



PLANTS PEOPLE  
POSSIBILITIES

**Press Information: September 2010**

## **Kew's Herbarium, Library, Art and Archives in Numbers**

### **History and Buildings**

- **1853** – The Herbarium and Library were founded in this year in an old 18th century building, Hunter House, which was occupied by the King of Hanover until his death in 1851.
- **£200** – The annual allowance which Sir William Hooker, the Royal Botanic Gardens, Kew's first official Director, received from the Treasury enabling him to rent a house, in central London, large enough to accommodate his herbarium and library – the foundations of the Royal Botanic Gardens, Kew's current collections.
- **6** – Since the Royal Botanic Gardens, Kew's Herbarium was founded there have been five extensions and Wing E, which is launched in autumn 2010, is the sixth. Almost every 40 years the Herbarium building is extended in order to house the growing collection of new specimens, books, artworks and archive items. The first addition to the building was Wing C in 1877, following the accession of the collections of renowned botanists George Bentham and W. A. Broomfield. Three further wings were added between 1903 and 1968, with further expansion into the quadrangle in 1989. Construction of the most recent wing was completed in Kew's 250th anniversary year.

### **People**

- **160** – Over 160 staff work in Kew's Herbarium, Library, Art and Archives department. This includes over 100 scientists who work in taxonomy, systematics, digitisation and curation of the plant and fungal specimens. There are also staff dedicated to curating and conserving Kew's extensive Library, Art and Archives collection and the Economic Botany Collection.
- **50** – The number of researchers from around the world who come to study and use Kew's Herbarium collections every week.
- **12** – The number of Keepers of Kew's Herbarium, Library Art and Archives Collections over the years (the first custodian was called 'curator'). Today this esteemed position is held by Professor David Mabberley, visiting professor at University of Oxford, UK and Universiteit Leiden, The Netherlands, author of Mabberley's Plant-Book, currently in its third edition, which provides a generic overview of the world's flora.

### **Herbarium Collections**

- **8 Million** – Number of preserved plant and fungal specimens from around the globe, and across the centuries, held at the Royal Botanic Gardens, Kew. These specimens underpin biodiversity conservation work worldwide.
- **350,000** – The Herbarium contains over 350,000 type specimens – the original specimens on which new species descriptions have been based. These specimens, some dating back to the eighteenth century, are the jewels in the crown of any large herbarium collection as they are an invaluable resource to researchers studying taxonomy and systematics.

- **35,000 – 50,000**– The Herbarium collection grows by over 35,000-50,000 accessions every year.
- **-35°C** – Specimens are stored for three days in a freezer at this temperature in order to kill any insects that may be found on the plant specimen that could put the rest of the collection at risk
- **171,000** – High resolution images of over 171,000 Herbarium specimens are available for botanists around the world to view online, and the total number digitally catalogued is over 400,000. The Royal Botanic Gardens, Kew is committed to making its Herbarium collection more accessible, particularly for use in biodiversity and conservation projects, sustainable development and systematics. To facilitate this an electronic Herbarium catalogue of specimen images and information taken from their collection labels is being built online.
- **1 million** – There are over 1 million different plant names in the literature, which means there are more plant names than there are plant species in the world (perhaps up to 380,000 plant species). The Royal Botanic Gardens, Kew is working in partnership with Missouri Botanic Garden (USA) to develop The Plant List, the most comprehensive list to date of almost all scientific names at species level that have been published for plants. At least 80% of the names in the list will be clearly flagged either as accepted (the correct name for a known plant species) or as a synonym with a pointer to the correct name. Its importance lies in the need for accurate identification and reliable names for all communication about plant life and its uses.

#### **Expeditions and Discoveries**

- **292** – Giant rainforest trees, rare and beautiful orchids, spectacular palms, minute fungi and wild coffees are among the [292 new plant and fungi species discovered](#) and described by botanists from the Royal Botanic Gardens, Kew in 2009. Around 2,000 new plant species are discovered worldwide each year. Botanists at the Royal Botanic Gardens, Kew make a very significant contribution to this total – a task never more important than in the UN's International Year of Biodiversity.

#### **Uses of Herbarium specimens**

- **7000** – Over 7,000 preliminary conservation assessments were disseminated by the Royal Botanic Gardens, Kew's scientists over the last four years. Many full assessments have also been produced through ongoing inventory work, using Kew's Herbarium collections, resulting in Red Listing of many species. Kew has developed GIS-based systems to facilitate rapid production of specimen-based preliminary conservation assessments. This is contributing to Target 2 of the [Global Strategy for Plant Conservation](#).
- **154** – Number of Floras published by the Royal Botanic Gardens, Kew, many of which were also authored by Kew scientists. These books, which describe plant species occurring in a particular area or time period, are a vital resource that botanists use to identify plants.

#### **Library, Art and Archives Collection**

- **2** – Two art galleries are in the grounds of the Royal Botanic Gardens, Kew: the historic Marianne North Gallery, built in 1882, and the contemporary Shirley Sherwood Gallery of Botanical Art, built in 2008.
- **1** – Number of restorations that the [Marianne North Gallery](#) has undergone. The Royal Botanic Gardens, Kew was awarded a £1,867,000 Heritage Lottery Fund grant for the restoration of the Gallery, which is dedicated solely to the art of the intrepid, globe-trotting Victorian artist. The renovated Gallery building, hung with high quality facsimiles of the painting collection, reopened to the public in October 2009 as part of the organisation's 250th anniversary celebrations. The restoration project continues throughout 2010 with a team of conservators working behind the scenes restoring the

painting collection. The conserved painting collection will return to the Gallery in autumn 2010.

