

PULSE

Issue 10
June 2011

News from the Linnean Society of London – A living forum for biology

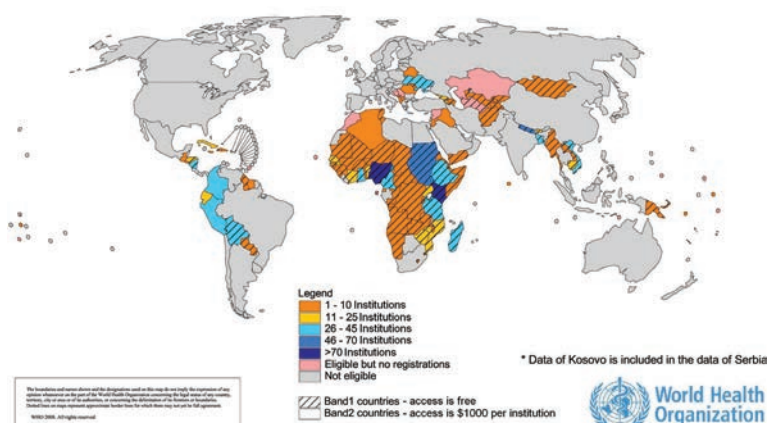
Many scientific articles and publications have the ability, through further research and study, to promote the understanding of changing environments, improve quality of life and to assist with economic development. Yet there are limitations to accessing this information. Many academics in developing nations often feel there is a lack of valid scientific information available to them and that they do not have the funds to acquire it. Additionally, with few well-resourced libraries, scientists, researchers, students, environmental professionals, journalists—a huge variety and number of users—are without the information they need to help drive their economies forward.

The Linnean Society, through the publisher of our three academic journals, Wiley-Blackwell, is proud to be part of a slew of initiatives aimed at targeting this problem. As a part of Research4Life, the Linnean Society is a participant in two of its three research programmes: AGORA and OARE.

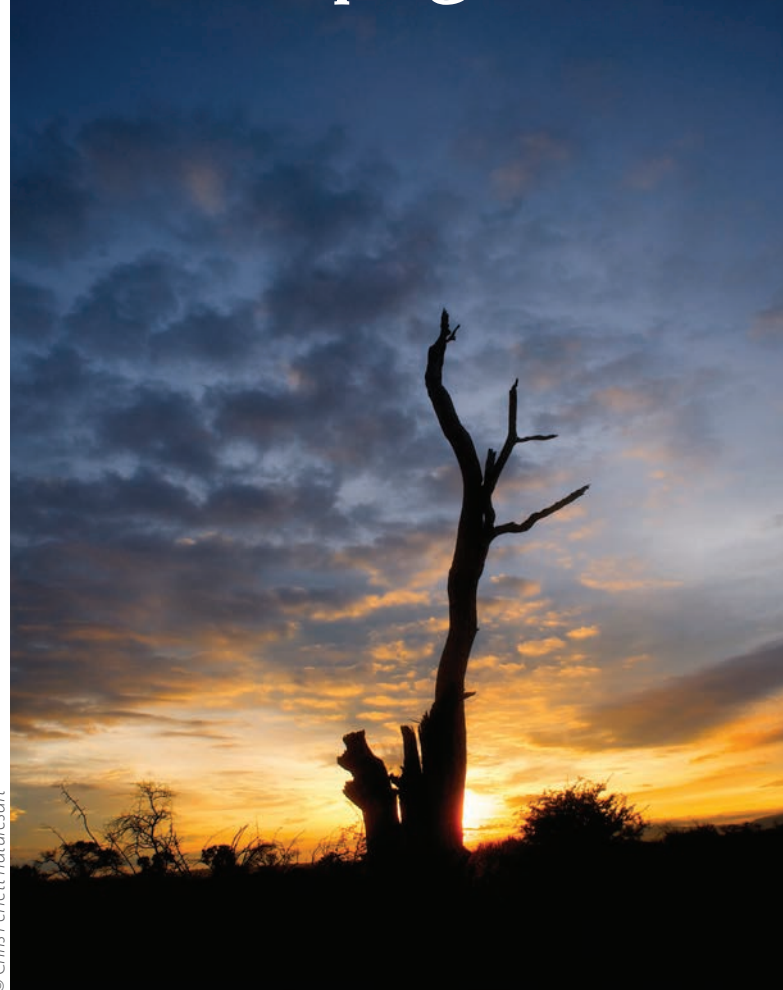
Access to Global Online Research in Agriculture, or AGORA, was developed in 2003 and led by the Food and Agriculture Organisation of the UN (FAO), supported by Cornell University and several major publishers. This project enables academics in developing countries to research articles pertaining to the fields of food and agriculture, alongside biological, environmental and related social sciences. Currently 1,900 journals are online and being consulted by readers in 107 countries.

