

The Prince and the Pooter

As a curtain raiser for the 2012 National Insect Week (25 June–1 July), the Royal Entomological Society obtained permission from The Prince of Wales to hold a bioblitz in the garden of Clarence House, his official residence.



As the media look on, Andrew Halstead (left, in red) shows Prince Charles a rosemary beetle (inset) found on his lavender bushes.

New Science team to deal with plant health threats

In response to the rise in serious pest and disease problems, the RHS has brought together the plant pathology and entomology sections into one plant health team. **Andrew Halstead** has been appointed as the new Principal Scientist, Plant Health, and will take the lead for plant health for Science and co-ordinate plant health issues across the Society. **Béatrice Henricot** meanwhile takes up the new role of Principal Research Scientist, Plant Pathology, and will develop RHS research into plant diseases.

Photos: Bob Martin (above); © Paul Burns (top right); RHS (inset)

The RHS's Andrew Halstead (Principal Scientist, Plant Health) was asked by the RES to assemble a team of eight entomologists to take part in [the event on Friday 22 June](#). Thirty primary school children from a Croydon school also attended and took a keen interest in the use of nets, pooters and other collecting equipment. Prince Charles was scheduled to have a 15-minute walk round the garden to see the entomologists at work and meet the children, but in the event spent half an hour with them.

Apart from the insects taken in nets and suction samplers or sighted on the day, other specimens were collected in apparatus set up in advance. This included pitfall traps in the soil, water-filled bowls, and a light trap. Since the weather on the day was not ideal, being mostly cool and cloudy with occasional rain and a blustery wind, insects that fly in warm sunny conditions (such as hoverflies and butterflies) were hard to find. In spite of this, it is expected that an impressively long list will be compiled when all the identifications have been completed later in the summer.

What is National Insect Week?

A biennial event organised by the Royal Entomological Society to raise the profile of insects and their myriad roles in the environment.

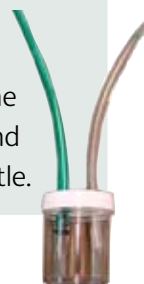
What is a bioblitz?

A gathering of naturalists at a particular place, who during the course of a day record as many species as possible.

What is a pooter?

A device used when collecting insects, consisting of two tubes fixed into a sealed receptacle. One tube is placed over an insect; the user sucks on the other tube, and the insect is drawn into the bottle.

 **John David**



New threat to Pines at Wisley

The economically important disease **red band needle blight** (RBNB) has been confirmed by Plant Pathology on several *Pinus* species at Wisley. This has led to the implementation of new management practices on pines in the garden.

RBNB is caused by two recognised fungal species and affects a number of coniferous species, especially pines. In the UK and most of the world, it is caused by *Dothistroma septosporum*. The disease causes needle defoliation resulting in loss of yield and (in severe cases) mortality. Since the 1990s it has spread rapidly in Europe and Canada, and is now widespread in the UK. Prior to this, the disease was primarily a concern in the southern hemisphere. RBNB is an EU-listed quarantine disease; it is subject to regulation on nursery stock but not in gardens.

Early symptoms are visible in late autumn and include yellow bands and tan spots on the live needles. Bands rapidly turn red/brown while the needle base remains green. In severely affected trees, lower branches can be completely defoliated and the crown becomes sparse.

Matthew Pottage (Garden Manager) says, "We have large populations of both Scots and Monterey pine (*Pinus sylvestris* and *P. radiata*) at Wisley. RBNB has already started to affect some of the pines in the garden, but has the potential to cause far more damage than at present."

Management of the disease at Wisley includes thinning of trees to improve air circulation, reviewing the propagation and reception locations of incoming *Pinus*, and isolating plants for three months.

RBNB symptoms on *Pinus lambertiana* in the Pinetum, Wisley.



Red banding caused by *Dothistroma septosporum* on *Pinus lambertiana* needles. Red band needle blight is economically important because it can affect commercial conifer plantations and reduce timber yield. There are no treatments available for a garden situation, but the disease can be managed by thinning trees to improve air circulation. This helps to prevent needle wetness, therefore reducing spore release and germination.

 Liz Beal

Botany's Christopher

Whitehouse (below) was

videod recently talking about the highs and lows of plant-hunting for the exhibition 'The Plant Seekers' at the Garden Museum. Mounted in partnership with the RHS Lindley Library, the [exhibition](#) focuses on the history of plant hunting and plant hunters such as Sir Joseph Banks (above) and E.H. Wilson, but also looks at their modern successors.

Christopher was asked to participate in the video following his expedition to find *Kniphofia* this January (see Science Newsletter March 2012). The exhibition runs till 21st October.

