



Roger and out

Roger Williams, RHS Head of Science since July 2008, left in May to take up a position with FAR (Foundation for Agricultural Research) in New Zealand. Roger's role will be to develop a strategic R&D programme in partnership with government and industry tackling some of the "big" issues. As Roger said, this was the only job that could have tempted him away from the RHS.

Roger has had a major impact as RHS Head of Science. Perhaps his most lasting legacy is the John MacLeod Field Research Facility. However, he will be best remembered for the way he could engage and engender enthusiasm for RHS Science across a wide range of people both within and outside the RHS.

He will be greatly missed and we wish him every success in his new position.

Photos:

Neil Hepworth (above);
Andy Paradise (right)

World-class future for RHS research

On May 2nd Professor David Bellamy officially opened the new John MacLeod Field Research Facility at Deers Farm, Wisley. After the ceremony, Professor Bellamy was given a tour of the facility and introduced to several members of the Science team, including Liz Beal (Pathology), whose experiment examining the susceptibility of certain woody plant species to honey fungus has already been established in one of the controlled environment chambers. Delivered on time and on budget, the facility will enable RHS scientists to undertake world-class research into a wide range of issues affecting gardeners.

Said outgoing Head of Science Dr Roger Williams, "The project is indebted to numerous members of staff. Special thanks need to go to the Curatorial team for the landscaping, Science staff for overseeing the building's technical requirements, the Operations team for ensuring the building is manageable and the Estates department for managing the whole process. A very big thank you to everyone involved."

Sheer class: Professor Bellamy, assisted by Roger Williams, inaugurates the new FRF.

 **John David**

Rare wildlife flourishing in RHS gardens

RHS gardens are havens for wildlife and support many uncommon species. With wildlife (biodiversity) in mind, the challenge for the RHS is to encourage, record, preserve and promote biodiversity, without compromising garden design, innovation or management. To do this a good record of the biodiversity found in RHS gardens is vital – a process in which RHS staff are invited to participate.

Recorder 6 software is used to centralise records of native and naturalised fauna and flora from RHS properties. The database currently contains more than 44,700 records. Archive records have been added and date back to a report of the brimstone butterfly from Wisley in 1891, twelve years before the estate was donated to the RHS.

The records include many rare or uncommon plants and animals, including more than 100 UK Biodiversity Action Plan species. At Wisley, these include the **stag beetle** (*Lucanus cervus*) and **bird's-nest orchid** (*Neottia nidus-avis*); at Rosemoor the **pearl-bordered fritillary** (*Boloria euphrosyne*) and **otter** (*Lutra lutra*); at Harlow Carr the **lesser redpoll** (*Carduelis cabaret*); while Hyde Hall has **turtle doves** (*Streptopelia turtur*) and a population of **brown hares** (left; *Lepus europaeus*).

If you would like to help with this project, please submit any wildlife records (see panel) to **Andrew Salisbury**. Details of data held on Recorder 6 can also be provided on request.

The stag beetle *Lucanus cervus* is a globally threatened species. The male's mandibles are too weak to harm humans.

How to report your sightings

Four Ws are required to make a record (the more detailed the better):

- **What:** species name (common or scientific). If you cannot identify the species, send a specimen or a photograph to Entomology.
- **Where:** a specific area within an RHS garden is best
- **When:** the exact day is ideal but observations made over several days can be accommodated
- **Who:** the recorder's name.
- **Other details** (e.g. numbers and observed behaviour) are welcomed.

 **Andrew Salisbury**

New Horticultural Development Council / RHS research fellowship

In a new five-year fellowship, jointly funded with the HDC, the RHS will recruit and train a post-doctoral horticultural scientist to undertake much-needed research into watering, plant nutrition and growing media. The research carried out will be relevant to the entire range of horticultural activity from professional growers to amateur gardeners.

It is a condition of funding that any findings will be communicated widely to ensure maximum impact. As well as helping to tackle issues surrounding drought, the responsible use of peat, and sustainability, the new position is intended to help encourage scientists to choose horticulture-related careers.