Similarly, OARE (Online Access to Research in the Environment) offers access to over 2,990 scientific journals. Set up in 2006 by the UN Environment Programme (UNEP), Yale University Library and the School of Forestry and Environmental Studies (together with leading related publishers), over 1,100 institutions have registered for access in just a few years. Both OARE and AGORA offer access either

Institutions registered with OARE *



Linnean Publications in Developing Nations



© Chris Perrett/naturesart

at a reduced fee of \$1,000 per institution, or to many developing nations for free (shown by the striped sectors on the map opposite).

These initiatives mean that developing world academics are able to capitalise on Linnean materials. Feedback from academics in these nations list AGORA and OARE as “priceless” and “a godsend”. Through Wiley-Blackwell, the Linnean Society hopes to continue to support scientific study in the developing world with our publications. For more information on the schemes visit www.research4life.org.

Leonie Berwick, Special Publications Manager, Linnean Society and
Lynn Miller, Associate Marketing Director, Wiley-Blackwell

Message from the Executive Secretary

As I travel to work on the train each day, I'm always struck by the number of people who are reading. Certainly the variety of media with which to read has expanded, even in my nearly three years of commuting, but it's good to see that people still enjoy "a good read" whether electronically or in hard-copy. Much of this edition of *PuLSe* is devoted to reading matter; at the Society we hold over 90,000 volumes within our library including Linnaeus's library, containing his own works and gifts to him from people around the world. Among the gifts are many books relating to natural history but also other topics; the article on pp. 4–5 records Thomas Hollis's gifts of works by Milton. As a Society we continue to receive many donations of books and prints from Fellows and non-Fellows and you can read more about two recent donations on p. 8.

The Society's journals, of course, attract an international readership and we are delighted, that through our publishers, Wiley-Blackwell, we can be involved in programmes that ensure that access to the journals is available, even for those who do not have access to well-resourced library facilities (see p. 1).

We certainly should not underestimate the power of the written word in all its forms, in advertising (see p. 3) or in letter-writing. The article on p. 6–7 by Helen Cowdy, details the conservation work currently being undertaken on the correspondence of the Society's Founder, Sir James Edward Smith. As the process of cataloging (described in the last issue) and conserving this correspondence continues, I am sure there will be plenty of interesting information discovered within the letters.

I am sure that you will find this issue of *PuLSe* a "good read".

Ruth Temple



© Leonie Benwick

President's Greeting

Welcome to the summer edition of *PuLSe* which I trust you will enjoy reading. I should like to take this opportunity to congratulate all those Fellows who were successful in the ballot at the Anniversary Meeting in May, but also to encourage those who were unsuccessful to stand again. Additionally, I look forward to the *Conversazione*, which will be held on 16 July in the beautiful Botanic Garden of Cambridge University: please remember if you wish to attend registration is essential. On a different note, the Ambassador of Nepal has stated that the funding from the Department for International Development (DFID) for Nepal has doubled, so any Fellows wishing to carry out research in Nepal should be made aware of this opportunity.



© Victoria Smith

With regard to the insert you will find in these pages, I hope that many Fellows will opt to take *PuLSe* electronically, as this will be less damaging to the environment and will save on postage costs. Finally, I wish all Fellows a successful and rewarding summer break.

Vaughan Southgate

PuLSe is Going Electronic

Included in this issue of *PuLSe* is an insert asking you to fill in your most current contact details. Not only will this allow us to update our files and inform you of all the news and events happening at the Linnean Society, but we will also be able to send out *PuLSe* electronically via email. It is our intention to make *PuLSe* a digital publication, helping to conserve both the environment and postage costs. We would be grateful if you could return this information to us, either by post or by email, by **15 July 2011**.

Fellows' Contact Details

In order to make sure we are able to keep you updated with all the latest news and events from the Linnean Society, we would like to ask you to send us your most current contact details.

