

Annual Report and Accounts

for the year ended 31 March 2006





Annual Report and Accounts for the year ended 31 March 2006

Presented to Parliament pursuant to the National Heritage Act 1983, chapter 47, schedule 1, part IV, paragraphs 39(7) and 40(4).

Ordered by the House of Commons to be printed 10 July 2006

HC1306 London: The Stationery Office £10.10



The Royal Botanic Gardens, Kew is:

devoted to building and sharing knowledge so that people can benefit from plants and fungi – now and for generations to come.

700 people (including 200 in science and 200 in horticulture) supported by 500 affiliated researchers, students and volunteers. Our impact is strengthened by partnership and collaboration in the UK and overseas.

a world-leader in plant science – and a major visitor attraction. Governed by Trustees and sponsored by the UK's Department for Environment Food and Rural Affairs (Defra) which champions sustainability. Funding also comes from visitor income and fundraising.

two stunning gardens – Kew Gardens (a World Heritage Site) and Wakehurst Place in West Sussex – these house Kew's collections, labs and the Millennium Seed Bank – and show the importance of plants in all our lives.

Kew's mission is:

to enable better management of the Earth's environment by increasing knowledge and understanding of the plant and fungal kingdoms – the basis of life on Earth.

Kew achieves results through:

surveys of plant diversity both overseas and in the UK, high quality scientific research and horticulture, publications – both scientific and popular, direct and digital access to the collections and information, education, capacity building and hands-on conservation activity; crucially the gardens also enable Kew to build public understanding and support for sustainability and plant conservation.

Contents

		letter

5 Director's review

Management Commentary

- 6 Business aims and outcomes
- 7 Performance targets and results
- 9 Commentary on performance against targets
- 10 Review of activities
- 11 Statutory information
- 15 Statement of Trustees' and Director's responsibilities
- 16 Statement on internal control
- 18 Remuneration Report

Accounts

- 20 Consolidated Statement of Financial Activities
- 21 Balance Sheets
- 22 Consolidated Cash Flow Statement
- 23 Notes to the accounts
- 30 Auditor's Certificate and Report
- 32 Five year financial summary

Corporate Information

- 33 Health and safety statement
- 33 Citizens Charter statement
- 34 Diversity statement
- 35 Publications

Contact details

Chairman's letter

The UK Government has identified climate change as the greatest long-term threat facing the world, and it is deeply committed to the global effort to put economic progress on a sustainable footing. Kew is sponsored by the Department for Environment Food and Rural Affairs (Defra), which takes the lead role in sustainability and is helping to drive forward environmental science and policy in the UK and overseas.

Plants are vital to sustainable development because they use the sun's energy to transform carbon dioxide from the air into essentials of life for a growing population. Quite simply, healthy plant diversity is crucial to human existence. Yet, as we all know, the Earth's vegetation is being lost or degraded to the point where the wellbeing of our own species is threatened – a challenge that is detailed in the Millennium Ecosystem Assessment.

Kew's world-leading work in plant science and conservation addresses this challenge and we are able to achieve widespread and lasting results by sharing our resources, transferring knowledge, and by working in partnership with local groups and international bodies.

In 2005/06 we did more conservation work on the ground than ever before – working with others to support projects around the world. At the same time, through partnerships in many countries, the Millennium Seed Bank project secured the future of a record number of plant species. In particular, the seed conservation programme with the Chinese Academy of Sciences made excellent progress, and we were delighted that China's First Lady, Liu Yongqing, visited Kew in November. Partnerships are also a key part of our scientific research and in this way the breadth and impact of our science output is increasing year by year.

We began 2005/06 with aggressive goals for our public programmes and results exceeded expectations, driven in large part by the dramatic, beautiful and well-publicised Chihuly exhibition.

Our ongoing capital programme delivered improved visitor facilities, the stunning Davies Alpine House and the Wolfson Wing of the Jodrell Laboratory. Planning agreement is now in place for the Plant Information Centre. This extension to the Herbarium and Library, together with the extended Jodrell Laboratory, provides the space and facilities needed to meet the demands that will be made on Kew's conservation and research programmes in the coming years.

Kew's Director, Professor Sir Peter Crane, has been the driving force behind these successes and all the consistent and dramatic progress we have made since 1999. We are going to miss him when he leaves Kew in September 2006 to take up a chair at The University of Chicago.

By then he will have devoted seven years of his life to giving Kew superb scientific and business leadership fuelled by unbelievable energy. He has greatly enhanced Kew Gardens and Wakehurst Place, raising standards, profile and enthusiasm. He has ensured that necessary buildings and infra-structure have either been completed or set in motion, and he has introduced more effective management. In his hands, Kew has significantly increased its output and its capability through his emphasis on conservation and sustainability supported by relevant, high quality, high profile science. He has transformed the visitor and public education programme and visitor numbers have reached record levels.

On behalf of the Trustees I would like to congratulate Sir Peter on his outstanding contribution to Kew and the results that have flowed from his devotion. We wish him every success in Chicago. At the same time I would also like to thank everyone at Kew and Wakehurst for all their enthusiasm and hard work in supporting his lead.

I am delighted that Peter Crane's successor will be Professor Stephen Hopper, currently Foundation Professor of Plant Conservation Biology at the University of Western Australia, and former Director of Kings Park and Botanic Garden, Perth. He has an impressive reputation in plant science and is a passionate conservation biologist. In Professor Hopper we are most fortunate to have found that unusual combination of excellence in plant science research and conservation, coupled with the necessary experience of managing a large and complex visitor attraction. He will take up the leadership of Kew in October. We all look forward to working with him.

Finally, I would like to thank all our funders and supporters, large or small. In particular, we are most grateful to Defra, and especially for the funding that has made it possible to make such rapid progress on much needed capital improvements for visitors, for the collections and for science.

John Selborne

Chairman of Trustees

Jh Selone

Director's review

This was a particularly successful year delivered on the back of an enormous amount of hard work: so I must begin by thanking everyone in our organisation for achieving so much during 2005/06, and indeed, through the whole of my tenure at Kew.

The multidimensional nature of Kew reflects a rich and complex history that has endowed us with a great breadth and depth of resources. The scope of Kew's work is enormous. Nevertheless the ten key targets, on which we report in the following pages, focus our efforts on the most important outcomes - within which the relentless pursuit of sustainability and conservation is central.

In this respect, the creation of Defra in 2001 was helpful, building a more obvious and natural alignment between Kew's objectives and Government policy. Kew actively supports the Government's efforts to encourage sustainability at home and overseas. From CITES implementation, to the broader objectives of the Convention on Biological Diversity and the Global Strategy for Plant Conservation, Kew's input is essential.

At Kew Gardens and at Wakehurst Place we hold collections and information that are of unequalled value to people working to conserve plants and habitats. Making these resources accessible via the Internet is therefore one of our highest priorities. In 2005/06 we made great progress with our digitisation programme that databased and imaged over 36,000 specimens. Through the electronic Plant Information Centre (ePIC) we now provide access to databases containing more than 2.6 million records.

In 2005/06 we also intensified our efforts with the Millennium Seed Bank project. We banked a record 3,289 species from all over the world to secure their future. We also produced 19 major habitat assessments, most based on extensive fieldwork supplemented by local expertise to achieve on-the-ground conservation outcomes. Remote sensing and other innovative approaches were also used to mobilise Kew's data to map out changes in species distribution.

Our research output averages more than 400 publications each year, but a particular focus has been to increase the number of papers appearing in those journals that are cited most regularly by others. In 2005/06 we had 70 such papers compared to just 15 in 1999.

We also contribute to environmental understanding through our gardens at Kew and Wakehurst Place. By attracting the public and engaging with them we can help to build greater appreciation of the importance of plant life. And while we need to be commercially competitive we must also be socially responsible to provide access for the widest possible audience. Six years ago our total visitor numbers were 1.2 million and declining; this year we reached an all time record of 1.9 million.

In the face of higher adult admission prices this success was achieved by investment in festivals that created press interest and new reasons to visit. In 2005/06 we featured Dale

Chihuly's amazing glass 'life-forms' set amidst the astonishing diversity of Kew's real plants, and the second BBC 'Year at Kew' series also served to highlight Kew's conservation work at home and overseas. But increased visitor numbers were also supported by a fundamental change in our admissions policy. In 2001 we stopped charging admission for children (16 and under) and this has helped to bring us more families and school groups. In 2005/06 we admitted 360,000 children to Kew and Wakehurst, more than three times the number in 1998/99. I feel that this is a truly important shift and we have built on it by making Kew more family-friendly, by supporting teachers on site, and by providing qualified staff to engage children with the fascination of plants.

Much of what we have achieved has been facilitated by key changes in our organisation that have drawn together functions that were formerly much too separate. We now have one senior person heading science, and another who manages our visitor and commercial operations. Wakehurst Place is now managed locally and this is also a great success. This year we completed the reorganisation of the Senior Team by appointing a Director, Corporate Operations and Finance who has overall responsibility for our estate, personnel, finance and legal functions.

As the Chairman noted, with generous help from Defra and key private and institutional funders, we have been able to invest significantly in Kew's infrastructure. Over the last six years we have improved our visitor facilities and helped bring back to life several key heritage buildings. During 2005/06 we added the Davies Alpine House and began work on the Sackler Crossing and new landscape features. Most importantly we have completed the new Wolfson Wing of the Jodrell Laboratory, and started to deliver the new herbarium and library facilities. All these developments will enable us to do even more to pursue Kew's mission to enable better management of the global variety of plant life.

At the start I thanked everyone in the organisation for their help. In closing I would also like to acknowledge the many people who volunteer their time for Kew, including our Trustees, and especially our Chairman, Lord Selborne. Without their hard work and devotion to Kew we could not have come so far so fast. I must also thank my predecessor, Sir Ghillean Prance. He paved the way for much of our recent success, not least by emphasising the importance of conservation and getting the Millennium Seed Bank off the ground. Soon Stephen Hopper will be in charge. I look forward to supporting him in any way that I can. Inevitably he will still find great scope to further improve the relevance and impact of the important work that we do.

Peter Crane

ath Clave

Director

Management Commentary

Business aims and outcomes

Kew has a wide range of responsibilities and activities spanning the world of plant science and including public engagement with its mission. Coherence and clarity of purpose are established through six primary business aims:

- 1 Build the quality of Kew's collections and encourage access by others, so as to maximise their use and increase their scientific, utilitarian and conservation value.
- 2 Maximise the value of Kew's work for the conservation and sustainable use of plant diversity by building the relevance, quality and utility of information that Kew provides, and improving its dissemination through a focus on service, synthesis, partnership with others and effective use of technology.
- 3 Demonstrate the excellence of Kew's scientific work and maximise its impact by disseminating the results to the broadest possible professional audience.
- 4 Support Kew's own activities, and those of policy makers and collaborators in the UK and overseas, in the conservation and sustainable use of biodiversity, through partnerships, capacity building, joint research, training and advice.
- 5 Maximise the value of Kew's work for increasing public enjoyment and understanding of plant diversity and the need to encourage conservation and sustainable use.
- 6 Generate revenue to support Kew's activities, while also ensuring that Kew meets its responsibilities as public servants, and shares benefits arising from its scientific work in a fair and equitable way with its partners.

The outcomes from these business aims are:

- 1 Use of Kew's collections.
- 2 High quality, useful information that is relevant for purposes of conserving and utilising plant diversity sustainably.
- 3 Research that is recognised as excellent by scientific peers.
- 4 Significant contributions in support of conservation and sustainable use activities by collaborators.
- 5 Contributions to public education about conservation and sustainable use that have a significant impact.
- 6 Revenue.

Performance on these six outcomes is monitored with ten key measures as shown opposite.

Performance targets and results

Performance vs last year and target

	Measure	Outcome 2004/05	Target 2005/06	Outcome 2005/06	±% vs Last year	±% vs Target	Target 2006/07
1	Total access to the behind-the-scenes collections	25,889	24,000	28,114	+9	+17	24,000
2a.	Total visits to the Kew website (page views)	12,297,147	13,000,000	21,594,888	+76	+66	25,000,000
2b.	Total research publications and compilations (calendar year) ¹	399	350	354	-11	+1	350
2c.	Total species use, species conservation assessments and species conservation plans supported (calendar year)	6,996	3,200	5,482	-22	+71	3,200
2d.	Total habitat conservation assessments supported through contributions of information or advice (calendar year)	8	8	19	+138	+138	9
3	Total publications in the highest impact scientific journals (calendar year) 1,2	68	32	70	+3	+119	38
4	Total staff contact days on projects with UK or overseas collaborators that contribut to the conservation and sustainable use of plant diversity through capacity building, joint research, training and advice	5,135 re	2,700	7,604	+48	+182	5,000
 5a.	Total visits to the gardens ³	1,713,674	1,587,000	1,906,764	+11	+20	1,790,000
5b.	Total Friends of Kew	64,292	67,000	66,877	+4	0	70,000
6	Total revenue generated £000	38,660	41,804	44,353	+15	+6	43,793

Publications are reported by calendar year. Figures for earlier years have now been updated to include items published in the relevant year which were not recorded at the time.
 Citation index factors have been updated for the preceding year (2004) bringing additional papers into the count.

³ Visitor figures now also include concerts, the ice rink, evening openings, etc. This makes the figures comparable with most other attractions.

Management Commentary continued

Performance targets and results continued

Performance over six years

	Measure	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06
1	Total access to the behind-the-scenes collections	18,533	20,773	25,454	28,448	25,889	28,114
2a.	Total visits to the Kew website (page views)	3,200,000	5,020,000	6,910,000	8,833,827	12,297,147	21,594,888
2b.	Total research publications and compilations (calendar year) ¹	439	402	420	457	399	354
2c.	Total species use, species conservation assessments and species conservation plans supported (calendar year)	1,087	2,456	4,888	3,701	6,996	5,482
2d.	Total habitat conservation assessments supported through contributions of information or advice (calendar year)	6	15	6	9	8	19
3	Total publications in the highest impact scientific journals (calendar year) ^{1,2}	13	22	16	45	68	70
4	Total staff contact days on projects with UK or overseas collaborators that contribut to the conservation and sustainable use of plant diversity through capacity building, joint research, training and advice	1,200 e	3,082	4,875	4,561	5,135	7,604
5a.	Total visits to the gardens ³	1,154,436	1,406,746	1,374,615	1,466,096	1,713,674	1,906,764
5b.	Total Friends of Kew	45,930	58,966⁴	60,800	62,380	64,292	66,877
6	Total revenue generated £000	26,452	30,484	27,025	36,219	38,660	44,353

¹ Publications are reported by calendar year. Figures for earlier years have now been updated to include items published in the relevant year which were not recorded at the time.

² Citation index factors have been updated for the preceding year (2004) bringing additional papers into the count.

³ Visitor figures now also include concerts, the ice rink, evening openings, etc. This makes the figures comparable with most other attractions.

⁴ From this point onwards, Friends membership excludes children (now free admission) and includes Season Tickets.

Commentary on performance against targets

1. Total access to the behind-the-scenes collections

The number of behind the scenes visits was ahead of last year and target. This is a particularly good result bearing in mind the inevitable disruption associated with the construction of the new laboratory wing. However, in addition to the regular flow of professional visitors, figures were increased by regular public back of house visits to the nurseries led by volunteer quides and the Herbarium's successful 'Open London' day.

2a. Total visits to the Kew web site

We delivered an increase of 76%, recording 21 million page views and more than 3.5 million individual visits. Publicity boosted web visits and continued improvements to the content, especially information relating to plants, increased the number of pages viewed per visitor. For science and conservation, our electronic plant information centre (ePIC) provided access to 2.6 million records in a growing range of Kew data sources and ePIC usage increased 64%, servicing almost 200,000 small-scale summary queries from more than 30 countries.

2b. Total research publications and compilations

Publications are reported on a calendar year basis and we have recorded 354 papers, exceeding the target. Kew's overall level of publication compares very well with peer organisations and the important consideration for this target is that a steady level of around 350 is maintained.

2c. Total species use, species conservation assessments and conservation plans supported

The outcome of 5,482 represents a very strong performance for the second year running, was well ahead of target and again reflects a major contribution from the Millennium Seed Bank (MSB), strongly supported by the Sustainable Use of Plants Group. The Herbarium contributes species conservation assessments and checklists, floras and monographs. This is one of the main targets related to the Global Strategy for Plant Conservation.

2d. Total habitat conservation assessments supported through contributions of information or advice

An exceptional result - this measure covers comprehensive assessments of defined (often large) geographical areas, typically nature reserves or national parks. This year's result reflects a major contribution to conservation on the ground in Botswana, Cameroon and Guinea Conakry together with a range of projects that delivered extensive information to local partners in South Africa, Jordan and Lebanon based on herbarium specimens and for Madagascar and Liberia using satellite remote sensing techniques.

3. Total publications in the highest impact scientific journals

The 70 publications in scientific journals with citation impact factors ≥ 2 was another all time record. This excellent result builds on the step change achieved in 2003 and now sustained for three years. Notable items in 2005 included four papers in a Royal Society volume on aspects of DNA bar coding, as well as papers on monitoring biodiversity trends for the 2010 targets set at the Johannesburg World Summit on Sustainable Development. Kew had two papers in the blue chip journals *Nature* and *Science* over the five years 1996-2000. Six such items were published in 2005.

4. Total staff contact days on projects with UK or overseas collaborators that contribute to the conservation and sustainable use of plant diversity

The staff contact days trend continues to rise, reflecting the training emphasis of large overseas programmes, such as the MSB project, and large numbers of scientific visitors to the Herbarium and Jodrell Laboratory. The year-end figure corresponds to more than a dozen person-years of contact time.

5a. Total visits to the gardens

At Kew Gardens the upward trend was boosted by the enormous success of the Chihuly exhibition. Despite the tragic 7 July London bombings, Kew's numbers increased during the Summer whereas most central London attractions went down by 30%. The second series of 'A Year at Kew' and the continued popularity of Climbers and Creepers also helped the visitor figures. Kew Gardens received 1.48 million visits, the best attendance since 1949.

Wakehurst Place ended the year at 426,000 – a little below last year's record attendance. Having had a tougher start to the year, Wakehurst attendance turned the corner with a strong Autumn helped by good local PR coverage but, as at Kew, poor Spring weather reduced figures in the last two months. The combined total for Kew and Wakehurst exceeds all previous reliable records.

5b. Total Friends of Kew

We approached but did not quite meet the target of 67,000 members for this year. This was mainly due to having to put 'on hold' a number of key recruitment activities because their initial success resulted in a massive increase in transactions and therefore problems with fulfilment, which have now been solved.

6. Total Revenue Generated

The outcome of £44.4m against a target of £41.8m was achieved mainly through the success of raising money for our capital projects and the excellent results for visitor generated income (admissions, retail and catering) as a result of the extremely successful Chihuly festival.

Management Commentary continued

Review of Activities

As indicated by the Chairman and Director in the introduction to this report, this was an exceptionally successful year for Kew. The performance target tables show that nine of the ten targets were met and that there has been substantial and, in some cases, spectacular growth over the last six years. These results reflect the sustained drive for continual improvement in pursuit of Kew's Mission.

Open days were held to provide access behind the scenes for the public. Access through the Internet to conservation, science and public interest material made strong progress with the continued development of the web site combined with digitisation of specimens and records. For the African Plants Initiative (API) we have now imaged over 65,000 type specimens with the continuing support of the Andrew W. Mellon Foundation.

All Kew's 19 science teams have targets for conservation and this activity intensified during the year. The Millennium Seed Bank project boosted its accession rate to record levels and, for the first time, the project banked seed from China. Seven field trips in dryland Africa brought in seeds from six countries and added to the exchange of knowledge with local counterparts. In West Africa, conservation surveys continued in Cameroon and a programme is now underway in Guinea Conakry to establish a national herbarium, restore the botanic garden and train local staff. In southern coastal Peru we began working with local communities to develop systems for the sustainable use and restoration of threatened dry forest ecosystems. Field guides, and remote sensing satellite studies of vegetation were also produced to support conservation work in countries including Thailand, Jordan, the Lebanon, Madagascar and Liberia.

Kew's work for the Convention on the International Trade in Endangered Species (CITES) included the training of 70 Defra Wildlife Inspectors and 150 Swedish Customs officers during the year. And, as a direct result of an EU Mission led by Kew earlier in 2005, Peru put in place export quotas to control and manage mahogany exports. IUCN's Sampled Red List Index project aims to assess the conservation status of all major species groups; Kew has been asked to co-ordinate activities for the plant kingdom and work has already begun databasing herbarium specimens as a baseline against which to measure future changes in species' conservation status.