Photos:

Tim Sandall (inset); Liz Beal (top & bottom right)

It was with much sadness that the Botany team learnt in May of the death of **Graham Ackers** (above). A long-standing member of the British Pteridological Society (BPS), he was instrumental in incorporating the BPS Herbarium into the RHS Herbarium, which he joined as a volunteer in 2005. Graham databased and curated over 1600 fern specimens, which now makes the RHS Herbarium one of the most important herbaria for the identification of cultivated ferns. Because of his work, the RHS was able to make a successful application to the 1851 Royal Commission to digitise all our fern specimens. Graham's extensive knowledge of ferns was also regularly called on by RHS botanists. Over the past year he continued to add new fern specimens to the herbarium, in particular over 100 from his valuable personal collection in his garden at Walliswood.

Graham did not restrict his interest to ferns: he was an editor of [Sponges of the British Isles](#), and a regular contributor to the music magazine *Blues Unlimited* in the early 60s. All his contributions to the RHS Botany team will be greatly missed.

Photos: Chris Atkinson (right);
Chris Whitehouse (above)

Chelsea cool: how plants reduce city temperatures

The RHS and the University of Reading exhibited together for the first time at this year's Chelsea Flower Show, to showcase joint research into the effect of plants in urban environments. The display (in the RHS Environment section) was entitled 'Keeping their cool: how the plants in urban gardens help reduce temperatures, control flooding and capture pollution'.

The work investigates how differences in plant morphology and physiology can be exploited to maximise the benefits they provide to the urban environment, such as moderation of air temperatures, insulation of buildings against the extremes of weather, and capture of excess rainfall.

The Chelsea display attracted much attention and was visited by, among others, Minister for the Environment, Food and Rural Affairs Caroline Spelman and the Duke of Edinburgh, as well as members of the press.

Plant services in the city

Dr Tijana Blanusa (above), who manned the RHS / Reading stand and explained the research to visitors, says: "A surprisingly high proportion of the surface of some of the busiest and most populated western cities is covered in vegetation – almost 50% in some cases. In the UK, almost half of those urban green areas are made up of private gardens, so what we grow in our gardens and public green spaces, and how we manage them, can have a huge impact on our environment."

Tijana (RHS Senior Horticultural Scientist) is based at the University of Reading's School of Biological Sciences, and is currently conducting research into the "services" that plants can provide in the urban environment.

 **John David**

Hot Topics for Advisory this summer

Tender plants not growing

Without warm sunny days in late summer petunias and other tender plants will not give their best.

Light crops of apples and pears

Likely this autumn after poor pollination in spring.

Disappointing flowers

To flower, plants need plenty of light as well as moisture, and late summer flowers

may be disappointing unless the weather is warm.

Potato blight

This relishes wet weather and 2012 is shaping up to be a bad blight year.

Horsetail

Relishing wet soil, this spreads widely in early summer, and unless dealt with can consolidate its grip and become hard to curb.

Photos:

RHS (above); Andy Paradise (top right); Bob Martin (garlic)

Advisory catch up on tomato source

Horticultural Advisors are very aware that even the RHS is not omniscient, and welcome insight from outside the Society. In May we visited Colin Boswell, owner of The Garlic Farm, and Brian Moralee, Growing Manager at Wight Salads, Britain's leading tomato producer.

Since 1976, Colin Boswell has been developing his diverse business selling a huge range of garlic and associated products direct to the public. Colin has an innovative growing model, renting land that has never grown allium crops before and using painstaking soil analysis and feeding methods to produce outstanding crops of a wide range of garlic cultivars, most of which he has introduced. We were especially interested in the customer service aspect of his garlic centre and associated innovative ways of engaging with the public.

“Garlic excites people. It excites Anglo-Saxons. The French like garlic, but they don’t get why the British and Americans are so excited by it.”

Colin Boswell

Wight salads produce about 55% of UK-grown organic tomatoes. Attention to the latest technical details in dealing with pests and diseases, using bees as pollinators, and innovative growing media form the basis of their advantage in a very competitive market, including intense competition from abroad.

At both enterprises we were privileged to have access to inside knowledge at the cutting edge of current commercial practice. This is already informing the advice we give RHS members.

The Garlic Farm (with Colin Boswell second from left) receiving the award for Best Exhibit in the ‘Growing for Taste’ marquee from RHS President Elizabeth Banks (Hampton Court 2012).

New enquiry-tracking facility for RHS members

Advisory’s enquiry-handling software is being overhauled by the IT Development team. Known as the Advisory Management Tool (AMT), this provides the 25 advisors and scientists with everything they need to respond and track the 60,000 enquiries received each year.

Recent advances in software programming mean that the new system will bring a range of benefits. For the first time members will be able to submit, track and view their responses on the RHS website, while the Advisory team will be able to process enquires more easily, using slicker workflows and a better user interface. The new AMT will be delivered this autumn.

 Jenny Bowden

Blue lily a step closer

Japan's Suntory Holdings Ltd, already well known for blue roses and blue carnations, announced a GM breakthrough in May with a new "blue" lily. This is of particular interest to the RHS as the International Cultivar Registration Authority for *Lilium*.

True lilies (plants in the genus *Lilium*) only occur in shades of red, white, yellow, orange and pink, and there is little scope for selective breeding towards shades of blue. In the case of the Suntory lily, the "blue" gene has apparently been taken from a campanula and introduced through a process which involves combination with soil bacteria. At present, pink lilies are used as the host, which results in a purplish plant (above), but Suntory hope to release a truer blue by 2018.