The Society's magazine *PuLSe* is also set to become a digital publication, as a more cost effective and environmentally friendly way to distribute our news. With this in mind, we ask you to include your email address. We would be grateful if you could return this form by post or email us by 15 July 2011.

Title _____ (PLEASE USE BLOCK CAPITALS)

Forename _____

Surname _____

Email _____

Work Tel. No. _____

Home Tel. No. _____

Though our aim is to make this a digital-only publication, if for some reason you would prefer to receive *PuLSe* in hard copy, please tick this box ☐

Please return this form to:
Claire Inman, The Linnean Society of London,
Burlington House, Piccadilly, London W1J 0BF
or email: claire@linnean.org with your current details

Annual Contribution Rate

The Fellowship is reminded that the basic annual contribution rate has gone up to £50. Those who pay by direct debit do not have to do anything as the mandates are automatically increased. Those that pay by standing order need to inform their bankers; may we take this opportunity to ask those that pay by cheque or card to take the increase into account when sending in their payment.

The Role of Behaviour in Evolution:

“organisms can be proud to have been their own designers”

One-day international meeting to be held at the Linnean Society, Thursday 8th September 2011

In scientific circles *The Triumph of the Darwinian Method*, to quote Michael Ghiselin's famous title, is almost universally accepted. In the wider world, however, a significant majority of the 6.5 billion people currently alive on Earth have religious beliefs based on a non-material afterlife, and/or reincarnation. Although many intellectuals of religious conviction accept Darwinism, it seems likely that people in general do not.



Image by Dick Vane-Wright

With its inverted retinal system, the vertebrate eye may not be the best possible design (cephalopods do it better?). But the question here is: did improvements to the primal eye come about directly by random mutation, or was its purposive use a key part of the process?

Dangerous Idea, p. 59). But for most non-scientists, the idea that complex adaptations, such as the vertebrate eye, are simply the product of chance upon chance seems incomprehensible. Thus the battle-line between those who insist that the creation is the product of a purposive spirit *versus* those who insist that organic diversity is simply the working-out of a purely material universe is drawn, and seems never to be bridged. Is one of these two caricatures—omnipotent creator *versus* blind watchmaker—the only way in which the millions of species on Earth have come into existence?



Image © J P Tiernan, with kind permission

Thrush's anvil. Plenty of scope for natural selection here, especially on the snails. But how did the bird behaviour come about? Was phenotypic plasticity or learning involved?

supposedly teleological thinking out of 20th-century biology, has led to a situation where the role of behaviour in evolution, even when studied and admitted by leading Darwinians, has largely been marginalised as a detail, almost a mere footnote, in favour of promoting 'hard line' neo-Darwinism.

In recent years, following the rise of the Young Earth creationism and Intelligent Design movements, there has been a backlash from evolutionary biologists of the Neo-Darwinist tradition, emphasising a view that evolution is driven by random genetic changes and a "blind, algorithmic process" (Daniel Dennett, 1995, *Darwin's*

There has long been a 'third way' in evolutionary biology, which concerns the role of an organism's own behaviour as a key creative element in the process. Its roots go back to the widely discredited ideas attributed to Lamarck. This, and the almost overwhelming desire to keep vitalism and

The rise of the potentially very influential Organic Selection movement in the 1890s, led by James Mark Baldwin, was overwhelmed by the emergence of mutationism following the rediscovery of Mendel's Laws in 1900. Since then, Julian Huxley, George Gaylord Simpson, Ernst Mayr and C.H. Waddington strived to re-establish and develop the ideas of the organic selectionists, but with only limited success. Yet even the supposed arch-materialist Jacques Monod stressed that "the fundamental characteristic common to all living things without exception [is] that of being *objects endowed with a purpose*" (Monod, 1972, *Chance and Necessity*, p. 20).

