

Royal Botanic Gardens, Kew

Annual Report and Accounts

for the year ended 31 March 2009





Royal Botanic Gardens, Kew

Annual Report and Accounts for the year ended 31 March 2009

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 16 July 2009

HC768 London: The Stationery Office £14.35



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.

around 800 people including 280 in science and conservation, and 200 in horticulture; they are supported by over 500 volunteers including affiliated researchers, more than 60 supervised PhD and 45 Horticultural Diploma students, and many others with a valued range of roles and skills.

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, laboratories and the Millennium Seed Bank – and show the importance of plants in all our lives.

Kew's mission is:

to inspire and deliver science-based plant conservation worldwide, enhancing the quality of life.

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.

© Crown Copyright 2009

The text in this document (excluding the Royal Arms and other departmental or agency logos) may be reproduced free of charge in any format or medium providing it is reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and the title of the document specified.

Where we have identified any third party copyright material you will need to obtain permission from the copyright holders concerned.

For any other use of this material please write to Office of Public Sector Information, Information Policy Team, Kew, Richmond, Surrey TW9 4DU or e-mail: licensing@opsi.gov.uk ISBN: 9780102961768

Contents

5	Director's review
	Management Commentary
6	The Breathing Planet Programme
7	Performance targets and results
8	Commentary on performance against targets
10	Review of activities
11	Statutory information

Chairman's letter

- 15 Statement of Trustees' and Accounting Officer's responsibilities
- 16 Statement on internal control
- 18 Remuneration Report

Accounts

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

Corporate Information

- 33 Health and safety statement
- 33 Customer Charter statement
- 34 Diversity statement
- 35 Publications
- 48 Contact details

Chairman's letter

In 2009 we celebrate Kew's 250th Anniversary, for it was in 1759 that Augusta, Princess of Wales and mother of George III, introduced a new area for medicinal plants into her gardens. This change, inspired by an enthusiasm for botany, began the transformation of the Royal estate at Kew into the world leading scientific centre that it is today.

Over these 250 years, the world has also changed dramatically. Its population has grown eight-fold and economic development has accelerated, bringing both great progress and huge problems. We now understand that the Earth's resources are finite and that human beings, alongside other living creatures, are vulnerable to climate change and the environmental damage that accompanies so much of our own activity. These dangers to humanity are compounded by the great inequalities between those living in the developed world and the poor majority who are struggling to improve their conditions.

The crisis in the world economy will make it very difficult to keep up the momentum that has been building for concerted international action, but there are some welcome developments. In December, the UN Climate Conference will take place in Copenhagen and it is hoped that, with the USA and China both now giving more positive signals, this all-important meeting will make useful progress.

This background reminds us of our purpose and the constant need to take stock and ensure that we are making the best possible use of Kew's resources to meet the issues that confront the world today. To achieve maximum impact, Kew works closely with many partners and stakeholders, especially the Department for Environment, Food and Rural Affairs – the department that sponsors Kew and promotes sustainability both in the UK and overseas.

It is now accepted that humanity needs to develop in ways that do not degrade the natural environment or accelerate global warming. Plants are central to sustainable development because they use sunlight to take carbon dioxide from the air to fuel their growth; they provide our oxygen, food and underpin most of our other resources. They also moderate water supplies and stabilise land. Yet, people are still destroying forests and burning vegetation, either for profit or because they are desperate for land. This destruction is a double blow, reducing the planet's capacity to absorb carbon dioxide and putting more into the air – deforestation accounts for a fifth of world emissions. The only way forward is through sustainable development and Kew has an important role to play, one that may well dominate its work for the next 250 years.

Kew's long history in plant science has provided resources and knowledge that are vital to the global effort for conservation and sustainability. Kew has long historical connections to botanic gardens around the world – a network that spans the developed and developing world. Collaboration provides the local and specialised knowledge to implement effective

conservation projects on the ground, often working with other conservation organisations, governments and landowners. To provide a strategic basis for this international effort, Kew's Director, Professor Stephen Hopper, and his colleagues have developed the Breathing Planet Programme as a framework for increasing the delivery of results on the ground in the places where they are most needed.

This is a far-reaching and visionary approach but it is grounded in experience. Over the last decade, Kew's team at Wakehurst Place have driven the Millennium Seed Bank Project forward with numerous successful international partnerships. The project is on track to achieve its ten-year targets by the end of 2009; it will become an ongoing programme that will not only safeguard species but also provide a resource for the large-scale restoration of damaged habitats. During the year, Kew hosted an international workshop on restoration ecology, another important step towards the wider implementation of this promising approach.

Kew works hard to attract additional funding, from many sources, to support such new initiatives but we still need to rely on grant-in aid from Defra for the maintenance of core activities that are less appealing to donors. Over the last few years, these operational costs have grown faster than the grant and we are most grateful to Defra for additional funding during 2008/09 that has helped us to maintain a more satisfactory financial position. However, the problem is ongoing, needs a more permanent solution, and is under discussion with Defra.

This is my final Annual Report at Kew as I will retire from the Board in October. I am grateful to have had the opportunity of working with so many people dedicated to such an important cause. I would like to thank fellow Trustees, past and present, for the support and wisdom given to Kew throughout my term – including Tanya Burman and Andrew Cahn who both retired from the Board during the year. Their places are taken by Jennifer Ullman and Sir Henry Keswick. Ministers and officers at Defra, recognising Kew's importance, have been most helpful and supportive. Above all, I want to thank Professor Hopper and all the staff and volunteers at Kew Gardens and Wakehurst Place who put so much into this energetic organisation. I am sure that Augusta, Princess of Wales, would be proud of Kew's role today.

John Selborne

Chairman

Trustees of the Royal Botanic Gardens, Kew

Jh Selone

Director's review

In celebrating our 250th anniversary, we can usefully reflect on the remarkable people and events that have paved the way between Princess Augusta's new garden for medicinal plants and the outstanding global collections, research laboratories and international collaboration of today's Royal Botanic Gardens, Kew. Three names stand out, Sir Joseph Banks being the first. He used his remarkable energy and considerable wealth to explore and collect in the Americas. Pacific and Australasia. accompanying Captain Cook on his first great voyage. Banks advised George III and arranged expeditions to collect plants from around the globe so that Kew soon had a world-leading collection. He was also interested in economic opportunities and was instrumental in Captain Bligh's ill-fated but ultimately successful mission to take breadfruit from Tahiti to the West Indies. Banks' organisational skills were matched by his scientific ability. He classified plants using the then novel Linnean system and became President of the Royal Society at the age of 35.

When both George III and Banks died in 1820, plant collection dropped away and Kew's future became uncertain. By 1840 a Royal Commission had decided that Kew was worthy of investment and it became a public scientific body, with William Hooker as its first Director. Hooker's many great contributions included placing his large private herbarium as a research resource at Kew. He secured government funding to send botanists on British government expeditions and established a colonial flora programme that is still ongoing. He also created great buildings at Kew. In particular, he built both the Herbarium, to store the already large collection of dried specimens, and the spectacular Palm House, to provide the public with the opportunity to enjoy and study tropical plants. William's son, Joseph, developed an even more pre-eminent scientific reputation following his global plant collecting expeditions. When Sir William died, Joseph Hooker became Director, continuing to develop Kew. Joseph Hooker played a crucial role in supporting Darwin during the development of his theory of evolution and actually presented Darwin's papers at the famous Linnean Society meeting in 1858. He also with stood strong ministerial pressure to let Kew's science and collections go elsewhere and turn Kew into a park.

By 1900, Kew had been established as the British Empire's centre for plant science and as an important public attraction. It had played a key role in the development of modern scientific theory and was deeply involved in the economic use of plants – quinine and rubber being key examples. The economic aspect continues to be important and Kew's Jodrell Laboratory investigates plant properties for many purposes while also seeking fundamental knowledge about plants. Today, as the Chairman points out, this information is of great value for conservation and sustainability.

It is fitting then that Professor Mark Chase, who heads the Jodrell, was awarded the Linnean Society's Darwin Medal in February in a ceremony that marked the 200th anniversary of Darwin's birthday. The award recognises the impact of Professor Chase's long-term leadership and personal

contribution in the use of DNA to determine the evolutionary relationships of plants and thus help develop a new robustly supported classification system. Promising collaborative work in molecular biology may soon lead to a simple DNA system that will rapidly identify plant species in the field. With some additional funding from Defra, Kew and Wildlife Forensics are now working on methods of identifying tropical hardwoods protected by the Convention on International Trade in Endangered Species. During the year, Kew published *Mahogany* – an identification guide to trade timbers, and several parts of the *Flora of Tropical East Africa*, publications that are all relevant to conservation and sustainable use.

Also inspired by Darwin's anniversary, The Wellcome Trust has enabled Kew to develop an ambitious science project for primary schools. The Great Plant Hunt aims to start a lifetime's interest in plant-based science in children across the country. The £2million project is delivering treasure chests to every state-maintained primary school in the UK. Inside there are experiments and activities for children aged 5 to 11, designed to get them involved with nature. The great names in botany, including Banks and Darwin, all had an early interest in plants and we hope that this initiative will produce great names for the future.

Looking to our own future, Kew's Breathing Planet Programme has now become embedded as the core of our strategy and we are developing more detailed plans that should bring it into action in 2010. The Millennium Seed Bank is a vital element of the Programme, it is now in its tenth year and I am confident that it will achieve its targets. Moreover, I am delighted by the strength of the global partnership created by the seed bank team – it is a model of international cooperation. Already, seed from the bank is being used for restorative work and we aim, in time, to increase greatly this aspect of conservation. During the year we held a major international workshop on restoration ecology. With the support of the Man Group plc Charitable Trust we will soon appoint a Head of Restoration Ecology and commence a more active programme.

Finance has been a major concern because the recession has affected visitor income and the grant from Defra for operating costs has not grown with inflation. Therefore, we are developing a vigorous fundraising campaign so that we can build the Breathing Planet Programme into the major international partnership needed for impact on a global scale.

In closing, I would like to thank all our staff and volunteers, including our Trustees, for their support throughout this very special anniversary year. In particular, I would like to thank Lord Selborne for all he has done to help me since my arrival at Kew. His wisdom and dedication will be sorely missed.

Stephen Hopper

Director

Management Commentary

The major thrust of the organisation's activity is now being aligned around the Breathing Planet Programme. Kew has made corresponding changes to its performance measures.

The Breathing Planet Programme

There are seven key actions:

- 1 discovering, collating and accelerating global access to essential information on the variety and distribution of the world's plant and fungal species through fundamental science, enhanced collection programmes, systematics, data capture, GIS science and novel identification tools such as web-based floras and DNA barcoding;
- 2 identifying plant and fungal species and regions of the world most at risk of losing their wild diversity, by applying cutting-edge IT and GIS approaches to enable priority setting for conservation programmes targeted at saving the most vulnerable areas and species first;
- 3 helping implement global plant and fungal conservation programmes such as creation of new sustainably managed areas through established and new partnerships in countries richest in diversity and geographical extent of remaining wild vegetation;
 - Together these actions will help retain the Earth's major remaining carbon sinks.
- 4 extending the Millennium Seed Bank's global partnership programmes to secure in safe storage 25% of the world's plants by 2020, targeting species and regions most at risk from climate change such as alpine endemics, coastal species and those endemic to desertifying lands;

- 5 establishing a global network of scientists and practitioners in restoration ecology to use seed banks for the urgent repair and re-establishment of damaged native vegetation;
 - These two actions will help recover lost plant productivity and carbon sequestration.
- 6 expanding plant and fungal diversity knowledge and Kew's innovative science programmes to the identification and successful growth of locally-appropriate plant species under changing climatic regimes on agricultural, urban and suburban lands;
 - This action will help plant-based adaptation to climate change to succeed.
- 7 using the high public visitation, web and media opportunities provided by Kew and partner botanic gardens to deliver enjoyable, inspiring experiences that inform people world-wide about plant-based mitigation and adaptation strategies to cope with climate change and other significant environmental challenges facing us all.

Performance targets and results

	Key Performance Indicator	Outcome	Target	Outcome	±% vs	±% vs	Target
		2007/08	2008/09	2008/09	Last Year	Target	2009/10
1.	Publications	518	350	300	-42.1	-14.3	350
2.	High impact publications	87	55	60	-31.0	9.1	60
3.	Conservation and sustainability assessments (new basis)	4,523	4,000	2,663	-41.1	-33.4	3,000
4.	Major habitat conservation surveys	9	12	7	-22.2	-41.7	10
5.	Training delivered – capacity building	24,000	23,500	25,330	5.5	7.8	20,600
6.	Access to the collections: live visits	27,737	20,000	27,982	0.9	39.9	25,000
	on-line visits	200,000	200,000	2,050,000	+++	+++	2,200,000
7.	Collections digitally catalogued (cumulative)	473,000	747,000	539,880	14.1	-27.7	603,000
8.	Status of the collections (% currently accessible)	79%	80%	84%	+5%	+4%	82%
9.	Visits to the gardens	1,958,860	1,910,000	1,818,000	-7.2	-4.8	1,637,000
10.	Web visits (millions)	2,800,000	3,100,000	3,590,000	28.2	15.8	3,500,000
11.	Staff and volunteer retention (%)	83%	83%	85%	+2%	+2%	83%
12.	Total revenue generated (£'000)	£51,300	£49,200	£52,100	1.6	5.9	£55,000

Publications are reported by calendar year. Figures for earlier years are periodically updated and 'high impact' journals re-assessed using more recent citation figures.

Visitor figures also include events such as concerts, evening attractions, etc.

Management Commentary continued

Performance targets and results continued

Performance over three years

	Key Performance Indicator	Outcome	Outcome	Outcome
		2006/07	2007/08	2008/09
1.	Publications	465	518	300
2.	High impact publications	78	87	60
3.	Conservation and sustainability assessments (new basis)	3,848	4,523	2,663
4.	Major habitat conservation surveys	12	9	7
5.	Training delivered – capacity building	na	24,000	25,330
6.	Access to the collections: live visits	26,608	27,737	27,982
	on-line visits	na	200,000	2,050,000
7.	Collections digitally catalogued (cumulative)	na	473,000	539,880
8.	Status of the collections (% currently accessible)	na	79%	84%
9.	Visits to the gardens	1,836,470	1,958,860	1,818,000
10.	Web visits (millions)	na	2,800,000	3,590,000
11.	Staff and volunteer retention (%)	na	83%	85%
12.	Total revenue generated (£'000)	£43,200	£51,300	£52,100

Publications are reported by calendar year. Figures for earlier years are periodically updated and 'high impact' journals re-assessed using more recent citation figures.

Visitor figures also include events such as concerts, evening attractions, etc.

na - this data was not collected before 2007/08

Commentary on performance against targets

1. Publications

The total number of publications is lower this year than targeted because a number of projects have moved ahead more slowly than anticipated. The resulting publications will therefore be published in 2009, so we are anticipating a somewhat higher number of publications in that year.

2. High impact publications

High-impact papers continued to outstrip the anticipated rate and we have again exceeded the targeted number, in spite of overall publications being lower than anticipated. Taken together the results for measures 1 and 2 represent a good year for publications.

3. Conservation and sustainability assessments

The number of species use reports produced by the Sustainable Uses of Plants Group increased. However, this was more than offset by a lower number of conservation assessments achieved, partly because no large publications or floras were completed this year. Also, the Millennium Seed Bank (MSB) Enhancement Project, which provided a substantial number of species assessments, has ended. Continued contribution of the MSB to this indicator is highly dependent on raising additional external funds. Future targets have been adjusted but remain stretching, given this uncertainty.

4. Major habitat conservation surveys

This measure covers comprehensive assessments of defined geographical areas on the scale of nature reserves or national parks. Therefore, the surveys are important but numbers are modest and will fluctuate. Over the last two years we have been significantly below target because ongoing work is part of large projects running over extended periods, several of which will come to fruition in the next two years. However, targets have been reduced because the current economic climate is making for difficulty in sourcing external funding for future

projects. Output this year included the publication of Trees of Thailand, reports from the recent expeditions to Mozambique as part of a Darwin Initiative funded project, and assessments of forest reserves in Cameroon and Congo Brazzaville, the first expedition that Kew has made to the Congo. As part of longer running projects, work also took place in Brazil, Abu Dhabi, South Georgia, Guinea and Bermuda.

5. Training delivered – capacity building (people days)

A pleasing result for this new measure, and one that is consistent with last year's pilot. The indicator counts our training output as people days, providing a very clear measure of the volume of training that Kew delivers to a wide range of clients ranging from short sessions for Customs Officers to the long-term supervision of PhD students.

6. Access to the collections: live visits and on-line visits

Now that a satisfactory method has been developed to monitor on-line visits to Kew's collections, this number has been shown to be an order of magnitude higher than previously estimated and appears likely to grow significantly. For in-person visits to the behind-the-scenes collections, there is modest but ongoing progress, partly driven by popular open days. The target has been held at 25,000 for the coming year given the likely disruption involved in commissioning the Herbarium and Library extension. Future targets have been increased for the online figure and, in view of the major difference in scale, we will now show the two components of this KPI separately.

7. Collections digitally catalogued

The cumulative total rose to 539,880 an achievement of almost 67,000 for the year. The estimate is short of the 747,000 target because the basis of the target for the archive catalogue (200,000 p.a.) was incorrect, being based on the estimated number of sheets in the archive – roughly 7 million pieces of paper. However, we have now adopted the more conventional method of counting archives at the file level rather than as individual sheets. Future targets have been adjusted accordingly.

8. Status of the collections (% currently accessible)

This is a new KPI designed to assess the usability of Kew's major collections and is calculated as the mean of the accessibility figures for the largest and most significant of these. The individual scores were 75% for Millennium Seed Bank seed viability, 80% for Herbarium specimens, 95% accessibility for the Library & Archives, and 87% for living collections that are in place, labelled and viable. The last was based on an audit of nearly half the total live accessions at the Kew site, noting that

results will vary depending on the particular living collections audited – outdoor public collections being subject to a wide range of hazards. Nonetheless, the overall mean score suggests that we could be more ambitious in setting a higher target for future years.

9. Visits to the gardens

The budgeted figures for Kew Gardens for 2008/09 were set at optimistic levels given the opening of the new Xstrata Treetop Walkway and Rhizotron. The year started well with good figures in April, May and June but an exceptionally wet July and August resulted in very poor paying visitor numbers. The banking crisis hit consumer confidence harder from September onwards and numbers were consistently down each month. Tropical Extravaganza bucked the trend however and brought in a small boost to the end of the year. Overall visitors for Kew Gardens ended up 0.9% down but paying visitors were 14% down, which had a resultant impact on admissions income.

10. Web visits

This figure has exceeded the target for the year by just under half a million visits, or 16%. The figure excludes electronic access to the collections, which is reported under 6. The total website visits (including access to collections via EPIC) was 4.07 million visits.