Photos:

Andy Paradise (above); Joyce Maynard (stag beetle); RHS Hyde Hall (hare); Carol Sheppard (siskin)

Thinking around the box

In April the RHS hosted a one-day summit in the Lawrence Hall on box (*Buxus* spp.). Around 50 delegates including scientists, nursery growers and gardeners from 8 different countries attended the workshop. The morning included presentations on pests and diseases of box by **Béatrice Henricot** and **Andrew Halstead**, as well as Dr Kurt Heungens (Institute for Agricultural and Fisheries Research, Belgium) and Dr Kelly Ivors (NC State University, USA), and ended with a discussion concerning research plans for the future.

The workshop had three objectives:

- to arrive at a shared understanding of what we currently know about pests and diseases on box for dissemination to scientists, growers and gardeners;
- to identify and prioritise further work needed, especially research requirements;
- to facilitate collaboration between stakeholders with an interest in box.

In the afternoon, several industry speakers shared their experience of how best to grow healthy box in nurseries and semi-natural environments. Participants then devised action plans for future research priorities and how best to share knowledge and best practices. It was decided that knowledge transfer ideas will be developed, including websites, articles for scientists and gardeners, a field guide and updates on the existing literature.

The Box Summit was generally agreed to have been a great success, and very timely given the current spread of box blight in the USA and British Columbia. As one attendee said, "It's great to see the RHS playing a leadership role on a global scale on this kind of issue."

Anastasia Korycinska of FERA gave a talk on the newly introduced box tree moth (seen here in larval form, spinning its cocoon before pupating). For more about box problems, see www.rhs.org.uk/Science/Plant-diseases/Box-problems.

New funding from Spencer Horticultural Trust

The Spencer Horticultural Trust has agreed to support a proposal from the RHS to run a post-doctoral research fellowship and PhD studentship scheme. The total award of more than £400,000 will be spread over a period of seven years and will enable the appointment of a horticultural scientist to address the impact of climate change on gardens, one of the key areas identified in the RHS's Science Strategy. There will also be four PhD studentships.

 **Béatrice Henricot**

Hanburyana Volume 6 now available

The sixth volume of *Hanburyana*, the RHS serial dedicated to horticultural taxonomy, has now been published. It includes a 70-page checklist of *Kniphofia* cultivars in cultivation by Chris Whitehouse (Principal Scientist – Botany; see p.1, in the March newsletter) and the latest list of RHS exhibition awards, with descriptions. The online version will shortly be available at www.rhs.org.uk/Plants/RHS-Publications/Journals/Hanburyana.

Photos:

Bob Martin (above); Andrew Halstead (top right). Inset: *Kniphofia* 'Saundersii'.

Dramatic rise in Advisory standards

Bigger really is better when it comes to diagnosing plant problems and identifying plants. Assistant Advisors **Rebekah Mealey** and **Patricia George** (left) were pleased, if somewhat surprised, to find that one RHS member had sent in their entire standard rose. Measuring more than 1.9m tall, it has provided much of the evidence needed for effective analysis. For example, the fine roots can be examined for the diseases caused by *Pythium* and *Phytophthora*, the root collar for signs of deep planting and rot, and the stems for mechanical damage and pests. When this is combined with a full description of the problem, the Advisory Service can provide its best response – this rose has honey fungus.

In contrast, shrivelled and rotting samples can't usually be identified. In such cases, we write back to the member and ask for better samples and more written information. Rebekah adds, "We try to avoid this by encouraging members to send large samples through the guidance on our leaflets and website – we want to be able to give them an answer."

Drought update

Despite wags calling this the "wettest drought on record" (see table, right), restrictions on water use remain. Therefore the RHS will continue to be under scrutiny in watering plants in its gardens, shows and plant centres. To ensure consistent messages and keep staff informed, Guy Barter (Chief Horticultural Advisor), Malcolm Berry (Head of Buying, RHS Plant Centres), Colin Crosbie (Curator, Wisley) and Eoin Redahan (Press and PR) have formed a group to gather, co-ordinate and publicise drought information and publications within the RHS. They welcome questions and are happy to provide information on current activities.