Today the mantle of Baldwin and Waddington has passed to a number of leading biologists and philosophers, including Mary Jane West-Eberhard and Patrick Bateson. This meeting, convened by Dick Vane-Wright FLS, and sponsored by the Linnean Society, Natural History Museum, London, British Ecological Society and Royal Entomological Society, seeks to reignite and reinvigorate the debate in light of current developments in the philosophy of science and of evolutionary biology. The full programme is on the Society website (www.linnean.org). The speakers will be:

Dr PETER CORNING (Friday Harbor): *Evolution on Purpose: How Behaviour has Shaped the Evolutionary Process*; Prof DENIS WALSH (Toronto): *Adaptation and Affordance*; Prof JOHN DUPRÉ (Exeter): *The Role of Behaviour in the Recurrence of Biological Processes*; Prof Sir PATRICK BATESON FRS (Cambridge): *Adaptability and the Active Role of Behaviour in Evolution*; Prof ANNE MAGURRAN (St Andrews): *Phenotypic Plasticity and Invasion Ecology*; Prof GREGORY GRETHUR (UCLA): *Redesigning the Genetic Architecture of Phenotypically Plastic Traits in a Changing Environment*; Prof BIRGIT ARNHOLDT-SCHMITT (Évora): *Genomic Plasticity—a Non-casual Molecular-physiological Response to the Environment*; Prof KALEVI KULL (Tartu): *Organisms can be Proud to have been their Own Designers*



Some species of *Heliconius* collect *Psiguria* pollen on the proboscis, where it is digested using protease-rich saliva. The butterfly then sucks up the amino-acid 'soup' this creates, increasing its fecundity. What role did behaviour play in evolution of this novel way of feeding? Image © Michael Boppré, with kind permission.



Fruit fly *Dacus fuscatus* ovipositing in balloon cottonbush, *Gomphocarpus physocarpus*. The seeds are protected by airspace within the fruit, and sticky latex and poisonous cardenolides in its flesh. The mechanical barriers are effective against non-adapted insects; the cardenolides give protection against vertebrate herbivores. This tephritid utilises a competitor- and enemy-free niche by morphological and behavioural adaptations, and is unaffected by heart poisons. Its telescopic ovipositor allows it to reach the milkweed ovary, where the maggots develop in the only latex-free tissue. Information and image © courtesy Michael Boppré.

Thomas Hollis Gifts to Linnaeus

Carl Linnaeus in Uppsala, one of the few individuals (Jean-Jacques Rousseau in Switzerland was another) to whom he sent presents. The go-between was Johann Rudolf de Valltravers, F.R.S., a Swiss scientific amateur and friend of Hollis, who had made Linnaeus's acquaintance in 1760 and who acted on Hollis's behalf in arranging donations all over Europe. The correspondence from Valltravers to Linnaeus (consisting of 12 letters in Latin with one additional letter from Linnaeus to him) is preserved at the Linnean Society and covers a period from 20 November 1760 to 1 April 1764. The letters are particularly concerned with connections among other scientists in England and Switzerland, as well as the activities of scientific and other public societies in these countries and in Sweden itself. In his letter of 15 October 1761, Valltravers mentions that a noble Englishman had instructed him to request of Linnaeus that he accept a present for the "public" University Library of Uppsala, consisting of Milton's *Prose Works* (because, he bemoans, no one knows Milton except through his poems) and Toland's *Life of Milton*. Valltravers adds that this friend also requests that Linnaeus accept copies of these works for himself, along with the rules, premiums, and membership of the Royal Society of Arts, Manufactures, and Commerce. Unfortunately, all did not go as planned, as the ship carrying these presents (which had required many hours of preparation and considerable cost, as we know from Hollis's diary) was wrecked on its voyage and the entire cargo lost. As Valltravers informs Linnaeus, however, Hollis will replace the gifts, and, on 8 June 1762, he did just that. These replacement volumes are those preserved today in the Linnean Society.

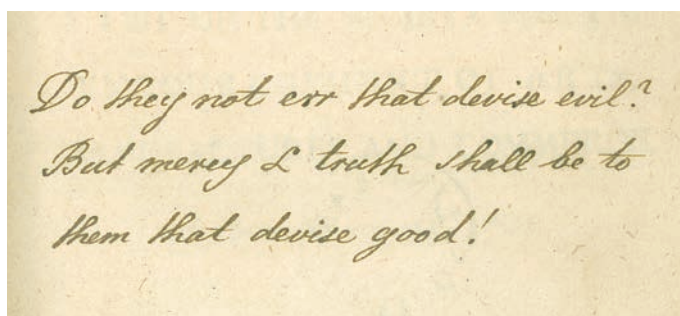
Four 18th-century volumes in the Linnean Society's collection are remarkable, both as examples of special bookbinding and handwritten annotation, and for their illumination of connections between Linnaeus and other individuals and scientific societies. The volumes are: John Milton's *Prose Works*, in two volumes, 1753–54; John Toland's *The Life of Milton with Amyntor*, 1751; and the *Rules and Orders of the Society for the Encouragement of Arts, Manufactures, and Commerce* (1761), bound with a list of members and premiums offered by the London society for the years 1761 and 1762. These books were sent anonymously to Linnaeus by Thomas Hollis (1720–74), the remarkable Englishman who worked mainly behind