11. Staff and volunteer retention

There has been a slight increase in retention, which is likely to be partly attributable to the economic situation resulting in a decline compared with 2007/08 in voluntary resignations and in retirements, as these are now more flexible.

12. Income

The result of £52.1m exceeded the target of £49.2m by £2.9m. This was largely due to the extra £2m Grant from Defra and also substantial extra project income due to initiatives such as the Great Plant Hunt. These offset the below target income from visitors following a disappointing year for admission numbers.

Management Commentary continued

Review of activities

At Kew Gardens in April, we opened the Shirley Sherwood Gallery of Botanical Art. The genre's precisely drawn and painted works combine artistic fascination with a quality of scientific recording unmatched by photography. Together with Defra, Dr Sherwood and her family provided funds that made this spacious new gallery so we can now display many more of Kew's 200,000 artworks that span the globe and several centuries. The new building stands alongside the 1882 Marianne North Gallery, an amazing showcase for Marianne North's oil paintings of the plants and landscapes visited during her remarkable travels around the world. In June, we learned that our bid for Heritage Lottery funds had been successful and will provide half of the £3.7 million needed to refurbish the Gallery and safeguard the collection. Our fundraising programme includes the opportunity to sponsor a painting and, to date, £180,000 has been raised in this way.

We launched the Rhizotron and Xstrata Treetop Walkway in May, showing visitors how trees support life both among their roots and high up in the tree canopy. A 200 metre walkway through the treetops emphasises the diversity and interdependence of living things. It was created with financial support from Defra, Xstrata, Hanson and the Hanson Environment Trust. In July, Kew Gardens became the first London attraction to scoop a Gold in London's Green Tourism awards – an independently audited green scheme launched by the London Development Agency.

At Wakehurst Place, many new wild species from the UK and around the world were added to the garden. These include new collections from Tasmania and New Zealand, and form part of a major restoration of Wakehurst's Southern Hemisphere Garden.

The 250th anniversary celebrations began with free entry for the public on New Year's Day. An unprecedented 26,000 people came to Kew Gardens and enjoyed the occasion.

In science and conservation, the Herbarium and Library extension was completed and we plan to start moving collections across shortly. Plans have now been drawn up for the essential new Quarantine House and we are grateful to Defra for providing additional capital funding for this.

Kew's work continued with many partners and an increasing emphasis on multi-disciplinary teams. In Africa, ongoing and new projects included a regional training course in Kenya and major habitat studies and conservation projects in the Cameroon, Congo and Guinea-Conakry, the last being interrupted by conflict. In Mozambique, the exploration of Mount Mabu highlighted the multi-disciplinary approach. This Kew-led expedition, funded by Defra's Darwin Initiative, is part of ongoing work with the Mozambique government to identify priority areas for conservation in the face of rapid development after periods of war and natural disaster. The international team of 28 scientists came from Mozambique, Malawi, Tanzania, UK, Belgium and Switzerland, and included specialists in plants and animals. Hiking into unmapped terrain that may prove to be the

biggest area of medium-altitude forest in southern Africa, they established that the area contains many new and rare species. Crucially, this work builds networks that boost local and regional capacity, transferring skills to local government scientists involved in agriculture and forestry, and helping them to build conservation and sustainability programmes.

In the Americas, Kew's work included ongoing projects in Brazil, Peru and UK Overseas Territories in the Caribbean. On the southern Amazon's 'arc of deforestation' Kew is working with Brazilian governmental and non-governmental partners to address urgent conservation priorities. Before this project began very little was known about the local flora, yet it is lost to logging, ranching and agriculture at a frightening rate. Focusing around the Cristalino State Park, the team has produced vegetation maps and classifications to plan new protected areas and support Park management. Local students and botanists have been trained and the project's collections are forming the basis of a new herbarium established in the local university. A checklist of well over 1,000 species is growing by the day, filling a major gap in our knowledge of the Amazon's flora.

A major priority for Kew is the digitisation of its collections so that key information and specimens can be used anywhere around the world to support conservation, research and sustainable use. The millions of specimens held in the Herbarium present a major challenge in terms of priorities. Having earlier completed the digitisation of the most important African collections, good progress is now being made with Latin America. By the end of the year we had scanned 54,000 Latin American specimens. Overall, 370,000 records are held on the Herbarium Catalogue database with over 150,000 digital images of specimens.

Looking ahead

Most parts of the organisation, from archives to visitor services, have been involved in preparations for the 250th anniversary and we are looking forward to the period from April onwards, when much of the activity will take place. There will be new garden features and exhibitions at both Kew and Wakehurst to explain Kew's work, and a celebratory scientific conference. A special Royal visit will take place in May.

Behind the scenes, the development of the Breathing Planet Programme and its translation into operational planning will govern our future effectiveness. The development of our new IT strategy will be vital to our ability to operate efficiently and a new website system will enhance our public interface.

Fundraising will, of course, be a major concern, particularly in guaranteeing the future development of the Millennium Seed Bank which, as noted in the Director's review, has now entered its tenth year and is on track to beat its targets, having already built a world resource of enormous importance by achieving outstanding levels of international collaboration.

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; and
- 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.

The resources supporting the first five objectives are included in 'Research and conservation' in the Statement of Financial Activities and those supporting the final objective are included in 'Visitor activities'.

Results

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 £55.0m (2007/08 £56.0m) of which £26.6m (£25.2m) was Grant-in-aid from the Department for Environment, Food and Rural Affairs. Total resources expended were £47.8m (£45.8m) leaving a surplus of £7.2m (£10.2m) prior to expenditure on fixed assets.

Total reserves decreased to £123.8m (£125.6m). 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 at Wakehurst Place; the National Trust owns the freehold of the remaining land at Wakehurst Place. The land and buildings at the Kew Gardens site are owned by the Crown. The Board is liable to maintain and replace all the buildings that they use.

Information on land and buildings can be seen in Note 13.

Other fixed assets

Significant changes in other fixed assets are shown in Notes 13 and 14.

Investments

Investments held are in accordance with the Trustees' powers. See note 14.

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 2008/09 RBG Kew settled its debts on average in 26 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 £6.4m and will be used to partly fund Kew's major capital needs deriving from the Breathing Planet Programme.

Research and development

The Royal Botanic Gardens, Kew is a world-leading organisation with over 200 staff working on the scientific understanding and conservation of plants and fungi. This activity covers the full range of botanic and mycological science from molecular biology to horticulture and its aim is to guide all its work so that it will produce outcomes in conservation and sustainability that benefit humanity.

Kew aims to maximise its impact through partnerships and collaboration with universities, botanic gardens, conservation organisations, industry and government. Kew holds a range of botanic and mycological collections and data that are of global importance and it aims to enhance digital access to these resources so that they can be used more effectively and rapidly at the point of need. These aims are set out in more detail in the Breathing Planet Programme on page 6.

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 2009 was 77,600. There are common Trustees on the Foundation and RBG Kew's Board – see Note 25.

RBG Kew did not support the organisation financially in 2008/09.

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 and venue hire. Its results have been fully consolidated into the accounts of RBG Kew.

Director

The Director of the Royal Botanic Gardens, Kew throughout the year was Professor Stephen Hopper.

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 f, r

Appointed by Her Majesty The Queen

Richard Lapthorne CBE

Trustees

Marcus Agius r
Richard Deverell a, f, r
Professor Jon Drori CBE f, r
Professor H Charles J Godfray FRS
Professor Sandy Harrison
Timothy Hornsby CBE a
Henry Keswick (appointed 1 November 2008) a
George Loudon f, r
Professor Sir William Stewart FRS
Jennifer Ullman (appointed 1 November 2008)
Tanya Burman (retired 31 October 2008)
Andrew Cahn CMG (retired 31 October 2008)

- a Audit Committe
- f Finance Committe
- r Remuneration Committe

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 Executive. 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.



John Selborne (Chairman)



Marcus Agius



Richard Deverell



Jon Drori



Charles Godfray



Sandy Harrison

Trustees details

Marcus Agius is Group Chairman of Barclays PLC and a Senior Independent Director of the BBC. Also Chairman of the Foundation and Friends of the Royal Botanic Gardens, Kew. Formerly: Chairman of Lazard London, Deputy Chairman of Lazard LLC, and Chairman of BAA PLC.

Richard Deverell is the Controller of BBC Children's – the department 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.

Jonathan Drori CBE is Director of Changing Media Ltd, a London consulting group. Visiting Professor at Bristol University, specialising in misconceptions in science and in the uses of technology for learning. Adviser to public bodies on new media and audience strategies. Previously: Director of Culture Online at the Department for Culture Media and Sport, Head of Commissioning for BBC Online, Head of Digital Media and Learning Channels, Executive Producer and Director.

Charles Godfray FRS is Hope Professor in the Zoology Department and Fellow of Jesus College, Oxford University. Formerly Director of the NERC Centre for Population Biology and Professor of Evolutionary Biology at Imperial College London. Fellow of the Royal Society, a Foreign Member of the American Academy of Arts and Sciences, and an honorary research fellow of the Natural History Museum and Rothamsted Research.

Sandy Harrison is Professor of Climate Dynamics in Geographical Sciences at the University of Bristol. Member of the International Geosphere-Biosphere Programme (IGBP) core project on Integrated Land Ecosystems and Atmospheric Processes. Coordinator of the IGBP Cross-project Initiative on Fire. Co-chair of the Scientific Steering Committee of the Palaeoclimate Modelling Intercomparison Project, and President of the INQUA Commission on Palaeoclimatology.

Timothy Hornsby CBE is Chair of the Horniman Museum, Chair of the Harkness Fellows Association, Independent member of the Consumer Council for Water, Trustee of the International Institute for Environment and Development and of the Charles Darwin Trust, Governor of the Legacy Trust, and member of the Advisory Committee on Consumer Engagement of The Food Standards Agency. Previously Chair of the National Lottery Commission, following Chief Executive posts at the National Lottery Charities Board (now the Big Lottery Fund), the Royal Borough of Kingston, and the Nature Conservancy Council.

Henry Keswick is Chairman of Jardine Matheson, Director of Rothschilds Continuation Holdings AG. Formerly, Chairman of the National Portrait Gallery, President of the Royal Highland Agriculture Society, proprietor of The Spectator, and member of the National Trust Council.

Richard Lapthorne CBE is Chairman of Cable & Wireless plc and a Trustee of Tommy's campaign. From June 2009, Non-Executive Chairman of the McLaren Group and Non-Executive Director of McLaren Automotive. Formerly Chairman of Amersham plc, New Look plc, Finance Director and Vice Chairman British Aerospace plc.

George Loudon is Chairman and Director of a number of investment and other firms including Pall Mall Capital Ltd and Altius Associates Ltd; former Director of Midland Bank Plc and former Vice-Chairman of the Amsterdam Stock Exchange. Former Director of the Multiple Sclerosis International Federation. Board member of the Rijksakademie Beeldende Kunst (Amsterdam) and former Trustee of the Galapagos Conservation Trust and of the London Library.

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

Sir William Stewart FRS is recently retired Chairman of the Health Protection Agency. Formerly, Chief Scientific Adviser, Cabinet Office, and the first Head of the Office of Science and Technology. Founding Professor of Biological Sciences at the University of Dundee, Secretary of the Agricultural and Food Research Council, member of the Royal Commission on Environmental Pollution, President of the British Association for the Advancement of Science, President of the Royal Society of Edinburgh and a vice-President of the Royal Society.

Jennifer Ullman is a landscape consultant, and was formerly Chief Parks Officer for Wandsworth Borough Council and Chairman of the Board of Greenspace.















Timothy Hornsby

Henry Keswick

Richard Lapthorne

George Loudon

William Stewart

Jennifer Ullman

Management Commentary continued

Statutory information continued

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 Royal Bank of Scotland 26a The Quadrant Richmond Surrey, TW9 1DF

Auditor (RBG Kew and RBG Kew Enterprises Ltd) Comptroller and Auditor General National Audit Office

Solicitors

Burges Salmon LLP 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.

Sickness absence

The average number of days sickness for staff in 2008/09 was 10.

Personal data related incidents

RBG Kew is not aware of any personal data related incidents during 2008/09. We continue to focus on improving our systems in this area.

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.

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

Jh Selsne

30 June 2009

Environment, social and community issues

Environmental issues are key to much of RBG Kew's work and a focus for the Breathing Planet Programme. Kew works with the local community, particularly on educational projects, and with wider communities through projects such as The Great Plant Hunt.

Volunteers and donated services

RBG Kew has a record of working with volunteers since 1992 and there are currently over 500 volunteers donating their time and talent to Kew's mission. Recent Volunteer Survey results showed that 39% of respondents volunteer for one day per week, 15% more than one day per week and 30% for half a day per week. Alongside the traditional volunteer roles RBG Kew provides short term work experience placements and internships and during 2008/09 33 Horticultural interns donated approximately 11,500 hours to RBG Kew. Kew also promotes environmental volunteering by hosting Employee Volunteering days for the corporate sector. In 2008/09 over 190 people undertook corporate volunteering with the Horticultural teams over 10 days (9 at Kew and 1 at Wakehurst Place). Kew also works with external agencies to provide assisted volunteering placements for people who may have special educational needs or disabilities and last year such placements accounted for 10% of our horticultural volunteers.

In recognition of how important volunteers are, RBG Kew is in the process of developing an integrated Volunteer Strategy which should be ratified at the end of 2009. This will provide a framework for the continued development of work with volunteers across RBG Kew in a common, consistent, equitable and sustainable way within the context of Kew's Mission, Corporate Plan, budget and achieving RBG Kew's organisational objectives.

The Accounting Officer and Board of Trustees confirm

- there is no relevant audit information of which the auditor is unaware; and
- they have taken all the steps they ought to ensure the auditor is aware of all relevant audit information.

Professor Stephen D. Hopper FLS

Director

30 June 2009

Statement of Trustees' and Accounting Officer'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 give 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 income and expenditure, recognised gains and losses and cash flows for the financial year.

In preparing the accounts the Trustees and Accounting Officer are required to comply with the requirements of the Government Financial Reporting Manual and in particular 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 as set out in the Government Financial Reporting Manual have been followed, and disclose and explain any material departures in the financial statements; and
- prepare the financial statements on a going concern basis.

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, Kew. The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping proper records and for safeguarding the Royal Botanic Gardens, Kew's assets, are set out in the Accounting Officers Memorandum issued by the Treasury and published in *Managing Public Money*.

Statement on internal control

1_Scope of responsibility

The Director, as Accounting Officer, and the Chairman, as representative of the Board of Trustees, have joint 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 the Director is responsible in accordance with the responsibilities assigned to him in Managing Public Money. In addition, the Director 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 2009 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 Corporate Executive 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. Organisation-wide quarterly reviews of the main risks facing Kew are carried out and risks are considered as a standing item at the Corporate Executive's fortnightly meetings. The updated Risk Register is reviewed by the Audit Committee at each of their meetings and was fully endorsed during 2008/09. The Audit Committee also reviews RBG Kew's Risk Appetite and an acceptable level of risk was determined for all the key risks. The Risk Strategy is available to all staff on the intranet along with a copy of the Risk Register and other guidance on risk.

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 three subcommittees of the Board – the Audit Committee, the Finance Committee, and the Remuneration Committee. On the Audit Committee there are 3 Trustees, on the Finance Committee 4

Trustees and on the Remuneration Committee 5 Trustees. Each of the Committees has written Terms of Reference and minutes of their meetings are available to the full Board and discussed as necessary. The Board of Trustees meets 5 times a year, the Audit and Finance Committees three times a year and the Remuneration Committee annually. The members of the Board and Committees 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 prior to 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 Comptroller and Auditor General is the external auditor for RBG Kew as required by the National Heritage Act 1983.

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. RBG Kew concentrates its assessment of risks on a small number of key risks that provide a focus for the Board and Corporate Executive. The main actions and controls that help to mitigate the risks are detailed in the Risk Register along with clear responsibility and ownership for each of the controls.

The Corporate Executive has responsibility for monitoring and

oversight of the risk arrangements with oversight by the Audit Committee. The Audit Committee reviews the key risks on an exceptions basis at each meeting, and at one meeting each year, does a full review of all risks and mitigating actions and controls.

Strategy and planning

RBG Kew has a Corporate Plan which covers three 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. The Plan is reviewed by the Trustees, shared with Defra and submitted to Ministers for approval.

Change management

Throughout 2008/09 strengthening and clarification of the project and risk management arrangements has continued. The Director has lead the organisation in developing Kew's Breathing Planet Programme with significant targets in all areas of activity and support services.

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 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 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.

Project management

During 2008/09 RBG Kew has progressed several major projects, including the Herbarium and Library Extension,

Jh Selone

the completion of the Xstrata Treetop Walkway and the restoration of the Marianne North Gallery. Project management arrangements have been further strengthened through training and development opportunities.

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.

Information management

RBG Kew takes the management of the information it holds very seriously and is not aware of any personal data related incidents in 2008/09. The organisation is focused on improving the systems it has, including working with Defra and using their expertise. A new post of a Chief Information Officer has been approved by the Trustees and will be recruited in 2009/10. A high priority for them will be the control of information.

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 in 2008/09 concluded that RBG Kew has an adequate system of internal controls.

The Director and the Chairman of the Board of Trustees has 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.

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

30 June 2009

Professor Stephen D. Hopper FLS

Director

30 June 2009

Remuneration Report

Remuneration Policy

The remuneration of the Director is set by the Remuneration Committee, a sub-committee of the Board of Trustees. The members are identified on page 12.

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

Performance – based on objectives set by the Board of Trustees (less than 5%).

Affordability

The Director's salary and the salary of Corporate Executive members on individual contracts are reviewed on an annual basis. Corporate Executive members not on individual contracts are part of Kew's collective pay agreements applicable to all other staff.

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.

Kew Directors' appointments are open-ended until they reach retirement age. Early termination, other than for misconduct,

would result in the individual receiving compensation as set out in the Civil Service Compensation Scheme. The notice period in the Director's contract is one year.

Salary and pension entitlements

The following sections provide details of the remuneration and pension interests of the current Kew Corporate Executive, except Angela McFarlane who is seconded from the University of Bristol. £80,000 was paid for her services in 2008/09 (2007/08 £13,000 – the contract started in February 2008); this covers 80% of the salary and employer social security and pension costs incurred by the University.

Salary

'Salary' includes gross salary; performance pay or bonuses; 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. The post holders are not entitled to overtime.