- **1380** – The date of the oldest item in the collections, a manuscript copy of the *'Hortus Sanitatis'* held in the Library.
- **200,000** - The Royal Botanic Gardens, Kew holds one of the world's greatest [collections of botanical art](#), totalling over 200,000 drawings, watercolours and prints. Assembled over the last 200 years, the artworks along with the books are part of the National Reference Collection and play a key role in plant identification, which in turn underpins conservation.
- **1789** – The year in which [Curtis's Botanical Magazine](#), the longest running botanical magazine in the world, was founded by the Hampshire botanist William Curtis. This magazine has long been associated with Kew and publishes botanical drawings and artworks and other original botanically precise watercolours. Former editors include both Sir William and Sir Joseph Hooker, who brought in artist Walter Hood Fitch as the main illustrator in 1841. He worked on the magazine for over 40 years. Other notable artists include Margaret Mee, Thomas Baines and William Roxburgh and among the illustrations include images of extinct species for which the artwork may be the only surviving record.
- **300,000** – The number of lavishly illustrated books and pamphlets as well as older rarer books dating back to 1380 that are housed in [Kew's Library](#). The Archives hold the illustrated notebooks of great botanists and plant hunters including Kew's first Director, Sir William Hooker, objets d'art, photographs and daguerreotypes. The Library cares for an extensive collection of portraits of individuals spanning several centuries relating to every aspect of botany and horticulture. These collections are now more accessible to the public in the new state-of-the-art Reading Room, in the new wing.
- **Over 10,000** – The number of Floras in Kew's library collections – one of the largest and key collections of Floras in the world. All are accessible to visiting botanists for research.

### **Economic Botany Collection**

- **1848** – The year the first Museum of [Economic Botany](#) opened at Kew, under Sir William Hooker's Directorship. The collection illustrates the extent of human use of plants around the world. The huge variety of objects ranges from artefacts made from plants, to raw plant materials, including a large collection of wood samples. Uses range from food, medicine and utensils, to social activities and clothing.
- **83,000** – The number of specimens approximately in the Economic Botany Collection. While the majority of these objects were acquired during the 19th and early 20th centuries, the collection continues to grow today. These include present-day material as well as archaeological specimens and nineteenth-century curiosities.
- **450** – A selection of special plant-based treasures from the Economic Botany Collection are on display for the public to see at the permanent [Plants + People](#) exhibition in the renovated Museum No. 1, opposite Kew's Palm House
- **Over 15,000** – The number of medicinal plant specimens in the Economic Botany Collection. This area is particularly well documented and is largely from the period 1840-1930 which saw a transformation in the supply and use of plants in drugs. During this time pharmacognosy – the study of plant drugs – made great advances in botanical identification and standardisation, and supply was transformed by the development of large pharmaceutical manufacturers.
- **400** – The number of specimens from ancient Egypt. One of the most comprehensive collections outside Egypt itself – mainly deriving from Sir William Flinders Petrie's

excavations. In the last decade the Collection has found a new use as a source of material for analytical projects on ancient residues and DNA. For example, in recent work the British Museum has used pine resin samples to identify the adhesives in Mayan mosaics, and DNA from historic wheat and barley specimens is helping unravel the early history of agriculture.

- **12°C** – The temperature at which the collection is maintained in order to prevent biscuit beetles from affecting the specimens.

### **Mycology Collection**

- **Over 1.2 million** – Number of specimens of [fungi](#) are housed at the Royal Botanic Gardens, Kew. This is one of the oldest, largest, and most important reference collections in the world. It includes **over 800,000** specimens from Kew's original collection, and the recent addition (January 2009) of over **400,000** specimens from CABI (Centre for Agricultural Bioscience International).

From Antarctica to the tropics, fungi from every part of the globe are available for international research, making Kew a mycological powerhouse for taxonomic scientists world-wide. Highlights from the collection include a specimen of Sir Alexander Fleming's penicillin-producing culture, 138 specimens of the potato blight organism and the key reference sample of the Dutch elm disease that changed the face of the English landscape in the 1970s.

- **1879** – The year the Mycological Herbarium was founded. It incorporates the British National Collections, together with the herbaria of some of the leading figures in the history of mycology.
- **4,000** – The number of new mycological specimens received at Kew each year from more than 30 countries around the world. Kew mycologists have pioneered research into tropical and equatorial fungi from the Amazon to Australia, working in collaboration with overseas research institutes and universities.

### **Ends**

**Contact the Royal Botanic Gardens, Kew press office on telephone +44 (0) 20 8332 5607 or e-mail [pr@kew.org](mailto:pr@kew.org)**

### **Notes to editors**

- What is a Herbarium?  
A herbarium (plural: herbaria) is a collection of preserved plant and fungal specimens, used as reference material, to document the identity of plants and fungi. Some specimens are 'types' – the original specimens on which new species descriptions have been based and a key reference point for the application of scientific names. Specimens will usually be in a dried form, mounted on a sheet, but depending upon the material may also be kept in boxes (eg bulky plant parts such as palm fronds) or in alcohol (see Kew's spirit collection <http://www.kew.org/collections/spiritcol.html>)