the scenes to promote civic causes and republican sympathies. Hollis's large range of activities consisted chiefly in promoting his causes anonymously in the periodical press, supporting the various learned societies in London, especially the Society for the Encouragement of Arts, Manufactures, and Commerce and the Society of Antiquaries, and, most remarkably, preparing and sending thousands of books to the American Colonies, Great Britain, and the Continent, to encourage his own political, social, and educational aims. Many of these books were specially prepared in beautiful bindings stamped in gold-tool with his own emblems adapted mainly from Roman models, all designed by Giovanni Battista Cipriani. Within the books, Hollis annotated the

texts, sometimes extensively. His distribution efforts were the most extensive by an individual in the history of the world until our own time.

One of his destinations was the residence of

The Toland and Milton volumes retain most of their original precious bindings. Hollis reserved his finest iconographic bindings for Milton, whom he considered the greatest voice for liberty in English history, and fought to keep his prose works before the public eye. In fact, he was secretly responsible for the publication of both the Toland *Life* and the edition of the *Prose Works*. He frequently sent these volumes to destinations, along with Toland as a sort of introduction to Milton's courageous stands for freedom of all sorts. Hollis had followed with concern the apparent attacks on liberty in Sweden by authoritarian challenges since 1755, with the "conspiracy" to subvert the constitution in that year. His donations to Uppsala, Stockholm, and to Linnaeus himself are evidence of his support. Years later, on 4 April 1767, he published anonymously in the *London Chronicle* a



Hollis's inscription in *A List of the Society for the Encouragement of Arts, Manufactures and Commerce* (1762)

summary of the new Swedish edict on the freedom of the press, which would restrict criticism of the King or state. He concludes: "Let the brave worthy Swedes read the *Areopagitica*, or speech for the liberty of unlicensed printing of John Milton—and get franker."

The two volumes of Milton's *Prose Works* are the most elaborately prepared of Hollis's gifts. The binding is in beautiful brown morocco leather, covered in gold-tooled stamps. Volume one bears on its front cover a seated Britannia, surrounded by a wreath of oak leaves. The cover is framed with elaborate gold rolls, with flower and star design. On the back is a gold-tooled spread-winged owl flanked by lyres, with the cover framed with the same design as the front. On the spine, at top and bottom, respectively, are the gold-tooled emblems of the cock and the seated owl. Volume two is similarly bound, but with a gold-tooled emblem of the standing Liberty figure on the front, flanked by two clubs of Hercules; and the Greco-Roman pileus liberty-cap on the back, flanked by two daggers. Each emblem in one way or another supports the cause of freedom



against tyranny. As containers of privileged text, these bindings stand as precious reliquaries of the "life-spirit", to quote *Areopagitica*, of Milton's great writing.

The pages of these volumes are covered in Hollis's annotations and remarks, beginning with the inscription: "An English Gentleman is desirous of having the honor to present Milton's prose works & Toland's life of Milton, to Professor Linnæus at Upsala. London june 8, 1762." He repeat-

+ But so long as the Papist holds opinions subversive of morality, destructive of Society, dangerous to the civil & religious rights of mankind; that is, so long as the hand of Popery is against every man, so long every man's hand should be against Popery. Three questions resolved. London, 1757, in octavo.