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

	2008/09	2008/09	2007/08	2007/08
Remuneration	Salary	Benefits in kind	Salary	Benefits in kind
(audited)	£	£	£	£
Stephen Hopper	142,803	0	137,002	0
Andrew Burchell	105,060	0	103,283	0
Mark Chase	76,510	0	74,282	0
Andrew Jackson	70,485	0	69,104	0
David Mabberley	72,100	0	5,081	0
Eimear Nic Lughadha	70,611	0	68,217	0
Simon Owens	62,373	0	60,566	0
Jill Preston*	97,046	0	94,220	0
Monique Simmonds	61,710	0	61,700	0
Paul Smith	63,871	0	60,781	0
Nigel Taylor	73,877	0	71,725	0

Pension benefits (audited)	Accrued pension at age 60 as at 31/3/09	Accrued pension at age 60 as at 31/3/09 and related lump sum	Real increase in pension and related lump sum at age 60	CETV at 31/3/09	CETV at 31/3/08	Real increase in CETV	Employer contribution to partnership pension account
	£′000	£′000	£′000	£′000	£′000	£′000	£′000
Stephen Hopper	5	5	2	85	51	26	N/A
Andrew Burchell	44	176	1	900	822	4	N/A
Mark Chase	16	64	3	365	324	14	N/A
Andrew Jackson	17	68	0	252	230	0	N/A
David Mabberley	2	2	2	28	2	24	N/A
Eimear Nic Lughadha	23	23	1	285	253	7	N/A
Simon Owens	31	123	1	715	688	4	N/A
Jill Preston*	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Monique Simmonds	18	73	0	422	393	-3	N/A
Paul Smith	10	40	5	152	123	11	N/A
Nigel Taylor	29	117	1	578	530	6	N/A

^{*} employed by RBG Kew Enterprises Limited and not a member of the Civil Service Pension Scheme

Benefits in kind

The post holders do not receive any benefits provided by the employer and treated by HM Revenue & Customs as a taxable emolument. The Trustees do not receive any remuneration for their services to Kew. Note 12 details their expenses.

Civil Service Pensions

Pension benefits are provided through the Civil Service pension arrangements. From 30 July 2007, civil servants may be in one of three statutory based 'final salary' defined benefit schemes (classic, premium, and classic plus) or a 'whole career' scheme (nuvos). The schemes are unfunded with the cost of benefits met by monies voted by Parliament each year. Pensions payable under classic, premium, classic plus and nuvos are increased annually in line with changes in the Retail Prices Index. New entrants after 1 October 2002 may choose between membership of a defined benefit arrangement 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, classic plus and nuvos. 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. In nuvos a member builds up a pension based on their pensionable earnings during their period of scheme membership. At the end of the scheme year (31 March) the member's earned pension account is credited with 2.3% of their pensionable earnings in that scheme year and the accrued pension is uprated in line with RPI. In all cases members may opt to give up (commute) pension for lump sum up to the limits set by the Finance Act 2004.

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.

Lord Selborne KBE, FRSChairman of the Board of Trustees

30 June 2009

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.

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.

Professor Stephen D. Hopper FLS

Director

30 June 2009

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 Royal Botanic Gardens, Kew for the year ended 31 March 2009 under the National Heritage Act 1983. These comprise the Consolidated Statement of Financial Activities, the Balance Sheets, the Consolidated Cash Flow Statement and the related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration Report that is described in that report as having been audited.

Respective responsibilities of the Board of Trustees, Accounting Officer and auditor

The Board of Trustees and Director as Accounting Officer are responsible for preparing the Annual Report, which includes the Remuneration Report, and the financial statements in accordance with the National Heritage Act 1983 and Secretary of State directions made thereunder and for ensuring the regularity of financial transactions funded by Parliament. These responsibilities are set out in the Statement of Trustees' and Accounting Officer's Responsibilities.

My responsibility is to audit the financial statements and the part of the remuneration report to be audited 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 Secretary of State directions made thereunder. I report to you whether, in my opinion, the information, which comprises the management commentary, included in the Annual Report, is consistent with the financial statements. I also report whether in all material respects the incoming and outgoing resources funded by Parliament have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

In addition, I report to you if 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 Internal Control reflects Royal Botanic Gardens, Kew's compliance with HM Treasury's guidance, and I report if it does not. I am not required to consider whether this statement covers all risks and controls, or form an opinion on the effectiveness of 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 information comprises the Chairman's letter, the Director's review, Corporate Information, Publications, and Contact details. 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 Trustees and Accounting Officer in the preparation of the financial statements, and of whether the accounting policies are most appropriate to the Royal Botanic Gardens, Kew'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 incoming and outgoing resources funded by Parliament 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 Secretary of State, of the state of Royal Botanic Gardens, Kew's and the group's affairs as at 31 March 2009 and of its 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 Secretary of State directions made thereunder; and
- information, which comprises the management commentary, included within the Annual Report, is consistent with the financial statements.

Opinion on Regularity

In my opinion, in all material respects, the incoming and outgoing resources funded by Parliament have been applied to the purposes intended by Parliament and the financial transactions conform to the authorities which govern them.

Report

I have no observations to make on these financial statements.

Amyas C E Morse

Comptroller and Auditor General National Audit Office 151 Buckingham Palace Road Victoria London SWIW 9SS 9 July 2009

Royal Botanic Gardens, Kew_statement 1

Consolidated Statement of Financial Activities for the year ended 31 March 2009

No	otes	Unrestricted	Restricted	Endowment	2008/09 Total	2007/08 Total
		£′000	£'000	£′000	£′000	£′000
Incoming resources						
Incoming resources from generated funds	5					
Grant-in-aid – operating	3	17,850	-	_	17,850	17,604
– capital		8,750	_	-	8,750	7,600
Grants & donations	4	2,761	11,805	-	14,566	16,389
Activities for generating funds – trading	5	5,162	_	-	5,162	5,113
Investment income	6	398	17	_	415	582
Income resources from charitable activities	7	8,301	_	_	8,301	8,672
Total incoming resources		43,222	11,822	-	55,044	55,960
Costs of generating funds – trading	9	(4,230)	-	-	(4,230)	(4,064)
Net incoming resources available for charitable applications		38,992	11,822	-	50,814	51,896
Charitable activities						
Research and conservation	9	26,975	9,683	49	36,707	33,449
Visitor activities	9	6,713	-	_	6,713	8,104
Governance costs	9	157	_	-	157	133
Total charitable costs		33,845	9,683	49	43,577	41,686
Notional cost of capital	2	(4,029)	_	_	(4,029)	(4,140)
Net incoming/(outgoing) resources		1,118	2,139	(49)	3,208	6,070
after notional cost of capital						
Reversal of notional cost of capital		4,029	_	-	4,029	4,140
Net incoming/(outgoing) resources		5,147	2,139	(49)	7,237	10,210
Revaluation of tangible assets		(9,023)	4	_	(9,019)	4,472
Net movement in reserves		(3,876)	2,143	(49)	(1,782)	14,682
Reserves at 1 April		116,515	8,928	183	125,626	110,944
Reserves at 31 March	18	£112,639	£11,071	£134	£123,844	£125,626

All activities arise from continuing operations.

All recognised gains and losses have been included in the Statement of Financial Activities.

The Notes on pages 25 to 31 form part of these accounts.

Royal Botanic Gardens, Kew_statement 2

Balance Sheets 31 March 2009

		Royal Botani	ic Gardens, Kew	Consolidated		
1	Notes	2009	2008	2009	2008	
		£'000	£′000	£′000	£′000	
Fixed assets						
Tangible assets	13	117,023	116,079	117,023	116,079	
Investments	14	527	602	202	277	
		117,550	116,681	117,225	116,356	
Current assets						
Stocks of goods for sale		_	_	602	670	
Debtors	16	8,277	5,915	7,241	5,842	
Cash at bank and in hand		4,793	7,721	6,406	8,395	
		13,070	13,636	14,249	14,907	
Creditors: amounts falling due within one year	17	(6,776)	(4,691)	(7,630)	(5,637)	
Net current assets		6,294	8,945	6,619	9,270	
Total assets less current liabilities		£123,844	£125,626	£123,844	£125,626	
Reserves						
Unrestricted	18	112,639	116,515	112,639	116,515	
Restricted	18	11,071	8,928	11,071	8,928	
Endowment	18	134	183	134	183	
		£123,844	£125,626	£123,844	£125,626	

The Notes on pages 25 to 31 form part of these accounts.

Lord Selborne KBE, FRS

Chairman of the Board of Trustees

30 June 2009

Professor Stephen D. Hopper FLS

Director

30 June 2009

Royal Botanic Gardens, Kew_statement 3

Consolidated Cash Flow Statement for the year ended 31 March 2009

	2008/09 £′000	2007/08 £′000
Net cash inflow from operating activities	10,151	12,631
Returns on investments	415	582
Capital expenditure and financial investment	(12,555)	(12,197)
Decrease/(increase) in cash at bank	£(1,989)	£1,016

The Notes on pages 25 to 31 form part of these accounts.

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

	2008/09	2007/08
	£′000	£'000
Net incoming resources	7,237	10,210
Depreciation	2,391	2,279
Loss on sale of tangible fixed assets	56	25
Loss on revaluation of fixed assets	220	78
Decrease in stock	68	190
(Increase)/decrease in debtors	(1,399)	743
Increase/(decrease) in creditors	1,993	(312)
Less investment income	(415)	(582)
	£10,151	£12,631

b_Analysis of cash flows

Capital expenditure and financial invest	ment	
Payments to acquire tangible fixed assets	(12,573)	(12,204)
Receipts from sales of tangible fixed assets	18	7
	£(12,555)	£(12,197)
Management of liquid resources		
Decrease in short term cash deposits	£-	£-

	2008/09 £'000	2007/08 £'000
(Decrease)/increase in cash in period	(1,989)	1,016
Cash inflow from decrease in liquid resource	es –	_
Movement in net funds in the period	(1,989)	1,016
Net funds at 1 April	8,395	7,379
Net funds at 31 March	£6,406	£8,395

d_Analysis of net funds

	1 April 2008	Cash Flow	31 March 2009
	£'000	£'000	£'000
Cash at bank and in hand	8,395	(1,989)	6,406
Liquid resources	_	-	_
Net Funds	£8,395	£(1,989)	£6,406

Notes to the accounts_year ended 31 March 2009

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 2009.

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.

Gifts in kind

Gifts in kind are valued at the estimated value to RBG Kew of the service received, based on the market price of an equivalent service.

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 13).

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 and a new revaluation was carried out in 2006/07. In between professional revaluations, values are updated using indices provided by the professional valuers.

RBG Kew has not capitalised heritage assets acquired before 2001/02. Under accounting standards this is allowable where it is considered that the cost of obtaining valuations for other existing buildings would be onerous compared to the benefit to the readers of the Accounts. 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 12) 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 government funded capital employed by RBG Kew in the year.

Pensions

Pension arrangements are described in Note 22 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 purposes by donors.

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

Grant-in-aid of £26,600,000 was received from Defra in 2008/09 (2007/08 £25,204,000) of which £8,750,000 was for capital (2007/08 £7,600,00).

4_Grants and donations

	Unrestricted £'000	Restricted £'000	2008/09 £'000	2007/08 £'000
Income received from RBG Kew Foundation	_	3,911	3,911	8,500
Millennium Seed Bank project income	640	3,313	3,953	3,628
Defra Evidence grant	2,000	_	2,000	-
Other project income	121	3,822	3,943	2,214
EU project income	-	553	553	524
Contribution in kind (i)	-	85	85	1,400
Grant for maintaining Wakehurst Place	_	79	79	76
Donations	_	42	42	47
	£2,761	£11,805	£14,566	£16,389

⁽i) The contribution in kind in 2008/09 was delivery of Great Plant Hunt chests to schools throughout the country. The contribution in kind in 2007/08 was free advertising space provided for the Henry Moore exhibition

5_Activities for generating funds – trading

	2008/09 £'000	2007/08 £'000
Retailing	3,210	3,186
Commercial Development (i)	1,952	1,927
	£5,162	£5,113

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

6 Investment income

	2008/09 £'000	2007/08 £'000
Interest receivable	404	572
Charities Official Investment Fund	11	10
	£415	£582

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

7 Incoming resources from charitable activities

	2008/09 £'000	2007/08 £'000
Admissions	5,548	5,782
Catering contracts	1,077	1,081
Education charges	208	140
Rents receivable	100	98
Sale of fixed assets	18	7
Other income from third parties (i)	1,350	1,564
	£8,301	£8,672

⁽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 2008/09 of £49.2m. Actual Revenue Generated, as defined for this target, was £52.1m. The increase is due to the extra Grant from Defra and project income.

9_Resources expended

	Staff Costs £'000	Depreciation	Other Direct Costs £'000	Allocated Support Costs £'000	2008/09 Total £'000	2007/08 Total £'000
Trading costs	1,532	33	2,665	_	4,230	4,064
Research and conservation	15,796	1,731	9,943	9,237	36,707	33,449
Visitor activitie	s 2,434	627	2,302	1,350	6,713	8,104
Governance cos	sts 69	-	88	_	157	133
Support costs	4,593	-	5,994	(10,587)	_	_
	£24,424	£2,391	£20,992	£-	47,807	£45,750
Note	11	13	12	10		

10_Support costs

	0	ther Direct	Total	Total
	Staff Costs	Costs	2008/09	2007/08
	£′000	£'000	£'000	£'000
Estates	892	5,277	6,169	6,020
IT	1,362	618	1,980	1,838
HR	500	253	753	910
Directorate	542	249	791	684
Finance	550	69	619	566
Other Support	747	-472	275	801
	£4,593	£5,994	£10,587	£10,819

11_Trustees' remuneration and staff costs

a_Trustees' remuneration

Trustees do not receive any remuneration for their services.

Travelling and subsistence expenses of 2 Trustees (2007/08 1) have been charged at cost as part of other direct costs – Note 12.

b_Employees with earnings above £60,000

Number of employees at:	2008/09	2007/08
£60,000 – 69,999	6	7
£70,000 – 79,999	6	4
£90,000 – 99,999	1	1
£100,000 - 109,999	1	1
£130,000 – 139,999	_	1
f140 000 - 149 999	1	_

c_Staff salaries and social security, including the Director

	2008/09	2007/08
	£′000	£'000
Salaries	19,881	19,326
Social security costs	1,428	1,404
	21,309	20,730
Staff pensions – Note 22	3,115	3,043
	£24,424	£23,773

d_The average monthly number of employees during the year, full-time equivalents, analysed by function

	2008/09	2007/08
Botanical science	264	260
Horticulture and public experience	220	214
Visitor services and marketing	53	53
Information services	47	48
Support services and estates management	62	63
Directorate	13	13
RBG Kew Enterprises Ltd	56	56
	715	707

12_Other direct costs

	2008/09 £'000	2007/08 £'000
Cost of sales	1,782	1,919
Materials	3,786	3,049
Direct project costs	2,171	1,887
Repairs and maintenance	3,353	3,196
Minor new building works	1,622	1,020
Hire charges	324	279
Rates and utilities	1,475	1,092
Trustees' travel and subsistence	1	1
Staff travel and subsistence	544	636
General services	3,963	5,322
Movement in bad debt provision	26	21
Audit fees	36	32
Professional fees	1,689	1,166
Revaluations	220	78
	£20,992	£19,698

Unrecovered VAT for the year of £479,000 has been charged against these accounts (2007/08 £426,000). £36,000 (2007/08 £32,000) was paid to the external auditors for audit fees. No other fees were paid to the external auditors.

13_Tangible assets_Royal Botanic Gardens, Kew and Consolidated

	Land	Dwellings	Buildings	Collections	Gardens Equipment	Scientific Equipment	Office Equipment	Motor Vehicles	Total
	£′000	£′000	£′000	£′000	£′000	£′000	£′000	£′000	£′000
Valuation									
At 1 April 2008	30,327	13,887	81,918	25	3,816	7,392	140	616	138,121
Additions	_	_	11,859	6	108	433	59	108	12,573
Disposals	-	-			(155)	(329)	(16)	(39)	(539)
Revaluation	(3,469)	(2,503)	(4,987)	-	40	375	9	6	(10,529)
At 31 March 2009	26,858	11,384	88,790	31	3,809	7,871	192	691	139,626
Depreciation									
At 1 April 2008	_	2,765	11,866	-	1,571	5,262	120	458	22,042
Charge for the year	_	231	1,133	-	285	643	12	87	2,391
Disposals	_	-	_	-	(125)	(303)	(10)	(27)	(465)
Revaluation	-	(498)	(830)		11	(15)	(2)	(31)	(1,365)
At 31 March 2009	_	2,498	12,169	_	1,742	5,587	120	487	22,603
Net book value									
At 31 March 2009	£26,858	£8,886	£76,621	£31	£2,067	£2,284	£72	£204	£117,023
At 31 March 2008	£30,327	£11,122	£70,052	£25	£2,245	£2,130	£20	£158	£116,079

⁽a) Fixed assets with a net book value of £74k were disposed of during the year for £18k.

⁽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 2007 and were prepared in accordance with the Royal Institution of Chartered Surveyors Appraisal and Valuation Manual. The land was valued at £28,770,000 and the buildings at £63,145,000.

14_Investments

	Royal Botanic Gardens, Kew			Consolidated		
	2009	2009 2008		2009	2008	
	£′000	£'000		£'000	£′000	
Valuation						
At 1 April	602	626		277	301	
Revaluation	(75)	(24)		(75)	(24)	
At 31 March	£527	£602		£202	£277	

Investments at 31 March are analysed as follows:

Ro	yal Botani	c Gardens, Kew	Consolidated	
	2009	2008	2009	2008
	£'000	£'000	£′000	£'000
RBG Kew Enterprise	es			
Limited	325	325	_	-
Charities Official				
Investment Fund	202	277	202	277
	£527	£602	£202	£277

RBG Kew has a small level of funds which are invested in the Charities Official Investment Fund.

The Trustees consider this gives an adequate balance between risk and reward for the amounts involved.

15_Trading subsidiary

The subsidiary undertaking is as follows:

Name_RBG Kew Enterprises Limited

Registered in_England & Wales Company Number 2798886

Registered address_Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AB

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	2008/09 £'000	2007/08 £'000
Turnover		4,913	5,005
Cost of sales		(1,869)	(2,061)
Gross profit		3,044	2,944
Net other expenses	1	(2,378)	(2,007)
Interest receivable		30	53
Net profit		696	990
Gift Aid paid to RBG Kew		(696)	(990)
Profit for year		£-	f-

	2009 £′000	2008 £'000
Balance sheet		
Current assets	2,380	1,832
Current liabilities	(2,055)	(1,507)
	£325	£325
Share capital and reserves	£325	£325

Note 1_Other expenses are stated after £0 income (2007/08 £300,000) from Orange plc for sponsorship of the Millennium Seed Bank project.

16_Debtors

Royal	Royal Botanic Gardens, Kew			olidated
	2009	2008	2009	2008
	£'000	£'000	£′000	£′000
Trade debtors	718	1,105	842	1,482
Prepayments and				
accrued income	3,427	1,662	3,498	1,773
Owed by subsidiary	1,230	552	_	_
Owed by the				
Foundation	427	1,774	426	1,765
Owed by Central				
Government Departments	2,095	173	2,095	173
Travel advances to staff	25	25	25	25
Staff loans	13	10	13	10
Value added tax	342	614	342	614
Total debtors	£8,277	£5,915	£7,241	£5,842

17_Creditors: Amounts falling due within one year

	Royal Botanic	Cons	Consolidated	
	2009	2009 2008		2008
	£′000	£′000	£'000	£'000
Trade creditors	201	141	249	141
Accruals	4,523	3,465	4,646	3,603
Other	2,052	1,085	2,735	1,893
Total creditors	£6,776	£4,691	£7,630	£5,637

Other creditors includes £1,291,000 of deferred income (2007/08 £348,000) in respect of project funds received by RBG Kew which it is not yet entitled to claim as income.