The quality and impact of Kew's research publications improved further on last year's record level. Papers in high impact journals included papers on 'DNA Barcoding'. This breakthrough promises rapid identification of species by non-specialists and suitable short genome sequences have now been identified for plants. Other high impact research outputs included studies on plant evolution, including work on the evolutionary interactions between plants and insects. Kew presented 54 papers and posters at the International Botanical Congress in Vienna in July and launched new Kew books including an encyclopedic work

on legumes. Kew mycologists published the *Checklist of British* and *Irish Basidiomycota*, and twelve parts of the *Flora of Tropical East Africa* were published and more edited, this vast long-term undertaking is now on track for completion in 2007.

As already noted, the Chihuly festival significantly boosted visitor figures. The refurbishment of the Victoria Gate entry facilities doubled our capacity to eight ticket sales positions and incorporated a fast track for Friends ticket holders, groups and disabled visitors. Late night openings were extended to the autumn and sleepovers were successfully piloted for children. Chihuly widened the diversity of our audience, as did the Diaspora music festival, which attracted greater numbers than ever before to this free entry event; and the Christmas ice rink was again very popular.

In 2005/06 the key support and enabling functions of Finance, HR, IT, Building and Maintenance and Corporate Services were brought together and a review of how these services will be supported by electronic systems has begun. We further strengthened risk management arrangements and achieved accreditation under ISO 14001 for Sustainability; Kew was the first World Heritage Site to receive this award.

Future developments

The completion of the Wolfson Wing of the Jodrell Laboratory paves the way for its opening in June 2006, which will enable science teams to work together more effectively. In particular, it will facilitate work on sustainable uses of plants and provide the mycology group with much better access to molecular biology facilities. Work was well advanced on the elegant Sackler Crossing across Kew's Lake by the end of the year and it opened in May. The ambitious 2006 summer festival will reveal many aspects of Kew's heritage including Kew Palace, beautifully refurbished by Historic Royal Palaces, and public access to the Pagoda. Further TV programmes are envisaged and filming is underway.

Kew's five-yearly Science Audit will take place in June. This thorough external review probes the objectives, quality and output of our work, and provides recommendations that help us to ensure that what we do is high quality, relevant and valuable to our stakeholders in the UK and around the world.

Defra's sustained support for Kew's capital programme will enable further work on the new irrigation system and, most importantly, building work will begin on the Herbarium and Library extension.

Operational funding remains a concern despite the substantial growth in visitor income over recent years and it is hoped that discussion with Defra will lead to an appropriate solution.

Kew's Corporate Plan provides full details of our objectives for the period 2006/07-2010/11 (www.kew.org/aboutus).

Statutory information

History of the body and statutory background

The Board of Trustees of the Royal Botanic Gardens, Kew was established under the National Heritage Act 1983 and came into existence on 8 August 1983. From 1 April 1984 responsibility for the Royal Botanic Gardens, Kew was transferred from the Minister of Agriculture, Fisheries and Food (now Secretary of State for Environment, Food and Rural Affairs) to the Board of Trustees. Under the above Act, RBG Kew is a Non-Departmental Public Body with exempt charitable status.

Objectives

Subject to the provisions of the National Heritage Act 1983 the Board's general functions are to:

- carry out investigation and research into the science of plants and related subjects, and disseminate the results of the investigation and research;
- provide advice, instruction and education in relation to those aspects of the science of plants with which the Board is for the time being, in fact concerned;
- provide other services (including quarantine) in relation to plants;
- care for its collections of plants, preserved plant material, other objects relating to plants, books and records;
- keep the collections as national reference collections, ensure that they are available to persons for the purposes of study, and add to and adapt them as scientific needs and the Board's resources allow;
- afford to members of the public opportunities to enter any land occupied or managed by the Board, for the purpose of gaining knowledge and enjoyment from the Board's collections.

Results and appropriations

The accounts have been prepared in a form directed by the Secretary of State for Environment, Food and Rural Affairs, with the approval of Treasury, under Schedule I Part IV subsection 39(4) of the National Heritage Act 1983 and on the basis of the accounting policies set out in Note 2.

Total incoming resources for the year were £48.8m (2004/05 £42.2m) of which £25.5 m (£24.9m) was Grant-in-aid from the Department for Environment, Food and Rural Affairs. Total resources expended were £43.3 m (£38.7m) leaving a surplus of £5.5m (£3.5m) prior to expenditure on fixed assets.

Total reserves increased to £105.7 m (£96.8m). These include a substantial amount to reflect the value of certain land and buildings to which the Trustees do not have title (see below).

Land and buildings

The Board of Trustees do not hold title to the land and buildings used by the Royal Botanic Gardens, Kew, except for the Wellcome Trust Millennium Building and adjacent land. The remaining land and buildings are owned by the Crown. The Board are liable to maintain and replace all the buildings they use.

Information on land and buildings can be seen in Note 12.

Other fixed assets

Significant changes in other fixed assets are shown in Notes 12 and 13.

Investments

Investments held are in accordance with the Trustees' powers.

Payment to creditors

It is RBG Kew's policy to settle all invoices with its creditors within 30 days unless otherwise specified in the contract, and to observe the principles of CBI Code – Prompt Payments. During 2005/06 RBG Kew settled its debts on average in 30 days.

Reserves

The Reserves of the organisation are explained in Note 2 of the Accounts. The Board has agreed that the Unrestricted part of the Accumulated Reserves should not fall below a minimum of £1.5m to give the organisation the flexibility to cope with funding fluctuations. The Reserves Policy is reviewed on an annual basis. At present this fund stands at £9m and is being used to partly fund Kew's major capital programme.

Research and development

The Royal Botanic Gardens, Kew is concerned with major research programmes in Plant Anatomy, Biochemistry, Cytology, Physiology, Molecular Systematics, Taxonomy and Conservation and many other aspects of plant and fungal diversity studies. It co-operates with universities and botanical institutes throughout the world and publishes the results in the appropriate scientific journals.

Management Commentary continued

Statutory information continued

Foundation and Friends of the Royal Botanic Gardens, Kew

The Foundation and Friends of the Royal Botanic Gardens, Kew is a registered charity (registration no. 803428) which is independently administered. Its purpose is to provide support for Kew by the raising of funds for Kew's activities. It does this by attracting sponsorship for projects and through an active and growing membership, committed volunteers and by enhancing awareness of Kew's work. Membership at 31 March 2006 was 66,877.

RBG Kew did not support the organisation financially in 2005/06.

RBG Kew Enterprises Limited

RBG Kew owns 100% of the issued share capital of RBG Kew Enterprises Limited. This company carries out the following activities of RBG Kew: retailing, concerts, licensing, venue hire and commercial publications. Its results have been fully consolidated into the accounts of RBG Kew.

Board of Trustees

The membership of the Board of Trustees during the year is as follows. One Trustee is appointed by the Queen; the Chairman and other Trustees are appointed by the Secretary of State for Environment, Food and Rural Affairs.

Chairman

Lord Selborne KBE, FRS

Appointed by Her Majesty The Queen

Richard Lapthorne CBE

Trustees

Denise Bradley Tanya Burman Andrew Cahn CMG Richard Deverell Professor H Charles J Godfray FRS Professor Sandy Harrison Baroness Hayman David Norman Marion Regan Sir Richard Sykes FRS (resigned 28 July 2005)

On appointment Trustees are briefed by Defra and offered induction by Kew to learn about the diverse areas of activity.

The Board of Trustees is responsible for agreeing the strategy of the organisation through approval of the Corporate Plan and the budgets. The Director is responsible for developing and implementing the strategy and for the day to day operation of the organisation in conjunction with the Corporate Director, Operations and Finance. The Corporate Plan is updated annually and following approval by the Board is submitted to the Department for Environment, Food and Rural Affairs for approval by the Secretary of State.



Lord Selborne (Chairman)



Tanva Burman

Denise Bradley



Andrew Cahn



Richard Deverell



Charles Godfray

Trustees details

Denise Bradley Executive Director, the Museum of the African Diaspora, San Francisco; Director: San Francisco Convention and Visitors Bureau. Formerly: AOL Time Warner, Viacom, Disney, Coca-Cola, Nike, Levi Strauss and Federated Department Stores. Educated at Stanford University and Harvard Business School, her interests include travel, gardens, art, music, sports, children's education and indigenous crafts.

Tanya Burman Currently a full time mother and a local resident. Formerly: Head of Development and Marketing at the Natural History Museum, Regional Director for the Royal Marsden Hospital Cancer Appeal, Fund Manager for bankers Lombard Odier. MA in Natural Sciences (Cantab), specialised in plant biochemistry.

Andrew Cahn CMG (Chairman of the Audit Committee) Chief Executive of UK Trade and Investment, a Department that is part of both the DTI and the FCO. Formerly: Director of Government and Industry Affairs at British Airways, official at MAFF, the Cabinet Office and the FCO, and Chef de Cabinet at the European Commission.

Richard Deverell is the Controller of BBC Children's responsible for all the BBC's services for children.

Formerly: Head of BBC News Interactive - responsible for the BBC News websites, BBC Policy and Planning and management consultancy at the LEK partnership. MA Natural Science (Cantab) specialising in molecular biology. A local resident with three young children.

Charles Godfray FRS is currently Director of the NERC Centre for Population Biology and Professor of Evolutionary Biology at Imperial College London, but is shortly to take up the Hope Chair in the Department of Zoology at Oxford University. He is a Fellow of the Royal Society and an honorary research fellow at the Natural History Museum and Rothamsted Research.

Sandy Harrison Professor of Climate Dynamics in Geographical Sciences at the University of Bristol. Member of the Terrestrial Observation Panel for Climate of the Global Climate Observing System and Global Terrestrial Observing System, Vice-President of the INQUA Commission on Palaeoclimatology, on the Scientific Steering Committee for the Palaeoclimate Modelling Intercomparison Project, and on the Scientific Steering Committee for the IGBP-GAIM initiative for an Earth System Atlas.

Baroness Hayman PC Chair of Human Tissue Authority and a member of the Human Fertilisation and Embryology Authority. Trustee, Tropical Health and Education Trust. Formerly: Chair of Cancer Research UK. Minister of State at MAFF, also held positions including Parliamentary Under Secretary of State at the Department of Health and DETR.

Richard Lapthorne CBE Non-executive Chairman of Cable & Wireless plc, Morse plc and New Look Ltd. A Trustee of Calibre, a charity providing recorded books, and of Tommy's campaign.

David Norman (Chairman of the Finance Committee)
Chairman of Norlan Resources Ltd and of The Royal
Ballet School. Formerly: Chairman and Chief Executive of
public plc and private manufacturing and service
companies in the UK. Trustee Tennis and Rackets
Association Foundation.

Marion Regan Managing Director of Hugh Lowe Farms Ltd – a family farming business, Director of KG Growers, a member of LEAF (Linking Environmental and Farming) and Trustee of the East Malling Trust for Horticultural Research. Educated at Oxford and at the University of Maryland in the USA, interests are environmental issues, travel, riding and plants.

Lord Selborne KBE, FRS (Chairman of the Trustees)
Chairman of Blackmoor Estate Limited, Chairman of
the Foundation for Science and Technology, Chancellor
of Southampton University. Formerly: President of the
Royal Geographical Society, Chair of the Joint Nature
Conservation Committee, Chair of the Agricultural and
Food Research Council and Chair of the UK Chemicals
Stakeholder Forum. Trustee of the John Innes
Foundation and the Lawes Agricultural Trust, Kew
Trustee 1993 to 1998.



Royal Botanic Gardens, Kew_Annual Report and Accounts_2005/06

Management Commentary continued

Statutory information continued

Director

The Director of the Royal Botanic Gardens, Kew throughout the year was Professor Sir Peter Crane FRS.

Internal audit

The Board has appointed internal auditors who report to the Director as Accounting Officer and an Audit Committee constituted from members of the Board of Trustees. Their purpose is to review RBG Kew's systems of internal control and make recommendations for improvements through detailed reports on areas covered and an annual report summarising their work.

Advisors

Bankers

The Co-operative Bank plc 17 High Street Kingston-Upon-Thames Surrey, KT1 1LP

Auditor

Comptroller and Auditor General National Audit Office

Solicitors

DLA 3 Noble Street London, EC2V 7EE

The Treasury Solicitor Queen Anne's Chambers 28 Broadway London, SW1H 9JS

Burges Salmon Narrow Quay House Narrow Quay Bristol, BS1 4AH

Disabled persons

RBG Kew supports the employment of disabled people wherever possible, by recruitment, by retaining all those who become disabled during their employment, and generally through training, career development and promotion.

Employee involvement

Consultations take place with employees' representatives so that the views of employees may be taken into account in making decisions which are likely to affect their interests.

Volunteers and donated services

RBG Kew remains fully committed to supporting and developing volunteering at Kew and recognises the unique contribution volunteers make to the delivery of Kew's objectives. Volunteer placements continue to increase with over 450 volunteers currently registered at Kew and Wakehurst Place.

RBG Kew is successfully working with local agencies and organisations to increase opportunities for a wide diversity of people and particularly for those more likely to experience social exclusion.

RBG Kew fully supported the Year of the Volunteer 2005 and one of our volunteers won a Year of the Volunteer medal in recognition of her outstanding contribution.

The Accounting Officer confirms

- there is no relevant audit information of which the auditors are unaware;
- he has taken all the steps he ought to ensure the auditor are aware of all relevant audit information; and
- he has taken all the steps he ought to establish that the Royal Botanic Gardens, Kew's auditors are aware of the information.

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

Jh Selsne

20 June 2006

Professor Sir Peter Crane FRS

at Come

Director

20 June 2006

Statement of Trustees' and Director's responsibilities

Under Schedule 1 Part IV subsection 39(2) National Heritage Act 1983 the Board of Trustees of the Royal Botanic Gardens, Kew are required to prepare a statement of accounts for each financial year in the form and on the basis determined by the Secretary of State for Environment, Food and Rural Affairs, with the consent of the Treasury. The accounts are prepared on an accruals basis and must show a true and fair view of the Royal Botanic Gardens, Kew's and the group's state of affairs at the year end and of the group's incoming resources, application of resources and cash flows for the financial year.

In preparing the accounts the Trustees are required to:

- observe the Accounts Direction issued by the Secretary of State for Environment, Food and Rural Affairs including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- · make judgements and estimates on a reasonable basis;
- state whether applicable accounting standards have been followed, and disclose and explain any material departures in the financial statements; and
- prepare the financial statements on the going concern basis, unless it is inappropriate to presume that the Royal Botanic Gardens, Kew will continue in operation.

The Accounting Officer for the Department for Environment, Food and Rural Affairs has designated the Director of the Royal Botanic Gardens, Kew as the Accounting Officer for the Royal Botanic Gardens. His relevant responsibilities as Accounting Officer, including his responsibility for the propriety and regularity of the public finances for which he is answerable and for the keeping of proper records, are set out in the Non-Departmental Public Bodies' Accounting Officer Memorandum, issued by the Treasury and published in *Government Accounting*.

Statement on internal control

1_Scope of responsibility

As Accounting Officer, the Director has responsibility for maintaining a sound system of internal control that supports the achievement of RBG Kew's policies, aims and objectives, whilst safeguarding the public funds and assets for which he is personally responsible in accordance with the responsibilities assigned to him in Government Accounting. In addition, he is accountable to the principal Accounting Officer of the Department for Environment, Food and Rural Affairs (Defra) to enable her to discharge her overall responsibility for ensuring that RBG Kew, as a Defra Non-Departmental Public Body, has adequate financial systems and procedures in place.

2_The purpose of the system of internal control

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of RBG Kew's policies, aims and objectives, to evaluate the likelihood of those risks being realised and the impact should they be realised, and to manage them efficiently, effectively and economically. The system of internal control has been in place in RBG Kew for the year ended 31 March 2006 and up to the date of the approval of the Annual Report and Accounts, and accords with Treasury guidance.

3_Capacity to handle risk

Strategic leadership on risk management comes from the senior team with oversight by the Audit Committee which is able to draw on the expertise of Trustees with experience of the private sector and other government bodies. During 2005/06 a full and detailed review of the main risks facing Kew was carried out and a new methodology for recording and managing risks was adopted. The revised Risk Register was reviewed by the Audit Committee in detail at their February meeting and was fully endorsed. The Strategy is available to all staff on the intranet along with a copy of the Risk Register and other guidance on risk. Kew has now appointed a Head of Legal, Governance and Risk Management and part of this role will be to work with the risk owners to help the action plans be implemented and carry out quarterly reviews of progress.

4 The risk and control framework

Governance

RBG Kew embraces the principles and requirements of good corporate governance. The Board consists of 12 Trustees, 11 appointed by Defra and 1 by the Queen. There are two subcommittees of the Board – the Audit Committee and the Finance Committee, which also functions as the Remuneration Committee. On the Finance Committee there are 5 Trustees

and on the Audit Committee 4 Trustees. Both the Finance and Audit Committees have written Terms of Reference and minutes of their meetings are submitted to the full Board and discussed as necessary. The Board of Trustees meets 6 times a year and the Committees at least twice a year. The members of the Board are detailed in the Annual Report and there is a written Code of Conduct for them.

Defra is the sponsor Department for RBG Kew and there is an agreed Management Statement and Financial Memorandum which governs the relationship between the two organisations. Formal quarterly meetings take place between Defra officials and RBG Kew management and there is regular contact at other times. Defra is consulted during the development of the Corporate Plan each year and after final approval by the Trustees it is submitted to Defra. Monthly returns of income and expenditure are submitted to Defra and the Annual Report and Accounts are approved by the Secretary of State before laying before Parliament.

RBG Kew has an Internal Audit function which operates to the standards defined in the Government Internal Audit Standards. They submit regular reports which include the Head of Internal Audit's independent opinion on the adequacy and effectiveness of RBG Kew's system of internal control together with recommendations for improvement. The Audit Committee reviews all the reports and approves the management responses and action plans to deal with the issues raised. The Internal Auditors update the Audit Committee on progress on all action plan points not yet completed.

The National Audit Office is the external auditor for RBG Kew as required by the National Heritage Act 1983. The NAO subcontracts the audit work based on a tender process which involves RBG Kew in the selection.

RBG Kew has in place a Whistleblowers Policy and a Fraud Management Policy which are available to all staff on the intranet.

Risk strategy and risk management

With the wide range and complex network of stakeholders interested in RBG Kew, it is essential that Kew's approach to, and appetite for risk, is carefully assessed. The individual objectives of Kew are interconnected and, as a result, the achievement of each of the objectives can be influenced by the actions needed to deliver the other objectives. RBG Kew's approach to this has been to adopt a policy of well thought through risk taking to ensure an appropriate balance of inputs and a successful record of outputs against each objective.

In this context Kew has ensured that the risk management arrangements have been kept under constant review in recognition that good risk management will deliver better services, improve efficiency, help the reliability of decisions and support innovation. During 2005/06 RBG Kew has rationalised its assessment of risks to concentrate on a small number of key risks that provide a focus for the Board and senior

management team. Alongside this, a review has been carried out to identify the main actions and controls that help to mitigate the risks. Clear responsibility and ownership has also been assigned to these controls.

The responsibility for monitoring and oversight of the arrangements has also been clarified. It will be the responsibility of the senior management team, with oversight by the Audit Committee, to review implementation, practice and evaluation. In particular, the Audit Committee will review the key risks on an exceptions basis at each meeting, and at one meeting each year, do a full review of all risks and mitigating actions and controls.

Strategy and planning

RBG Kew has a comprehensive Corporate Plan which covers five years but which is updated on an annual basis. The Plan sets out in detail the objectives and key performance measures of the organisation as well as the specific actions that will be taken to achieve them. The Plan is available to all staff on the intranet and is also available in full to the public on RBG Kew's internet site www.kew.org.

All staff are encouraged to contribute to the development of the Plan through their Head of Department. Drafts are put on the intranet and input invited. The Plan is reviewed by the Trustees at their December meeting and often at meetings prior to this. A final review is carried out and approval given at their February meeting. Defra's policies and priorities are specifically referred to during the planning process and Defra is consulted on the drafts to ensure RBG Kew's work is in line with Defra's strategies.

Change management

Throughout 2005/06 a key development has been to continue the integration of several departments so as to ensure collective responsibility and ownership. Strengthening and clarification of the project and risk management arrangements has been central to this by bringing people together, improving decision making and involving enhanced communication. The prime responsibility has rested with the senior management team to give leadership in these areas and champion the changes that have produced the excellent results for 2005/06.

Performance management

The staff performance management process within RBG Kew ensures that the organisation's goals are reflected by individual staff members' objectives and training plans. At the beginning of each year all staff meet with their line manager to agree their

Selsne

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

20 June 2006

work and objectives for the year and identify any training needs, referring to the Corporate Plan to ensure their plans will contribute to RBG Kew's targets that are relevant to them. Regular contact is encouraged throughout the year and a formal review takes place after 6 months as well as at the end of the year.

