

**ROYAL BOTANIC GARDENS, KEW****Veselkova N.S., Tukish E.A.***Siberian Federal University*

The Royal Botanic Gardens, Kew, usually referred to simply as Kew Gardens, are 121 hectares of gardens and botanical glasshouses between Richmond and Kew in southwest London, England. The director is Professor Stephen D. Hopper, who succeeded Professor Sir Peter Crane. The Royal Botanic Gardens, Kew is also the name of the organisation that runs Kew Gardens and Wakehurst Place gardens in Sussex. It is an internationally important botanical research and education institution with 700 staff and an income of £56 million for the year ended 31 March 2008, as well as a visitor attraction receiving almost 2 million visits in that year. The gardens are a non-departmental public body sponsored by the Department for Environment, Food and Rural Affairs. Created in 1759, the gardens celebrated their 250th anniversary in 2009.

The Director of the Royal Botanic Gardens, Kew, is responsible for the world's largest collection of living plants. The organisation employs more than 650 scientists and other staff. The living collections include more than 30,000 different kinds of plants, while the herbarium, which is the largest in the world, has over 7 million preserved plant specimens. The library contains more than 750,000 volumes, and the illustrations collection contains more than 175,000 prints and drawings of plants. The Kew site includes four Grade I listed buildings and 36 Grade II listed structures in an internationally significant landscape.

Kew Gardens originated in the exotic garden at Kew Park formed by Lord Capel of Tewkesbury. It was enlarged and extended by Augusta, Dowager Princess of Wales, the widow of Frederick, Prince of Wales, for whom Sir William Chambers built several garden structures. One of these, the lofty Chinese pagoda built in 1761 still remains. George III enriched the gardens, aided by William Aiton and Sir Joseph Banks. The old Kew Park (by then renamed the White House), was demolished in 1802. The "Dutch House" adjoining was purchased by George III in 1781 as a nursery for the royal children. It is a plain brick structure now known as Kew Palace.

The collections grew somewhat haphazardly until the appointment of the first collector, Francis Masson, in 1771. In 1840 the gardens were adopted as a national botanical garden. Under Kew's director, William Hooker, the gardens were increased to 30 hectares (75 acres) and the pleasure grounds, or arboretum, extended to 109 hectares (270 acres), and later to its present size of 120 hectares (300 acres). The first curator was John Smith.

The Palm House was built by architect Decimus Burton and iron-maker Richard Turner between 1844 and 1848, and was the first large-scale structural use of wrought iron. The structure's panes of glass are all hand-blown. The Temperate house, which is twice as large as the Palm House, followed later in the 19th century. It is now the largest Victorian glasshouse in existence. Kew was the location of the successful effort in the 19th century to propagate rubber trees for cultivation outside South America. In February 1913 the Tea House was burnt down by Suffragettes Olive Wharry and Lilian Lenton during a series of arson attacks in London. In October 1987 Kew Gardens lost hundreds of trees in the Great Storm of 1987.

**Herbarium**

The Kew herbarium is one of the largest in the world with approximately 7 million specimens used primarily for taxonomic study. The herbarium is rich in types for all regions of the world, especially the tropics. The Harvard University Herbaria and the Australian National Herbarium co-operate with Kew in the IPNI database to produce an authoritative source of information on botanical nomenclature.

**Seedbank**

Kew is important as a seedbank. It co-sponsors the Millennium Seed Bank Project inside the Wellcome Trust Millennium Building at Wakehurst Place in Sussex. Despite unfavourable growing conditions (atmospheric pollution from London, dry soils and low rainfall) Kew remains one of the most comprehensive plant collections in Britain. In an attempt to expand the collections away from these unfavourable conditions, Kew has established two out-stations, at Wakehurst Place in Sussex, a National Trust property, and (jointly with the Forestry Commission) Bedgebury Pinetum in Kent, the latter specialising in growing conifers.

### **Economic Botany**

The Sustainable Uses of Plants group, (formerly the Centre for Economic Botany) focus on the uses of plants in the United Kingdom and the world's arid and semi-arid zones. The Centre is also responsible for curation of the Economic Botany Collection, which contains more than 90,000 botanical raw materials and ethnographic artefacts, some of which are on display in the Plants + People exhibit in Museum No. 1. The Centre is now located in the Jodrell Laboratory.

In March 2006 the Davies Alpine House opened, the third version of an alpine house since 1887. The new house features a set of automatically operated blinds that prevent it overheating when the sun is too hot for the plants together with a system that blows a continuous stream of cool air over the plants.

### **Plant collections at Kew**

#### **The Aquatic Garden**

Celebrating its centenary in 2009 the Aquatic Garden provides conditions for aquatic and marginal plants. The large central pool holds a selection of summer-flowering waterlilies whilst the corner pools contain plants such as reed mace, bulrushes, phragmites and smaller floating aquatic species.

#### **The Arboretum**

The arboretum at Kew covers over half of the total area of the site and contains over 14,000 trees of many thousands of varieties.

#### **The Orchid collection**

The orchid collection is housed in two climate zones within the Princess of Wales Conservatory. To maintain an interesting display the plants are changed regularly so that those on view are generally flowering.

#### **The Rock Garden**

Originally built of limestone in 1882 it is now constructed of Sussex sandstone from West Hoathly, Sussex. The rock garden is divided into 6 geographic regions: Europe, Mediterranean & Africa, Australia & New Zealand, Asia, North America and South America. There are currently 2,480 different 'accessions' growing in the garden.

#### **The Rose garden**

The rose garden, which is behind the palm house, is being replanted.

#### **Other collections**