A provision has been recognised for the costs of settling a dispute with a contractor; this has been included in Accruals. The nature of this dispute is disclosed in note 24.

18_Statement of reserves_Royal Botanic Gardens, Kew and Consolidated

	At 1 April	Income	Expenditure	Revaluation	At 31 March
	2008				2009
	£'000	£′000	£′000	£'000	£′000
Unrestricted					
Government Capital Grants	32,327	10,363	(1,332)	_	41,358
Capital Revaluation Reserve	75,097	_	(1,202)	(9,023)	64,872
General	9,091	32,859	(35,541)	_	6.409
Total Unrestricted	116,515	43,222	(38,075)	(9,023)	112,639
Restricted					
Capital Grants	8,653	2,210	(76)	-	10,787
Capital Revaluation Reserve	2	_	-	4	6
Donations	273	59	(54)	_	278
Projects	_	9,553	(9,553)	_	_
Total Restricted	8,928	11,822	(9,683)	4	11,071
Endowment					
Scott-Marshall	180	_	(49)	_	131
Robin Spare Book Fund	3	_	_	_	3
Total Endowment	183	_	(49)	_	134
Total Reserves	£125,626	£55,044	£(47,807)	£(9,019)	£123,844

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 8 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.

19_Analysis of net assets between reserves

ĺ	Unrestricted £'000	Restricted £'000	Endowment £'000	Total £'000
Reserves balance at 31 March are represented by:	25			
Tangible assets	106,230	10,793	-	117,023
Investments	-	68	134	202
Current assets	11,145	3,104	-	14,249
Creditors	(4,736)	(2,894)	-	(7,630)
	£112,639	£11,071	£134	£123,844

20_Analysis of reserves

Unrestricted £'000		Endowment £'000	Total £'000
Capital Grants			
- Government 41,358	-	-	41,358
– Other capital grants	10,787	-	10,787
Accumulated Reserves 6,409	275	110	6,794
Revaluation Reserve 64,872	9	24	64,905
£112,639	£11,071	£134	£123,844

The Accumulated Reserves are for use at the Trustees' discretion and the main priority in support for the capital programme.

21_Capital grants

	Other Grants	Government Grants	Total
	£'000	£′000	£'000
Historic net book value of fixed assets at 1 April 2008	8,653	32,327	40,980
Acquired during the year with Grant-in-aid	-	10,363	10,363
Acquired during the year with capital grants	2,210	-	2,210
	10,863	42,690	53,553
Less historic depreciation – Tangible assets	(76)	(1,292)	(1,368)
Release on assets disposed of during the year	_	(40)	(40)
Historic net book value of fixed assets at 31 March 2009	£10,787	£41,358	£52,145

22_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 2007 and details can be found in the resource accounts of the Cabinet Office: Civil Superannuation (www.civilservice-pensions.gov.uk). For 2008/09 contributions of £3,039,000 were paid to the Paymaster General at rates which ranged from 17.1% to 25.5% depending on salary. The Scheme Actuary reviews employer contributions every four years following a full scheme valuation.

RBG Kew Enterprises operates a Group Personal Pension Plan for its employees, which is a defined contribution scheme. It made pension contributions of £76,000 to this scheme during the year. 50 staff were members of the defined contribution scheme at 31 March 2009 and the remaining staff were members of the PCSPS.

23_Commitments

A construction contract on one capital project for £1.6m was partially complete at 31 March 2009. £0.6m has been charged in the Statement of Financial Activities in 2008/09 and £1m will be payable in 2009/10.

There were no other major capital commitments at 31 March 2009.

24_Contingent liabilities

RBG Kew is in negotiation over the final cost of the Herbarium and Library extention with the building contractor. Negotiations are at an early stage and a final claim has not yet been received from the contractor.

The information usually required by FRS 12 is not disclosed on the grounds that it can be expected to prejudice seriously the outcome of the settlement. RBG Kew is of the opinion that the claim will be settled at less than the full amount claimed by the contractor. RBG Kew has recognised a provision for its estimate of the settlement amount (see Note 17).

25_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, £3.9m was received in 2008/09 (2007/08 £8.5m). RBG Kew provides services and facilities to the Foundation and Friends which are made on an arms length basis. John Selborne, Marcus Agius and Tanya Burman were Trustees of the Foundation and Friends throughout the year. Steve Hopper was a Trustee until 11 February 2009.

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

26_Financial instruments

FRS 29 – Financial Instruments: Disclosures, is applicable for the first time and 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. As the cash requirements of RBG Kew are met largely through Grant-in-aid received from Defra, financial instruments play a more limited role in creating risk than would apply to a non-public sector body of a similar size. The majority of financial instruments relate to contracts to buy non-financial items in line with RBG Kew's expected purchase and usage requirements and RBG Kew is therefore exposed to little credit, liquidity or market risk. However, the following points should be noted.

- RBG Kew is exposed to credit risk of £0.7m of trade debtors

 however this risk is not considered significant as major customers are familiar to RBG Kew.
- RBG Kew has recovered 98% of trade debtors over the last years.
- Cash is held by RBG Kew's bankers and Kew has not suffered any loss in relation to cash held by bankers.
- RBG Kew cash deposits have floating interest rates. Were LIBOR to decrease by 1%, interest income would decrease by approximately £60k.
- The movement on the investment funds has been allocated to the Restricted and Endowment Reserves.

27 Financial Statements authorisation

These Financial Statements were authorised by the Accounting Officer for issue on 9 July 2009.

Royal Botanic Gardens, Kew_Five year financial summary

Summary Statement of Financial Activities

	2004/05	2005/06	2006/07	2007/08	2008/09
Incoming resources	£′000	£′000	£′000	£′000	£′000
Grant-in-aid	24,899	25,537	25,200	25,204	26,600
Grants and donations	5,921	9,321	8,666	16,389	14,566
Income from activities	10,707	13,363	12,423	13,785	13,463
Investment income	669	617	549	582	415
Total incoming resources	42,196	48,838	46,838	55,960	55,044
Resources expended					
Charitable expenditure	35,079	38,620	41,571	41,686	43,577
Cost of generating funds	3,603	4,707	3,810	4,064	4,230
Total resources expended	38,682	43,327	45,381	45,750	47,807
Net incoming resources	3,514	5,511	1,457	10,210	7,237
Unrealised movements on investments	20	50	14	_	_
Revaluation of tangible assets	5,139	3,346	3,764	4,472	(9,019)
Net movement in reserves	8,673	8,907	5,235	14,682	(1,782)
Reserves at 1 April	88,129	96,802	105,709	110,944	125,626
Reserves at 31 March	£96,802	£105,709	£110,944	£125,626	£123,844

Summary Balance Sheet

	2005	2006	2007	2008	2009
	£'000	£'000	£'000	£′000	£′000
Fixed assets	86,488	96,248	102,069	116,356	117,225
Current assets	16,739	14,917	14,824	14,907	14,249
Creditors	(6,425)	(5,456)	(5,949)	(5,637)	(7,630)
Total assets less current liabilities	£96,802	£105,709	£110,944	£125,626	£123,844
Unrestricted	94,273	102,424	107,661	116,515	112,639
Restricted	2,372	3,095	3,084	8,928	11,071
Endowment	157	190	199	183	134
Total reserves	£96,802	£105,709	£110,944	£125,626	£123,844

Corporate information

Health and safety statement

The Royal Botanic Gardens, Kew (Kew) recognises the importance of managing health and safety risks – both on its sites at Kew Gardens and Wakehurst Place and as part of the work carried out by its employees wherever that may be.

To drive ongoing improvement in standards and adoption of best practice, the Health and Safety team have produced a two year Improvement Programme.

Kew has a current and up to date statement on Health and Safety (H&S) intent, which is available on the intranet. A copy of the policy is included in the induction pack for all new starters issued by the Human Resources Department and a copy can be found on each departmental notice board. The statement makes clear the commitment of the Trustees, as the employers, to ensure a safe workplace for their employees and visitors, and any other persons who may be affected by their undertaking.

All other H&S policies are available to staff on the intranet, and as part of the Improvement Programme they will be revised and updated. A number of new policies will also be introduced. Information on key H&S activities for the year are published in the corporate Operational Plan, which is updated annually and is available on Kew's intranet. Responsibility for day-to-day activity rests with the Director and Heads of Department.

Two external audits for H&S have been completed; the first by RSM Bentley Jennison, the results of which went to the audit committee in May 2009. The second has been carried out by Sypol Ltd and is based on the Workplace (Health, Safety and Welfare) Regulations 1992. The results from the Sypol audit will ultimately produce three items: the audit itself, a departmental H&S action plan and a departmental H&S risk register. The results from the Sypol audit will be used as the basis for the Director's review of H&S, which will commence in June 2009.

Activities identified as involving the most significant risks to staff include working at height (notably in arboriculture, work on fragile roofs and working from scaffolds and ladders), manual handling, slips, trips and falls, use of field machinery and equipment, use and storage of chemicals and fieldwork in remote places. All of these activities are currently under review as part of the Improvement Programme and a specific evaluation has been conducted of the overseas working, which is currently under review by senior management.

The visitors to Kew most likely to have an accident are children under the age of 10, playing in the popular Climbers and Creepers play area. However, the design and management of the area reduces risk and the majority of incidents are minor bumps. We continue to be mindful of visitors who may be senior in years and those with disabilities so that we also

match our procedures and risk mitigation techniques to their needs and safety requirements.

Staff receive health and safety training when appointed, but the induction process is under review to ensure consistency across site. Specialist training is provided for first aiders, fire wardens and other key competencies. These courses are arranged centrally by the H&S team.

Kew's 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 openly discuss issues or concerns. A representative from the Departmental Health and Safety Co-ordinators also attends these meetings. The Trade Union Representatives have the opportunity to raise issues with the Director at other times without undue restriction or delay. Trade Union Safety Representatives are consulted on all new policies and procedures. The Trade Union Safety Representatives have access to information about accidents so they can carry out their own investigations.

In the reporting year April 2008 to March 2009, there were four RIDDOR reportable incidents at Kew, two involving staff, one involving a contractor and one a visitor. At Wakehurst Place there have been two RIDDOR reportable incidents, one involving a staff member and one a contractor.

No enforcement notices have been served on Kew, nor were there any convictions for health and safety offences.

Customer 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 now use an independent market research company to track visitor satisfaction and value for money. The latest survey shows that 97% of visitors rate a visit to Kew as excellent or good and 75% of people rating Kew as excellent or good value for money. 89% of people would definitely recommend a visit to Kew to a family or friend.

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

Corporate information continued

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

Diversity statement

Policy

Kew is committed to ensuring that those working within the organisation (on a paid or voluntary basis) 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 policies and practice also ensures 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 practices in line with changes to legislation, working with line managers to support staff and volunteers in the workplace and increasing staff awareness through informal education initiatives, structured training and publication of diversity and equality materials.

Ethnicity

The ethnic profile of new employees recruited during 2008/09 is 5.3% non-white, 69% white with 25.7% giving no response. This shows a decrease in non-white recruits from 7% in 2007/08 but is above non-white proportion of staff at the time of the last analysis carried out in June 2006 which showed the percentage of non-white employees for Kew as 4.9%. This compared with the overall UK Civil Service figure of 8.1%.

Gender

Based on averages for 2008/09, out of the total 705 staff, 54% are female and 46% are male, which is the same percentage distribution as for 2007/08. Looking at gender distribution by Band in 2008/09, 69% of all employees are Band C or below, or students, while 74% of female employees are in this category compared with 64% of male employees. Last year the same overall percentage of employees were at Band C or below, but 76% of female employees were in the lower bands and 62% of male employees, hence there has been another year of reducing gender disparity at the lower levels. At Band F or Director level, female employees make up

25% of the group or 14 employees, a slightly higher percentage than the 24% reported last year. The gender balance by department remains similar to the situation reported last year with more females than males employed in the science, commercial and support departments, but the reverse in the Horticulture and Public Experience department.

Working patterns

Kew recognises that diversity encompasses different working patterns. 15% of all employees worked part-time in 2008/09, which is the same percentage as last year. Part-time working is practised by both genders; there are 104 part-time employees, of which 20% are male, a slight increase on the 19% of part-time employees last year. A variety of flexible working arrangements are in place throughout the organisation including the practice of flexi-time. Partial retirement has been in place for over a year and 3 employees have taken up this scheme in 2008/09.

Disability

Kew's Disability Equality Group published a Disability Equality Scheme Action Plan in December 2008. The Disability Equality Group is made up of 20 staff members bringing a range of personal and professional experience of disability to their work. Kew engages with a diverse local, national and international community; some of the current initiatives supporting disability equality are: ensuring equality of access for all visitors to Kew as a visitor attraction; on-going partnership with local organisations that have resulted in volunteer placements for people with mental health issues and physical disabilities; and local community outreach projects which engage with a range of groups including those with disability or social exclusion issues. Under the Disability Equality Scheme Action Plan, detailed data on staff and volunteers with disabilities will be up-dated as part of the implementation of the Human Resources Information System. The last formal survey of staff that contained a disability section (2001) saw 21 respondents define themselves as disabled under the Disability Discrimination Act definition.

Publications

We achieved a very good level of publication in higher impact journals during the year.

By convention, publications are always reported for the calendar year and, during 2008, our staff and honorary research colleagues produced or co-authored the 300 publications that are listed on the following pages.

Among these year 2008 papers, those 60 marked with an asterisk were published in journals with a citation impact factor (CIF) greater than 2.

The following list also includes two previously unreported papers from 2006 and nine from 2007.

Abebe, W. (2008). Morphological and molecular characterisation of cultivated Guinea yam accessions and their wild relatives (*Dioscorea cayenesis*) complex in south and south-west Ethiopia. PhD Thesis. Addis Abeba: Addis Abeba University.

Abuhamdah, S., Huang, L., Elliott, M.S.J., **Howes, M.-J.R.,** Ballard, C., Holmes, C., Burns, A., Perry, E.K., Francis, P.T., Lees, G. & Chazot, P.L. (2008). Pharmacological profile of an essential oil derived from *Melissa officinalis* with anti-agitation properties: focus on ligand-gated channels. *Journal of Pharmacy and Pharmacology* 60: 377–384.

Adams, J. see under Hay, F.R.

Allkin, R. see under Mavo, S.J.

— see under Paton, A.J.

Anderberg, A.A., Englund, M. & Beentje, H.J. (2008). On the systematic position of *Inula rungwensis*. *Compositae Newsletter* 46: 83–84.

Andrade, I.M., **Mayo, S.J., Kirkup, D.W.** & Van den Berg, C. (2008). Comparative morphology of populations of *Monstera* Schott (Araceae) from natural forest fragments in northeast Brazil using elliptic Fourier analysis of leaf outlines. *Kew Bulletin* 63: 193–211.

Araujo, A.C., Longhi-Wagner, H.M., Thomas, W.W. **& Simpson, D.A.** (2008). Taxonomic novelties in *Rhynchospora Vahl* (*Cyperaceae*) from South America. *Kew Bulletin* 63: 301–307.

Asase, A., **Kokubun, T., Grayer, R.J., Kite, G.C., Simmonds, M.S.J.,** Oteng-Yeboah, A.A. & Odamtten, G.T. (2008). Chemical constituents and antimicrobial activity of medicinal plants from Ghana: *Cassia sieberiana, Haematostaphis barteri, Mitragyna inermis and Pseudocedrela kotschyi. Phytotherapy Research* 22: 1013–1016.

Ashmore, S.E., Hamilton, K.N. & **Pritchard**, **H.W.** (2008). Development of conservation biotechnologies in response to target 8 of the GSPC. *In* Proceedings of the Third Global Botanic Gardens Congress Wuhan, China.

Avery, P.B., Faull, J. & Simmonds, M.S.J. (2008). Effects of *Paecilomyces fumosoroseus* and *Encarsia formosa* on the control of the greenhouse whitefly: preliminary assessment of a compatability study. *Biocontrol* 53: 303–316

Bachman, S.P. see under Brummitt, N.A.

----- see under Murray-Smith, C.

Baillie, J.E.M., Collen, B., Amin, R., Akçakaya, H.R., Butchart, S.H.M., **Brummitt, N.A.**, Meagher, T.R., Ram, M., Hilton-Taylor, C. & Mace, G. (2008). Toward monitoring global biodiversity. *Conservation Letters* 1: 18–26.

Baker, W.J. (2008). Arecaceae. *In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22.

- —— **& Dransfield, J.** (2008). *Calospatha* subsumed in *Calmus* (Arecaceae: Calamoideae). *Kew Bulletin* 63: 161–162.
- —— see also under **Dransfield, J.**
- —— see also under Mayo, S.J.
- —— see also under Pintaud, J.-C.
- —— see also under **Trudgen, M.S.**

Banks, H.I., Klitgaard, B.B., Claxton, F., Forest, F. & Crane, P.R. (2008). Pollen morphology of the family Polygalaceae (*Fabales*). *Botanical Journal of the Linnean Society* 156: 253–289.

- —— see also under Thulin, M.
- *Barbará, T., Lexer, C., Martinelli, G., Mayo, S.J., Fay, M.F. & Heuertz, M. (2008). Within-population spatial genetic structure in four naturally fragmented species of a Neotropical inselberg radiation, *Alcantarea imperialis*, *A. geniculata*, *A. glaziouana* and *A. regina* (Bromeliaceae). *Heredity* 101: 285–296.

Barraclough, T.G. see under Papadopoulou, A.

Bateman, R.M. & Sexton, R. (2008). Initial HOS *Platanthera* spur-length survey is a great success. *Journal of the Hardy Orchid Society* 1:

—— & Sexton, R. (2008). Is spur length of *Platanthera* species in the British Isles adaptively optimized or an evolutionary red herring? *Watsonia* 27: 1–21.

- ——, Smith, R.J. & Fay, M.F. (2008). Morphometric and population genetic analyses elucidate the origin, evolutionary significance and conservation implications of *Orchis angusticruris* (*O.purpurea x O. simia*), a hybrid orchid new to Britain. *Botanical Journal of the Linnean Society* 157: 687–711.
- see also under Box, M.S.
- —— see also under **Devey, D.S.**
- *Beaulieu, J.M., **Leitch, I.J.**, Patel, S., Pendharkar, A. & Knight, C.A. (2008). Genome size is a strong predictor of cell size and stomatal density in angiosperms. *New Phytologist* 179: 975–986.