The Key Measures for the organisation were first established in the 2001/02 Corporate Plan. They are reviewed each year to ensure they remain critical and relevant and are monitored throughout the year. The final results are set out in the Management Commentary. In addition to the Key Measures, each Plan includes details of the actions to be taken within all the activity programmes of the organisation to ensure that objectives and the Key Measures are achieved.

Project management

During 2005/06 RBG Kew has successfully progressed and completed several major projects, including the Alpine House, the Jodrell Extension and the Lake Crossing. This continues the good record over recent years. Alongside these successes, the project management arrangements have been reviewed and the practices of appointing individuals to fulfil key roles for each project, ensuring these staff have the appropriate skills and experience and designating owners and managers has been strengthened.

Equally the practices for project documentation including project initiation documents, project plans and risk registers have been further enhanced. Risk assessments are carried out on all major projects.

5 Review of effectiveness

As Accounting Officer, the Director has responsibility for reviewing the effectiveness of the system of internal control. His review of the effectiveness of the system of internal control is informed by the work of the internal auditors and the senior managers within RBG Kew who have responsibility for the development and maintenance of the internal control framework, and comments made by the external auditors in their management letter and other reports.

As described above RBG Kew has a comprehensive Internal Audit function and their work identified no significant internal control issues during the year.

The Director and the Chairman of the Board of Trustees have been advised on the implications of the result of the Director's review of the effectiveness of the system of internal control by the Board and the Audit Committee. A plan to address weaknesses and ensure continuous improvement of the system is in place.

Professor Sir Peter Crane FRS

Et Come

Director

20 June 2006

Remuneration Report

Remuneration Policy

The remuneration of the Director is set by the Remuneration Committee, a sub-committee of the Board of Trustees.

In reaching its recommendations, the Committee has regard to the following considerations:

Performance

Affordability

The Director's salary is reviewed on an annual basis.

Service Contracts

RBG Kew appointments are made in accordance with the Civil Service Commissioners' Recruitment Code, which requires appointment to be on merit on the basis of fair and open competition but also includes the circumstances when appointments may otherwise be made.

The Kew Directors' appointments are open-ended until they reach the normal retiring age of 60. Early termination, other than for misconduct, would result in the individual receiving compensation as set out in the Civil Service Compensation Scheme.

Salary and pension entitlements

The following sections provide details of the remuneration and pension interests of the current Kew Director.

Salary

'Salary' includes gross salary; performance pay or bonuses; the post holder is not entitled to overtime; reserved rights to London weighting or London allowances; recruitment and retention allowances; private office allowances and any other allowance to the extent that it is subject to UK taxation.

This report is based on payments made by Royal Botanic Gardens, Kew and thus are recorded in these accounts in full.

Benefits in kind

The post holder does not receive any benefits provided by the employer and treated by the Inland Revenue as a taxable emolument.

Remuneration (audited)

	2005/06	2005/06	2004/05	2004/05
	Salary	Benefits in kind	Salary	Benefits in kind
Professor Sir Peter Crane	£152,810	£0	£142,000	f0

Pension benefits (audited)

	Accrued pension at age 60 as at 31/3/06 and related lump sum	Real increase in pension and related lump sum at age 60	CETV at 31/3/06	CETV at 31/3/05	Real increase in CETV	Employer contribution to partnership pension account
Professor Sir Peter Crane	£8,740 plus lump sum of £26,221	£1,378 plus lump sum of £4,135	£165,703	£109,984	£24,548	N/A

Civil Service Pensions

Pension benefits are provided through the Civil Service pension arrangements. From 1 October 2002, civil servants may be in one of three statutory based 'final salary' defined benefit schemes (classic, premium, and classic plus). The schemes are unfunded with the cost of benefits met by monies voted by Parliament each year. Pensions payable under classic, premium, and classic plus are increased annually in line with changes in the Retail Prices Index. New entrants after 1 October 2002 may choose between membership of premium or joining a good quality 'money purchase' stakeholder arrangement with a significant employer contribution (partnership pension account).

Employee contributions are set at the rate of 1.5% of pensionable earnings for classic and 3.5% for premium and classic plus. Benefits in classic accrue at the rate of 1/80th of pensionable salary for each year of service. In addition, a lump sum equivalent to three years' pension is payable on retirement. For premium, benefits accrue at the rate of 1/60th of final pensionable earnings for each year of service. Unlike classic, there is no automatic lump sum (but members may give up (commute) some of their pension to provide a lump sum). Classic plus is essentially a variation of premium, but with benefits in respect of service before 1 October 2002 calculated broadly in the same way as in classic.

The partnership pension account is a stakeholder pension arrangement. The employer makes a basic contribution of between 3% and 12.5% (depending on the age of the member) into a stakeholder pension product chosen by the employee from a selection of approved products. The employee does not have to contribute but where they do make contributions, the employer will match these up to a limit of 3% of pensionable salary (in addition to the employer's basic contribution). Employers also contribute a further 0.8% of pensionable salary to cover the cost of centrally-provided risk benefit cover (death in service and ill health retirement).

Further details about the Civil Service pension arrangements can be found at the website

www.civilservice-pensions.gov.uk

Cash Equivalent Transfer Values

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme. A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another pension scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their total membership of the pension scheme, not just their service in a senior capacity to which disclosure applies. The CETV figures, and from 2003/04 the other pension details, include the value of any pension benefit in another scheme or arrangement which the individual has transferred to the Civil Service pension arrangements and for which the CS Vote has received a transfer payment commensurate with the additional pension liabilities being assumed. They also include any additional pension benefit accrued to the member as a result of their purchasing additional years of pension service in the scheme at their own cost. CETVs are calculated within the guidelines and framework prescribed by the Institute and Faculty of Actuaries.

Please note that the factors used to calculate the CETV were revised on 1 April 2005 on the advice of the Scheme Actuary. The CETV figure for 31 March 2005 has been restated using the new factors so that it is calculated on the same basis as the CETV figure for 31 March 2006.

Real increase in CETV

This reflects the increase in CETV effectively funded by the employer. It takes account of the increase in accrued pension due to inflation, contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement) and uses common market valuation factors for the start and end of the period.

Royal Botanic Gardens, Kew_statement 1

Consolidated Statement of Financial Activities for the year ended 31 March 2006

No	tes	Unrestricted	Restricted	Endowment	2005/06 Total	2004/05* Total
		£′000	£'000	£′000	£′000	£′000
Incoming resources						
Incoming resources from generated funds						
Grant-in-aid	3	25,537	_	_	25,537	24,899
Grants, gifts & donations	4	1,423	7,898	_	9,321	5,921
Activities for generating funds – trading	5	5,999	_	_	5,999	4,567
Investment income	6	597	20	_	617	669
Income resources from charitable activities	7	7,364	_	_	7,364	6,140
Total incoming resources		40,920	7,918	_	48,838	42,196
Costs of generating funds – trading	9	(4,707)	_	-	(4,707)	(3,603)
Net incoming resources available for charitable applications		36,213	7,918	_	44,131	38,593
Charitable activities						
Research and conservation	9	24,736	7,213	-	31,949	28,801
Visitor activities	9	6,551	_	_	6,551	6,169
Governance costs	9	120	-	-	120	109
Total charitable costs		31,407	7,213	_	38,620	35,079
Notional cost of capital	2	(3,442)	(96)	(6)	(3,544)	(3,236)
Net incoming/(outgoing) resources after notional cost of capital		1,364	609	(6)	1,967	278
Reversal of notional cost of capital		3,442	96	6	3,544	3,236
Net incoming resources		4,806	705	-	5,511	3,514
Gains on investment assets: Unrealised		_	17	33	50	20
Revaluation of tangible assets		3,345	1	_	3,346	5,139
Net movement in reserves		8,151	723	33	8,907	8,673
Reserves at 1 April		94,273	2,372	157	96,802	88,129
Reserves at 31 March	17	£102,424	£3,095	£190	£105,709	£96,802

All activities arise from continuing operations.

The Notes on pages 23 to 29 form part of these accounts.

 $^{^{\}star}$ The 2004/05 figures have been restated to comply with the revised SORP 2005.

Royal Botanic Gardens, Kew_statement 2

Balance Sheets 31 March 2006

	Royal Botanic Garden		c Gardens, Kew	Conse	Consolidated	
N	lotes	2006 £′000	2005 £'000	2006 £'000	2005 £'000	
Fixed assets						
Tangible assets	12	95,961	86,251	95,961	86,251	
Investments	13	612	562	287	237	
		96,573	86,813	96,248	86,488	
Current assets						
Stocks of goods for sale		_	_	727	601	
Debtors	15	6,113	4,298	5,930	3,940	
Cash at bank and in hand		7,973	11,741	8,260	12,198	
		14,086	16,039	14,917	16,739	
Creditors: amounts falling due within one year	16	(4,950)	(6,050)	(5,456)	(6,425)	
Net current assets		9,136	9,989	9,461	10,314	
Total assets less current liabilities		£105,709	£96,802	£105,709	£96,802	
Reserves						
Unrestricted	17	102,424	94,273	102,424	94,273	
Restricted	17	3,095	2,372	3,095	2,372	
Endowment	17	190	157	190	157	
		£105,709	£96,802	£105,709	£96,802	

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

20 June 2006

Professor Sir Peter Crane FRS

Director

20 June 2006

Royal Botanic Gardens, Kew_statement 3

Consolidated Cash Flow Statement for the year ended 31 March 2006

	2005/06 £'000	2004/05 £'000
Net cash inflow from operating activities	3,906	4,610
Returns on investments	617	669
Capital expenditure and financial investment	(8,461)	(6,136)
Decrease in cash at bank	f(3,938)	f(857)

a_Reconciliation of net incoming resources to net cash inflow c_Reconciliation of net cash flow to movement in net funds from operating activities

	2005/06	2004/05
	£′000	£'000
Net incoming resources	5,511	3,514
Depreciation	2,046	1,892
Loss on sale of tangible fixed assets	39	38
Loss on revaluation of fixed assets	12	8
Increase in stock	(126)	(30)
Increase in debtors	(1,990)	(1,294)
(Decrease)/increase in creditors	(969)	1,151
Less investment income	(617)	(669)
	£3,906	£4,610

	2005/06 £'000	2004/05 £'000
Decrease in cash in period	(3,938)	(857)
Cash inflow from decrease in liquid resource	es –	_
Movement in net funds in the period	(3,938)	(857)
Net funds at 1 April	12,198	13,055
Net funds at 31 March	£8,260	£12,198

b_Analysis of cash flows

Decrease in short term cash deposits

Capital expenditure and financial investment				
Payments to acquire tangible fixed assets	(8,470)	(6,155)		
Receipts from sales of tangible fixed assets	9	19		
	£(8,461)	£(6,136)		
Management of liquid resources				

d_Analysis of net funds

	1 April 2005	Cash Flow	31 March 2006
	£'000	£′000	£'000
Cash at bank and in hand	12,198	(3,938)	8,260
Liquid resources	_	_	_
Net Funds	£12,198	£(3,938)	£8,260

Notes to the accounts_year ended 31 March 2006

1_Form of accounts

As stated in the Statutory Information, these accounts have been prepared in the form directed by the Department for Environment, Food and Rural Affairs. Without limiting the information given, the accounts meet the accounting and disclosure requirements of applicable accounting standards so far as those requirements are appropriate, and comply with the Statement of Recommended Practice, Accounting and Reporting by Charities 2005.

2_Accounting policies

Accounting Convention

The accounts are prepared under the modified historical cost convention and fixed assets and investments are shown at their value to the business by reference to current costs.

Basis of Consolidation

The consolidated financial statements consolidate the financial statements of the Royal Botanic Gardens, Kew and its subsidiary RBG Kew Enterprises Limited for the year ended 31 March 2006.

Expense Allocation

Indirect costs have been allocated to the headings in the Statement of Financial Activities on the basis of headcount except for computer costs which have been allocated on the basis of computer numbers. Governance costs include the costs of strategic planning, the Annual Report and Accounts, audit and Trustees' expenses.

Government Grants

Grant-in-aid including capital grant is credited to income in the year in which it is received. Grant for the purchase of capital items is transferred to a capital grants reserve from which it is released as the assets are depreciated.

Income from Activities and Generated Funds

Income is accounted for on a receivable basis, net of VAT.

Land and Buildings

The Board of Trustees does not hold title to the land and buildings used by the Royal Botanic Gardens, Kew except for the Wellcome Trust Millennium Building and the land it is situated on. The remaining land and buildings are owned by the Crown. As required by the Statement of Recommended Practice, Accounting and Reporting by Charities (SORP) revised in 2005, existing buildings and their associated land used for fundraising or administration purposes plus the Wellcome Trust Millennium Building, were valued and capitalised on the Balance Sheet (see Note 12).

Land and buildings are revalued every 5 years by professionally qualified valuers, on the basis of either open market value for existing use or depreciated replacement cost. The first professional revaluation was carried out during 2001/02. In between professional revaluations, values are updated using indices provided by the professional valuers.

The Board of Trustees consider that the cost of obtaining valuations for all the other existing buildings at 31 March 2006, which are all heritage assets, would be onerous compared to the benefit to the readers of the Accounts and therefore no value has been placed on these as allowed by the SORP. Expenditure on new buildings over £250,000 is capitalised.

Collections

The Board of Trustees consider that the cost of obtaining valuations for all existing collections would be onerous compared to the benefit to the readers of the Accounts and therefore no values have been placed on these as allowed by the SORP. New items to the collections costing more than £2,000 are capitalised, except for additions to the living collections which are written off in the year of acquisition. Collections are unlikely to depreciate and are expected to have a life in excess of 50 years so no depreciation is provided against them. Impairment reviews of these collections will be undertaken.

Other Fixed Assets

Other fixed assets are stated at their value to the business by reference to current costs. Historic costs are not disclosed as required by the SORP as, in accordance with Treasury Non-Departmental Public Bodies Guidance, this adds no information of value to the Accounts. Capital items costing less than £2,000 are written off to other direct costs (Note 11) in the year of purchase. All other capital expenditure is capitalised as fixed assets.

2_Accounting policies continued

Depreciation

Depreciation is provided on all fixed assets, except land and collections, at rates calculated to write off the cost or valuation, less estimated residual value, of each asset evenly over its expected useful life, as follows:

Buildings between 20 and 80 years

Gardens equipment between 5 and 20 years

Scientific equipment:

Laboratory equipment over 10 years Computer and photographic equipment between 4 and 10 years

Office equipment over 5 years

Motor vehicles over 5 years **Copyrights** year of purchase

Notional cost of capital

Notional cost of capital is calculated at 3.5% of the average capital employed by RBG Kew in the year.

Pensions

Pension arrangements are described in Note 21 to the accounts. Pension contributions payable by RBG Kew are expensed as incurred.

Investments

Investments are stated at current market value at the balance sheet date. Valuations are kept up-to-date such that when investments are sold there is no gain or loss arising. As a result the Statement of Financial Activities only includes unrealised gains and losses arising from the revaluation of the investment portfolio throughout the year. As explained in the fixed asset accounting policy note, historical cost disclosures have not been provided.

Stocks

Stocks are valued at the lower of cost and net realisable value which is considered to be equivalent to their value to the business.

Net Liquid Resources

Liquid resources comprise short term cash deposits.

Reserves

Reserves are analysed under the headings Unrestricted, Restricted and Endowment Funds.

Restricted Funds

These are funds which have been given to RBG Kew for specific uses.

Endowment Funds

These are capital funds where Trustees have no power to convert the capital to income. However, the income generated by these funds can be used for the purposes for which the endowment was given.

Accumulated Reserves

The Board of Trustees, with the approval of the Secretary of State for Environment, Food and Rural Affairs, may undertake certain activities the proceeds from which, together with donations and funds from other sources, including those profits of RBG Kew Enterprises Limited which have been covenanted to RBG Kew, but excluding Grant-in-aid, are taken to the Accumulated Reserves. These funds may be used at the Board's discretion within the terms of section 24 of the National Heritage Act 1983.

Revaluation Reserve

This represents the cumulative difference between historic and current costs of fixed assets.

Taxation

The Royal Botanic Gardens, Kew is an exempt charity as a consequence of Schedule 5 subsection 4 of the National Heritage Act 1983. RBG Kew Enterprises Limited covenants most of its profits to the Royal Botanic Gardens, Kew and consequently only a small amount of taxation may be payable, mainly due to timing differences. The Royal Botanic Gardens, Kew and RBG Kew Enterprises Limited are group registered for VAT purposes and are able to recover part of their input VAT.

3_Grant-in-aid

	2005/06	2004/05	
	£′000	£′000	
Total Grant-in-aid received			
from Defra during the year	£25,537	£24,899	

4_Grants, gifts and donations

	2005/06	2004/05
	£'000	£′000
Income received from RBG Kew Foundation	4,995	1,520
Millennium Seed Bank project income	2,461	2,640
Other project income	1,616	1,564
EU project income	152	71
Grant for maintaining Wakehurst Place	69	101
Donations	28	25
	£9,321	£5,921

5_Activities for generating funds - trading

	2005/06	2004/05
	£′000	£'000
Retailing	3,531	2,881
Commercial Development (i)	2,468	1,686
	£5,999	£4,567

⁽i) Commercial Development consists of concerts, licensing, venue hire and commercial publishing.

6_Investment income

	2005/06	2004/05
	£′000	£'000
Interest receivable	608	661
Charities Official Investment Fund	9	8
	£617	£669

All interest receivable is from cash at bank and short term cash deposits.

7_Incoming resources from charitable activities

	2005/06	2004/05
	£'000	£′000
Admissions	5,114	4,259
Catering contracts	932	634
Education charges	134	91
Rents receivable	95	95
Sale of fixed assets	9	19
Other income from third parties (i)	1,080	1,042
	£7,364	£6,140

⁽i) Other income from third parties consists of supplies made of goods and services from, amongst other things, consultancies, provision of photographs, reproduction fees and identification services.

8_Key performance target – total revenue generated

RBG Kew had a Key Performance Target for Total Revenue Generated in 2005/06 of £41.8m. Actual Revenue Generated, as defined for this target, was £44.4m. The increase is due to the excellent performance on visitor generated income and increased funding for capital projects.

9_Resources expended

	Staff Costs £'000	Depreciation	Other Direct Costs £'000	Allocated Support Costs £'000	2005/06 Total £'000	2004/05 Total £'000
Trading costs	1,499	39	3,169	_	4,707	3,603
Research and conservation	13,838	1,602	8,138	8,371	31,949	28,801
Visitor activities	2,148	405	2,122	1,876	6,551	6,169
Governance cos	ts 54	_	_	66	120	109
Support Costs	3,898	_	6,415	(10,313)	-	_
	£21,437	£2,046	£19,844	-	£43,327	£38,682
Note	10	12	11			

10_Trustees' remuneration and staff costs

a_Trustees' remuneration

Trustees do not receive any remuneration for their services.

Travelling and subsistence expenses of 3 Trustees (2004/05 4) have been charged at cost as part of other direct costs – Note 11.

b_Employees with earnings above £60,000

Number of employees at:	2005/06	2004/05
£60,000 – 69,999	7	2
£70,000 – 79,999	2	2
£80,000 – 89,999	_	1
£100,000 – 109,999	1	_
£140,000 – 149,999	_	1
£150,000 - 159,999	1	_

c_Staff salaries and social security, including the Director

	2005/06	2004/05
	£′000	£'000
Salaries	17,443	16,142
Social security costs	1,321	1,208
	18,764	17,350
Staff pensions – Note 21	2,673	1,877
	£21,437	£19,227

d_The average weekly number of employees during the year analysed by function

	2005/06	2004/05
Botanical science	224	225
Horticulture and public education	232	231
Visitor services and marketing	49	48
Information services	74	66
Support services and		
estates management	63	60
Directorate	8	7
RBG Kew Enterprises Ltd	54	51
	704	688

11_Other direct costs

	2005/06 £'000	2004/05 £'000
Cost of sales	2,276	1,667
Materials	2,863	3,043
Direct project costs	2,336	1,097
Repairs and maintenance	3,023	3,181
Minor new building works	2,272	2,304
Hire charges	327	296
Rates and utilities	1,044	746
Trustees' travel and subsistence	1	2
Staff travel and subsistence	562	409
General services	3,840	3,574
Bad debt provisions	27	1
Professional fees – audit	30	29
– other	1,243	1,214
	£19,844	£17,563

Unrecovered VAT for the year of £376,000 has been charged against these accounts (2004/05 £311,000). No other fees were paid to the external auditors.

