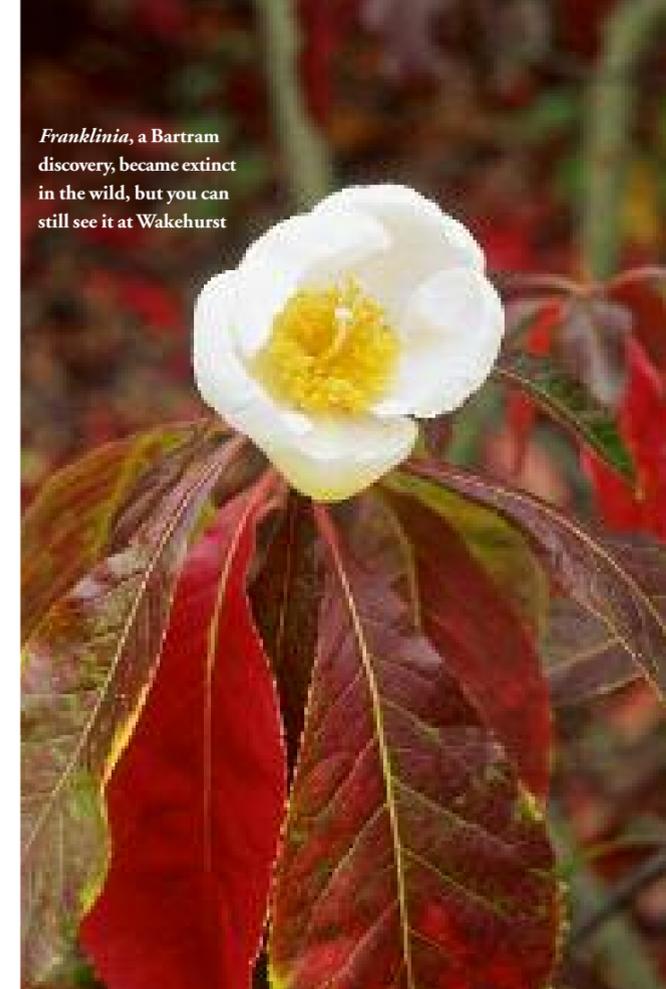
Andrea Wulf is author of *The Brother Gardeners: botany, empire and the birth of an obsession*, published by William Heinemann



Acer saccharum isn't just an ornamental tree – its sap can be used to make maple syrup



Opposite Kew's Japanese Gateway, *Liquidambar styraciflua* is resplendent in its autumn finery



Franklinia, a Bartram discovery, became extinct in the wild, but you can still see it at Wakehurst



Bartram's North American trees at Kew

Bartram sent seeds to Britain from a vast array of trees, and various examples of these species can be seen at Kew, including:

- 1 Sugar maple (*Acer saccharum*)
- 2 Red maple (*Acer rubrum*)
- 3 Red chokeberry (*Aronia arbutifolia*)
- 4 Paper birch (*Betula papyrifera*)
- 5 Fringe tree (*Chionanthus virginicus*)
- 6 Flowering dogwood (*Comus florida*)
- 7 Burning bush (*Euonymus atropurpureus*)
- 8 White ash (*Fraxinus americana*)
- 9 Honey locust (*Gleditsia triacanthos*)
- 10 Virginian witch hazel (*Hamamelis virginiana*)
- 11 Spice bush (*Lindera benzoin*)
- 12 Sweet gum (*Liquidambar styraciflua*)
- 13 Tulip tree (*Liriodendron tulipifera*)
- 14 Tupelo (*Nyssa sylvatica*)
- 15 Scarlet oak (*Quercus coccinea*)
- 16 White oak (*Quercus alba*)
- 17 Stag's horn sumach (*Rhus typhina*)
- 18 American arrow wood (*Viburnum dentatum*)



The starry leaves of *Liquidambar* can turn rich purple and glowing crimson



Towering tulip trees, vivid yellow in autumn, flank the Broad Walk, near the Palm House