Beckett, R.P., **Kranner, I.** & Minibayeva, F.V. (2008). Stress physiology and the symbiosis. *In* Nash, T.H. (*ed.*) Lichen Biology. 2nd ed. Cambridge: Cambridge University Press. 136–151.

Beentje, H.J. (2008). Strophanthus eminii, S. gratus, S. hispidus, S. kombe, S. preussii, S. sarmentosus. S. thollonii. In Schmelzer, G.H.; & Gurib-Fakim, A. (eds) Plant Resources of Tropical Africa. 11 (1) Medicinal Plants 1. Wageningen, Netherlands.

- —— (2008). Aspleniaceae. *In Beentje*, H.J.; & Ghazanfar, S.A. (*eds*) Flora of Tropical East Africa. London: RBG Kew. 75–75.
- —— (2008). Hymenophyllaceae. *In* Beentje, H.J.; & Ghazanfar, S.A. (*eds*) Flora of Tropical East Africa. London: RBG Kew. 34–34.
- (2008). *Ericaceae. In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22: 69–69.
- ----- see also under Anderberg, A.A.
- ----- see also under Figueiredo, E.
- ----- see also under Kremen, C.

*Bello, M.A., Hawkins, J.A. **& Rudall, P.J.** (2008). Floral morphology and development in Quillajaceae and Surianaceae (*Fabales*), the species-poor relatives of Leguminosae and Polygalaceae. *Annals of Botany* 101: 1491–1505.

Belyaeva, I. & Sennikov, A. (2008). Typification of Pallas' names in *Salix. Kew Bulletin* 63: 277–287.

- *Bennett, M.D., Price, H.J. & Johnston, J.S. (2008). Anthocyanin inhibits propidium iodide DNA fluorescence in *Euphorbia pulcherrima*: Implications for genome size variation and flow cytometry. *Annals of Botany* 101: 777–790.
- ----- see also under Robert, M.L.
- *Bidartondo, M.I. (2008). Preserving accuracy in GenBank. *Science* 319: 1616–1616.
- *—— & Read, D.J. (2008). Fungal specificity bottlenecks during orchid germination and development. *Molecular Ecology* 17: 3707–3716.
- ----- see also under Merckx, V.
- —— see also under Waterman, R.J.

Boatwright, J.S., **Savolainen, V.,** Van Wyk, B.E., Schutte-Vlok, A.L., **Forest, F.** & Van der Bank, M. (2008). Systematic position of the anomalous genus *Cadia* and the phylogeny of the tribe Podalyrieae (Fabaceae). *Systematic Botany* 33: 133–147.

Bogarin, D. see under Lahaye, R.

Bory, S., Catrice, O., Brown, S., **Leitch, I.J.**, Gigant, R., Chiroleu, F., Grisoni, M., Duval, M.-F. & Besse, P. (2008). Natural polyploidy in *Vanilla planifolia* (Orchidaceae). *Genome* 51: 816–826.

*Bouchenak-Khelladi, Y., Salamin, N., **Savolainen, V., Forest, F.,** Van der Bank, M., **Chase, M.W.** & Hodkinson, T.R. (2008). Large multi-gene phylogenetic trees of the grasses (Poaceae): Progress towards complete tribal and generic level sampling. *Molecular Phylogenetics and Evolution* 47: 488–505.

Box, M.S., Bateman, R.M., Glover, B.J. & Rudall, P.J. (2008). Floral ontogenetic evidence of repeated speciation via paedomorphosis in subtribe Orchidinae (Orchidaceae). *Botanical Journal of the Linnean Society* 157: 429–454.

- Bridge, P.D., **Spooner, B.M. & Roberts, P.J.** (2008). Non-lichenized fungi from the Antarctic region. *Mycotaxon* 106: 485–490.
- , **Spooner, B.M.,** Beever, R.E. & Park, D.C. (2008). Taxonomy of the fungus commonly known as *Stropharia aurantiaca*, with new combinations in Leratiomyces. *Mycotaxon* 103: 109–121.

Brown, A.P., Dundas, P., Dixon, K.W. & Hopper, S.D. (2008). Orchids of Western Australia. Perth, Australia: University of Western Australia Press, 421 pp.

Brummitt, N.A., Bachman, S.P. & Moat, J. (2008). Applications of the IUCN Red List: towards a global barometer for plant diversity. *Endangered Species Research* 6: 127–135.

- —— see also under Baillie, J.E.M.
- ----- see also under Murray-Smith, C.
- ----- see also under Paton, A.J.
- *Brummitt, R.K. (2008). Evolution in taxonomic perspective. *Taxon* 57: 1049–1050.

Bruneau, A., Mercure, M., **Lewis, G.P.** & Herendeen, P.S. (2008). Phylogenetic patterns and diversification in the caesalpinioid legumes. *Canadian Journal of Botany* 86: 697–718.

- *Buerkle, C.A. & Lexer, C. (2008). Admixture as the basis for genetic mapping. *Trends in Ecology & Evolution* 23: 686–694.
- *Byrne, M. & Hopper, S.D. (2008). Granite outcrops as ancient islands in old landscapes: evidence from the phylogeography and population genetics of *Eucalyptus caesia* (Myrtaceae) in Western Australia. *Biological Journal of the Linnean Society* 93: 177–188.
- *Cabrera, L.I., Salazar, G.A., **Chase, M.W., Mayo, S.J.,** Bogner, J. & Davila, P. (2008). Phylogenetic relationships of aroids and duckweeds (Araceae) inferred from coding and noncoding plastid DNA. *American Journal of Botany* 95: 1153–1165.
- Cai, J. see under Cram, W.J.

Chase, M.W., Williams, N.H., Neubig, K.M. & Whitten, W.M. (2008). Taxonomic transfers in Oncidiinae to accord with *Genera Orchidacearum*. *Orchids* 5: 20–31.

- —— see also under Bouchenak-Khelladi, Y.
- ----- see also under Cabrera, L.I.
- ----- see also under Kovarik, A.
- —— see also under Leitch, I.J.
- ----- see also under Micheneau, C.
- ----- see also under Muellner, A.N.
- —— see also under Saslis-Lagoudakis, C.

Cheek, M. & Ameka, G. (2008). *Ledermanniella pollardiana* sp nov (Podostemaceae) from western Cameroon. *Nordic Journal of Botany* 26: 214–217.

- —— & Jongkind, C.C.H. (2008). Two new names in west-central African *Quassia* L. (*Simaroubaceae*) *Kew Bulletin* 63: 247–250.
- ——, **Corcoran, M. & Howarth, A.** (2008). Four new species of *Psychotria* (Rubiaceae) with bacterial nodes from western Cameroon. *Kew Bulletin* 63: 405–418.
- —, Howarth, A. & Haynes, D. (2008). *Psychotria kupensis* (Rubiaceae) a new dwarf, litter gathering species from western Cameroon *Kew Bulletin* 63: 243–246.
- —, Williams, S. & Brown, A. (2008). *Gymnosiphon marieae* sp nov (Burmanniaceae) from Madagascar, a species with tepal-mediated stigmatic extension. *Nordic Journal of Botany* 26: 230–234.
- —— see also under Stone, R.D.
- *Choat, B., Cobb, A.R. **& Jansen, S.** (2008). Structure and function of bordered pits: new discoveries and impacts on whole-plant hydraulic function. *New Phytologist* 177: 608–625.
- *Christin, P.A., Besnard, G., Samaritani, E., Duvall, M.R., Hodkinson, T.R.,

Savolainen, V. & Salamin, N. (2008). Oligocene CO₂ decline promoted C₄ photosynthesis in grasses. *Current Biology* 18: 37–43.

Claessens, S.M.C., Golovina, E.A., Hoekstra, F.A., **Toorop, P.E.** & Hilhorst, H.W.M. (2007). Changes in membrane fluidity in seeds of *Sisymbrium* officinale during dormancy transitions: A molecular approach using ESR spin probes. *In* Proceedings of the 2nd Workshop on Molecular Aspects of Seed Dormancy and Germination. Salamanca, Spain.

Clark, R. (2008). Revision of the genus *Sarcodum* (Leguminosae: Papiliononideae; Millettieae). *Kew Bulletin* 63: 155–159.

Clarkson, J.J. see under Kovarik, A.

----- see under Leitch, I.J.

Clubbe, C. see under Maunder, M.

Coode, M. & Hoffmann, P. (eds) (2008). The genus *Macaranga*, a prodormus. Richmond: RBG Kew. 293 pp.

—— see also under Maynard, D.

Cook, F.E.M. see under Sousa, M.M.

Corcoran, M. see under Cheek, M.

Cowan, R.S., Smith, R.J., Fay, M.F. & Rich, T.C.G. (2008). Genetic variation in Irish whitebeam, *Sorbus hibernica* E. F. Warb. (Rosaceae) and its relationship to a *Sorbus* from the Menai Strait, North Wales. *Watsonia* 27: 99–108.

- —— see also under Ogden, R.
- *Cram, W.J., Zhong, Y., Tersing, T. & Cai, J. (2008). Tibet's seeds must be stored as climate changes. *Nature* 452: 28–28.

Cribb, P. see under De Camargo Smidt, E.

Cutler, D.F., Botha, E. & Stevenson, D.W. (2008). Plant anatomy - an applied approach. Blackwell Publishing.

- —— see also under De Figueiroa, J.M.
- *Da Silva, E.A.A., **Toorop, P.E.,** Van Lammeren, A.A.M. & Hilhorst, H.W.M. (2008). ABA inhibits embryo cell expansion and early cell division events during coffee (*Coffea arabica* 'Rubi') seed germination. *Annals of Botany* 102: 425–433.

Darbyshire, I. (2008). New species in *Barleria* sect. *Stellatohirta* (*Acanthaceae*) from Africa. *Kew Bulletin* 63: 261–268.

- —— (2008). Notes on the genus *Dicliptera* (Acanthaceae) in eastern Africa. *Kew Bulletin* 63: 361–383.
- —— (2008). A reassessment of the status of *Barleria* sect. *Cavirostrata* (Acanthaceae) in tropical Africa, with a new species, B. *richardsiae*, described from the Tanzania-Zambia border region. *Kew Bulletin* 63: 601–611.
- ——, **Vollesen, K.** & Chapman, H.M. (2008). A remarkable range disjunction recorded in *Metarungia pubinervia* (Acanthaceae). *Kew Bulletin* 63: 613–615.

Davis, A.P. & Govaerts, R. (2008). A new name in *Psychotria* (Rubiaceae–Psychotrieae): *Psychotria andramontaensis. Blumea* 53: 384–384.

- —— & Rakotonasolo, F. (2008). A taxonomic revision of the baracoffea alliance: nine remarkable Coffea species from western Madagascar. *Botanical Journal of the Linnean Society* 158: 355–390.
- —— (2008). A new *Argocoffeopsis* (Coffeeae, Rubiaceae) from Southern Cameroon: *Agrocoffeopsis spathulata. Blumea* 53: 527–532.
- ----- see also under Ruhsam, M.
- —— see also under Tosh, J.

Daws, M.I. & Pritchard, H.W. (2008). The development and limits of freezing tolerance in *Acer pseudoplatanus* fruits across Europe is dependent on provenance. *CryoLetters* 29: 189–198.

- *— , Crabtree, L.M., Dalling, J.W., Mullins, C.E. & Burslem, D.F.R.P. (2008). Germination responses to water potential in Neotropical pioneers suggest large-seeded species take more risks. *Annals of Botany* 102: 945–951.
- —, **Pritchard, H.W.** & Van Staden, J. (2008). Butenolide from plantderived smoke functions as a strigolactone analogue: Evidence from parasitic weed seed germination. *South African Journal of Botany* 74: 116–120.

—— see also under Hoyle, G.L.	Figueiredo, E. & Beentje, H.J. (2008). Asteraceae. <i>In</i> Figueiredo, E.; & Smith, G.F. (<i>eds</i>) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. <i>Strelitzia</i> 22: 40–49.
—— see also under Zalucki, J.M.	
Dawson, I.K., Hollingsworth, P.M., Doyle, J.J., Kresovich, S., Weber, J.C., Montes, C.S., Pennington, T.D. & Pennington, R.T. (2008). Origins and genetic conservation of tropical trees in agroforestry systems: a case study from the Peruvian Amazon. <i>Conservation Genetics</i> 9: 361–372.	&, Soares, M., Grobler, A. & Schrire, B. (2008). Fabaceae. <i>In</i> Figueiredo, E.; & Smith, G.F. (<i>eds</i>) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. <i>Strelitzia</i> 22: 75–101.
Dawson, S.E. (2008). A new name in <i>Pavetta</i> L. (Rubiaceae). <i>Kew Bulletin</i> 63: 517.	Fogliani, B., Hopkins, H.C.F. , Bouraima-Madjebi, S. & Medevielle, V. (2008). Morphological development of <i>Geissois pruinosa</i> (Cunoniaceae) from seed to adult and the expression of pleisomorphic characters in seedlings. (Electronic
De Camargo Smidt, E. & Cribb, P. (2008). Bulbophyllum fendlerianum (Orchidaceae), a new species from Venezuela. Kew Bulletin 63: 339–340.	source).
De Figueiroa, J.M., De Lima Araujo, E., Pareyn, F.G., Cutler, D.F., Gasson, P., De Lima, K.C. & Dos Santos, V.F. (2008). Seasonal variations in the survival and biomass production of <i>Caesalpinia pyramidalis</i> Tul after coppicing and implications for management of the species. <i>Revista Arvore</i> 32: 1041–1049.	Forest, F. see under Banks, H.I.
	—— see under Boatwright, J.S.
De Kok, R.P.J. (2008). The genus <i>Vitex</i> (Labiatae) in the Flora Malesiana region, excluding New Guinea. <i>Kew Bulletin</i> 63: 17–40.	—— see under Tolley, K.A.
Delgado-Salinas, A. & Lewis, G.P. (2008). A new species of <i>Macroptilium</i> (Benth.) Urb. (<i>Leguminosae</i> : <i>Papilionoideae</i> : <i>Phaseolinae</i>) from north-eastern Brazil. <i>Kew Bulletin</i> 63: 151–154.	Formisano, C., Rigano, D., Senatore, F., Simmonds, M.S.J. , Bisio, A., Bruno, M. & Rosselli, S. (2008). Essential oil composition and antifeedant properties of <i>Bellardia trixago</i> (L.) All. (sin. Bartsia trixago L.) (Scrophulariaceae). <i>Biochemical Systematics and Ecology</i> 36: 454–457.
Denne, P. & Gasson, P. (2008). Ray structure in root- and stem-wood of <i>Larix decidua</i> : Implications for root identification and function. <i>IAWA Journal</i> 29: 17–23.	Frisby, S. & Hind, D.J.N. (2008). 623. Dactylicapnos macrocapnos. Papaveraceae. Curtis's Botanical Magazine 25: 216–222.
*Devey, D.S., Bateman, R.M., Fay, M.F. & Hawkins, J.A. (2008). Friends or	—— & Hind, D.J.N. (2008). <i>622. Dactylicapnos scandens.</i> Papaveraceae. <i>Curtis's Botanical Magazine</i> 25: 207–215.
relatives? Phylogenetics and species delimitation in the controversial European orchid genus <i>Ophrys. Annals of Botany</i> 101: 385–402.	— & Hind, D.J.N. (2008). 624. <i>Dactylicapnos ventii</i> . Papaveraceae. <i>Curtis's Botanical Magazine</i> 25: 223–229.
Doyle, J.A., Manchester, S.R. & Sauquet, H. (2008). A seed related to Myristicaceae in the early Eocene of southern England. <i>Systematic Botany</i> 33: 636–646.	— & Hind, D.J.N. (2008). 625. <i>Dactylicapnos torulosa</i> . Papaveraceae. <i>Curtis's Botanical Magazine</i> 25: 230–236.
	Frodin, D.G. see under Fiaschi, P.
Dransfield, J., Rakotoarinivo, M., Baker, W.J., Bayton, R.P., Fisher, J.B., Horn, J.W., Leroy, B. & Metz, X. (2008). A new corypoid palm genus from Madagascar. <i>Botanical Journal of the Linnean Society</i> 156: 79–91.	Frohlich, M.W. & Moyroud, E. (2008). An easily built diffuse illumination system effective at both very low and moderate magnifications, for observing
——, Uhl, N.W., Asmussen-Lange, C.B., Baker, W.J., Harley, M.M. & Lewis,	in situ stained slides. Journal of Microscopy-Oxford 230: 160–162.
C.E. (2008). Genera Palmarum - evolution and classification of the palms. Royal Botanic Gardens, Kew.	— see also under Warner, K.A.
—— see also under Baker, W.J.	Furness, C.A. (2008). A review of the distribution of plasmodial and invasive tapeta in eudicots. <i>International Journal of Plant Sciences</i> 169: 207–223.
—— see also under Kremen, C.	(2008). Successive microsporogenesis in eudicots, with particular
Duffy, K.J., Kingston, N., Sayers, B.A., Roberts, D.L. & Stout, J.C. (2008). Inferring national and regional declines of rare orchid species using	reference to Berberidaceae (Ranunculales). <i>Plant Systematics and Evolution</i> 273: 211–223.
probabilistic models. Conservation Botany 23: 184–195.	—— see also under Nadot, S.
Dute, R.R., Jansen, S., Holloway, C. & Paris, K. (2008). Torus-bearing pit membranes in selected species of the Oleaceae. <i>Journal of the Alabama Academy of Science</i> 79: 12–222.	Gage, E. & Wilkin, P. (2008). A morphometric study of species delimitation in <i>Sternbergia lutea</i> (L.) Ker Gawal. ex Sreng (Amaryllidaceae) and its allies, S. <i>sicula</i> Tineo ex Guss. and S. <i>greuteriana</i> Kamari and Artelari. <i>Botanical</i>
*Edwards, D., Horn, A., Taylor, D., Savolainen, V. & Hawkins, J.A. (2008). DNA barcoding of a large genus, <i>Aspalathus</i> L. (Fabaceae). <i>Taxon</i> 57: 1317–1327.	Journal of the Linnean Society 158: 460–469.
Erkens, R.H.J., Cross, H., Maas, J.W., Hoenselaar, K. & Chatrou, L.W. (2008). Assessment of age and greenness of herbarium specimens as predictors for successful extraction and amplification of DNA. <i>Blumea</i> 53: 407–428. Farjon, A. (2008). A Natural History of Conifers. Portland, Oregon: Timber Press. 304 pp.	Gale, R. (2008). Charcoal. <i>In</i> Powell, A.B., ;Booth, P., ;Fitzpatrick, A.P.; & Crockett, A.D. (<i>eds</i>) The Archaeology of the M6 Toll 200–2003. Vol. Oxford Wessex Archaeology Monograph No. 2: 15 contributions.
	Gardiner, L.M. (2008). Molecular phylogeny and conservation of the horticulturally important genus <i>Vanda</i> . PhD Thesis. Norwich: University of
	East Anglia. 308 pp. —— see also under Roberts, D.L.
Fay, M.F. see under Barbará, T.	Gasson, P. (2008). Timbers 1. In Louppe, D., ;Oteng-Amoako, A.A.; & Brink,
—— see under Bateman, R.M.	M. (eds) Plant Resources of Tropical Africa. Wageningen, Netherlands:
—— see under Cowan, R.S.	Backhuys. Vol. 7 (1): 35 contributions.
—— see under Devey, D.S.	
—— see under Leitch, I.J.	—— see also under Denne, P. —— see also under White, L.
—— see under Micheneau, C.	
—— see under Van Loo, M.	Ghazanfar, S.A. (2008). Conservation in developing countries. <i>Turkish Journal of Botany</i> 32: 465–469.