12_Tangible assets_Royal Botanic Gardens, Kew and Consolidated

	Land	Dwellings	Buildings	Collections	Gardens Equipment	Scientific Equipment	Office Equipment	Motor Vehicles	Grant Aided Total
	£'000	£'000	£'000	£'000	£′000	£'000	£′000	£'000	£'000
Valuation									
At 1 April 2005	21,846	13,308	56,064	20	2,567	7,905	147	740	102,597
Additions	_	_	7,822	_	427	219	_	2	8,470
Disposals	-	_	_	_	(84)	(680)	(5)	_	(769)
Revaluation	465	251	2,677		83	67	3	116	3,662
At 31 March 2006	22,311	13,559	66,563	20	2,993	7,511	145	858	113,960
Depreciation									
At 1 April 2005	_	2,360	7,673	_	969	4,859	89	396	16,346
Charge for the year	-	222	844	_	216	632	15	117	2,046
Disposals	-	-	-	-	(73)	(643)	(5)	-	(721)
Revaluation	-	44	304	-	13	(97)	3	61	328
At 31 March 2006	_	2,626	8,821	_	1,125	4,751	102	574	17,999
Net book value									
At 31 March 2006	£22,311	£10,933	£57,742	£20	£1,868	£2,760	£43	£284	£95,961
At 31 March 2005	£21,846	£10,948	£48,391	£20	£1,598	£3,046	£58	£344	£86,251

⁽a) Fixed assets with a net book value of £48k were disposed of during the year for £9k.

⁽b) As explained in Note 2 existing buildings at 31 March 2001 that were not used for fundraising or administration purposes have not been capitalised. There are over 250 buildings on the Kew site including the magnificent public glasshouses — The Palm House, The Temperate House and the Princess of Wales Conservatory. The age range of the buildings is also extensive, stretching from the 19th Century and throughout the 20th Century.

⁽c) The valuations of the land and buildings were carried out by Powis Hughes & Associates, Chartered Surveyors, and Fanshawe, Chartered Quantity Surveyors. The valuations were made on an existing use basis at 31 March 2002 and were prepared in accordance with the Royal Institution of Chartered Surveyors Appraisal and Valuation Manual. The land was valued at £16,200,000 and the buildings at £40,677,000.

13_Investments

	Royal Botanic Gardens, Kew			Consolidated		
	2006	2006 2005		2006	2005	
	£′000	£'000		£'000	£′000	
Valuation						
At 1 April	562	542		237	217	
Revaluation	50	20		50	20	
At 31 March	£612	£562		£287	£237	

Investments at 31 March are analysed as follows:

Ro	yal Botani	c Gardens, Kew	Conso	lidated
	2006	2005	2006	2005
	£'000	£′000	£'000	£'000
RBG Kew Enterpris	es			
Limited	325	325	_	_
Charities Official				
Investment Fund	287	237	287	237
	£612	£562	£287	£237

14_Trading subsidiary

The subsidiary undertaking is as follows:

Name_RBG Kew Enterprises Limited

Registered in_England & Wales

Activity_Retailing and commercial development

Proportion of shares held_Ordinary shares 100% _Redeemable shares 100%

A summary of the results of the subsidiary is shown below. All values are at historic costs.

	Note	2005/06 £'000	2004/05 £'000
Turnover		5,849	4,496
Cost of sales		(2,323)	(1,700)
Gross profit		3,526	2,796
Net other expenses	1	(2,341)	(1,867)
Interest receivable		35	35
Net profit		1,220	964
Gift Aid paid to RBG Kew		(1,220)	(964)
Profit for year		£-	f-

	2006 £′000	2005 £'000
Balance sheet		
Current assets	1,503	1,340
Current liabilities	(1,178)	(1,015)
	£325	£325
Share capital and reserves	£325	£325

Note 1_Other expenses are stated after £150,000 income (2004/05 £150,000) from Orange plc for sponsorship of the Millennium Seed Bank project.

15_Debtors

Roya	l Botanic	Consc	olidated	
	2006	2005	2006	2005
	£'000	£'000	£′000	£'000
Trade debtors	415	618	797	842
Prepayments and				
accrued income	2,212	1,720	2,316	1,750
Owed by subsidiary	670	641	_	_
Owed by RBG Kew				
Foundation	1,914	510	1,913	510
Owed by Central				
Government Departme	ents 219	319	219	327
Travel advances to sta	ff 37	37	37	37
Staff loans	9	6	9	6
Value added tax	637	447	639	468
Total debtors	£6,113	£4,298	£5,930	£3,940

16_Creditors: Amounts falling due within one year

Roya	al Botanic (Consolidated		
	2006	2005	2006	2005
	£'000	£′000	£'000	£'000
Trade creditors	296	13	325	70
Accruals	3,096	5,053	3,365	5,178
Provision for claims	-	39	_	39
Other	1,558	945	1,766	1,138
Total creditors	£4,950	£6,050	£5,456	£6,425

Movement on provision for claims

£,000
39
_
(39)
_
f-

17_Statement of reserves_Royal Botanic Gardens, Kew and Consolidated

	At 1 April	Income	Expenditure	Revaluation	At 31 March
	2005				2006
	£′000	£′000	£′000	£′000	£′000
Unrestricted					
Government Capital Grants	18,713	6,213	(1,089)	-	23,837
Capital Revaluation Reserve	67,415	_	(974)	3,345	69,786
General	8,145	34,707	(34,051)	_	8,801
Total Unrestricted	94,273	40,920	(36,114)	3,345	102,424
Restricted					
Capital Grants	123	2,256	(40)	_	2,339
Capital Revaluation Reserve	_	_	(2)	1	(1)
Donations	357	27	(47)	17	354
Projects	1,892	5,635	(7,124)	_	403
Total Restricted	2,372	7,918	(7,213)	18	3,095
Endowment					
Scott-Marshall	155	_	_	32	187
Robin Spare Book Fund	2	_	_	1	3
Total Endowment	157	_	_	33	190
Total Reserves	£96,802	£48,838	£(43,327)	£3,396	£105,709

The Capital Grants fund represents monies given by third parties for specific projects which are used to purchase capital equipment. It is released as the assets are depreciated or are disposed of.

The Donations fund represents money given mainly by members of the public for specific purposes ranging from the purchase of books for the Library to money to support different parts of the gardens. There are over 30 different accounts within Donations.

Projects are where RBG Kew receives money from third parties to fund various activities such as specific areas of research, developments in the gardens, restoration of buildings etc, much of this money coming via the Foundation. There were over 70 such projects this year.

The income from the Scott-Marshall endowment is to be used to provide travel scholarships for horticultural staff at RBG Kew.

The income from the Robin Spare Book Fund is to be used to purchase books for the School of Horticulture library at RBG Kew.

18_Analysis of net assets between reserves

U	nrestricted £'000	Restricted £'000	Endowment £'000	Total £'000
Reserves balances at 31 March are represented by:	5			
Tangible assets	93,623	2,338	-	95,961
Investments	-	97	190	287
Current assets	11,636	3,281	-	14,917
Creditors	(2,835)	(2,621)	-	(5,456)
	£102,424	£3,095	£190	£105,709

19_Analysis of reserves

	Unrestricted	Restricted	Endowment	Total
	£'000	£′000	£′000	£'000
Capital Grants				
$- \ {\sf Government}$	23,837	_	_	23,837
– Other capital	grants –	2,339	-	2,339
Accumulated Re	eserves 8,801	725	110	9,636
Revaluation Res	serve 69,786	31	80	69,897
	£102,424	£3,095	£190	£105,709

20_Capital grants

	Other Grants £'000	Government Grants £'000	Total £'000
Historic net book value of fixed assets at 1 April 2005	123	18,713	18,836
Acquired during the year with Grant-in-aid	_	6,213	6,213
Acquired during the year with capital grants	2,256	_	2,256
	2,379	24,926	27,305
Less historic depreciation – Tangible assets	(40)	(1,073)	(1,113)
Release on assets disposed of during the year	-	(16)	(16)
Historic net book value of fixed assets at 31 March 2006	£2,339	£23,837	£26,176

21 Pension commitment

The staff of the Royal Botanic Gardens, Kew are employed by the Trustees and they are eligible to be members of the Principal Civil Service Pension Scheme, PCSPS. This is an unfunded multi-employer defined benefits scheme to which the conditions of the Superannuation Acts 1965 and 1972 and subsequent amendments apply.

RBG Kew's contributions to the PCSPS are affected by a surplus or deficit in the scheme but as it is a multi-employer scheme RBG Kew is unable to identify its share of the underlying assets and liabilities of the scheme on a consistent and reasonable basis. A full actuarial valuation was carried out by the Scheme Actuary, Hewitt Bacon Woodrow, in March 2003 and details can be found in the resource accounts of the Cabinet Office: Civil Superannuation (www.civilservice-pensions.gov.uk). For 2005/06 contributions of £2,626,000 were paid to the Paymaster General at rates which ranged from 16.2% to 24.6% depending on salary. The Scheme Actuary reviews employer contributions every four years following a full scheme valuation. From 2006/07 the salary bands will be revised and the rates will range between 17.1% and 25.5%.

RBG Kew Enterprises operates a Group Personal Pension Plan for its employees, which is a defined contribution scheme. It made pension contributions of £47,000 to this scheme during the year. 46 staff were members of the defined contribution scheme at 31 March 2006 and the remaining staff were members of the PCSPS.

22 Commitments

Construction contracts on two capital projects totalling £6.4m were partially complete at 31 March 2006.

There were no other major capital commitments at 31 March 2006.

23_Related party transactions

RBG Kew has dealings with the Department for Environment, Food and Rural Affairs and its sponsored bodies, and other Government Departments and their sponsored bodies.

As stated in the Statutory Information the purpose of the Foundation and Friends of the Royal Botanic Gardens, Kew is to provide support for Kew and, as shown in Note 4, £5.0m was received in 2005/06 (2004/05 £1.5m plus £2.0m for the Millennium Seed Bank project).

Mr Richard Lapthorne was formerly a Director of Orange plc. This company has a contract with RBG Kew Enterprises Ltd to sponsor the Millennium Seed Bank project and this year £150,000 (2004/05 £150,000) was received.

Enquiries about the Trustees' Register of Interests should be sent to the Head of Legal, Governance and Risk Management, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB.

24_Financial instruments

FRS 13 – Derivatives and other Financial Instruments, requires disclosure of the role financial instruments have had during the period in creating and changing the risks an entity faces in undertaking its activities. Because RBG Kew's activities are financed mainly by Government Grants and visitor income, it is not exposed to the degree of financial risk faced by business entities. In addition, RBG Kew has no powers to borrow funds and only a limited number of transactions are in foreign currency. Financial assets and liabilities are generated by day to day operational activities and are not held to change the risks facing RBG Kew in undertaking its activities.

Certificate and Report

Royal Botanic Gardens, Kew

The Certificate and Report of the Comptroller and Auditor General to the Houses of Parliament

I certify that I have audited the financial statements of the Royal Botanic Gardens, Kew for the year ended 31 March 2006 under the National Heritage Act 1983. These comprise the Consolidated Statement of Financial Activities, the Consolidated and Entity Balance Sheets, the Consolidated Cashflow Statement and the related notes. These financial statements have been prepared under the accounting policies set out within them.

Respective responsibilities of the Board of Trustees, the Director of the Royal Botanic Gardens, Kew, and auditor

The Board of Trustees and the Director of the Royal Botanic Gardens, Kew, as Accounting Officer, are responsible for preparing the Annual Report, the Remuneration Report and the financial statements in accordance with the National Heritage Act 1983 and the Department for Environment, Food and Rural Affairs directions made thereunder and for ensuring the regularity of financial transactions funded by Parliamentary grant ("Grant in Aid"). These responsibilities are set out in the Statement of Board of Trustees' and the Director's Responsibilities.

My responsibility is to audit the financial statements in accordance with relevant legal and regulatory requirements, and with International Standards on Auditing (UK and Ireland).

I report to you my opinion as to whether the financial statements give a true and fair view and whether the financial statements and the part of the Remuneration Report to be audited have been properly prepared in accordance with the National Heritage Act 1983 and the Department for Environment, Food and Rural Affairs directions made thereunder. I also report whether in all material respects the expenditure, income and resources funded by Grant in Aid have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them. I also report to you if, in my opinion, the Annual Report is not consistent with the financial statements, if the Royal Botanic Gardens, Kew has not kept proper accounting records, if I have not received all the information and explanations I require for my audit, or if information specified by relevant authorities regarding remuneration and other transactions is not disclosed.

I review whether the statement on pages16 to 17 reflects the Royal Botanic Gardens, Kew's compliance with HM Treasury's guidance on the Statement on Internal Control, and I report if it does not. I am not required to consider whether the Trustees' and Accounting Officer's statements on internal control cover all risks and controls, or form an opinion on the effectiveness of the Royal Botanic Gardens, Kew's corporate governance procedures or its risk and control procedures.

I read the other information contained in the Annual Report and consider whether it is consistent with the audited financial statements. This other information comprises only the Chairman's letter, the Director's review, the Management Commentary and the unaudited part of the Remuneration Report. I consider the implications for my report if I become aware of any apparent misstatements or material inconsistencies with the financial statements. My responsibilities do not extend to any other information.

Basis of audit opinion

I conducted my audit in accordance with International Standards on Auditing (UK and Ireland) issued by the Auditing Practices Board. My audit includes examination, on a test basis, of evidence relevant to the amounts, disclosures and regularity of financial transactions included in the financial statements and the part of the Remuneration Report to be audited. It also includes an assessment of the significant estimates and judgments made by the Board of Trustees and the Director in the preparation of the financial statements, and of whether the accounting policies are most appropriate to the Royal Botanic Gardens, Kew's and the group's circumstances, consistently applied and adequately disclosed.

I planned and performed my audit so as to obtain all the information and explanations which I considered necessary in order to provide me with sufficient evidence to give reasonable assurance that the financial statements and the part of the Remuneration Report to be audited are free from material misstatement, whether caused by fraud or error and that in all material respects the expenditure, income and resources funded by Grant in Aid have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them. In forming my opinion I also evaluated the overall adequacy of the presentation of information in the financial statements and the part of the Remuneration Report to be audited.

Opinions

In my opinion:

- the financial statements give a true and fair view, in accordance with the National Heritage Act 1983 and directions made thereunder by the Department for Environment, Food and Rural Affairs, of the state of the Royal Botanic Gardens, Kew's and the group's affairs as at 31 March 2006 and of the incoming resources and application of resources of the group for the year then ended;
- the financial statements and the part of the Remuneration Report to be audited have been properly prepared in accordance with the National Heritage Act 1983 and the Department for Environment, Food and Rural Affairs directions made thereunder; and
- in all material respects the expenditure, income and resources funded by Parliament have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

I have no observations to make on these financial statements.

John Bourn

Comptroller and Auditor General National Audit Office 157-197 Buckingham Palace Road Victoria London SW1W 9SP

29 June 2006

Royal Botanic Gardens, Kew_Five year financial summary

Summary Statement of Financial Activities

	2001/02 £'000	2002/03 £'000	2003/04 £′000	2004/05 £′000	2005/06
Incoming resources	1 000	1 000	1 000	1 000	£′000
Grant-in-aid	19,729	16,629	24,783	24,899	25,537
Grants, gifts and donations	4,309	4,208	4,443	5,921	9,321
Income from activities	8,237	8,202	9,248	10,707	13,363
Investment income	581	526	526	669	617
Total incoming resources	32,856	29,565	39,000	42,196	48,838
Resources expended					
Charitable expenditure	26,958	26,813	32,123	35,079	38,620
Cost of generating funds	2,377	2,570	2,863	3,603	4,707
Total resources expended	29,335	29,383	34,986	38,682	43,327
Net incoming resources	3,521	182	4,014	3,514	5,511
Unrealised movements on investments	(15)	(57)	23	20	50
Revaluation of tangible assets	6,193	7,830	3,049	5,139	3,346
Net movement in reserves	9,699	7,955	7,086	8,673	8,907
Reserves at 1 April	63,389	73,088	81,043	88,129	96,802
Reserves at 31 March	£73,088	£81,043	£88,129	£96,802	£105,709

Summary Balance Sheet

	2002	2003	2004	2005	2006
	£'000	£′000	£'000	£'000	£′000
Fixed assets	60,969	70,650	77,131	86,488	96,248
Current assets	14,613	13,115	16,272	16,739	14,917
Creditors	(2,494)	(2,722)	(5,274)	(6,425)	(5,456)
Total assets less current liabilities	£73,088	£81,043	£88,129	£96,802	£105,709
Unrestricted	71,339	78,277	85,469	94,273	102,424
Restricted	1,583	2,638	2,517	2,372	3,095
Endowment	166	128	143	157	190
Total reserves	£73,088	£81,043	£88,129	£96,802	£105,709

Corporate information

Health and safety statement

The following statement has been prepared in line with the guidance on Health and Safety in Annual Reports issued by the Health and Safety Commission.

The Royal Botanic Gardens, Kew recognises the importance of managing health and safety risks, and does this by an effective Health and Safety Management System. Its commitment is made known to all new staff upon arrival who receive copies of the General Statement on Health and Safety. This and all other Health and Safety policies are available to staff on the Intranet and on paper via line managers. The Statement makes clear the commitment of the Trustees, as the employers, to ensuring a safe workplace for their employees and visitors. Easy to read information on Health and Safety is included in the Staff Handbook, which is issued to all staff. The Trustees receive Health and Safety reports at every meeting. They also approve the Corporate Health and Safety Action Plan for the year, which sets the targets for the year. This is published on the Kew website. Responsibility for day-to-day activity rests with the Director and the senior management team. Health and Safety is a standing item at all Heads of Department meetings.

The most significant issues identified in a review conducted in 2005 include: fire, travel and associated activities, use of large/field machinery, working at height, manual handling, use and storage of chemicals, asbestos, water misting, slips trips and falls, and interface with contractors. Risk reduction strategies are in place for all these activities. Key issues will be audited during 2006/07.

Staff receive training when appointed, through the Induction Programme, and as their work changes. Refresher training is also provided within Departments as appropriate. Specialist training for First Aiders, Fire Wardens and other key competencies are arranged by the Corporate Health and Safety Co-ordinator. In 2005, we ran the first course in Wilderness First Aid, aimed specifically at staff who go on collecting expeditions abroad.

The Local Health and Safety Committee meets twice a year, and is the forum where the Safety Representatives of the three recognised Trade Unions and the Director can discuss issues or concerns. The Trade Union representatives may see the Director more frequently if they desire. Trade Union Safety Representatives are consulted when Departmental Health and Safety Action Plans are drawn up, and on all new policies and procedures. The Trade Union Safety Representatives receive information about accidents, so they can carry out their own investigations, and about any remedial action planned.

In the reporting year April 2005 to March 2006 seven accidents were reported under RIDDOR. Five involved members of staff, and two involved visiting members of the public. None of the accidents were fatalities. During this period, there were a total

of 1.9 million visitors to Kew and Wakehurst Place (including evening events and private functions), and an average staff number of 704 (permanent and short-term appointments in RBG Kew and RBG Kew Enterprises). This compares with nine accidents reported under RIDDOR last year, when there were 1.7 million visitors (including evenings and private functions). Work is planned on a new HR system which will enable Kew to track employee days lost through physical and mental illness.

No enforcement notices were served, nor were there any convictions for health and safety offences. HSE Inspectors visited Kew as part of the initiative on musculoskeletal injuries and Kew is acting on the recommendations made.

Citizens Charter statement

As public servants we have a duty to serve the public well and, as a leading visitor attraction with two important sites, we must also meet the needs of an increasingly competitive and demanding market. Our Customer Charter sets out a comprehensive set of standards that govern the quality of our visitor attractions (at Kew and Wakehurst Place) and the access and information available to visitors. It also covers visitor care and complaints procedures.

At the same time, Kew is possibly the world's leading centre for information on plant diversity and we respond to an astonishingly wide variety of enquiries from a host of different and very diverse users. Accordingly, the Charter defines our role in handling public enquiries.

We use visitor surveys to monitor performance. Free information leaflets, including a map, are given to visitors on entry. These leaflets include a survey form and we analyse the results on an ongoing basis. Our stated and very demanding aim is to achieve 80% of visitors stating that their visit was 'very enjoyable' and 60% rating value for money as 'excellent'. This year we achieved 85% on enjoyment – a 2% increase on last year. Value for money fell to 38% (with 41% rating it as 'good' giving an overall reduction of 1%).

During the year we continued our feedback and training programme to involve front-line staff in setting improved standards for visitor care.

Kew is a member of the Association of Leading Visitor Attractions (ALVA), a body that represents those organisations receiving over a million visits each year. ALVA has developed robust bench-marking surveys to monitor, and thus improve, quality and Kew has played an active role in this process. During the year Kew continued to actively participate in the ALVA 'mystery guest' scheme.