As part of National Gardening Week, on the Advisory Open Access day, **Nicola Bristow**, **Rebekah Mealey** and **Laura Robins** recently evaluated a **live Facebook and Twitter facility**. Said Chief Horticultural Advisor Guy Barter, "Despite limited responses, this has greatly helped us in seeing how we can use social media to spread advice both to members and (importantly) those not yet members."



Photos:

Leigh Hunt (above); Guy Barter (top right)

The **BASIS Certificate in Crop Protection**, designed both for those using agrochemicals and those giving advice on their use, is the industry standard for demonstrating competence in controlling pests effectively, humanely and with due care for the environment. After two months of inhouse training, and a four-day condensed course, six members of the Science and Curatorial teams were successful in passing the Amenity Horticulture exam (left to right from trainer, far left): Nick Morgan, Lenka Cooke, Guy Barter, Tony Dickerson, Andy Salisbury, and Jim Arbury.

Rainfall in RHS Gardens April 2012 (mm)

Garden	4/12	LTA	%LTA	Q1		Q1	
				2012	LTA	2012	%LTA
Wisley	117.7	47.5	248	1.8	45.8	140.3	33
Rosemoor	127.9	56.5*	225	13.4	147.8	207*	71
Harlow Carr	143.8	66.4	217	6.5	+	226.7	+
Hyde Hall	133.5	43.9	303	6.5	82.25	139.9	59

* No long term average available for Rosemoor; figures from nearest Met Office Station at Chivenor
+ Awaiting final figures for the rainfall for Feb / March
LTA = long term average for the month



Guy Barter, Leigh Hunt

Volunteer profile: June Skinner

June joined the Science Dept at Wisley in 1998 to work on *RHS Plant Finder*. Since retiring in 2005, she has returned each year as a volunteer to help with the compilation of the Plant Directory section of the book, creating an impressive 18,000 plant names and nearly 77,000 nursery item records in the process. When she's not attempting to decipher the handwriting of nurserymen, June enjoys attending to her own garden and travelling as much as possible.

Photos:

June Skinner (above); BUA (lily)

Growth in Chinese lily breeding continues

A sixth Chinese institution, Beijing University of Agriculture (BUA), has started sending in details of its new hybrids, reflecting what is clearly burgeoning growth in lily development in China. The Wei Dong & Chengdu United Bio-technology Company started the trend in 2007, swiftly followed by Yongkang Zhejiang Jiangnan Lily Breeding Company and organisations in Yunnan and Guizhou and Beijing Forestry Institute. BUA has submitted seven successful applications, including *L. 'Happy Tree'* (right). Chinese cultivar names can be transcribed into alphabetic script, but it's best practice to record the Chinese ideographs as well. Said International Lily Registrar Duncan Donald, "Adding Chinese pictograms to the Register database can prove challenging. If they can't be cut and pasted electronically, it means trying to match each one from the 21,000 CJK Unified Ideographs in the current edition of BabelMap. And then comes the challenge of ensuring they are printed correctly in the next Register."

The Rosewarne Collection of daffodils

Later this year, the historic Rosewarne Collection of daffodils will be relocated to the Rock area at Wisley. The collection came to the Garden in 1989, when Rosewarne Experimental Horticultural Station was closed down and its collection of bulbs was split between several different sites. Wisley gained around 140 cultivars, many of which were historically important, such as 'Mrs R.O. Backhouse' ("the first pink-cupped daffodil of any consequence") and 'Beersheba', an innovatory white trumpet daffodil. The collection contains many cultivars that have been particularly important in daffodil breeding over the years and which are now quite hard to come by.

Lilium 'Happy Tree' (幸福树), a new Chinese lily cultivar.

The 5,000th plant (+ *Laburnocytisus 'Adamii'*) was added to RHS Plant Selector earlier this year. "We have had huge interest in this service since it was relaunched for public use at the turn of last year," said Chief of Horticultural Informatics Janet Cubey. "The list of suggestions that Plant Selector comes up with aims to cater for gardeners with different levels of experience and with interests in different plant groups. So while you'll find plants you're familiar with, and plants with the AGM, you'll also find some slightly more unusual plants. Adam's laburnum is an excellent example of this. We'll continue to develop this diversity as we add more plants each month."