—— (2008). Basellaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of

Angola/Plantas de Angola. Pretoria: South African National Biodiversity

Institute. Vol. Strelitzia 22: 50–50.

Fiaschi, P., Frodin, D.G. & Plunkett, G.M. (2008). Four new species of the

Didymopanax group of *Schefflera* (Araliaceae) from the Brazilian Amazon.

Brittonia 60: 274–286.

- (2008). Caryophyllaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 56-56. (2008). Illecebraceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 105-105. (2008). Nyctaginaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 124-124. (2008). Phytolacaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 131-131. - (2008). Plumbaginaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 131-131. – (2008). Portulacaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 135-135. - (2008). Scrophulariaceae. In Figueiredo, E.; & Smith, G.F. (eds) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. Strelitzia 22: 135-139. -, Hepper, F.N. & Philcox, D. (2008). Scrophulariaceae. In Beentje, H.J.; & Ghazanfar, S.A. (eds) Flora of Tropical East Africa. London: RBG Kew. 211-211. – see also under Keppel, G. Gigot, G. see under Lahaye, R. Godfray, H.C.J., Mayo, S.J. & Scoble, M.J. (2008). Pragmatism and rigour
- can coexist in taxonomy. *Evolutionary Biology* 35: 309–311.

 Goldblatt, P., Rodriguez, A., **Powell, M.P.,** Davies, J.T., Manning, J.C., Bank, M.V.d. 8: Savelainen, M. (2008). Iridaceae (Out. of Australacia) 2 Phylogeny.

M.v.d. **& Savolainen, V.** (2008). Iridaceae 'Out of Australasia'? Phylogeny, Biogeography, and Divergence Time Based on Plastid DNA Sequences. *Systematic Botany* 33: 495–508.

Govaerts, R., Sobral, M., Ashton, P., Barrie, F., Holst, B.K., Landrum, L.L., Matsumoto, K., Mazine, F.F., Nic Lughadha, E.M., Procenca, C., Soares-Siva, L.C., Wilson, P.G. & Lucas, E.J. (2008). World Checklist of Myrtaceae 455 pp.

Govaerts, R. see also under Davis, A.P.

- —— see also under Mayo, S.J.
- ----- see also under Paton, A.J.
- —— see also under Ruhsam, M.

Goyder, D.J. (2008). *Phiilbertia* (Apocynaceae: Asclepiadoideae) additional notes and three new species for Bolivia. *Kew Bulletin* 63: 323–329.

- —— (2008). Funastrum rupicola (Apocynaceae: Asclepiadoideae) a new species from Bolivia. Kew Bulletin 63: 331–333.
- —— (2008). *Matelea sartago-diaboli*, a new species of Apocynaceae: Asclepiadoideae from the inter-Andean dry valleys of Bolivia. *Kew Bulletin* 63: 335–338.
- —— (2008). *Philibertia* from the Andes of Bolivia and Argentina. *Asklepios* 100: 23–28.
- —— (2008). 627. *Philibertia barbata*. (Apocynaceae: Asclepiadoideae). *Curtis's Botanical Magazine* 25: 245–249.
- —— (2008). *Tylophora tridactylata* (Apocynaceae: Asclepiadoideae), a new species from southern Tanzania. *Kew Bulletin* 63: 467–469.
- —— (2008). Nomenclatural changes resulting from the transfer of tropical African *Sarcostemma* to *Cynanchum* (Apocynaceae: Asclepiadoideae). *Kew Bulletin* 63: 471–472.
- —— (2008). *Xysmalobium samoritourei* (Apocynaceae: Asclepiadoideae) a new species from the Guinea Highlands of West Africa. *Kew Bulletin* 63: 473–475.
- —— & Liede-Schumann, S. (2008). Notes on *Cynanchum* and *Pentarrhinum* (Apocynaceae: Asclepiadoideae) in tropical Africa. *Kew Bulletin* 63: 463–466.

- ——, Figueiredo, E. & Smith, G.F. (2008). Apocynaceae. *In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angloa/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22: 33–40.
- see also under Thulin. M.

Grace, O.M., Kokubun, T., Veitch, N.C. & Simmonds, M.S.J. (2008). Characterisation of a nataloin derivative from *Aloe ellenbeckii*, a maculate species from east Africa. *South African Journal of Botany* 74: 761–763.

*——, **Simmonds, M.S.J.,** Smith, G.F. & Van Wyk, A.E. (2008). Therapeutic uses of *Aloe* L. (Asphodelaceae) in southern Africa. *Journal of Ethnopharmacology* 119: 604–614.

Grayer, R.J., Thabrew, M.I., Hughes, R.D., Bretherton, S., Lever, A., **Veitch, N.C., Kite, G.C.,** Lelli, R. **& Simmonds, M.S.J.** (2008). Phenolic and terpenoid constituents from the Sri Lankan medicinal plant *Osbeckia aspera*. *Pharmaceutical Biology* 46: 154–161.

- see also under Asase, A.
- ----- see also under Horwath, A.B.
- —— see also under Jensen, S.
- ----- see also under Ofodile, L.N.
- —— see also under Skoula, M.
- see also under Taskova, R.M.see also under Veitch, N.C.
- Green, I. see under Roach, T.

Green, P.W.C. (2008). Fungal isolates involved in biodeterioration of bookpaper and their effects on substrate selection by *Liposcelis bostrychophila* (Badonnel) (Psocoptera: Liposcelididae). *Journal of Stored Products Research* 44: 258–263.

Groves, M. see under Ogden, R.

Haigh, A.L., Bogner, J., Boyce, P.C., Croat, T.B., Grayum, M.H., Hay, A., Hetterscheid, W., Keating, R., Kostelac, C., Lay, L.N., Mayo, S.J., Mora, M., Reynolds, L., Sellaro, M. & Wong, S.Y. (2008). A new website for Araceae taxonomy on www.cate-araceae.org. *Aroideana* 31: 148–154.

- —— see also under Mayo, S.J.
- —— see also under Smith, C.R.

Hanson, L. see under Leitch, I.J.

----- see under Robert, M.L.

Harley, M.M. see under Dransfield, J.

Harman, K. see under Mayo, S.J.

----- see under Paton, A.J.

Harrison, R.D., **Rønsted, N.** & Peng, Y.Q. (2008). Foreword - Fig and fig wasp biology: A perspective from the East. *Symbiosis* 45: 1–8.

Hay, F.R., Adams, J., Manger, K. & Probert, R.J. (2008). The use of non-saturated lithium chloride solutions for experimental control of seed water content. *Seed science and technology* 36: 737–746.

- ——, **Probert, R.J.** & Dawson, M. (2008). Laboratory germination of seeds from 10 British species of *Potamogeton*. *Aquatic Botany* 88: 353–357.
- —— see also under Mondoni, A.

Haynes, D. see under Cheek, M.

Hepper, F.N. see under Ghazanfar, S.A.

Hinchcliffe, S. see under Paton, A.J.

Hind, D.J.N. (2008). 619. *Lotus maculatus*. Leguminosae - Papilionoidae. Plant in Peril 30. *Curtis's Botanical Magazine* 25: 146–157.

- —— (2008). Aster peduncularis. Compositae. Curtis's Botanical Magazine 25: 168–175.
- (2008). An introduction to the climbing dicentras the genus *Dactylicapnos* in cultivation. *Curtis's Botanical Magazine* 25: 194–206.
- —— & Miranda, E.B. (2008). Lista preliminar da familia Compositae na regiao Nordeste do Brasil/Preliminary list of the Compositae in Northeastern

Brazil (Repatriation of Kew Herbarium data). Volume 4. London: Ro Botanic Gardens, Kew. 1–104 pp. (Flora of Northeastern Brazil Serie	
—— & Sanchez, M. (2008). 628. <i>Mutisia coccinea</i> ssp. dealbata. <i>Co</i>	urtis's Hunt, D. see under Taylor, N.P.
Botanical Magazine 25: 250–257.	Jackson, M. see under Mayo, S.J.
—— see also under Frisby, S.	see under Smith, C.R.
Hoenselaar, K. see under Erkens, R.H.J. Hoffmann, P. (2008). Revision of <i>Heterosavia</i> , stat. nov., with notes on <i>Gonatogyne</i> and <i>Savia</i> (Phyllanthaceae). <i>Brittonia</i> 60: 136–166. —— see also under Vorontsova, M.S.	Jansen, S., Pletsers, A. & Sano, Y. (2008). The effect of preparation
	s on techniques on SEM-imaging of pit membranes. <i>IAWA Journal</i> 29: 161–178. ——, Pletsers, A., Rabaey, D. & Lens, F. (2008). Vestured pits: a diagnostic
	character in the secondary xylem of myrtales. <i>Journal of Tropical Forest</i>
Hoffmann, P. (eds) see under Coode, M.	Science 20: 328–339.
Holdo, R.M. & Timberlake, J. (2008). Rooting depth and above-ground community composition in Kalahari sand woodlands in western Zimbabwe. <i>Journal of tropical ecology</i> 24: 169–176.	round —— see also under Choat, B.
	nbabwe. —— see also under Dute, R.R.
	—— see also under Lens, F.
Hopkins , H.C.F. (2008). Cunoniaceae. <i>In</i> Flora of Thailand. Vol. 2:	—— see also under Rabaey, D.
—— (2008). The morphology of stipules and inflorescences in Geiss stricto (Cuoniaceae). Kew Bulletin 63: 625–638.	see also under Sano, Y.
—— see also under Fogliani, B.	Jardim, J.G. & Zappi, D.C. (2008). Carapichea lucida (Rubiaceae:
— see also under Pillon, Y.	Psychotrieae), a new species from Eastern Bahia, Brazil. <i>Kew Bulletin</i> 63: 661–664.
Hopper, S.D. see under Brown, A.P.	—— & Zappi, D.C. (2008). Studies of <i>Faramea</i> Aubl. (<i>Rubiaceae</i>) in Brazil:
— see under Byrne, M.	two new species for eastern Bahia - F. nocturna and F. biflora. Kew Bulletin
— see under Horwitz, P.	63: 131–136.
— see under McQuoid, N.K.	Jensen, S., Gotfredsen, C.H. & Grayer, R.J. (2008). Unusual iridoid
— see under Nikulinsky, P.	glycosides in Veronica sects. Hebe and Labiatoiides. Biochemical Systematics and Ecology 36: 207–215.
— see under Prenner, G.	Joseph, J.A. & Lexer, C. (2008). A set of novel DNA polymorphisms within
Horwath, A.B., Grayer, R.J., Keith-Lucas, M. & Simmonds, M.S.J. Chemical characterisation of wild populations of <i>Thymus</i> from diffe	rent Ecology Resources 8: 188–192.
imatic regions in southeast Spain. <i>Biochemical Systematics and Ecology</i> 36: 17–133.	ology 36: —— see also under Van Loo, M.
Horwitz, P., Bradshaw, D., Hopper, S.D., Davies, P., Froend, R. & Br. (2008). Hydrological change escalates risk of ecosystem stress in Authreatened biodiversity hotspot. <i>Journal of the Royal Society of Wes Australia</i> 91: 1–11.	ustralia's J.C. & Greeff, J.M. (2008). One fig to bind them all: Host conservatism in a
Houghton, P.J. & Howes, MJ.R. (2008). Natural products and rela compounds of realized and potential use in treating neurodegenera disease. <i>In</i> Ikan, R. (<i>ed.</i>) Selected Topics in the Chemistry of Natural	ative and lectotypfication of <i>Persicaria viscosa</i> (Polygonaceae) in Thailand <i>Natural</i>
Singapore: World Scientific. 377–426.	Kelly, L.J. & Culham, A. (2008). Phylogenetic utility of MORE AXILLARY
Howarth, A. see under Cheek, M.	GROWTH4 (MAX4)-like genes: a case study in Digitalis / Isoplexis (Plantaginaceae). Plant Systematics and Evolution 273: 133–149.
Howes, MJ.R. see under Abuhamdah, S.	Keppel, G. & Ghazanfar, S.A. (2008). Trees of Fiji: A guide to 100 rainforest
—— see under Houghton, P.J. —— see under Huang, L.	trees. Secretariat of the Pacific Community (SPC) and Deutsche Gesellschaft fur Tecnische Zusammenarbeit (GTZ). 340 pp. (Contribution of the Flora of Angola)
—— see under Okello, E.J.	Kirkup, D.W. see under Andrade, I.M.
*Hoyle, G.L., Daws, M.I., Steadman, K.J. & Adkins, S.W. (2008). M	
a semi-arid tropical environment achieves dormancy alleviation for seeds of Australian native Goodeniaceae and Asteraceae. <i>Annals of Botany</i> 101: 701–708.	seeds of Kite, G.C. & Salazar, G.A. (2008). Chemical composition of the inflorescence
—, Daws, M.I., Steadman, K.J. & Adkins, S.W. (2008). Pre- and post-harvest influences on physiological dormancy alleviation of an Australian Asteraceae species: <i>Actinobole uliginosum</i> (A. Gray) H. Eichler. <i>Seed Science Research</i> 18: 191–199.	see diso dilaci Asase, A.
	coo also under Graver P I
	—— see also under Pérez-Laínez, D.
—, Steadman, K.J., Daws, M.I. & Adkins, S.W. (2008). Physiological dormancy in forbs native to south-west Queensland: Diagnosis and classification. <i>South African Journal of Botany</i> 74: 208–213. *—, Steadman, K.J., Daws, M.I. & Adkins, S.W. (2008). Pre- and post-harvest influences on seed dormancy status of an Australian Goodeniaceae species, <i>Goodenia fascicularis</i> . <i>Annals of Botany</i> 102: 93–101.	ical — see also under Skoula, M.
	—— see also under Veitch, N.C.
	Klitgaard R.R. see under Ranks H.I.
	post-
	— see under Saslis-Lagoudakis, C.
Huang, L., Abuhamdah, S., Howes, MJ.R., Elliott, M.S.J., Ballard, C., Holmes, C., Burns, A., Perry, E.K., Francis, P.T., Lees, G. & Chazot, P.L. (2008). Pharmacological profile of essential oils derived from <i>Lavandula angustifolia</i>	C., Kokubun. T. see under Asase. A.
	L. (2008).

—— see under Taskova, R.M.

*Kovarik, A., Dadejova, M., Lim, K.Y., **Chase, M.W., Clarkson, J.J.,** Knapp, S. & Leitch, A.R. (2008). Evolution of rDNA in *Nicotiana* allopolyploids: A potential link between rDNA homogenization and epigenetics. *Annals of Botany* 101: 815–823.

Kranner, I., Beckett, R.P., Hochman, A. & Nash, T.H. (2008). Desiccation-tolerance in lichens: a review. *Bryologist* 111: 576–593.

- ----- see also under Beckett, R.P.
- ----- see also under Roach, T.
- —— see also under Seal, C.E.

*Kremen, C., Cameron, A., Moilanen, A., Phillips, S.J., Thomas, C.D., **Beentje, H.J., Dransfield, J.,** Fisher, B.L., Glaw, F., Good, T.C., Harper, G.J., Hijmans, R.J., Lees, D.C., Louis, E., Nussbaum, R.A., Raxworthy, C.J., Razafimpahanana, A., Schatz, G.E., Vences, M., Vieites, D.R., Wright, P.C. & Zjhra, M.L. (2008). Aligning conservation priorities across taxa in Madagascar with high-resolution planning tools. *Science* 320: 222–226.

*—, Cameron, A., Razafimpahanana, A., Moilanen, A., Thomas, C.D., **Beentje, H.J., Dransfield, J.,** Fisher, B.L., Glaw, F., Good, T.C., Harper, G.J., Hijmans, R.J., Lees, D.C., Louis, E., Nussbaum, R.A., Phillips, S.J., Raxworthy, C.J., Schatz, G.E., Vences, M., Vieites, D.R., Wright, P.C. & Zjhra, M.L. (2008). Conservation with caveats - Response. *Science* 321: 341–342.

Kynast, R.G., Galatowitsch, M.W., Hanson, L., Huettl, P.A., Lüpke, L., Phillips, R.L. & Rines, H.W. (2008). Maternal and paternal transmission to offspring of B-chromosomes of *Zea mays* L. in the alien genetic background of *Avena sativa* L. *Maize Genet Coop Newsletter* 82: 19–21.

- —— see also under Okagaki, R.J.
- *Lahaye, R., Van der Bank, M., **Bogarin, D.**, Warner, J., Pupulin, F., **Gigot, G., Maurin, O.,** Duthoit, S., Barraclough, T.G. **& Savolainen, V.** (2008). DNA barcoding the floras of biodiversity hotspots. *Proceedings of the National Academy of Sciences of the United States of America* 105: 2923–2928.
- ——, Van der Bank, M., Maurin, O., Duthoit, S. & Savolainen, V. (2008). A DNA barcode for the flora of the Kruger National Park (South Africa). South African Journal of Botany 74: 370–371.
- ——, Yang, Z., Bouchenak-Khelladi, Y., **Forest, F.**, Boatwright, J.S., Klackenberg, J., Civeyrel, L. **& Savolainen, V.** (2008). A synchronous colonization of Madagascar by plants? *South African Journal of Botany* 74: 371–371

Lamb, A., **Wood, J.J.** & Miadin, R. (2008). Three new orchids from Sabah, Malayasian Borneo *Malesian Orchid Journal* 1: 93–102.

*Lambdon, P.W., Pyšek, P., Basnou, C., Hejda, M., Arianoutsou, M., Essl, F., Jarošík, V., Pergl, J., Winter, M., Anastasiu, P., Andriopoulos, P., Bazos, I., Brundu, G., Celesti-Grapow, L., Chassot, P., Delipetrou, P., Josefsson, M., Kark, S., Klotz, S., Kokkoris, Y., Kühn, I., Marchante, H., Perglová, I., Pino, J., Vila, M., Zikos, A., Roy, D. & Hulme, P.E. (2008). Alien flora of Europe: species diversity, temporal trends, geographical patterns and research needs. *Preslia* 80: 101–149.

Larsson, S., Backlund, A. & Bohlin, L. (2008). Reappraising a decade old explanatory model for pharmacognosy. *Phytochemistry Letters* 1: 131–134.