Kew's Customer Charter is available from the Ticket Offices at Kew and Wakehurst Place and on the Internet at www.kew.org/aboutus/charter.pdf

Corporate information continued

Diversity statement

The statistical information presented here is largely based on an analysis of data carried out in May 2005 and data previously analysed in May 2004. A further survey will be carried out in the coming year.

Policy

Kew is committed to ensuring that those employed within the organisation are assisted in using and developing their skills, potential and sense of self-worth, regardless of their gender, race, colour, national origin, religious beliefs, sexuality, marital status, age or disability. Kew's policy also outlines that no job applicant receives less favourable treatment on the grounds laid out above. Kew actively monitors diversity to help identify opportunities for progress. This includes revising policies and adapting recruitment procedures, as well as increasing staff awareness through publication of educational equality and diversity materials.

Ethnicity

Based on our last analysis carried out in May 2004 the percentage of Non-White employees for Kew is currently 7.3% (with a 25% non-response rate) which represents an increase of 0.4% on last year's figures. This compares with the overall UK Civil Service figures of 8.1% and the local Richmond-upon-Thames Local Authority district of 9%. Across England the population is 7.9% non-white but in London, the non-white population is approximately 29%. So, Kew staff are only slightly less ethnically diverse than our immediate surrounding community, the civil service as a whole and the UK in general.

When looking at distribution across the different grades at Kew, 88% of non-white employees are currently in Bands A, B or C although only 72% of all employees at Kew are at Band C or below. 100% are Band E or below currently with no representation among senior management.

Gender

The total number of males and females at Kew are almost equal with slightly more females than males (360 females and 304 males). This is consistent with UK Civil Service figures where 52.4% of employees are female, and with the gender split across England's population where 51% are females. The gender split aged 16-74 currently in employment in England is 46% female and 54% male, although almost the reverse is true at Kew where 54% are female and 46% male.

Looking at gender distribution by band, 76% of all the female employees at Kew are currently in Bands C or lower compared with 61% of male employees. At Band F or Director level, female employees make up only 30% of this grade, or 12 employees. More females than males are employed in the science, commercial and support departments but the reverse is true in the Horticulture and Public Education department.

Working patterns

Kew recognises that diversity also encompasses different working strategies. 14.6% of all employees work part time, and are represented at each band level. Part-time working is practised by both genders – 82% by female employees and 18% by males. A variety of flexible working arrangements are in place throughout the organisation.

Disability

3.6% (21 staff members) of those that responded to the original 2001 survey and completed the disability section of the questionnaire, defined themselves as disabled under the DDA definition. Of these, 38% were female and all were in Bands E or lower; 24% belonged to science departments, 33% to support and commercial departments and 43% to the Horticulture and Public Education department.

The next staff survey is due to be completed in the coming year and revised figures will be available in 2007.

Publications

We achieved an excellent level of publication in higher impact journals during the year.

By convention, publications are always reported for the calendar year and, during 2005, our staff and honorary research colleagues produced or co-authored the 354 publications that are listed on the following pages.

Among these papers, those 70 marked with an asterisk were published in journals with a citation impact factor (CIF) greater than 2.

- **Aguirre-Hudson, B.,** Farkas, E. & Lökös, L. (2005). Records of *Leptorhaphis* and other ascomycete genera from the Carpathian basin (Europe). *Herzogia* 18: 47-50.
- Albach, D.C., **Grayer, R.J., Kite, G.C.** & Jensen, S.R. (2005). *Veronica*: acylated flavone glycosides as chemosystematic markers. *Biochemical Systematics and Ecology* 33(11): 1167-1177.
- —, Jensen, S.R., Özgökce, F. **& Grayer, R.J.** (2005). *Veronica*: chemical characters for the support of phylogenetic relationships based on nuclear ribosomal and plastid DNA sequence data. *Biochemical Systematics and Ecology* 33: 1087-1106.
- —, **Utteridge, T.** & Wagstaff, S.J. (2005). Origin of Veroniceae (Plantaginaceae, formerly Scrophulariaceae) on New Guinea. *Systematic Botany* 30(2): 412-423.
- *Ali, H.B.M., **Lysak, M.A.** & Schubert, I. (2005). Chromosomal localization of rDNA in the Brassicaceae. *Genome* 48: 341–346.
- Alves, R., Figueiredo, E. **& Davis, A.P.** (2005). Taxonomy and conservation of the genus *Psychotria* (Rubiaceae) in S.Tomé e Príncipe (Gulf of Guinea). *Botanical Journal of the Linnean Society* 147(4): 469-481.
- Asase, A., Oteng-Yeboah, A.A., Odamtten, G.T. & Simmonds, M.S.J. (2005). Ethnobotanical study of some Ghanaian anti-malarial plants. *Journal of Ethnopharmacology* 99(2): 273-279.
- Atkins, S. (2005). The genus Stachytarpheta (Verbenaceae) in Brazil. Kew Bulletin 60(2): 161-272.
- Baker, W.J. (2005). Palm research in 2004. Palms 49: 152-155.
- —— see also under Harries, H.C.
- *Balmford, A., Bennun, L., ten Brink, B., Cooper, D., Cote, I., **Crane, P., Dobson, A.,** Dudley, N., Dutton, I., Green, R.E., Gregory, R.D., Harrison, J.,
 Kennedy, E.T., Kremen, C., Leader-Williams, N., Lovejoy, T.E., Mace, G., May,
 R., Mayaux, P., Morling, P., Phillips, J., Redford, K., Ricketts, T.H., Rodriguez,
 J.P., Sanjayan, M., Schei, P.J., van Jaarsveld, A.S. & Walther, B.A. (2005).
 The convention on biological diversity's 2010 target. *Science* 307(5707):
 212-213.
- *—, Crane, P., Dobson, A., Green, R.E. & Mace, G.M. (2005). The 2010 challenge: data availability, information needs and extraterrestrial insights. *Philosophical Transactions of The Royal Society B: Biological Sciences* 360(1454): 221-228.
- Banks, H. see under Claxton, F., Harley, M.M.
- **Barham, J.** (2005). Tribe Dipterygeae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 250-251.
- Barraclough, T.G. see under Davies, T.J., Vogler, A.P.
- **Bayton, R.P.** (2005). *Borassus* L. and the Borassoid palms: systematics and evolution. PhD Thesis. Reading, UK: University of Reading. 241 pp.
- **Beaman, J.H.** (2005). Mount Kinabalu: hotspot of plant diversity in Borneo *Biologiske Skrifter* 55: 103-127.
- **Beentje, H.J.** (2005). Flora of Tropical East Africa. Restionaceae. Kew: Royal Botanic Gardens, Kew. 4 pp.
- —— (2005). Flora of Tropical East Africa. Podostemaceae. Kew: Royal Botanic Gardens. Kew. 12 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Compositae part 3. Kew: Royal Botanic Gardens, Kew. 322 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Podostemaceae. Kew: Royal Botanic Gardens, Kew. 12 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Selaginellaceae. Kew: Royal Botanic Gardens, Kew. 24 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Ochnaceae. Kew: Royal Botanic Gardens, Kew. 60 pp.
- —— & **Ghazanfar, S.A.** (*eds*) (2005). Flora of Tropical East Africa. Grammitidaceae. Kew: Royal Botanic Gardens, Kew. 22 pp.
- —— & **Ghazanfar, S.A.** (*eds*) (2005). Flora of Tropical East Africa. Colchicaceae. Kew: Royal Botanic Gardens, Kew. 18 pp.

- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Cyatheaceae. Kew: Royal Botanic Gardens, Kew. 15 pp.
- —— & **Ghazanfar, S.A.** (*eds*) (2005). Flora of Tropical East Africa. Isoetaceae. Kew: Royal Botanic Gardens, Kew. 8 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Liliaceae. Kew: Royal Botanic Gardens, Kew. 4 pp.
- —— & **Ghazanfar, S.A.** (eds) (2005). Flora of Tropical East Africa. Lycopodiaceae. Kew: Royal Botanic Gardens, Kew. 19 pp.
- —— & **Ghazanfar, S.A.** (*eds*) (2005). Flora of Tropical East Africa. Restionaceae. Kew: Royal Botanic Gardens, Kew. 4 pp.
- —— & **Ghazanfar, S.A.** (*eds*) (2005). Flora of Tropical East Africa. Santalaceae. Kew: Royal Botanic Gardens, Kew. 27 pp.
- **Beentje, H.J.,** Jeffrey, C. & **Hind, D.J.N.** (2005). Flora of Tropical East Africa. Compositae part 3. Kew: Royal Botanic Gardens, Kew. 322 pp.
- *Bennett, M.D. & Leitch, I.J. (2005). Nuclear DNA amounts in angiosperms: progress, problems and prospects. *Annals of Botany* 95: 45-90.
- *—— & **Leitch, I.J.** (2005). Plant genome size research: a field in focus. *Annals of Botany* 95: 1-6.
- & Leitch, I.J. (2005). Genome size evolution in plants. In Gregory, T.R. (ed.) The evolution of the genome. Burlington, MA, USA: Elsevier. 89-162.
- —— see also under Greilhuber, J., **Hanson, L., Leitch, I.J.,** Zonneveld, B.J.M.
- *Bidartondo, M.I. (2005). The evolutionary ecology of myco-heterotrophy. New Phytologist 167(2): 335-352.
- *—— & Bruns, T.D. (2005). On the origins of extreme mycorrhizal specificity in the Monotropoideae (Ericaceae): performance trade-offs during seed germination and seedling development. *Molecular Ecology* 14(5): 1549-1560.
- *Bouaziz, M., **Grayer, R.J., Simmonds, M.S.J.,** Damak, M. & Sayadi, S. (2005). Identification and antioxidant potential of flavonoids and low molecular weight phenols in olive cultivar Chemlali growing in Tunisia. *Journal of Agricultural and Food Chemistry* 53(2): 236-241.
- Boyd, A. see under Hanson, L.
- **Bramley, G.L.C.** (2005). Revision of *Cyrtandra* section *Dissimiles* (Gesneriaceae). *Blumea* 50: 163-189.
- **Bratteler, M.G.** (2005). Genetic architecture of traits associated with serpentine adaptation in *Silene vulgaris* (Caryophyllaceae). PhD Thesis. Zürich, Switzerland: Swiss Federal Institute of Technology. 85 pp.
- Bridge, P.D. see under Panchal, G. Sankaran, K.V.
- Bridge, P.D., **Spooner, B.M. & Roberts, P.J.** (2005). The impact of molecular data in fungal systematics. *Advances in Botanical Research* 42: 33-67
- Bridson, D.M. see under Davis, A.P.
- Bristow, J.M. see under Veitch, N.C.
- Britt, A. & Dransfield, J. (2005). Dypsis delicatula. Palms 49(1): 40-44.
- —— see also under Glessner, K.D.G.
- **Brummitt, N.A.** (2005). Patterns in the global distribution of flowering plant genera. *Biologiske Skrifter* 55: 539-564.
- —— see also under Nic Lughadha, E.
- **Brummitt, R.K.** (2003 [2005]). The new Species Plantarum Programme: a personal perspective. *Symbolae Botanicae Upsaliensis* 33(3): 179-186.
- *—— (2005). Report of the Committee for Spermatophyta. 56. *Taxon* 54(2): 527-536.
- Burch, J. see under Rowntree, J.K.
- Burgoyne, P.M., van Wyk, A.E., Anderson, J.M. & Schrire, B.D. (2005). Phanerozoic evolution of plants on the African plate. *Journal of African Farth Sciences* 43: 13-52

Caddick, L.R. see under Rudall, P.J.

Cameron, D.D., Hwangbo, J.K., Keith, A.M., Geniez, J.M., Kraushaar, D., **Rowntree, J.** & Seel, W.E. (2005). Interactions between the hemiparasitic angiosperm *Rhinanthus minor* and its hosts: from the cell to the ecosystem. *Folia Geobotanica* 40(2-3): 217-229.

Carter, S. (2005). Two new species of *Euphorbia* subsp. *Euphorbia* (Euphorbiaceae) from east and northern Somalia. *Nordic Journal of Botany* 23(3): 295-297.

Challen, G.L. see under Hoffmann, P.

- **Chase, M.W.** (2005). *Goniochilus. In* Pupulin, F. (*ed.*) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 342.
- —— (2005). *Hybochilus. In*Pupulin, F. (ed.) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 376.
- —— (2005). Plant portraits: 520. *Psychopsis limminghei*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 53-55.
- —, Cribb, P.J., Grayer, R.J., Hermans, J., Pridgeon, A.M., Veitch, N.C., Wood, J. et al (2005). Epidendroideae. *In* Pridgeon, A.M., Cribb, P.J., Chase, M.W. & Rasmussen, F. (*eds*) Genera Orchidacearum, Vol. 4: Epidendroideae (part 1). Oxford: Oxford University Press. 1-672. (only Kew staff contributors listed, in alphabetical order)
- *—, **Hanson, L.,** Albert, V.A., Whitten, W.M. & Williams, N.H. (2005). Life history evolution and genome size in subtribe Oncidiinae (Orchidaceae). *Annals of Botany* 95: 191-199.
- *—, Salamin, N., Wilkinson, M., Dunwell, J.M., Kesanakurthi, R.P., Haidar, N. & Savolainen, V. (2005). Land plants and DNA barcodes: short-term and long-term goals. *Philosophical Transactions of The Royal Society B: Biological Sciences* 360: 1889-1895.
- —— see also under Clarkson, J.J., Davies, T.J., Forest, F., Harrington, M.G., Kathriarachchi, H., Liede-Schumann, S., Lledo, M.D., Lucas, E.J., Muellner, A.N., Pridgeon, A.M., Qiu, Y.L., Rønsted, N., Samuel, R., Shipunov, A.B., van den Berg, C., Wilkin, P., Wurdack, K.J., Yao, Y.J.
- **Cheek, M.** & Sonké, B. (2005). Two further new species of *Psychotria* (Rubiaceae) from western Cameroon. *Kew Bulletin* 60(2): 293-300.
- ----- see also under Nic Lughadha, E.
- Chen, C.J., **Wilmot-Dear, C.M.** & Friis, I. (2005). Notes on Chinese and Indochinese *Boehmeria* (Urticaceae). *Kew Bulletin* 60(3): 449-453.
- Chen, X. & Phillips, S.M. (2005). Notes on grasses (Poaceae) for the Flora of China, Ill: A new name in *Festuca*. *Novon* 15(1): 69.

Christian, G. see under Kirkup, D.

- *Clarkson, J.J., Lim, K.Y., Kovarik, A., Chase, M.W., Knapp, S. & Leitch, A.R. (2005). Long-term genome diploidization in allopolyploid *Nicotiana* section Repandae (Solanaceae). *New Phytologist* 168(1): 241-252.
- **Claxton, F., Banks, H.,** Klitgaard, B.B. **& Crane, P.R.** (2005). Pollen morphology of families Quillajaceae and Surianaceae (Fabales). *Review of Palaeobotany and Palynology* 133(3-4): 221-233.
- **Clubbe, C.** (2005). Building capacity and developing botanical infrastructure for conservation: a case study from the British Virgin Islands. *BG Journal* 2(1): 10-12.
- —— see also under Talhouk, S.N.
- **Coode, M.J.E.** (2005). *Elaeocarpus* for Flora Malesiana: *E. crenulatus, E. myrtoides* and *E. amabilis* from New Guinea, reconsidered. *Kew Bulletin* 60(2): 305-311.
- Cowan, R.S. see under Fay, M.F., Inocencio, C., Rich, T.C.G., Savolainen, V.
- *Crane, P., (2005). The director of Kew Gardens charts the journey towards mapping the variety of plant life. *Nature* 438(7070): 893.
- —— (2005). Ethical importing of tree ferns. The Garden 130(1): 62-63.
- —— (2005). Caring and sharing: engaging with International Biodiversity Policy. *Journal of Horticultural Science & Biotechnology* 80(1): 1-1.

- *—— & Kinzig, A. (2005). Nature in the metropolis. *Science* 308(5726): 1225
- —— see also under Balmford, A., **Claxton, F.**, Dobson, A.P., **Forest, F.**, Friis, E.M., Green, R.E., **Nic Lughadha, E.**

Crellin, L. see under Hamilton, M.A.

Crespo, M.B., Rios, S., Vivero, J.L., Prados, J., Hernandez-Bermejo, E. & Lledo, M.D. (2005). A new spineless species of *Vella* (Brassicaceae) from the high mountains of south-eastern Spain. *Botanical Journal of the Linnean Society* 149(1): 121-128.

Cribb, P.J. (2005). Plant portraits: 511. *Phragmipedium kovachii*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 8-11.

- —— (2005). Plant portraits: 512. *Paphiopedilum vietnamense*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 12-18.
- —— (2005). Plant portraits: 513. *Masdevallia idae*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 19-21.
- —— (2005). Plant portraits: 514. *Masdevallia niesseniae*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 22-24.
- —— (2005). Wild orchids in Sichuan. Curtis's Botanical Magazine 22(1): 71-80.
- —— (2005). Xerorchideae, a new tribe in Orchidaceae subfamily Epidendroideae. *Kew Bulletin* 60(1): 143-144.
- —— (2005). Two early paintings of *Paphiopedilum venustum* made for Nathaniel Wallich. *Orchid Digest* 69(2): 82-84.
- —— (2005). Orchidaceae. *In Boulos, L. (ed.) Flora of Egypt. Volume 4. Cairo:* Al Hadara. 409-411.
- —— (2005). Little known Chinese cypripediums. *Journal of the British Paphiopedilum Society* 4: 10-14.
- —— & **Govaerts, R.** (2005). Just how many orchids are there? *In* Raynal-Roques, A., Roguenant, A. & Prat, D. (*eds*) Proceedings of the 18th World Orchid Conference. Turrier, France: Naturalia. 161-172.
- —— & Tibbs, M. (2005). A very Victorian Passion. The orchid paintings of John Day. *Journal für den Orchideenfreund* 11(3): 215-221.
- —— see also under **Chase, M.W., Hermans, J.,** Ng, Y.P., **Pridgeon, A.M.,** Toscano de Brito, A.
- Crisp, M.D., Chappill, J.A., **de Kok, R.** & Jobson, P. (2005). Tribe Mirbelieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 339-353.

Cunniff, J. see under Rudall, P.J.

- **Cutler, D.F.** (2005). Design in plants. *In* Collins, M.W., Atherton, M.A. & Bryant, J.A. (*eds*) Nature and design. Southampton: WIT Press. 95-124. (Design & nature, vol. 1.)
- *da Silva, E.A.A., **Toorop, P.E.,** Nijsse, J., Bewley, J.D. & Hilhorst, H.W.M. (2005). Exogenous gibberellins inhibit coffee (*Coffea arabica* cv. Rubi) seed germination and cause cell death in the embryo. *Journal of Experimental Botany* 56(413): 1029-1038.
- *Davies, T.J., Savolainen, V., Chase, M.W., Goldblatt, P. & Barraclough, T.G. (2005). Environment, area, and diversification in the species-rich flowering plant family Iridaceae. *American Naturalist* 166(3): 418-425.
- **Davis, A.P., Bridson, D.M.** & Rakotonasolo, F. (2005). A reexamination of *Coffea* subgenus *Baracoffea* and comments on the morphology and classification of *Coffea* and *Psilanthus* (Rubiaceae-Coffeeae). *In* Keating, R.C., Hollowell, V.C. & Croat, T. (*eds*) Festschrift for William G. D'Arcy: The Legacy of a Taxonomist. Missouri: MBG Press. 398-420. (Monograph in Systematics Botany, vol. 104)
- —— & **Ruhsam, M.** (2005). Five new combinations and one new name in Rubiaceae from South-Fast Asia. *Blumea* 50(3): 575-578.
- —— see also under Alves, R., Malcomber, S.T.
- **Davis, K.** (2005). Tracing terms and drawing lines: a view from biodiversity research collections., November 2005. Record of Discussion, International Expert Workshop on Access to Genetic Resources and Benefit Sharing, Cape Town, South Africa, September 20-23, 2005. Available at www.norsafworkshop.com/Media/Uploads/434a200437549.pdf

- * Daws, M.I., Garwood, N.C. & Pritchard, H.W. (2005). Traits of recalcitrant seeds in a semi-deciduous tropical forest in Panama: some ecological implications. *Functional Ecology* 19(5): 874-885.
- ——, Pearson, T.R.H., Burslem, D.F.R.P., Mullins, C.E. & Dalling, J.W. (2005). Effects of topographic position, leaf litter and seed size on seedling demography in a semi-deciduous tropical forest in Panama. *Plant Ecology* 179(1): 93-105.
- —— see also under Pritchard, H.W., Wood, C.B.

Dawson, S. see under Sonké, B.

de Kok, R. see under Crisp, M.D., Orthia, L.A.

Dickie, J.B. see under Moles, A.T.