International Lily Registrar Duncan Donald said, "We are already used to dealing with genetically modified plants, for example tetraploid cultivars produced through use of colchicine. In this case the genome does not seem to have been altered radically, so this can still be considered a lily. This breakthrough shows how important it is for the RHS and the International Code of Nomenclature for Cultivated Plants to keep up to date with cutting-edge developments."

Photos: Niigata Prefecture (above); Lindley Library (right)

Preparations complete for 2013 hardiness switchover

Following the release of the RHS's new hardiness ratings, the RHS Horticultural Database has been modified to allow a smooth transition to the new system in 2013, when the results of the Award of Garden Merit ten-yearly review will be announced and the new AGM list unveiled.

The present AGM hardiness system has four ratings (H1 to H4), with intermediate ratings (e.g. H3-4) also permitted. The new system (right) consists of 9 ratings. There is no direct correspondence between the "old" and "new" ratings; all plants on the AGM list will therefore be re-assessed for hardiness as part of the AGM review.

As the new AGM list will focus a great deal of attention on the RHS website, the major task of updating the Horticultural Database for all 7,600+ AGM plants will need to be completed in time for the 2013 launch.

The software modification was made in *BG-BASE*, a specialist biological collections application. Says Rupert Wilson (Principal Data Manager, Horticultural Informatics), "It was essential to find a solution that allowed us to add the new hardiness ratings whilst allowing the rest of the *BG-BASE* community to keep their existing data. All this had to be delivered ahead of the new *RHS Plant Finder* compilation season, to ensure that the book as well as the online *RHS Plant Finder* and Plant Selector searches showed the new information in 2013."

The two hardiness systems will now run concurrently on the database till the switchover just before the launch.

***Clianthus puniceus* will be reassessed for hardiness if it retains its AGM.**

Rating	Description
H1a	Heated greenhouse: tropical
H1b	Heated greenhouse: subtropical
H1c	Heated greenhouse: warm temperate
H2	Tender: cool or frost-free greenhouse
H3	Half hardy: unheated greenhouse, mild winters
H4	Hardy: average winter
H5	Hardy: cold winter
H6	Hardy: very cold winter
H7	Very hardy

 Rupert Wilson

RHS Science helps inform new planning guidelines

Along with representatives from several other organisations, such as the National Trust and RSPB, Advisory's Helen Bostock recently participated in consultation procedures for the Wildlife Trusts / Town & Country Planning Association's new guide to good practice in planning for green infrastructure and biodiversity. In particular, Helen represented the gardener's point of view, which might otherwise not have been fully represented. It is hoped that the guide, which was launched at the House of Commons in July, will be adopted as best practice by local authorities and developers throughout the UK. It can be downloaded from the Wildlife Trusts website at www.wildlifetrusts.org/planning

Photos:

© Michael Ballard (above)

National Insect Week 2012

As part of this year's National Insect Week (25 June – 1 July), Wisley's entomologists mounted an exhibition in the Glasshouse Gallery, with a rolling video display, a display of live insects, and a series of 14 posters. These were designed by Ian Waghorn, and included accounts of social insects, insect predators, and insects' use of camouflage, among other aspects of insect biology and behaviour.

Visitors were also encouraged to complete paper versions of Entomology's online surveys on the spread of four non-native pests (berberis sawfly, hemerocallis gall midge, lily beetle, rosemary beetle). Around 100 reports were returned, for the most part recording sightings of lily and rosemary beetles.

RHS Science News (page 6)

Recent Science publications

Bostock, H. (2012). Plants for Bugs. *The Garden* 3: 70–72.

Donald, D. (2012). 2011 registrations. *Clematis International 2012*: 8–16.

Donald, D. (2012). Current clematis Cultivar Group definitions. *Clematis International 2012*: 19–25.

Halstead, A.J. (2012). Garden Practice. Controlling Glasshouse Pests. *The Garden* 7: 40–41

Henricot, B. (2012). Box Summit/ Conférence sur le buis. *Topiarus* 16: 21–23.

Malumphy, C., Halstead, A.J. & Salisbury, A. (2012). First incursion of Chinese mussel scale *Lepidosaphes chinensis* (Hemiptera: Diaspididae) in Europe, with a review of *Lepidosaphes* species found in Britain. *British Journal of Entomology and Natural History*. 25: 65–73.

McDonald, S. (2012). Dahlias at the Royal Horticultural Society. *National Dahlia Society Annual 2012*: 20–21

Salisbury, A. (2012). Living Gardens: Part 3. Learning from nature. *The Garden* 6: 69–72.

Salisbury, A. & Halstead, A. (2012). Garden Entomology. The Work of the Royal Horticultural Society's Entomologists. *Antenna* 36: 102–112.

Shaw, J.M.H. (2012). A showy hybrid *Dactylorhiza*. *The Orchid Review* 120(1298): 107–109.

 John David