Lay, L.N. see under Haigh, A.L.

----- see under Smith, C.R.

Leeratiwong, C., Chantaranothai, P. & Paton, A.J. (2008). Three new records of *Premna* L. (Lamiaceae) in Thailand. *The Natural History Journal of Chulalongkorn University*. 8: 7–18.

- *Leitch, A.R. & Leitch, I.J. (2008). Genomic plasticity and the diversity of polyploid plants. *Science* 320: 481–483.
- *Leitch, I.J. & Fay, M.F. (2008). Plant genome horizons: Michael Bennett's contribution to genome research. *Annals of Botany* 101: 737–746.
- *—, Hanson, L., Lim, K.Y., Kovarik, A., Chase, M.W., Clarkson, J.J. & Leitch, A.R. (2008). The ups and downs of genome size evolution in polyploid species of *Nicotiana* (Solanaceae). *Annals of Botany* 101: 805–814.
- ----- see also under Beaulieu, J.M.
- ----- see also under Bory, S.
- —— see also under Leitch, A.R.

- see also under Robert, M.L.
- *Lens, F., Karehed, J., Baas, P., **Jansen, S.**, Rabaey, D., Huysmans, S., Hamann, T. & Smets, E.F. (2008). The wood anatomy of the polyphyletic lcacinaceae s.l., and their relationships within asterids. *Taxon* 57: 525–552.

Lewis, G.P. see under Bruneau, A.

- ----- see under Delgado-Salinas, A.
- ----- see under Mayo, S.J.
- —— see under Veitch, N.C.
- ----- see under Warwick, M.C.

*Lexer, C. & Widmer, A. (2008). The genic view of plant speciation: recent progress and emerging questions. *Philosophical Transactions of the Royal Society B-Biological Sciences* 363: 3023–3036.

- ----- see also under Barbará, T.
- ----- see also under Buerkle, C.A.
- —— see also under Joseph, J.A.
- ----- see also under Paggi, G.M.
- —— see also under Van Loo, M.

Linington, S.H. & Müller, J.V. (2008). There is more to a seed bank than seeds. *Ensconews* 4: 12–13.

Lledo, M.D. see under Rich, T.C.G.

Long, R.L., Panetta, F.D., Steadman, K.J., **Probert, R.J.,** Bekker, R.M., Brooks, S. & Adkins, S.W. (2008). Seed persistence in the field may be predicted by laboratory-controlled aging. *Weed Science* 56: 523–528.

Lucas, E.J. see under Govaerts, R.

— see under Murray-Smith, C.

Mabberley, D.J. (2008). *Mabberley's Plant-Book. Third edition.* Cambridge University Press. (*A portable dictionary of plants, their classification and uses.*)

----- see also under Muellner, A.N.

Malcolm, P. see under Mayo, S.J.

Manger, K. see under Hay, F.R.

Martínez Azorín, M. (2008). Sistemática del género *Ornithogalum* L. (Hyacinthaceae) en el Mediterráneo occidental: implicaciones taxonómicas, filogenéticas y biogeográficas. PhD Thesis. Raspeig, Spain: Universidad de Alicante. 409 pp.

*Maunder, M., Leiva, A., Santiago-Valentin, E., Stevenson, D.W., Acevedo-Rodríguez, P., Meerow, A.W., Mejia, M., **Clubbe, C.** & Francisco-Ortega, J. (2008). Plant conservation in the Caribbean Islands Biodiversity Hotspot. *The Botanical Review* 74: 197–207.

Maurin, O. see under Lahaye, R.

Maynard, D., Crayn, D., Rossetto, M., Kooyman, R. **& Coode, M.** (2008). *Elaeocarpus sedentarius* sp. nov. (Elaeocarpaceae)—morphometric analysis of a new, rare species from eastern Australia. *Australian Systematic Botany* 21: 192–200.

Mayo, S.J., Allkin, R., Baker, W.J., Blagoderov, V., Brake, I., Clark, B., Govaerts, R., Godfray, H.C.J., Haigh, A.L., Hand, R., Harman, K., Jackson, M., Kilian, N., Klrkup, D.W., Kitching, I.J., Knapp, S., Lewis, G.P., Malcolm, P., von Raab-Straube, E., Roberts, D.M., Scoble, M.J., Simpson, D.A., Smith, C., Smith, V., Villalba, S., Walley, L. & Wilkin, P. (2008). Alpha e-taxonomy: responses from the systematics community to the biodiversity crisis. *Kew Bulletin* 63: 1–16.

- ----- see also under Andrade, I.M.
- see also under Barbará, T.
- ----- see also under Cabrera, L.I.
- —— see also under Godfray, H.C.J.
- —— see also under **Haigh, A.L.**
- ----- see also under Smith, C.R.

McGough, H.N. see under Ogden, R.

- McQuoid, N.K. **& Hopper, S.D.** (2008). The rediscovery of *Eucalyptus nutans* F. Muell. from the south coast of Western Australia. *Journal of the Royal Society of Western Australia* 90: 41–45.
- *Merckx, V. & Bidartondo, M.I. (2008). Breakdown and delayed cospeciation in the arbuscular mycorrhizal mutualism. *Proceedings of the Royal Society B* 275: 1029–1035.
- *Micheneau, C., Carlsward, B.S., **Fay, M.F.**, Bytebier, B., Pailler, T. **& Chase, M.W.** (2008). Phylogenetics and biogeography of Mascarene angraecoid orchids (Vandeae, Orchidaceae). *Molecular Phylogenetics and Evolution* 46: 908–922.
- Mills, C. (2008). No Shrinking Violets. Art Quarterly Spring: 54-57.
- ---- (2008). Florilegia: A Brief History. The Highgrove Florilegium 1:

Moat, J. see under Brummitt, N.A.

- —— see under Murray-Smith, C.
- Mondoni, A., **Probert, R.J.,** Rossi, G., **Hay, F.R.** & Bonomi, C. (2008). Habitat-correlated seed germination behaviour in populations of wood anemone (*Anemone nemorosa* L.) from northern Italy. *Seed Science Research* 18: 213–222.
- Moss, M., **Spooner, B.M.** & Mitchell, D. (2007). Two rare and interesting entomogenous fungi from south-east England. *Field Mycology* 8: 115–118.
- Muasya, A.M. **& Simpson, D.A.** (2008). Cyperaceae. *In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22: 177–182.

Mueller, J.V. see under Schmidt, M.

- Muellner, A.N. & Mabberley, D.J. (2008). Phylogenetic position and taxonomic disposition of *Turraea breviflora* (Meliaceae), a hitherto enigmatic species. *Blumea* 53: 607–616.
- *——, Pannell, C.M., Coleman, A. **& Chase, M.W.** (2008). The origin and evolution of Indomalesian, Australasian and Pacific island biotas: insights from Aglaieae (Meliaceae, *Sapindales*). *Journal of Biogeography* 35: 1769–1789.
- *——, Samuel, R., **Chase, M.W.,** Coleman, A. & Stuessy, T.F. (2008). An evaluation of tribes and generic relationships in Melioideae (Meliaceae) based on nuclear ITS ribosomal DNA. *Taxon* 57: 98–108.
- Mullen, R.J., Monekosso, D., Barman, S., Remagnino, P. & Wilkin, P. (2008). Artificial ants to extract leaf outlines and primary venation patterns. *In* Dorigo, M.e.a. (*ed.*) ANTS 2008, Lecture notes in Computing Sciences. Vol. 5217: 251–258.
- **Müller, J.V.** (2008). Grassland communities on a Sahelian peneplain in Burkina Faso. *Feddes Repertorium* 119: 42–62.
- —— (2008). Herbaceous and non-inundated vegetation of Sahelian inselbergs in Burkina Faso. *Candollea* 63: 57–79.
- —— see also under Linington, S.H.
- *Murray-Smith, C., **Brummitt, N.A.**, Oliveira-Filho, A.T., **Bachman, S.P., Nic Lughadha, E.M., Moat, J. & Lucas, E.J.** (2008). Plant diversity hotspots in the Atlantic coastal forests of Brazil. *Conservation Biology* 23: 151–163.
- **Nadarajan, J.,** Marzalina, M., Krishnapillay, B., Staines, H.J., Benson, E.E. & Harding, K. (2008). Application of differential scanning calorimetry in developing cryopreservation strategies for *Parkia speciosa*, a tropical tree producing recalcitrant seeds. *CryoLetters* 29: 95–110.
- —— see also under Pritchard, H.W.
- *Nadot, S., **Furness, C.A.,** Sannier, J., Penet, L., Triki-Teurtroy, S., Albert, B. & Ressayre, A. (2008). Phylogenetic comprative analysis of microsporogenesis in angiosperms with a focus on monocots. *American Journal of Botany* 95: 1426–1436.

Nic Lughadha, E.M. see under Paton, A.J.

- ----- see under Govaerts, R.
- —— see under Murray-Smith, C.
- Nikulinsky, P. **& Hopper, S.D.** (2008). *Life on the Rocks. The Art of Survival.* 2nd edn. Fremantle, Australia: Fremantle Arts Centre Press. 192 pp.
- Ofodile, L.N., **Simmonds, M.S.J., Grayer, R.J.** & Uma, N.U. (2008). Antimicrobial activity of two species of the genus *Trametes* Fr. (Aphyllophoromycetideae) from Nigeria. *International Journal of Medicinal Mushrooms* 10: 265–268.

- Ogden, R., **McGough, H.N., Cowan, R.S.,** Chua, L., **Groves, M.** & McEwing, R. (2008). SNP-based method for the genetic identification of ramin *Gonystylus* spp. *Timber and products: applied research meeting CITES enforcement needs* (Endangered Species Research):
- Okagaki, R.J., Jacobs, M.S., Stec, A.O., **Kynast, R.G.,** Buescher, E., Rines, H.W., Vales, M.I., Riera-Lizerazu, O., Schneerman, M., Doyle, G., Friedman, K.L., Staub, R.W., Weber, D.F., Kamps, T.L., Amarillo, I.F.E., Chase, C.D., Bass, H.W. & Phillips, R.L. (2008). Maize centromere mapping: a comparison of physical and genetic strategies. *Journal of Heredity* 99: 85–93.
- Okello, E.J., Dimaki, C., **Howes, M.-J.R.**, Houghton, P.J. & Perry, E.K. (2008). *In vitro* inhibition of human acetyl- and butyryl-cholinesterase by *Narcissus poeticus* L. (Amaryllidaceae) flower absolute. *International Journal of Essential Oil Therapeutics* 2: 105–110.
- Oldfield, S. (2008). Choices for tree conservation. Oryx 42: 159–160.
- Paggi, G.M., Palma-Silva, C., Bered, F., Cidade, F.W., Sousa, A.C.B., Souza, A.P., Wendt, T. & Lexer, C. (2008). Isolation and characterization of microsatellite loci in *Pitcairnia albiflos* (Bromeliaceae), an endemic bromeliad from the Atlantic Rainforest, and cross-amplification in other species. *Molecular Ecology Resources* 8: 980–982.

Palma-Silva, C. see under Paggi, G.M.

- *Papadopoulou, A., Bergsten, J., Fujisawa, T., Monaghan, M.T., **Barraclough, T.G.** & Vogler, A.P. (2008). Speciation and DNA barcodes: testing the effects of dispersal on the formation of discrete sequence clusters. *Philosophical Transactions of the Royal Society B-Biological Sciences* 363: 2987–2996.
- *Paton, A.J., Brummitt, N.A., Govaerts, R., Harman, K., Hinchcliffe, S., Allkin, R. & Nic Lughadha, E.M. (2008). Towards Target 1 of the Global Strategy for Plant Conservation: a working list of all known plant species progress and prospects. *Taxon* 57: 602–611.
- ----- see also under Suddee, S.
- *Paun, O., Schonswetter, P., Winkler, M. & Tribsch, A. (2008). Historical divergence vs. contemporary gene flow: evolutionary history of the calcicole *Ranunculus alpestris* group (Ranunculaceae) in the European Alps and the Carpathians. *Molecular Ecology* 17: 4263–4275.

Pennington, T.D. see under Dawson, I.K.

Pérez-Laínez, D., García-Mateos, R., San Miguel-Chávez, R., Soto-Hernández, M., Rodríguez-Pérez, E. **& Kite, G.C.** (2008). Bactericidal and fungicidal activities of *Calia secundiflora* (Ort.) Yalovlev. Z. *Naturforsch* 63: 653–657.

Philcox, D. see under Ghazanfar, S.A.

- Pillon, Y., **Hopkins**, **H.C.F**. & Bradford, J.C. (2008). Two new species of *Cunonia* (Cunoniaceae) from New Caledonia. *Kew Bulletin* 63: 419–431.
- Pintaud, J.-C. **& Baker, W.J.** (2008). A revision of the palm genera (Arecaceae) of New Caledonia. *Kew Bulletin* 63: 61–73.

Pletsers, A. see under Jansen, S.

- **Powell, M.P.** (2008). Evolutionary ecology of Neotropical orchids, with emphasis on Oncidiinae. PhD Thesis. London: University of Reading. 215 pp.
- ----- see also under Goldblatt, P.
- *Prenner, G. & Klitgaard, B.B. (2008). Towards unlocking the deep nodes of the Leguminosae: Floral development and morphology of the enigmatic *Duparquetia orchidacea* (Leguminosae-Caesalpinioideae). *American Journal of Botany* 95: 1349–1365.
- ——, Box, M.S., Cunniff, J. & Rudall, P.J. (2008). The branching stamens of *Ricinus* and the homologies of the angiosperm stamen fascicle. *International Journal of Plant Sciences* 169: 735–744.
- **&, Hopper, S.D. & Rudall, P.J.** (2008). Pseudanthium development in *Calycopeplus paucifolius*, with particular reference to the evolution of the cyathium in Euphorbieae (Euphorbiaceae–Malpighiales). *Australian Systematic Botany* 21: 153–161.
- **Pritchard, H.W. & Nadarajan, J.** (2008). Cryopreservation of orthodox (desiccation tolerant) seeds. *In* Reed, B.M. (*ed.*) Plant cryopreservation: a practical guide. Berlin: Springer. 485–501.
- —— see also under Ashmore, S.E.

see also under Daws, M.I. — (2008). Heterobasidiomycetes from Belize. Kew Bulletin 63: 87–99. see also under Roach, T. - (2008). Yellow Clavaria species in the British Isles. Field Mycology 9: 142-145. see also under Seal, C.E. - (2008). Callistosporium luteo-olivaceum: an agaric new to Britain. Field Probert, R.J. see under Hay, F.R. Mycology 10: 24-25 see under Long, R.L. - & Henrici, A. (2008). Sistotrema aciferum: a new, long-spored, see under Mondoni, A. corticioid fungus from England. Synopsis Fungorum 25: 11–13. *Prychid, C.J., Jabaily, R.S. & Rudall, P.J. (2008). Cellular ultrastructure and -, Spooner, B.M. & Henrici, A. (2007). Checklist of the British and Irish crystal development in Amorphophallus (Araceae). Annals of Botany 101: Basidiomycota: Second Update. 983-995. -, Spooner, B.M. & Henrici, A. (2006). Checklist of the British and Irish see also under Remizowa, M.V. Basidiomycota: First Update. Rabaey, D., Huysmans, S., Lens, F., Smets, E.F. & Jansen, S. (2008). -, Spooner, B.M. & Henrici, A. (2008). Checklist of the British and Irish Micromorphology and systematic distribution of pit membrane thickenings in Basidiomycota: Third Update (Summer 2008). Oleaceae: tori and pseudo-tori. IAWA Journal 29: 409-424. see also under Bridge, P.D. -, Lens, F., Huysmans, S., Smets, E.F. & Jansen, S. (2008). A comparative Rodriguez, A. see under Rico Arce, M.d.L. ultrastructural study of pit membranes with plasmodesmata associated *Rønsted, N., Savolainen, V., Molgaard, P. & Jager, A.K. (2008). thickenings in four angiosperm species. Protoplasma 233: 255–262. Phylogenetic selection of Narcissus species for drug discovery. Biochemical Ramsay, M.M. see under Sokoloff, D.D. Systematics and Ecology 36: 417-422. Remizowa, M.V., Sokoloff, D.D., Briggs, B.G., Macfarlane, T.D., Beer, A.S. & —, Weiblen, G.D., Clement, W.L., Zerega, N.J.C. & Savolainen, V. (2008). Rudall, P.J. (2008). Seedling structure, shoot architecture and morphological Reconstructing the phylogeny of figs (Ficus, Moraceae) to reveal the history identity of reproductive units in Hydatellaceae (Nymphaeales). Bulletin Tver of the fig pollination mutualism. Symbiosis 45: 45-55. State University, Series Biology and Ecology 25: 219–223. -, Weiblen, G.D., Savolainen, V. & Cook, J.M. (2008). Phylogeny, -, Sokoloff, D.D., Macfarlane, T.D., Yadav, S.R., Prychid, C.J. & Rudall, biogeography, and ecology of Ficus section Malvanthera (Moraceae). P.J. (2008). Comparative pollen morphology in the early-divergent Molecular Phylogenetics and Evolution 48: 12-22. angiosperm family Hydatellaceae reveals variation at the infraspecific level. Grana 47: 81-100. – see also under Harrison, R.D. Reynolds, L. see under Haigh, A.L. – see also under Jousselin, E. Rich, T.C.G., Mcdonnell, E.J. & Lledo, M.D. (2008). Conservation of Britain's Rudall, P.J. (2008). Fascicles and filamentous structures: comparative biodiversity: the case of Hieracium cyathis (Asteraceae) and its relation to ontogeny of morphological novelties in Triuridaceae. International Journal of other apomictic taxa. Botanical Journal of the Linnean Society 156: 669-680. Plant Sciences 169: 1023-1037. Rico Arce, M.d.L., Gale, S.L. & Maxted, N. (2008). A taxonomic study of -, Remizowa, M.V., Beer, A.S., Bradshaw, E., Stevenson, D.W., Albizia (Leguminosae: Mimosoideae: Ingeae) in Mexico and Central America. Macfarlane, T.D., Tuckett, R.E., Yadav, S.R. & Sokoloff, D.D. (2008). Anales del Jardin Botanico de Madrid 65: 255-305. Comparative ovule and megagametophyte development in hydatellaceae and water lilies reveal a mosaic of features among the earliest angiosperms. -, Rodriguez, A. & Moreno-Gutierrez, E. (2008). The collections of Annals of Botany 101: 941-956. legumes made by George B. Hinton, deposited in the herbarium of the Royal Botanic Gardens, Kew. Acta Botanica Mexicana 84: 73-92. see also under Bello, M.A. *Roach, T., Ivanova, M., Beckett, R.P., Minibayeva, F.V., Green, I., Pritchard, — see also under Box, M.S. H.W. & Kranner, I. (2008). An oxidative burst of superoxide in embryonic — see also under Prenner, G. axes of recalcitrant sweet chestnut seeds as induced by excision and see also under Prychid, C.J. desiccation. Physiologia Plantarum 133: 131–139. see also under Remizowa, M.V. Robert, M.L., Lim, K.Y., Hanson, L., Sanchez-Teyer, F., Bennett, M.D., Leitch, A.R. & Leitch, I.J. (2008). Wild and agronomically important Agave see also under Sajo, M.G. species (Asparagaceae) show proportional increases in chromosome number, see also under Smith, S.Y. genome size, and genetic markers with increasing ploidy. Botanical Journal of the Linnean Society 158: 215-222. see also under Sokoloff, D.D. *Roberts, D.L. & Dixon, K.W. (2008). Orchids. Current Biology 18: 325-329. - see also under Warner, K.A. — & Solow, A.R. (2008). The effect of the convention on international Ruhsam, M., Govaerts, R. & Davis, A.P. (2008). Nomenclatural changes in preparation for a World Rubiaceae Checklist. Botanical Journal of the trade in endangered species on scientific collections. Proceedings of the Royal Society B 275: 987-989. Linnean Society 157: 115-124. -, Gardiner, L.M. & Motes, M. (2008). Vanda longitepala (Orchidaceae): Sajo, M.G., Longhi-Wagner, H.M. & Rudall, P.J. (2008). Reproductive a new species from Burma. Kew Bulletin 63: 495-497. morphology of the early-divergent grass Streptochaeta and its bearing on the homologies of the grass spikelet. Plant Systematics and Evolution 275: see also under Duffy, K.J. 245-255 Roberts, P.J. (2006). Cystogloea oelandica: an unusual new auricularioid Sánchez-Medina, A., Stevenson, P.C., Habtemariam, S., Peña-Rodríguez, species from Sweden. Acta Mycologica 41: 25-27. L.M., Corcoran, O., Mallet, T.A. & Veitch, N.C. (2008). Triterpenoid saponins - (2007). British Tremella species IV: Tremella obscura, T. penetrans, T. from the cytotoxic root extract of Sideroxylon foetidissimum, an endemic giraffa & T. polyporina. Field Mycology 8: 127-133. Yucatecan medicinal plant. Planta Medica 74: 908-909

(2007). Phlebiella caricis-pendulae: a new corticioid fungus from Wales.