Dobson, A. see also under Balmford, A.

*Dobson, A.P., Balmford, A., **Crane, P.R.,** Green, R.E. & Mace, G.M. (2005). Establishing indicators for biodiversity – Response. *Science* 308(5723): 792.

Dransfield, J. & Patel, M. (2005). Rattans of Borneo. An interactive key on CD rom. Kew: Royal Botanic Gardens Kew. CD-ROM.

----- see also under Britt, A., Govaerts, R.

Edmonds, J. (2005). The Solanaceae in the Flora of Tropical East Africa. *In* Keating, R.C., Hollowell, V.C. & Croat, T.B. (*eds*) A Festschrift for William G. D'Arcy: the legacy of a taxonomist. St. Louis: Missouri Botanical Garden Press. 157-196. (Monographs in systematic botany from the Missouri Botanical Garden; 104)

Edwards, P.J. (2005). Flora of Tropical East Africa. Cyatheaceae. Kew: Royal Botanic Gardens, Kew. 15 pp.

Farjon, A. (2003 [2005]). Conifers in Species Plantarum, an evaluation of taxonomic concepts. *Symbolae Botanicae Upsaliensis* 33(3): 91-97.

- —— (2005). A bibliography of conifers: selected literature on taxonomy and related disciplines of the Coniferales. 2nd edn. Kew: Royal Botanic Gardens, Kew. 211 pp.
- —— (2005). A monograph of Cupressaceae and *Sciadopitys*. Kew: Royal Botanic Gardens, Kew. 643 pp.
- ----- see also under Nic Lughadha, E.

Fay, M.F. (2005). Milula and Muilla. The Plantsman (n.s.) 4(2): 126.

- *——, **Cowan, R.S. & Leitch, I.J.** (2005). The effects of nuclear DNA content (C-value) on the quality and utility of AFLP fingerprints. *Annals of Botany* 95: 237-246.
- —— see also under Inocencio, C., Lexer, C., Lledo, M.D., Rich, T.C.G., Rønsted, N., Shipunov, A.B.
- *Fernandez-Mateos, A., de la Nava, E.A.M., Clemente, R.R., Gonzalez, R.R. **& Simmonds, A.S.J., [M. S. J.]** (2005). Synthesis of the insect antifeedant CDE molecular fragment of 12-ketoepoxyazadiradione and related compounds. *Tetrahedron* 61(52): 12264-12274.

Flanagan, M. & Kirkham, T. (2005). Plants from the edge of the world: new explorations in the Far East. Portland, Or.: Timber Press. 312 pp.

Fontella-Pereira, J., **Goyder, D.J.** & Marquete F da Silva, N. (2005). Infraspecific variation in *Oxypetalum cordifolium* (Vent.) Schltr. (Apocynaceae: Asclepiadoideae). *Kew Bulletin* 60(1): 103-109.

- Forest, F., Savolainen, V., Chase, M.W., Lupia, R., Bruneau, A. & Crane, P.R. (2005). Teasing apart molecular-versus fossil-based error estimates when dating phylogenetic trees: A case study in the birch family (Betulaceae). *Systematic Botany* 30(1): 118-133.
- —— see also under Lewis, G.P.
- *Friis, E.M., Pedersen, K.R. & Crane, P.R. (2005). When Earth started blooming: insights from the fossil record. *Current Opinion in Plant Biology* 8(1): 5-12.

Frodin, D. (2003 [2005]). World plant checklists, past and present. *Symbolae Botanicae Upsaliensis* 33(3): 159-173.

Furness, C.A. see under Sajo, M.G., Schols, P., Wilkin, P.

Gale, R. (2005). The charcoal *In Seeley*, F. & Drummond-Murray, J. (*eds*) Roman pottery production in the Walbrook valley: Excavations at 20-28 Moorgate, City of London, 1998-2000. London: MoLAS 197-199. (MoLAS Monograph 25)

Galster, A. see under Hoffmann, P.

García Esteban, L., **Gasson, P.**, Climent, J.M., Palacios, P. de & Guindeo, A. (2005). The wood of *Pinus canariensis* and its resinous heartwood. *IAWA Journal* 26(1): 69-77.

Gardiner, L.M., Emerson, B.C. & Roberts, D.L. (2005). Preliminary phylogeny of the South East Asian genus *Vanda* (Orchidaceae). *In* Raynal-Roques, A., Roguenant, A. & Prat, D. (*eds*) Proceedings of the 18th World Orchid Conference. Turrier, France: Naturalia. 199-204.

Garin-Aguilar, M.E., del Toro, G.V., Soto-Hernandez, M. & Kite, G. (2005). High-performance liquid chromatography-mass spectrometric analysis of alkaloids extracted from seeds of *Erythrina herbacea*. *Phytochemical Analysis* 16(5): 302-306.

Gasson, P. see under García Esteban, L., Utteridge, T.M.A.

Ghazanfar, S.A. (2005). A new species of *Cycnium* (Scrophulariaceae *sensu lato*) from Tanzania. *Kew Bulletin* 60(3): 461-463.

— see also under Beentje, H.J.

Gilbert, M.G. & Thulin, M. (2005). *Caralluma lamellosa* (Apocynaceae), a remarkable new species from Somalia. *Nordic Journal of Botany* 23(5): 523-525.

- *Giulietti, A.M., **Harley, R.M.,** De Queiroz, L.P., Wanderley, M.G.L. & Van den Berg, C. (2005). Biodiversity and conservation of plants in Brazil. *Conservation Biology* 19(3): 632-639.
- ——, **Harley, R.M.,** Queiroz, L.P. de, Wanderley, M.G.L. & van den Berg, C. (2005). Biodiversidade e conservacao das plants no Brasil. *Megadiversidade* 1(1): 52-61.

Glessner, K.D.G. **& Britt, A.** (2005). Population density and home range size of *Indri indri* in a protected low altitude rain forest. *International Journal of Primatology* 26(4): 855-872.

Govaerts, R. (2003 [2005]). The monocot checklist project: a global effort. *Symbolae Botanicae Upsaliensis* 33(3): 175-177.

- —— & **Dransfield, J.** (2005). World checklist of palms. Kew: Royal Botanic Gardens, Kew. 223 pp.
- ----- see also under Cribb, P.J., Nic Lughadha, E.

Goyder, D.J. (2005). Infraspecific variation in *Margaretta rosea* Oliv. (Apocynaceae: Asclepiadoideae). *Kew Bulletin* 60(1): 87-94.

- —— (2005). Plant portraits: 527. *Lathyrus davidii*. Leguminosae: Papilionoideae. *Curtis's Botanical Magazine* 22: 111-117.
- —— & Fontella-Pereira, J. (2005). Notes on *Oxypetalum* R. Br. (Apocynaceae: Asclepiadoideae) in Bolivia and Peru. *Kew Bulletin* 60(1): 95-101.
- ——, Wood, J.R.I. **& Williamson, H.J.** (2005). *Aspidosperma resonans* (Apocynaceae: Rauvolfioideae), a new species from the inter-Andean dry valleys of Bolivia. *Kew Bulletin* 60(2): 313-317.
- ------ see also under Fontella-Pereira, J., Liede-Schumann, S., Rapini, A.

Grace, O.M., Staden, J. van, Jäger, A.K. & Prendergast, H.D.V. (2005). Authentication of barks used in South African traditional healthcare with Thin Layer Chromatography. Quality, efficacy, safety, processing and trade in MAPs. *In* Proceedings of WOCMAP III: The Third World Congress on Medicinal and Aromatic Plants, Chiang Mai, Thailand, 3-7 February, 2003. Volume 5. 71-74. (Acta Horticulturae, vol. 679)

----- see also under McGaw, L.

Grayer, R.J. see *under* Albach, D.C., Bouaziz, M., **Chase, M.W.,** Jensen, S.R., Marin, P.D., Ofodile, L.N., Skoula, M.

Green, P.W.C. (2005). Substrate selection by *Liposcelis bostrychophila* Badonnel (Psocoptera: Liposcelididae): effects of insect extracts and biodeteriorated book-paper. *Journal of Stored Products Research* 41(4): 445-454.

- —— & Turner, B.D. (2005). Food selection by the booklouse, *Liposcelis bostrychophila* Badonnel (Psocoptera: Liposcelididae). *Journal of Stored Products Research* 41: 103-113.
- —— see also under Stevenson, P.C.
- *Green, R.E., Balmford, A., **Crane, P.R.,** Mace, G.M., Reynolds, J.D. & Turner, R.K. (2005). A framework for improved monitoring of biodiversity: Responses to the World Summit on Sustainable Development. *Conservation Biology* 19(1): 56-65.
- *Greilhuber, J., Dolezel, J., **Lysák, M.A. & Bennett, M.D.** (2005). The origin, evolution and proposed stabilization of the terms 'genome size' and 'C-value' to describe nuclear DNA contents. *Annals of Botany* 95: 255-260.
- **Groves, M.** (2005). Can I see some identification? *Magistrate* 61(4): 108-109
- —— (2005). Additional Guidance Note for Timber importers and traders. Guidance Note 15, November 2005. Department for Environment, Food and Rural Affairs. Available at www.ukcites.gov.uk/license/default.htm
- —— (2005). Plant Identification. *In* Defra (*ed.*) Wildlife Crime: A guide to the use of forensic and specialist techniques in the investigation of wildlife crime. London: Department for Environment, Food and Rural Affairs. 40-43.
- **Haigh, A., Wilkin, P.** & Rakotonasolo, F. (2005). A new species of *Dioscorea* L. (Dioscoreaceae) from Madagascar and its distribution and conservation status. *Kew Bulletin* 60(2): 273-281.
- Hall, T. see under Rich, T.C.G.
- **Hamilton, M.A.** (2005). *In-situ* study of endangered island endemics of the Virgin Islands. *Combined Proceedings of the International Plant Propagators Society* 54: 235-239.
- —— & Crellin, L. (2005). The UK Overseas Territories wreath of remembrance. *Forum News* 26: 3.
- *Hanson, L., Boyd, A., Johnson, M.A.T. & Bennett, M.D. (2005). First nuclear DNA C-values for 18 eudicot families. *Annals of Botany* 96(7): 1315-1320.
- —— see also under Chase, M.W.
- Hardwick, K.A. see under Nic Lughadha, E.
- **Harley, M.**, Song, U. & Banks, H.I. (2005). Pollen morphology and systematics of Burseraceae. *Grana* 44: 282-299.
- & Ubera, J. (2005). Spermatophyte pollen: evolution, phylogeny and systematics *Grana* 44(4): 225.
- Harley, R.M. (2005). Introduction *In* Toscano, A.L.V. & Cribb, P.J. (*eds*) Orquideas da Chapada Diamantina. Rio de Janeiro: Nova Fronteira. 23-39, 306-311.
- ------ see also under Giulietti, A.M.
- Harries, H.C. & Baker, W.J. (2005). The Gulf Stream coconut: flotsam or jetsam or natural dissemination? *Palms and Cycads* 49: 195-198.
- Harrington, M.G., Edwards, K.J., Johnson, S.A., **Chase, M.W.** & Gadek, P.A. (2005). Phylogenetic inference in Sapindaceae sensu lato using plastid *mat*K and *rbc*L DNA sequences. *Systematic Botany* 30(2): 366-382.
- Harris, S. see under Rich, T.C.G.
- *Haston, E.M., **Lewis, G.P.** & Hawkins, J.A. (2005). A phylogenetic reappraisal of the *Peltophorum* group (Caesalpinieae: Leguminosae) based on the chloroplast *trnL-F*, *rbcL* and *rps16* sequence data. *American Journal of Botany* 92(8): 1359-1371.
- **Hepper, F.N.** (2005). The search for Mungo Park on the river Niger. *Nigerian Field* 70: 27-38.
- —— (2005). The phenology database at Kew. *Journal of the Kew Guild* 14(109): 315-318.
- ---- (2005). A brief history of the Kew Guild. Richmond History 26: 41-47.
- ——, Conroy, C. & Barnhard, M. (2005). Plants of the Aammiq area, Lebanon. Beirut: A Rocha.

- **Hermans, J. & Cribb, P.J.** (2005). Plant portraits: 519. *Paralophia epiphytica*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 47-52.
- —— & Cribb, P.J. (2005). The Angraecum germinyanum complex. Orchid Review 113(1262): 90-97.
- —— see also under Chase, M.W.
- **Hind, D.J.N.** (2005). Plant portraits: 531. *Leontodon rigens*. Compositae. *Curtis's Botanical Magazine* 22(3): 153-160.
- —— (2005). Plant portraits: 532. Cosmos peucedanifolius. Compositae. Curtis's Botanical Magazine 22(3): 161-168.
- —— see also under Beentje, H.J.
- **Hoenselaar, K.** (2005). Flora of Tropical East Africa. Colchicaceae. Kew: Royal Botanic Gardens, Kew. 18 pp.
- **Hoffmann, P.** (2005). *Antidesma. In* Santisuk, T. & Larsen, K. (*eds*) Flora of Thailand. Vol. 8, part 1: Euphorbiaceae (Genera A-F). Bangkok: Forest Herbarium. 51-81.
- —— (2005). *Antidesma* in Malesia and Thailand. Kew: Royal Botanic Gardens, Kew. 292 pp.
- —, Kirkup, D., Galster, A., Challen, G.L. & Radcliffe-Smith, A. (2005). Interactive key to genera of Euphorbiaceae sensu lato. Release version 1.0. Royal Botanic Gardens, Kew: Kew. Available at www.kew.org/herbarium/keys/euphorbs/index.html
- —— see also under Kathriarachchi, H., **Kite, G.C.,** Samuel, R., Thiebaut, L., Wurdack, K.J.
- **Hopkins, H.C.F.** (2005). Nomenclature and typification in the endemic genus *Codia* (Cunoniaceae) from New Caledonia. *Adansonia ser. 3*, 27: 243-254.
- *Houghton, P.J. & Howes, M.-J. (2005). Natural products and derivatives affecting neurotransmission relevant to Alzheimer's and Parkinson's disease. *Neurosignals* 14: 6-22.
- Howes, M.-J. see under Houghton, P.J.
- Huhtinen, S. & Spooner, B.M. (2005). *Unguiculella tityrii*: a fimicolous novelty to the mycoflora of Britain. *Mycologist* 19: 59-61.
- Hunt, D.H. & Taylor, N.P. (2005). Notulae systematicae lexicon cactacearum spectantes V. Cactaceae Systematics Initiatives no.19: 10-13.
- **& Taylor, N.P.** (2005). Notulae systematicae lexicon cactacearum spectantes VI. Cactaceae *Systematics Initiatives* no.20: 11-25.
- Inocencio, C., **Cowan, R.S.,** Alcaraz, F., Rivera, D. **& Fay, M.F.** (2005). AFLP fingerprinting in *Capparis* subgenus *Capparis* related to the commercial sources of capers. *Genetic Resources and Crop Evolution* 52(2): 137-144.
- **Ireland, H.** (2005). Tribe Swartzieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 215-225.
- Ireland, H.E. see under Veitch, N.C.
- *Jacquemyn, H., **Roberts, D.L.** & Pailler, T. (2005). Elevation gradients of species diversity, breeding system and floral traits of orchid species on Reunion Island. *Journal of Biogeography* 32: 1751-1761.
- Jansen, S. see under Lens, F., Watanabe, T.
- *Jayasekara, T.K., **Stevenson, P.C.,** Hall, D.R. & Belmain, S.R. (2005). Effect of volatile constituents from *Securidaca longepedunculata* on insect pests of stored grain. *Journal of Chemical Ecology* 31(2): 303-313.
- Jensen, S.R., Albach, D.C., Ohno, T. & Grayer, R.J. (2005). *Veronica*: Iridoids and cornoside as chemosystematic markers. *Biochemical Systematics and Ecology* 33(10): 1031-1047.
- Johnson, M.A.T. see under Hanson, L.
- Joseph, J.A. see under Lexer, C.
- *Kathriarachchi, H., **Hoffmann, P.**, Samuel, R., Wurdack, K.J. **& Chase, M.W.** (2005). Molecular phylogenetics of Phyllanthaceae inferred from five genes (plastid *atpB*, *matK*, 3' *ndhF*, *rbcL*, and nuclear *PHYC*). *Molecular Phylogenetics and Evolution* 36(1): 112-134.

- Kemp, S. see under Spooner, B.M.
- **Kirkham, T.** (2005). Green dinosaur: discovery of the Wollemi pine. *Kew* 50: 26-28.
- —— (2005). The Wollemi pine, a myth or a fortune? *Arboricultural Association Newsletter* no.130:
- —— see also under Flanagan, M., Taylor, N.P.
- * Kirkup, D., Malcolm, P., Christian, G. & Paton, A. (2005). Towards a digital African Flora. *Taxon* 54(2): 457-466.
- —— see also under Hoffmann, P.
- **Kite, G.C.** (2005). Support for the removal of *Cylolobium* from tribe Millettieae (Leguminsae) from its quinolizidine alkaloid status. *Biochemical Systematics and Ecology* 33(1): 39-43.
- ——, **Hoffmann, P.,** Lees, D.C., Wurdack, K.J. & Gillespie, L.J. (2005). a-Homonojirimycin and other polyhydroxyalkaloids in *Suregada* Roxb. ex Rottl. (Euphorbiaceae). *Biochemical Systematics and Ecology* 33: 1183-1186.
- —— see also under Albach, D.C., Garin-Aguilar, M.E., Marin, P.D., Skoula, M. Veitch, N.C.
- **Klitgaard, B.B.** (2005). *Platymiscium* (Leguminosae: Dalbergieae): biogeography, systematics, morophology, taxonomy and uses. *Kew Bulletin* 60(3): 321-400.
- —— & Lavin, M. (2005). Tribe Dalbergieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 307-335.
- *Knapp, S., **Nic Lughadha, E. & Paton, A.** (2005). Taxonomic inflation, species concepts and global species lists. *Trends in Ecology & Evolution* 20(1): 7-8.
- Kokubun, T. see under Ofodile, L.N.
- *Kranner, I. & Birtic, S. (2005). A modulating role for antioxidants in desiccation tolerance. *Integrative and Comparative Biology* 45(5): 734-740.
- * Kranner, I., Cram, W.J., Zorn, M., Wornik, S., Yoshimura, I., Stabentheiner, E. & Pfeifhofer, H.W. (2005). Antioxidants and photoprotection in a lichen as compared with its isolated symbiotic partners. *Proceedings of the National Academy of Sciences of the United States of America* 102(8): 3141-3146.
- Kukkonen, I. & Simpson, D.A. (2005). *Bolboschoenus. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 350-352.
- —— & **Simpson, D.A.** (2005). *Carex. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 404-409.
- —— & **Simpson, D.A.** (2005). *Cladium. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 404.
- —— & **Simpson, D.A.** (2005). *Eleocharis. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 361-366.
- —— & **Simpson, D.A.** (2005). *Fimbristylis. In* Boulos, L. (ed.) Flora of Egypt. Volume 4. Cairo: Al Hadara. 367-368.
- —— & **Simpson, D.A.** (2005). *Fuirena. In Boulos, L. (ed.) Flora of Egypt. Volume 4. Cairo: Al Hadara. 369-371.*
- —— & **Simpson, D.A.** (2005). *Isolepis. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 359-360.
- —— & **Simpson, D.A.** (2005). *Schoenoplectus. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 352-356.
- —— & **Simpson, D.A.** (2005). *Schoenus. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 402-404.
- —— & **Simpson, D.A.** (2005). *Scirpoides. In* Boulos, L. (*ed.*) Flora of Egypt. Volume 4. Cairo: Al Hadara. 357-359.
- **Latorre García, F.** (2005). Review of the Experience of Implementation by UK Stakeholders of Access and Benefit Sharing Arrangements under the Convention on Biological Diversity. London: Department of the Environment, Food & Rural Affairs. 84 pp.
- Lavania, U.C. **& Simmonds, M.S.J.** (eds) (2005). Special Issue on Medicinal Plants. Plant Genetic Resources. Volume 3 (2) 81-319 pp.