 **Janet Cubey**

Science Outreach: April & May

It has been a good two months for RHS Science in the media. Advisory's **Helen Bostock** (left) promoted horticulture as a career in the *Daily Mail*, while *Radio 4's Gardeners' Question Time* featured interviews with **Tijana Blanusa** on plant adaptations to drought and **Béatrice Henricot** on Impatiens downy mildew. **Guy Barter** spent much of April discussing drought and the hosepipe ban on tv, radio, online, and in the press, including appearances on *Sky News*, *Heart Essex*, and a BBC online Q&A session. Elsewhere, **Janet Cubey** discussed the new *RHS Plant Finder* on BBC Radio Kent, and there were also advisory contributions from **Andrew Halstead** and **Leigh Hunt** in the *Telegraph* and *Guardian* respectively.

In April, Wisley hosted a meeting of 20 UK phytodiagnosticians (specialists in plant pathogen diagnostics). The group discussed the latest trends in fungal diseases. and Pathology's **Béatrice Henricot**, **Liz Beal**, and **Geoff Denton** gave talks on 2011's pathology enquiries, rhizomorphs and *Robinia*, and the latest Pythium research respectively. The meeting finished with a garden tour led by Matthew Pottage.

An innovation at this year's RHS shows is the **information kiosk on the RHS Life stand**. This is designed to showcase two key outputs from Horticultural Informatics, **RHS Plant Selector** and **RHS Plant Finder**, with users being encouraged to log on to find out more about plants of interest or simply browse the extensive range of Advisory Profiles. We are also using QR codes (right) to encourage people to take RHS knowledge and expertise with them wherever they go by scanning the QR code with your smartphone. If you have one why not try this one out.

Photo:

Leigh Hunt (above)

Global Plants Initiative

In April, Botany's Christopher Whitehouse attended the 5th GPI (Global Plants Initiative) meeting at Real Jardín Botánico de Madrid.

The GPI consists of over 200 herbaria from around the world that are making their collections available online through the [JSTOR Plant Science](#) website. The meeting reviewed progress so far of the GPI project, as well as offering an opportunity to discuss methods used and issues encountered.

Much of the meeting was devoted to planning the future of the GPI and JSTOR Plant Science when the funding by Andrew W. Mellon Foundation comes to an end in 2013.

RHS Science News (page 6)

Recent Science publications

- Alexander, P.** (2012), RHS Science Update: Replacing peat. *The Garden* 137(1): 68–71.
- Alexander, P. & Williams, R.** (2012). Consumer attitudes to peat-free media. *The Plantsman* 11(1): 44–47.
- Armitage, J. D.** (2012). Notes from Wisley (v.c. 17): the sex forms of *Cortaderia selloana*. *BSBI News* 119: 57–58.
- Armitage, J. D.** (2012). Get to Grips with Grasses. *Garden Design Journal* 118: 27–29.
- Armitage, J. D.** (2012). Welcoming in Mourning Widows. *The Garden* 137: 47–50.
- Beal, L.** (2012). Impatiens downy mildew. *The Garden*. 37: 44–45.
- Donald, D.** (2011). *Clematis* registered between July 2010 and June 2011. *The Clematis* 2011: 175–177.
- Donald, D.** (2012). *The International Lily Register & Checklist* (2007). 3rd Supp.
- Salisbury, A., Malumphy, C. & Halstead, A.J.** (2012). First record of blue mint beetle *Chrysolina coerulans* (Scriba) (Chrysomelidae) breeding in Britain. *The Coleopterist* 21: 35–37.
- Shaw, J.M.H.** (2012). Proposal to amend the *ICNCP*. *Hanburyana* 6: 3–5.
- Whitehouse, C.M.** (2012). Trial of climbing *Lonicera* (subgenus *Lonicera*). *The Plantsman* 11(1): 10–15.
- Whitehouse, C.M.** (2012). Preliminary checklist of *Kniphofia* epithets. *Hanburyana* 6: 9–82.
- Whitehouse, C.M. & Cubey, J.J.** (2012). Plants given RHS Exhibition Awards 2008–2010. *Hanburyana* 6: 83–139.

 **John David**