- (2007). Black and brown Clavaria species in the British Isles. Field

— (2008). Caribbean heterobasidiomycetes: 3. British Virgin Islands.

Synopsis Fungorum 22: 25-26.

Mycology 8: 59-62.

Mycotaxon 105: 137-147.

H., Parnell, J.A.N., Middleton, D., Newman, M., Van Welzen, P.C., **Simpson,**

Sano, Y., Ohta, T. & Jansen, S. (2008). The distribution and structure of pits

between vessels and imperforate tracheary elements in angiosperm woods.

Santisuk, T., Larsen, K., Nielsen, I., Chavamarit, K., Phengkhlai, C., Pedersen,

IAWA Journal 29: 1-15.

D.A., Hul, S. & Kato, M. (eds) (2008). Flora of Thailand 2. 9. 91–188 pp. -, Larsen, K., Nielsen, I., Chayamarit, K., Phengkhlai, C., Pedersen, H., Parnell, J.A.N., Middleton, D., Newman, M., Van Welzen, P.C., Simpson, D.A., Hul, S. & Kato, M. (eds) (2008). Flora of Thailand 3. 9. 179-410 pp. -, Larsen, K., Nielsen, I., Chayamarit, K., Phengkhlai, C., Pedersen, H., Parnell, J.A.N., Middleton, D., Newman, M., Van Welzen, P.C., Simpson, D.A., Hul, S. & Kato, M. (eds) (2008). Flora of Thailand 4. 9. 411–546 pp. *Saslis-Lagoudakis, C., Chase, M.W., Robinson, D.N., Russell, S.J. & CABI. 407-412. Klitgaard, B.B. (2008). Phylogenetics of neotropical Platymiscium (Leguminosae: Dalbergieae): systematics, divergence times, and biogeography inferred from nuclear ribosomal and plastid DNA sequence data. American Journal of Botany 95: 1270-1286. Sauquet, H. see under Doyle, J.A. Savolainen, V. see under Boatwright, J.S. see under Christin, P.A. — see under Edwards. D. see under Goldblatt, P. — see under Lahaye, R. — see under Rønsted, N. Schmidt, M., König, K. & Mueller, J.V. (2008). Modelling species richness and life form composition in Sahelian Burkina Faso with remote sensing data. Journal of Arid Environments 72: 1506-1517. Schrire, B. (2008). The Madagascan genus Vaughania is reduced to synonymy under Indigofera (Leguminosae-Papilionoideae-Indigofereae). Kew 179-200. Bulletin 63: 477-479. – see also under Figueiredo, E. — see also under Soares, M. Seal, C.E., Kranner, I. & Pritchard, H.W. (2008). Quantification of seed oil from species with varying oil content using supercritical fluid extraction. Phytochemical Analysis 19: 493-498. Simmonds, M.S.J. see under Asase, A. see under Avery, P.B. 16-21. — see under Formisano, C. 77-79. see under Grace, O.M. - see under Grayer, R.J. 113-114. see under Horwath, A.B. — see under Sousa, M.M. 119-121. - see under Ofodile, L.N. Simpson, D.A. (2008). Typhaceae. In Santisuk, T., ;Larsen, K., ;Nielsen, I., ;Chayamarit, K., ;Phengkhlai, C., ;Pedersen, H., ;Parnell, J.A.N., ;Middleton, D., ;Newman, M., ;van Welzen, P.C., ;Simpson, D.A., ;Hul, S.; & Kato, M. (eds) Flora of Thailand. Bangkok: The Forest Herbarium, National Park, Wildlife and Conservation department. Vol. 2: 176-178. – (2008). Frosted curls to tiger nuts: ethnobotany of Cyperaceae. In Naczi, R.F.C.; & Ford, B. (eds) Sedges: uses, diversity and systematics of the Cyperaceae. Monographs in Systematic Botany from the Missouri Botanical Garden. St Louis: MBG Press. see also under Arauio, A.C. see also under Kantachote, C. see also under Mavo, S.J. — see also under Muasya, A.M. — see also under Santisuk, T. see also under Starr, J.R.

Skoula, M., Grayer, R.J., Kite, G.C. & Veitch, N.C. (2008). Exudate flavones and flavanones in *Origanum* species and their interspecific variation. Biochemical Systematics and Ecology 36: 646-654.

Smith, C.R., Godfray, H.C.J., Scoble, M.J., Clark, B.J., Kitching, I.J., Mayo, S.J., Blagoderov, V., Haigh, A.L., Jackson, M., Sadler, S., Lay, L.N. & Young, R.P.W. (2008). Introducing CATE - a model for moving taxonomy to the web. In Yata, O. (ed.) The second report on insect inventory project in tropical Asia (TAIV). Fukuoka, Japan: Kyushu University. 137–144.

Smith, P.P. (2008). Ex situ conservation of wild species: services provided by botanic gardens. In N. Maxted, B.V., ;Ford-Lloyd, S.P., ;Kell, J.M., ;Iriondo, M.E.; & J, D.T. (eds) Crop wild relative conservation and use. Wallingford:

Smith, R.J. see under Bateman, R.M.

—— see under Cowan, R.S.

*Smith, S.Y., Collinson, M.E. & Rudall, P.J. (2008). Fossil Cyclanthus (Cyclanthaceae, Pandanales) from the Eocene of Germany and England. American Journal of Botany 95: 688-699.

Soares, M., Abreua, J., Nunesa, H., Silveira, P., Schrire, B. & Figueiredo, E. (2008). The Leguminnosae of Angola: diversity and endemism. Systematics and Geography of Plants 77: 141-212.

Sokoloff, D.D., Remizova, H.P., Linder, H.P. & Rudall, P.J. (2008). Morphological nature of reproductive units and interpretation of inflorescences in Centrolepidaceae (Poales). Bulletin Tver State University, Series Biology and Ecology 25: 257–262.

-, Remizowa, M.V., Tuckett, R.E., Ramsay, M.M., Beer, A.S., Yadav, S.R. & Rudall, P.J. (2008). Seedling diversity in Hydatellaceae: Implications for the evolution of angiosperm cotyledons. Annals of Botany 101: 153-164.

-, Remizowa, M.V., Macfarlane, T.D. & Rudall, P.J. (2008). Classification of the early-divergent angiosperm family Hydatellaceae: one genus instead of two, four new species and sexual dimorphism in dioecious taxa. Taxon 57:

*Sousa, M.M., Melo, M.J., Parola, A.J., de Melo, J.S.S., Catarino, F., Pina, F., Cook, F.E.M., Simmonds, M.S.J. & Lopes, J.A. (2008). Flavylium chromophores as species markers for dragon's blood resins from Dracaena and Daemonorops trees. Journal of Chromatography A 1209: 153-161.

Spooner, B.M. (2007). Gnawing by small mammals on effused stromatic ascomycetes. Field Mycology 8: 63-65.

- (2007). A newly revised key to the genus Peziza in Britain. Forayer 2:
- (2007). A Taphrina species on Quercus ilex in Britain. Field. Mycology 8:
- —— (2007). Pholiota squarrosoides new to Britain. Field Mycology 8:
- (2008). A leaf parasite of Acer new to Britain. Field Mycology 9:
- (2008). Phacellium sorbi (Peck) comb. nov. (Hyphomycetes), new to Britain from leaf spots of Sorbus aucuparia, Field Mycology 9: 121–125.
- (2008). Fungi of Thames Ditton and Weston Green. Thames Ditton Today Autumn 2008: 15-17.
- (2008). Gall-causers of lichens in Britain. Cecidology 23: 67–84.
- see also under Bridge, P.D.
- see also under Moss, M.
- see also under Roberts, P.J.

Spottiswoode, C.N., Patel, I.H., Hermann, E., Timberlake, J. & Bayliss, J. (2008). Threatened bird species on two little-known mountains (Chiperone and Mabu) in northern Mozambique. Ostrich 79: 1-7.

Stapleton, C.M.A. see under Sungkaew, S

Starr, J.R., Harris, S.A. & Simpson, D.A. (2008). Phylogeny of the unispicate taxa in Cyperaceae tribe Cariceae II: the limits of Uncinia Pers. In Naczi, R.F.C.; & Ford, B. (eds) Sedges: uses, diversity and systematics of the Cyperaceae. Monographs in Systematic Botany from the Missouri Botanical Garden. St Louis: MBG Press.

Stevenson, P.C. see under Sánchez-Medina, A.

Stone, R.D., Ghogue, J.-P. & Cheek, M. (2008). Revised treatment of

Memecylon sect. Afueliana (Melastomataceae: Olisbeoideae) Kew Bulletin 63: 227–241.

Stuppy, W. & Kesseler, R. (2008). Fruit: edible, incidible, incredible. Newbury, Berkshire and New York, USA: Papadakis and Firefly. 264 pp.

Suddee, S. & Paton, A.J. (2008). *Teucrium scabrum* (Lamiaceae), a new species from Thailand. *Kew Bulletin* 63: 675–678.

Sungkaew, S., Teerawatananon, A., Parnell, J.A.N., **Stapleton, C.M.A.** & Hodkinson, T.R. (2008). *Phuphanochloa*, a new bamboo genus (Poaceae: Bambusoideae) from Thailand. *Kew Bulletin* 63: 669–673.

Taskova, R.M., **Kokubun, T., Grayer, R.J.,** Ryan, K.G. & Garnock-Jones, P. (2008). Flavonoid profiles in the Heliohebe group of New Zealand *Veronica* (Plantaginaceae). *Biochemical Systematics and Ecology* 36: 110–116.

Taylor, N.P. (2008). *Sulcorebutia*: Fools step in where angels fear to tread. *Cactaceae Systematics Initiatives* 24: 38–40.

- **& Hunt, D.** (2008). *Echinocereus. Cactaceae Systematics Initiatives* 24: 12–17.
- **& Zappi, D.C.** (2008). *Orychophragmis violaceus. Brassicaceae. Curtis's Botanical Magazine* 25: 132–138.
- —— **& Zappi, D.C.** (2008). A neglected species of *Cipocereus. Cactaceae Systematics Initiatives* 24: 8–11.

Thulin, M., Beier, B.A., Razafimandimbison, S.G. & Banks, H.I. (2008). *Ambilobea*, a new genus from Madagascar, the position of *Aucoumea*, and comments on the tribal classification of the frankincense and myrrh family (Burseraceae). *Nordic Journal of Botany* 26: 218–229.

——, **Goyder, D.J.** & Liede-Schumann, S. (2008). *Cibirhiza spiculata* (Apocynaceae), a remarkable new species from eastern Ethiopia. *Kew Bulletin* 63: 617–624.

Timberlake, J. see under Holdo, R.M.

- ----- see under Spottiswoode, C.N.
- *Tolley, K.A., Chase, B.M.F. **& Forest, F.** (2008). Speciation and radiations track climate transitions since the Miocene Climatic Optimum: a case study of southern African chameleons. *Journal of Biogeography* 35: 1402–1414.

Toorop, P.E. see under Claessens, S.M.C.

- —— see under Da Silva, E.A.A.
- Tosh, J., De Block, P., **Davis, A.P.,** Dessein, S., Robbrecht, E. & Smets, E.F. (2008). The tribal placement of the monospecific tropical African genus *Petitiocodon* (Rubiaceae) based on molecular data and morphology. *Blumea* 53: 549–565.

Trudgen, M.S. & Baker, W.J. (2008). A revision of the *Heterospathe elegans* (Arecaceae) complex in New Guinea. *Kew Bulletin* 63: 639–647.

- ——, Anh, T.T.P. & Henderson, A. (2008). *Rhapis puhuongensis*, a new species from Vietnam *Palms* 52: 181–186.
- *Van Loo, M., Joseph, J.A., Heinze, B., Fay, M.F. & Lexer, C. (2008). Clonality and spatial genetic structure in *Populus x canescens* and its sympatric backcross parent *P-alba* in a Central European hybrid zone. *New Phytologist* 177: 506–516.
- *Veitch, N.C. & Grayer, R.J. (2008). Flavonoids and their glycosides, including anthocyanins. *Natural Product Reports* 25: 555–611.
- *—, **Kite, G.C. & Lewis, G.P.** (2008). Flavonol pentaglycosides of *Cordyla* (Leguminosae: Papilionoideae: Swartzieae): Distribution and taxonomic implications. *Phytochemistry* 69: 2329–2335.
- ----- see also under Grace, O.M.
- ----- see also under Grayer, R.J.
- ----- see also under Sánchez-Medina, A.
- ----- see also under Skoula, M

Villalba, S. see under Mayo, S.J.

Vollesen, K. (2008). Acanthaceae part 1. *In* Beentje, H.J.; & Ghazanfar, S.A. (*eds*) Flora of Tropical East Africa. Richmond: RBG Kew. 286.

------ see also under Darbyshire, I.

Vorontsova, M.S. & Hoffmann, P. (2008). A phylogenetic classification of tribe Poranthereae (Phyllanthaceae, Euphorbiaceae *sensu lato*). *Kew Bulletin* 63: 41–59.

*Warner, K.A., **Rudall, P.J. & Frohlich, M.W.** (2008). Differentiation of perianth organs in *Nymphaeales*. *Taxon* 57: 1096–1109.

Warwick, M.C., **Lewis, G.P.** & Lima, H.C.d. (2008). A reappraisal of *Barnebydendron (Leguminosae:Caesalpinioidee :Detarieae). Kew Bulletin* 63: 143–149.

*Waterman, R.J. & Bidartondo, M.I. (2008). Deception above, deception below: linking pollination and mycorrhizal biology of orchids. *Journal of Experimental Botany* 59: 1085–1096.

White, L. & Gasson, P. (2008). Mahogany. First edn. Kew: RBG Kew. 1–120 pp.

Wilkin, P. (2008). Dioscoreaceae. *In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angola/ Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22: 183–183.

- —— & Wiland-Sxymanska, J. (2008). Dracaenaceae. *In* Figueiredo, E.; & Smith, G.F. (*eds*) Plants of Angola/Plantas de Angola. Pretoria: South African National Biodiversity Institute. Vol. *Strelitzia* 22: 183–183.
- ——, Andrianantenaina, W.P., Jeannoda, V.H. & Hladik, A. (2008). The species of *Dioscorea* L. (*Dioscoreaceae*) from Madagascar with campanulate tori, including a new species from eastern Madagascar. *Kew Bulletin* 63: 583–600.
- ——, Rajaonah, M.T., Jeannoda, V.H., Hladik, A., Jeannoda, V.L. & Hladik, C.M. (2008). An endangered new species of edible yam (*Dioscorea*, Dioscoreaceae) from Western Madagascar. *Kew Bulletin* 63: 113–120.
- ----- see also under Gage, E.
- ----- see also under Mayo, S.J.
- ----- see also under Mullen, R.J.

Wilmot-Dear, C.M. (2008). *Mucuna* (Leguminosae) in Thailand. *Thai Forest Bulletin* 36: 114–139.

Wood, J.J. (2008). Four new species of *Dendrobium* from Borneo. *Orchid Review* 116 1279: 16–23.

- —— (2008). Anoectochilus of Mount Kinabalu. Malesian Orchid Journal 1: 5–12.
- —— (2008). Two interesting species of *Dendrochilum* from Borneo. *Malesian Orchid Journal* 1: 77–84.
- —— (2008). New Orchids from Borneo. *Malesian Orchid Journal* 1: 103–146.
- —— & Lamb, A. (2008). A new species of *Cleisocentron* from Borneo. *Malesian Orchid Journal* 1: 87–92.
- —— see also under Lamb, A.

Zalucki, J.M. & Daws, M.I. (2008). Sources of variation in germination of *Xanthorrhoea johnsonii* (Xanthorrhoeaceae) seeds: maternal plant and seed mass effects. *Seed science and technology* 36: 657–666.

Zappi, D.C. see under Jardim, J.G.

—— see under **Taylor, N.P.**

contact details

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

Published by TSO (The Stationery Office) and available from:

Online

www.tsoshop.co.uk

Mail, Telephone, Fax & E-mail

TSO

PO Box 29, Norwich, NR3 1GN

Telephone orders/General enquiries 0870 600 5522

Order through the Parliamentary Hotline Lo-Call 0845 7 023474

Fax orders: 0870 600 5533 E-mail: customer.services@tso.co.uk

Textphone: 0870 240 3701

The Parliamentary Bookshop

12 Bridge Street, Parliament Square,

London SW1A 2JX

Telephone orders/ General enquiries: 020 7219 3890

Fax orders: 020 7219 3866 Email: bookshop@parliament.uk

Internet: http://www.bookshop.parliament.uk

TSO@Blackwell and other Accredited Agents

Customers can also order publications from

TSO Ireland 16 Arthur Street, Belfast BT1 4GD 028 9023 8451 Fax 028 9023 5401