- Lavin, M. & Schrire, B.D. (2005). Tribe Sesbanieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 452-453.
- —— & **Schrire, B.D.** (2005). Tribe Robinieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 467-473.
- **Legon, N.W.** (2005). *Basidioradulum radula*. Profiles of Fungi 137. *Mycologist* 19: 81.
- —— (2005). *Amylostereum laevigatum*. Profiles of Fungi 138. *Mycologist* 19: 128.
- **Legon, N.W.**, Henrici, A., **Roberts, P.J.**, **Spooner, B.M.** & Watling, R. (2005). Checklist of the British and Irish Basidiomycota. Kew: RBG Kew. 517 pp.
- *Leitch, I.J., Soltis, D.E., Soltis, P.S. & Bennett, M.D. (2005). Evolution of DNA amounts across land plants (Embryophyta). *Annals of Botany* 95: 207-217.
- —— see also under Bennett, M.D. Fay, M.F., Zonneveld, B.J.M.
- *Lens, F., Dressler, S., **Jansen, S.**, Van Evelghem, L. & Smets, E. (2005). Relationships within the balsaminoid Ericales: a wood anatomical approach. *American Journal of Botany* 92: 941-953.
- —, **Jansen, S.,** Caris, P., Serlet, L. & Smets, E. (2005). Comparative wood anatomy of the primuloid clade (Ericales s.l.). *Systematic Botany* 30(1): 163-183.
- **Lewis, G.P.** (2005). Tribe Cassieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 111-125.
- —— (2005). Tribe Caesalpinieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 127-161
- —— (2005). Tribe Acacieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 187-191.
- —— & **Forest, F.** (2005). Tribe Cercideae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 57-67.
- —— & **Rico Arce, L.** (2005). Tribe Ingeae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 193-213.
- —, Schrire, B., Mackinder, B. & Lock, M. (eds) (2005). Legumes of the world. Kew: Royal Botanic Gardens, Kew. 577 pp.
- —— see also under Haston, E.M., Schrire, B.D., Veitch, N.C.
- *Lexer, C. & Fay, M. (2005). Adaptation to environmental stress: a rare or frequent driver of speciation? *Journal of Evolutionary Biology* 18(4): 893-900.
- *—, Fay, M.F., Joseph, J.A., Nica, M.S. & Heinze, B. (2005). Barrier to gene flow between two ecologically divergent *Populus* species, *P. alba* (white poplar) and *P. tremula* (European aspen): the role of ecological and life history factors in gene introgression. *Molecular Ecology* 14: 1045-1057.
- *——, Rosenthal, D.M., Raymond, O., Donovan, L.A. & Rieseberg, L.H. (2005). Genetics of species differences in the wild annual sunflowers, *Helianthus annuus* and *H. petiolaris. Genetics* 169(4): 2225-2239.
- Liede-Schumann, S., **Rapini, A., Goyder, D.J. & Chase, M.W.** (2005). Phylogenetics of the new world subtribes of Asclepiadeae (Apocynaceae-Asclepiadoideae): Metastelmatinae, Oxypetalinae, and Gonolobinae. *Systematic Botany* 30(1): 184-195.
- *Linder, H.P. & Rudall, P.J. (2005). Evolutionary history of Poales. *Annual Review of Ecology Evolution and Systematics* 36: 107-124.
- *Lledó, M.D., Crespo, M.B., Fay, M.F. & Chase, M.W. (2005). Molecular phylogenetics of *Limonium* and related genera (Plumbaginaceae): biogeographical and systematic implications. *American Journal of Botany* 92(7): 1189-1198.

- *——, Erben, M. & Crespo, M.B. (2005). *Myriolimon*, a new name for the recently published *Myriolepis* (Plumbaginaceae). *Taxon* 54(3): 811-812.
- —— see also under Crespo, M.B.
- **Lock, J.M.,** (2005). Tribe Amorpheae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 299-305.
- —— (2005). Tribe Hedysareae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 489-495.
- —— (2005). Tribe Thermopsideae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 263-265.
- —— (2005). Tribe Trifolieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 499-503.
- —— & Maxted, N. (2005). Tribe Cicereae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens. Kew. 496-497.
- —— & Maxted, N. (2005). Tribe Fabeae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 505-509.
- —— & **Schrire, B.D.** (2005). Tribe Galegeae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 475-487.
- ----- see also under Lewis, G. Luckow, M., Sokoloff, D.D.
- **Lucas, E.J.,** Belsham, S.R., **Nic Lughadha, E.M.,** Orlovich, D.A., Sakuragui, C.M., **Chase, M.W.** & Wilson, P.G. (2005). Phylogenetic patterns in the fleshy-fruited Myrtaceae preliminary molecular evidence. *Plant Systematics and Evolution* 251: 35-51.
- *Luckow, M., Hughes, C., **Schrire, B.,** Winter, P., Fagg, C., Fortunato, R., Hurter, J., **Rico, L.,** Breteler, F.J., Bruneau, A., Caccavari, M., Craven, L., Crisp, M., Delgado, A., Demissew, S., Doyle, J.J., Grether, R., Harris, S., Herendeen, P.S., Hernandez, H.M., Hirsch, A.M., Jobson, R., Klitgaard, B.B., Labat, J.N., **Lock, M., MacKinder, B.,** Pfeil, B., Simpson, B.B., Smith, G.F., Sousa, M., Timberlake, J., van der Maesen, J.G., Van Wyk, A.E., Vorster, P., Willis, C.K., Wieringa, J.J. & Wojciechowski, M.F. (2005). *Acacia*: the case against moving the type to Australia. *Taxon* 54(2): 513-519.
- *Lysák, M.A., Koch, M.A., Pecinka, A. & Schubert, I. (2005). Chromosome triplication found across the tribe Brassiceae. *Genome Research* 15(4): 516-525.
- ----- see also under Ali, H.B.M., Greilhuber, J.
- Machado, M.C., **Zappi, D.C., Taylor, N.P.** & Borba, E.L. (2005). Taxonomy and conservation of the *Discocactus* Pfeiff. (Cactaceae) species occurring in the state of Bahia, Brazil. *Bradleya* 23: 41-56.
- **Mackinder, B.** (2005). Tribe Detarieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (eds) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 69-109.
- —— see also under Lewis, G., Luckow, M.
- Malcomber, S.T. **& Davis, A.P.** (2005). Six new *Gaertnera* (Rubiaceae) species from Madagascar and phylogenetic analyses that support *Hymenocnemis* as a synonym of *Gaertnera*. *In* Keating, R.C., Hollowell, V.C. & Croat, T. (*eds*) Festschrift for William G. DArcy: The Legacy of a Taxonomist. Missouri: MBG Press. 371-397. (Monograph in Systematics Botany, vol 104)
- Marin, P.D., **Grayer, R.J., Kite, G.C.** & Veljic, M. (2005). External flavones from *Thymus striatus* Vahl (Lamiaceae). *Biochemical Systematics and Ecology* 33: 1179-1182.
- McBurney, R.P. see under Seal, A.J.
- McDade, L.A., Daniel, T.F., Kiel, C.A. & Vollesen, K. (2005). Phylogenetic relationships among Acantheae (Acanthaceae): major lineages present contrasting patterns of molecular evolution and morphological differentiation. *Systematic Botany* 30(4): 834-862.

- McGaw, L., Jäger, A.K., **Grace, O.,** Fennel, C. & Van Staden, J. (2005). Medicinal plants. *In* Van Niekerk, A. (*ed.*) Ethics in Agriculture: an African perspective. Dordrecht: Springer. 67-83.
- Miles, S. see under Wood, C.B.
- Moat, J. see under Nic Lughadha, E.
- *Moles, A.T., Ackerly, D.D., Webb, C.O., **Tweddle, J.C., Dickie, J.B.** & Pitman, A.J. (2005). Factors that shape seed mass evolution. *Proceedings of the National Academy of Sciences of the United States of America* 102(30): 10540-10544.
- *—, Ackerly, D.D., Webb, C.O., **Tweddle, J.C., Dickie, J.B.** & Westoby, M. (2005). A brief history of seed size. *Science* 307(5709): 576-580.
- *——, Ackerly, D.D., Webb, C.O., Tweddle, J.C., **Dickie, J.B.** & Westoby, M. (2005). Response to comment on "A brief history of seed size". *Science* 310(5749): 783B.
- Muasya, A.M. **& Simpson, D.A.** (2005). Validation of *Isolepis* sect. *Proliferae* (Cyperaceae). *Kew Bulletin* 60(1): 159.
- —— see also under Simpson, D.A.
- *Muellner, A.N., Samuel, R., Chase, M.W., Pannell, C.M. & Greger, H. (2005). *Aglaia* (Meliaceae): an evaluation of taxonomic concepts based on DNA data and secondary metabolites. *American Journal of Botany* 92(3): 534-543.
- *——, Tremetsberger, K., Stuessy, T.F. & Baeza, C.M. (2005). Pleistocene refugia and recolonization routes in the southern Andes: insights from *Hypochaeris palustris* (Asteraceae, Lactuceae). *Molecular Ecology* 14: 203-212.
- **Muller, J.V.** (2005). Ephemeral vegetation at shorelines of Sahelian seasonal lakes. *Systematics and Geography of Plants* 75: 239-257.
- **Nesbitt, M.** (2005). Grains. *In* Prance, G. & Nesbitt, M. (*eds*) The cultural history of plants. New York: Routledge. 45-60.
- see also under Prance, G.
- Ng, Y.P. & Cribb, P.J. (2005). New combinations in the subtribe Eriinae (Orchidaceae: Epidendroideae: Podochileae). *Orchid Review* 113: 272-273.
- *Nic Lughadha, E., Baillie, J., Barthlott, W., Brummitt, N.A., Cheek, M.R., Farjon, A., Govaerts, R., Hardwick, K.A., Hilton-Taylor, C., Meagher, T.R., Moat, J., Mutke, J., Paton, A.J., Pleasants, L.J., Savolainen, V., Schatz, G.E., Smith, P., Turner, I., Wyse-Jackson, P. & Crane, P.R. (2005). Measuring the fate of plant diversity: towards a foundation for future monitoring and opportunities for urgent action. *Philosophical Transactions of The Royal Society B: Biological Sciences* 360(1454): 359-372.
- —— see also under Lucas, E.J., Knapp, S.
- **Norup, M.V.** (2005). *Alsmithia* subsumed in *Heterospathe* (Arecaceae, Arecoideae). *Novon* 15(3): 455-457.
- O'Rourke, A. see under Rich, T.C.G.
- Ofodile, L.N., Uma, N.U., **Kokubun, T., Grayer, R.J.,** Ogundipe, O.T. **& Simmonds, M.S.J.** (2005). Antimicrobial activity of some *Ganoderma* species from Nigeria. *Phytotherapy Research* 19(4): 310-313.
- Orthia, L.A., Crisp, M.D., Cook, L.G. **& de Kok, R.P.J.** (2005). Bush peas: a rapid radiation with no support for monophyly of *Pultenaea* (Fabaceae: Mirbelieae). *Australian Systematic Botany* 18(2): 133-147.
- —, **de Kok, R.P.J.** & Crisp, M.D. (2005). A revision of *Pultenaea* (Fabaceae : Mirbelieae). 4. Species occurring in Western Australia. *Australian Systematic Botany* 18(2): 149-206.
- Panchal, G. & Bridge, P.D. (2005). Following basal stem rot in young oil palm plantings. *Mycopathologia* 159(1): 123-127.
- Paton, A. see under Kirkup, D., Knapp, S., Nic Lughadha, E., Suddee, S.
- **Pearman, G.** (2005). Nuts, seeds, and pulses. *In* Prance, G. & Nesbitt, M. (*eds*) The cultural history of plants. New York: Routledge. 133-152.
- Pegler, D.N. see under Yao, Y.J.

Pennington, R.T., Stirton, C.H. & Schrire, B.D. (2005). Tribe Sophoreae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 227-249.

Phillips, S.M. & Hua, P. (2005). Notes on grasses (Poaceae) for the Flora of China, V. New species in *Cymbopogon*. *Novon* 15(3): 471-473.

- —— & Shoultang, C. (2005). Notes on grasses (Poaceae) for the Flora of China. IV. *Novon* 15(3): 464-470.
- —— & Wu, Z.L. (2005). Notes on grasses (Poaceae) for the Flora of China, VI. New combinations in Stipeae and *Anthoxanthum*. *Novon* 15(3): 474-476.
- ---- see also under Chen, X.

Pleasants, L.J. see under Nic Lughadha, E.

Plunkett, G.M., Lowry, P.P., **Frodin, D.G.** & Wen, J. (2005). Phylogeny and geography of *Schefflera*: pervasive polyphyly in the largest genus of Araliaceae. *Annals of the Missouri Botanical Garden* 92(2): 202-224.

Polhill, R.M. (2005). Flora of Tropical East Africa. Santalaceae. Kew: Royal Botanic Gardens, Kew. 27 pp.

- —— & Van Wyk, B.E. (2005). Tribe Genisteae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 283-297.
- —— see also under Pope, G.V.

Pollard, B.J. (2005). Two new names in African *Plectranthus* (Labiatae). *Kew Bulletin* 60(1): 145-147.

Pope, G.V. & Martins, E.S. (eds) (2005). Flora Zambesiaca, volume 8, part 7. Kew: Royal Botanic Gardens, Kew. 161 pp.

—, **Polhill, R.M.** & Martins, E.S. (*eds*) (2005). Flora Zambesiaca, volume 8, part 4. Kew: Royal Botanic Gardens, Kew. 124 pp.

Powell, A.A., Corbineau, F., Franca-Neto, J., Lechappe, J., Mesterhazy, A., Noli, E. **& Pritchard, H.W.** (2005). Towards the future in seed production, evaluation and improvement. *Seed Science and Technology* 33: 265-281.

- —— see also under Qiu, Y.L.
- * **Prada, D.,** Romagosa, I., Ullrich, S.E. & Molina-Cano, J.L. (2005). A centromeric region on chromosome 6(6H) affects dormancy in an induced mutant in barley. *Journal of Experimental Botany* 56(409): 47-54.

Prance, G.T. (2005). Completing the inventory. *In* Hedberg, I. (ed.) Species Plantarum 250 Years. 207-219. (Acta Univ. Upsala Symb. Bot. Ups Vol. 33 (3))

- —— (2005). Ethnobotany of the family Chrysobalanaceae. *Ethnobotany* 17(1-2): 13-19
- —— (2005). Ethnobotany and ethnomedicine of the Amazonian Indians. *In* Yaniv, Z. & Bachrach, U. (*eds*) Handbook of Medicinal Plants. New York: Haworth Press. 139-153.
- —— (2005). Natural clocks. *In* Aldrich, T. (ed.) About time: speed, society, people and the environment. Sheffield: Greenleaf Publishing. 26-38.
- —— (2005). Rhabdodendraceae. Flora da Reserva Ducke, Amazonas, Brazil. *Rodriguesia* 56: 183-185.
- —— (2005). Rhizophoraceae. Flora da Reserva Ducke, Amazonas, Brazil. *Rodriguesia* 56: 187-188.
- —— & **Nesbitt, M.** (*eds*) (2005). The cultural history of plants. New York: Routledge. 452 pp.

Prendergast, H.D.V. see under Grace, O.M.

Pridgeon, A.M. (2005). *Acianthera. In* Pupulin, F. (ed.) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 3.

- —— (2005). *Anathallis. In* Pupulin, F. (ed.) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 20.
- —— (2005). *Diodonopsis. In* Pupulin, F. (*ed.*) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 232.

- —— (2005). *Echinosepala. In* Pupulin, F. (*ed.*) Vanishing beauty: native Costa Rican orchids. Vol. 1. *Acianthera-Kegeliella*. San José, C.R.: Editorial de la Universidad de Costa Rica. 247.
- —— (2005). Die kommende Revolution bei den Namen der Orchideen-Hybriden: Probleme und mögliche Lösungen. *Journal für den Orchideenfreund* 12(2): 140-147.
- —— & **Chase, M.W.** (2005). In search of the true *Pleurothallis* (Pleurothallidinae: Orchidaceae). *In* Raynal-Roques, A., Roguenant, A. & Prat, D. (*eds*) Proceedings of the 18th World Orchid Conference. Turrier, France: Naturalia. 408-416.
- ——, **Cribb, P.J., Chase, M.W.** & Rasmussen, F.N. (*eds*) (2005). Genera Orchidacearum, Vol. 4: Epidendroideae (part 1). Oxford: Oxford University Press. 694 pp.
- ------ see also under Chase, M.W., van den Berg, C.

Pritchard, H.W. & Daws, M.I. (2005). Continental scale studies on patterns in seed desiccation sensitivity at the inter- and intra-species level. *In* Adkins, S.W., Ainsley, P.J., Bellairs, S.M., Coates, D.J. & Bell, L.C. (*eds*) Proceedings of the fifth Australian workshop on native seed biology. 147-155.

—— see also under Daws, M.I., Powell, A.A.

Prychid, C.J. see under Sajo, M.G.

Punithalingam, E. & Spooner, B.M. (2005). New taxa and records of coelomycetes from *Agapanthus* in the U.K. *Kew Bulletin* 60: 149-158.

Qiu, Y.L., Dombrovska, O., Lee, J., Li, L., Whitlock, B.A., Bernasconi-Quadroni, F., Rest, J.S., Davis, C.C., Borsch, T., Hilu, K.W., Renner, S.S., Soltis, D.E., Soltis, P.S., Zanis, M.J., Cannone, J.J., Gutell, R.R., **Powell, M., Savolainen, V.,** Chatrou, L.W. **& Chase, M.W.** (2005). Phylogenetic analyses of basal angiosperms based on nine plastid, mitochondrial, and nuclear genes. *International Journal of Plant Sciences* 166(5): 815-842.

Radcliffe-Smith, A. see under Hoffmann, P.

Ramsay, M.M. see under Rowntree, J.K., Sarasan, V., Seaton, P.

Rapini, A. see under Liede-Schumann, S.

Rapini, A., **Goyder, D.J.,** Konno, T.U.P. & Farinaccio, M.A. (2005). Progress in asclepiad taxonomy: species numbers in Brazilian Asclepiadoideae (Apocynaceae) through time. *Kew Bulletin* 60(1): 111-115.

Remizowa, M., **Rudall, P.J.** & Sokoloff, D. (2005). Evolutionary transitions among flowers of perianthless Piperales: inferences from inflorescence and flower development in the anomalous species *Peperomia fraseri* (Piperaceae). *International Journal of Plant Sciences* 166(6): 925-943.

Renfrew, J.M. & Sanderson, H. (2005). Herbs and vegetables. *In* Prance, G. & Nesbitt, M. (*eds*) The cultural history of plants. New York: Routledge. 97-131.

*Reynolds, T. (2005). Hemlock alkaloids from Socrates to poison aloes. Phytochemistry 66(12): 1399-1406.

Rich, T.C.G., Mardon, D., Curtis, I., Heyward, S.J., Heyward, V.G., McKean, D.R., **Hall, T., Harris, S., O'Rourke, A., Cowan, R.S. & Fay, M.F.** (2005). Is the enigma a variation? *Sagina boydii* F. B. White (Caryophyllaceae), Boyd's pearlwort. *Botanical Journal of the Linnean Society* 147: 203-211.

Rico Arce, M.L. (2005). Nombres nuevos para dos especies Mexicanas de Acacia (Leguminosae – Mimosoideae). Acta Botanica Mexicana 71: 89-92.

- & Fonseca, R.M. (2005). Acacieae (Mimosaceae). In Flora de Guerrero No. 25. México: Coordinación de Servicios Editoriales. Facultad de Ciencias, UNAM. 1-56.
- —— see also under **Lewis, G.P.,** Luckow, M.

Rix, C. see under Wood, C.B.

Roberts, A.V. see under Sarasan, V.

Roberts, D.L. (2005). *Aeranthes virginalis* (Orchidaceae): a new species from the Comoro Islands. *Kew Bulletin* 60(1): 139-141.

—— & Sayers, B. (2005). Plant portraits: 517. *Eria sessilifolia*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 38-41.

- —— & Wilcock, C.C. (2005). Fragmentation of tropical rainforests and its effect on orchid survival. *In* Nair, H. & Arditti, J. (*eds*) Proceedings of the 17th World Orchid Conference 2002: "Sustaining orchids for the future". Kota Kinabalu: Natural History Publications (Borneo). 178-185.
- see also under Gardiner, L.M., Jacquemyn, H.
- **Roberts, P.** (2005). *Celatogloea simplicibasidium*: a heterobasidiomycetous parasite of *Corticium roseum*. *Mycologist* 19: 69-71.
- —— see also under Bridge, P.D., Legon, N.W., Spooner, B.M.
- *Rønsted, N., Law, S., Thornton, H., Fay, M.F. & Chase, M.W. (2005). Molecular phylogenetic evidence for the monophyly of *Fritillaria* and *Lilium* (Liliaceae; Liliales) and the infrageneric classification of *Fritillaria*. *Molecular Phylogenetics and Evolution* 35: 509-527.
- *—, Weiblen, G.D., Cook, J.M., Salamin, N., Machado, C.A. **& Savolainen, V.** (2005). 60 million years of co-divergence in the fig-wasp symbiosis. *Proceedings of the Royal Society B: Biological Sciences* 272(1581): 2593-2599.
- Roskov, Y.R., Bisby, F.A., Zarucchi, J.L., **Schrire, B.D.** & White, R.J. (2005). ILDIS World Database of Legumes: draft checklist on CD. Reading: ILDIS, University of Reading, UK. CD-ROM.
- **Rowntree, J.K. & Ramsay, M.M.** (2005). Ex situ conservation of bryophytes: progress and potential of a pilot project. *Boletin de la Sociedad Española de Briologia* 26-27: 17-22.
- —— & Sheffield, E. (2005). Effects of asulam spraying on non-target ferns. Canadian Journal of Botany 83(12): 1622-1629.
- —, Sheffield, E. & Burch, J. (2005). Growth and development of mosses are inhibited by the common herbicide asulam. *Bryologist* 108(2): 287-295.
- *Rudall, P.J., Cunniff, J., Wilkin, P. & Caddick, L.R. (2005). Evolution of dimery, pentamery and the monocarpellary condition in Stemonaceae (Pandanales). *Taxon* 54(3): 701-711.
- *—, Stuppy, W., Cunniff, J., Kellogg, E.A. & Briggs, B.G. (2005).
 Evolution of reproductive structures in grasses (Poaceae) inferred by sister-group comparison with their putative closest living relatives, Ecdeiocoleaceae.
 American Journal of Botany 92(9): 1432-1443.
- —— see also under Linder, H.P., Remizowa, M., Sajo, M.G., Wortley, A.H.

Ruhsam, M. see under Davis, A.P.

- Sajo, M.G., Furness, C.A., Prychid, C.J. & Rudall, P.J. (2005). Microsporogenesis and anther development in Bromeliaceae. *Grana* 44: 65-74.
- *Salamin, N., Hodkinson, T.R. & Savolainen, V. (2005). Towards building the Tree of Life: a simulation study for all angiosperm genera. *Systematic Biology* 54(2): 183-196.
- *Samuel, R., Kathriarachchi, H., **Hoffmann, P.**, Barfuss, M.H.J., Wurdack, K.J., Davis, C.C. **& Chase, M.W.** (2005). Molecular phylogenetics of Phyllanthaceae: evidence from plastid *matK* and nuclear *PHYC* sequences. *American Journal of Botany* 92(1): 132-141.
- **Sanderson, H.** (2005). Roots and tubers. *In* Prance, G. & Nesbitt, M. (*eds*) The cultural history of plants. New York: Routledge. 61-76.
- ----- see also under Renfrew, J.M.
- Sankaran, K.V., **Bridge, P.D.** & Gokulapalan, C. (2005). *Ganoderma* diseases of perennial crops in India an overview. *Mycopathologia* 159(1): 143-152.
- Santisuk, T., Larsen, K., Nielsen, I., Chayamarit, K., Argent, G., **Simpson, D.A.**, Iwatsuki, K., Middleton, D., Parnell, J., Pedersen, H., Phengkhlai, C., Roos, M. & Hul, S. (*eds*) (2005). Euphorbiaceae (Genera A-F). Flora of Thailand 8(1) Bangkok: Forest Herbarium 303 pp.
- —, Larsen, K., Nielsen, I., Chayamarit, K., Argent, G., **Simpson, D.A.,** Iwatsuki, K., Middleton, D., Parnell, J., Pedersen, H., Phengkhlai, C., Roos, M. & Hul, S. *(eds)* (2005). Aizoaceae-Sarcospermataceae. Flora of Thailand 9(1) Bangkok: Forest Herbarium 89 pp.

- **Sarasan, V., Ramsay, M.M. & Roberts, A.V.** (2005). Rescue of endangered palms by *in vitro* methods: the case of 'bottle palm'. *In* Jain, S.M. & Gupta, P.K. (*eds*) Protocol for somatic embryogenesis in woody plants. Netherlands: Springer. 267-274.
- *Savolainen, V., Cowan, R.S., Vogler, A.P., Roderick, G.K. & Lane, R. (2005). Towards writing the encyclopaedia of life: an introduction to DNA barcoding. *Philosophical Transactions of The Royal Society B: Biological Sciences* 360: 1805-1811.
- —— see also under Chase, M.W., Davies, T.J., Forest, F., Nic Lughadha, E., Oiu, Y.L., Rønsted, N., Salamin, N.
- Schols, P., **Furness, C.A.**, Merckx, V., **Wilkin, P.** & Smets, E. (2005). Comparative pollen development in Dioscoreales. *International Journal of Plant Sciences* 166(6): 909-924.
- ——, **Wilkin, P., Furness, C.A.,** Huysmans, S. & Smets, E. (2005). Pollen evolution in yams (*Dioscorea*: Dioscoreaceae). *Systematic Botany* 30: 750-758.
- Schrire, B.D. (2005). Tribe Indigofereae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 361-365
- —— (2005). Tribe Millettieae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 367-387.
- —— (2005). Tribe Abreae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens. Kew. 389-391.
- —— (2005). Tribe Phaseoleae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (eds) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 393-431.
- —, Lavin, M. & Lewis, G.P. (2005). Global distribution patterns of the Leguminosae: insights from recent phylogenies. *Biologiske Skrifter* 55: 375-422.
- —, **Lewis, G.P.** & Lavin, M. (2005). Biogeography of the Leguminosae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 21-54.
- —— see also under Burgoyne, P.M., Lavin, M., Lewis, G., Lock, J.M. Luckow, M., Pennington, R.T., Roskov, Y.R.
- *Seal, A.J., Creeke, P.I., Mirghani, Z., Abdalla, F., **McBurney**, **R.P.**, Pratt, L.S., Brookes, D., Ruth, L.J. & Marchand, E. (2005). Iron and vitamin A deficiency in long-term African refugees *Journal of Nutrition* 135: 808-813.
- Seaton, P. & Ramsay, M.M. (2005). Growing orchids from seed. Kew: Royal Botanic Gardens, Kew. 96 pp.
- Sharma, H.C., **Stevenson, P.C.** & Gowda, C.L.L. (2005). *Heliothis/Helicoverpa* management: emerging trends and prospects for future research. *In* Sharma, H.C. (ed.) *Heliothis/Helicoverpa* management: emerging trends and strategies for future research. New Delhi, India: Oxford and IBH Publishers. 209-222.
- *Shipunov, A.B. & Bateman, R.M. (2005). Geometric morphometrics as a tool for understanding *Dactylorhiza* (Orchidaceae) diversity in European Russia. *Biological Journal of the Linnean Society* 85(1): 1-12.
- ——, Fay, M.F. & Chase, M.W. (2005). Evolution of *Dactylorhiza baltica* (Orchidaceae) in European Russia: evidence from molecular markers and morphology. *Botanical Journal of the Linnean Society* 147: 257-274.
- **Simmonds, M.S.J.** see under Asase, A., Bouaziz, M., Fernandez-Mateos, A., Lavania, U.C., Ofodile, L.N., **Stevenson, P.C.**
- **Simpson, D.A., Muasya, A.M.,** Chayamarit, K., Parnell, J.A.N., Suddee, S., Wilde, B.D.E., Jones, M.B., Bruhl, J.J. & Pooma, R. (2005). *Khaosokia caricoides*, a new genus and species of Cyperaceae from Thailand. *Botanical Journal of the Linnean Society* 149(3): 357-364.
- see also under Kukkonen, I. Muasya, A.M. Santisuk, T., Sosef, M.S.M.
- Skoula, M. & Grayer, R.J. (2005). Volatile oils of *Coridothymus capitatus*, *Satureja thymbra*, *Satureja spinosa* and *Thymbra calostachya* (Lamiaceae) from Crete. *Flavour and Fragrance Journal* 20(6): 573-576.
- ——, **Grayer, R.J. & Kite, G.C.** (2005). Surface flavonoids in *Satureja* thymbra and *Satureja spinosa* (Lamiaceae). *Biochemical Systematics and Ecology* 33(5): 541-544.
- Smith, P. see under Nic Lughadha, E.

Sokoloff, D.D. **& Lock, J.M.** (2005). Tribe Loteae. *In* Lewis, G., Schrire, B., Mackinder, B. & Lock, M. (*eds*) Legumes of the world. Kew: Royal Botanic Gardens, Kew. 455-465.

Sonké, B., **Dawson, S.** & Beina, D. (2005). A new species of *Aulacocalyx* (Rubiaceae, Gardenieae) from southern Cameroon. *Kew Bulletin* 60(2): 301-304.

Sosef, M.S.M. & Simpson, D.A. (2005). *Hypolytrum unispicatum* (Cyperaceae), a new species from Cameroon. *Blumea* 50(3): 523-525.

Spooner, B.M. (2005). Ascomycetes: problems and potential for their role in conservation. *In* Salerni, E. & Perini, C. (*eds*) I Funghi del Monte Amiata. The importance of systematic, taxonomic and ecological knowledge of fungi for their conservation. Atti del III Convegno Nazionale di Studi Micologici. 61-69.

- —— (2005). Aseröe at Oxshott a decade on. Field Mycology 61: 25-26.
- —— & Kemp, S. (2005). Epichloë in Britain. Mycologist 19: 82-87.
- & **Roberts, P.J.** (2005). Fungi. *In* New Naturalist. London: Harper Collins. Vol. 96: 594.
- —— see also under Bridge, P.D., Huhtinen, S. **Legon, N.W., Punithalingam, E.**

Stapleton, C.M.A., De-Zhu, L. & He, X.N. (2005). New combinations for Chinese bamboos (Poaceae, Bambuseae). *Novon* 15(4): 599-601.

Stevenson, P.C., Green, P.W.C., Simmonds, M.S.J. & Sharma, H.C. (2005). Physical and chemical mechanisms of plant resistance to *Helicoverpa armigera*: recent research on chickpea and pigeonpea. *In* Sharma, H.C. (*ed.*) *Heliothis/Helicoverpa* management: emerging trends and strategies for future research. New Delhi, India: Oxford and IBH Publishers. 209-222.

Stuppy, W. see under Rudall, P.J.

Suddee, S., **Paton, A.J.** & Parnell, J.A.N. (2005). Taxonomic revision of tribe Ocimeae Dumort. (Lamiaceae) in continental South East Asia: III. Ociminae. *Kew Bulletin* 60(1): 3-75.

Talhouk, S.N., Dardas, M., Dagher, M., **Clubbe, C.,** Jury, S., Zurayk, R. & Maunder, M. (2005). Patterns of floristic diversity in semi-natural coastal vegetation of Lebanon and implications for conservation. *Biodiversity and Conservation* 14(4): 903-915.

Tang, B.H., Wei, T.Z. & **Yao, Y.J.** (2005). Type revision of three *Termitomyces* species from India. *Mycotaxon* 94: 93-102.

Taylor, N.P. (2005). Plant portraits: 526. *Maihuenia poeppigii* (Cactaceae). *Curtis's Botanical Magazine* 22(2): 105-108.

- —— & **Kirkham, T.** (2005). Plant portraits: 541. *Corylus x vilmorinii*. Corylaceae. *Curtis's Botanical Magazine* 22(4): 225-228.
- —— & **Kirkham, T.** (2005). Plant portraits: 542. *Viburnum parvifolium*. Adoxaceae. *Curtis's Botanical Magazine* 22(4): 229-232.

Terry, J. see under Wood, C.B.

Thiebaut, L. & Hoffmann, P. (2005). Occurrence of colleters in *Erythroxylaceae. Kew Bulletin* 60(3): 455-459.

Tibbles, L.L. see under Veitch, N.C.

- *Toorop, RE., Barroco, R.M., Engler, G., Groot, S.P.C. & Hilhorst, H.W.M. (2005). Differentially expressed genes associated with dormancy or germination of *Arabidopsis thaliana* seeds. *Planta* 221(5): 637-647.

Toscano de Brito, A. & Cribb, P.J. (eds) (2005). Orquideas da Chapada Diamantina. Rio de Janeiro: Nova Fronteira. 400 pp. (English translation, pp 303-305, 312-387 and collaboration in 'Notas biograficas', pp.286-297 by Hind, D.J.N.)

Tweddle, J.C. see under Moles, A.T.

Utteridge, T.M.A., Nagamasu, H., Teo, S.P., **White, L.C. & Gasson, P.E.** (2005). *Sleumeria* (Icacinaceae): a new genus from Northern Borneo. *Systematic Botany* 30(3): 635-643.

- see also under Albach, D.C.
- *van den Berg, C., Goldman, D.H., Freudenstein, J.V., **Pridgeon, A.M.,** Cameron, K.M. & Chase, M.W. (2005). An overview of the phylogenetic relationships within Epidendroideae inferred from multiple DNA regions and recircumscription of Epidendreae and Arethuseae (Orchidaceae). *American Journal of Botany* 92(4): 613-624.
- ——, Higgins, W.E., Soto Arenas, M.A. & Chase, M.W. (2005). Molecular data systematics of genera and species of Laeliinae. *In* Raynal-Roques, A., Roguenant, A. & Prat, D. (*eds*) Proceedings of the 18th World Orchid Conference. Turrier, France: Naturalia. 500-506.
- *Veitch, N.C., Bristow, J.M., Kite, G.C. & Lewis, G.P. (2005). Mildbraedin, a novel kaempferol tetraglycoside from the tropical forest legume Mildbraediodendron excelsum. Tetrahedron Letters 46(49): 8595-8598.
- ——, **Tibbles, L.L., Kite, G.C. & Ireland, H.E.** (2005). Flavonol tetraglycosides from *Ateleia chicoasensis* (Leguminosae). *Biochemical Systematics and Ecology* 33: 1274-1279.
- —— see also under Chase, M.W.

Verdcourt, B. (2005). Flora of Tropical East Africa. Isoetaceae. Kew: Royal Botanic Gardens, Kew. 8 pp.

- —— (2005). Flora of Tropical East Africa. Lycopodiaceae. Kew: Royal Botanic Gardens, Kew. 19 pp.
- —— (2005). Flora of Tropical East Africa. Ochnaceae. Kew: Royal Botanic Gardens, Kew. 60 pp.
- —— (2005). Flora of Tropical East Africa. Selaginellaceae. Kew: Royal Botanic Gardens, Kew. 24 pp.
- *Vogler, A.P., Cardoso, A. & Barraclough, T.G. (2005). Exploring rate variation among and within sites in a densely sampled tree: species level phylogenetics of North American tiger beetles (Genus *Cicindela*). *Systematic Biology* 54(1): 4-20.

Vollesen, K. see under McDade, L.A.

*Watanabe, T., **Jansen, S.** & Osaki, M. (2005). The beneficial effect of Al and the role of citrate in Al accumulation in *Melastoma malabathricum* L. *New Phytologist* 165(3): 773-780.

Weber, O., Wilkin, P. & Rakotonasolo, F. (2005). A new species of edible yam (*Dioscorea* L.) from western Madagascar. Kew Bulletin 60(2): 283-291.

White, L.C. see under Utteridge, T.M.A.

Wilford, R. (2005). Cornus 'Ormonde'. Kew 48: 40.

- —— (2005). Disa kewensis. Kew 51: 45.
- —— (2005). Geranium 'Mavis Simpson'. Kew 50: 44.
- —— (2005). Getting to know their onions. Kew 48: 30-33.
- —— (2005). Lavandula stoechas 'Kew Red'. Kew 49: 48.
- —— (2005). Scilla madeirensis Menezes, F.C.C., Daubenya aurea var. coccinea (Harv.) Marloth, P.C., Hyacinthella dalmatica (Baker) Chouard, P.C., Alrawia bellii (Baker) K.M.Perss & Wendelbo, B.C. In Rolfe, R (comp.) Plant awards 2004-2005. Alpine Gardener 73(4): 404-405, 428-430, 436, 457-458.
- —— (2005). Splendour in the grass. Kew 51: 36-39.
- —— (2005). Tulipa aucheriana. RHS Daffodil and Tulip Yearbook 2005-2006: 77-78
- —— (2005). Tulipa orthopoda. RHS Daffodil and Tulip Yearbook 2005-2006: 78-79.

Wilkin, P., Schols, P., **Chase, M.W.,** Chayamarit, K., **Furness, C.A.,** Huysmans, S., Rakotonasolo, F., Smets, E. & Thapyai, C. (2005). A plastid gene phylogeny of the yam genus, *Dioscorea*: roots, fruits and Madagascar. *Systematic Botany* 30: 736-749.

------ see also under Haigh, A., Rudall, P.J., Schols, P., Weber, O.

Williamson, H.J. see under Goyder, D.J.

Wilmot-Dear, C.M. see under Chen, C.J.

- Wood, C.B., Miles, S., Rix, C., Terry, J. & Daws, M. (2005). The effects of seed oil content on viability assessment using tetrazolium: a case study using 171 species. *Plant Genetic Resources Newsletter* 143: 17-23.
- **Wood, J.J.** (2005). A new species of *Bryobium* from the Solomon Islands. *Orchid Review* 113(1261): 39-41.
- —— (2005). Plant portraits: 516. *Bulbophyllum echinolabium*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 32-37.
- (2005). Plant portraits: 518. *Dimorphorchis rossii* var. *graciliscapa*. Orchidaceae. *Curtis's Botanical Magazine* 22(1): 42-46.
- —— (2005). Plant portraits: 523. *Dendrochilum javierense*. Orchidaceae. *Curtis's Botanical Magazine* 22(2): 90-94.
- —— see also under Chase, M.W.
- **Woodgyer, E.M.** (2005). Multi-access key and checklist to the species of *Microlicia* (Melastomataceae) in Bahia, Brazil. *Kew Bulletin* 60(3): 441-448.
- —— & **Zappi, D.C.** (2005). Two new species of *Microlicia* D.Don (Melastomataceae) from Catolés, Bahia, NE Brazil. *Kew Bulletin* 60(3): 435-440.
- *Wortley, A.H., Rudall, P.J., Harris, D.J. & Scotland, R.W. (2005). How much data are needed to resolve a difficult phylogeny? Case study in Lamiales. *Systematic Biology* 54(5): 697-709.
- —, Scotland, R.W. & Rudall, P.J. (2005). Floral anatomy of *Thomandersia* (Lamiales), with particular reference to the nature of the retinaculum and extranuptial nectaries. *Botanical Journal of the Linnean Society* 149(4): 469-482.
- *Wurdack, K.J., **Hoffmann, P. & Chase, M.W.** (2005). Molecular phylogenetic analysis of uniovulate Euphorbiaceae (Euphorbiaceae sensu stricto) using plastid *rbcL* and *trnL-F* DNA sequences. *American Journal of Botany* 92(8): 1397-1420.
- *Yao, Y.J., Pegler, D.N. & Chase, M.W. (2005). Molecular variation in the *Postia caesia* complex. *Fems Microbiology Letters* 242(1): 109-116.
- —— see also under Tang, B.H.
- Zappi, D.C. see under Machado, M.C., Woodgyer, E.M.
- *Zonneveld, B.J.M., **Leitch, I.J. & Bennett, M.D.** (2005). First nuclear DNA amounts in more than 300 angiosperms. *Annals of Botany* 96(2): 229-244.

Royal Botanic Gardens, Kew_contact details

The Director Royal Botanic Gardens, Kew Richmond, Surrey, TW9 3AB United Kingdom

Email: director@kew.org Tel: +44 (0) 20 8332 5000 Fax: +44 (0) 20 8332 5197

Kew and Wakehurst Place_visitor information

Kew Gardens

Tel: +44 (0) 20 8332 5655

Wakehurst Place

Tel: +44 (0) 1444 894 066

www.kew.org

Printed in the UK by the Stationery Office limited on behalf of the Controller of Her Majesty's Stationery Office 5389731 07/06 19585 Published by TSO (The Stationery Office) and available from:

Online

www.tso.co.uk/bookshop

Mail, Telephone, Fax & E-mail

TSO

PO Box 29, Norwich NR3 1GN

Telephone orders/General enquiries 0870 600 5522

Fax orders 0870 600 5533

Order through the Parliamentary Hotline Lo-call 0845 7 023474

E-mail book.orders@tso.co.u

Textphone 0870 240 3701

TSO Shops

123 Kingsway, London WC2B 6PQ

68-69 Bull Street, Birmingham B4 6AD

0121 236 9696 Fax 0121 236 9699

9-21 Princess Street, Manchester M60 8AS

0161 834 7201 Fax 0161 833 0634

16 Arthur Street, Belfast BT1 4GD

028 9023 8451 Fax 028 9023 5401

18-19 High Street, Cardiff CF10 1P1

029 2039 5548 Fax 029 2038 4347

71 Lothian Road, Edinburgh EH3 9AZ

0870 606 5566 Fax 0870 606 5588

The Parliamentary Bookshop

12 Bridge Street, Parliament Square, London SW1A 2JX

Telephone orders/General enquiries 020 7219 3890

Fax orders 020 7219 3866

TSO Accredited Agents

(see Yellow Pages)

and through good booksellers

ISBN 0 10 294176 9