Hollis writes in Milton's *Prose Works*, vol. II, p. 138

edly instructs the reader to "OBSERVE", and underlines and marks important passages. Three of Hollis's comments illustrate some of his chief preoccupations. In the margin next to the words, "this is a severe insinuation against a standing army", in the preface to Milton's "Eikonoklastes", Hollis writes, "All history insinuates the same. The ruin of the Parliament cause, till then so nobly conducted, was the specious yet ridiculous self-denying ordinance, which changed the power from them to their own army. From that time all was violence and constraint, nor did the former spirit any longer appear, except faintly, at times, when the Army was engaged in wars at a distance, or was disturbed itself by internal Commotions" (pp. vi–vii). To the title of Milton's tract, "Of True Religion . . . And what best means may be used against the Growth of Popery", Hollis attaches a footnote: "But so long as the Papist holds opinions subversive of morality, destructive of Society, dangerous to the civil & religious rights of mankind; that is, so long as the hand of Popery is against every man, so long every man's hand should be against popery. Three questions resolved [by Caleb Fleming]. London, 1757, in octavo."

And finally, displaying to Linnaeus the ingenuity of Hollis's own society, together with its commitment to the liberty cause, he writes: "Note, All the prints [of Milton and other heroes of liberty] in these two books, the Newton excepted, are struck off on paper made from silk rags, produced by premiums of the Society, the noble Society instituted at London for promoting arts & commerce" (vol. 2).

These volumes represent a dramatic gesture

towards Linnaeus and his country's institutions, an attempt to connect them with civic, scientific, and libertarian networks throughout Europe and the New World.

For more information on Hollis and his activities, see especially W.H. Bond, *Thomas Hollis of Lincoln's Inn* (Cambridge, 1990); [Thomas Blackburne], *The Memoirs of Thomas Hollis*, 2 vols. (London, 1780); and Allen Reddick, "O Britannia! Hail! Thomas Hollis and James Boswell at Liberty in Geneva and Switzerland", in *Genève, lieu d'Angleterre, 1725–1814 = Geneva, an English Enclave, 1725–1814*, ed. V. Cossy, B. Kaposy, R. Whatmore (Geneva, 2009), pp. 241–268, and 'Introduction' to *From the Great Desire of Promoting Learning: Thomas Hollis's Gifts to the Harvard College Library*, W.H. Bond (*Harvard Library Bulletin* special issue, vol. 19, nos. 1–2, 2008), pp. 1–31.

Allen Reddick
Professor of English Literature
University of Zürich



Cover of Milton's *Prose Works*, vol. 1, showing Britannia

Tools of the

Smith Correspondence



The basic tools of the conservator

© Helen Cowdy

guards either by gently scraping and paring with a scalpel or with a poultice.

So far the letters treated have required some degree of surface cleaning. We remove the sooty particulate dirt from the surface of the letters with soft Hake brushes (Asian origin, usually made with goats hair), and then with a chemical sponge to lift any remaining particles.

Tears and losses

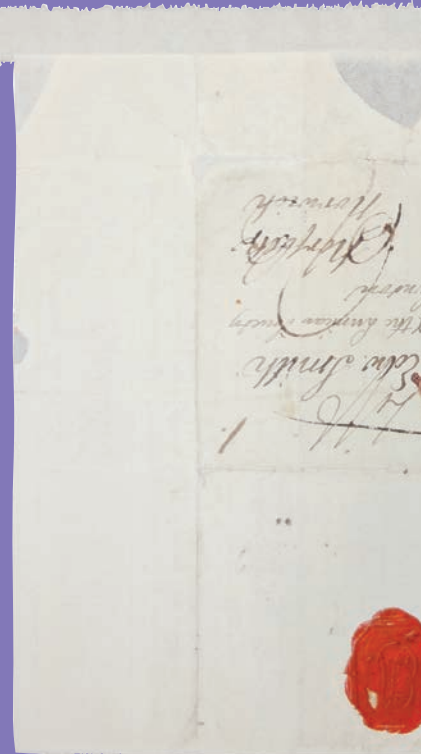
The conservation of the Sir James Edward Smith Correspondence is now underway. In April's edition of *PuLSe* Smith Project Conservator Lucy Gosnay wrote an article explaining what we are doing, how it is funded and our project aims. Despite being only a few months into the task we have worked on over 400 letters and have made some really interesting discoveries which we hope to share in *PuLSe* articles over the duration of the project.

An important part of conservation work is that all treatments should be removable, so research and testing are carried out before a treatment is applied. It is also vital that any treatments carried out should not damage, alter or weaken the paper. Our initial treatment is always documentation; recording any features of the paper for example tears, holes and pest damage. This visual examination of the letter sometimes requires the use of different light sources including transmitted, ultra-violet and infra-red to reveal hidden details.

The Smith correspondence volumes each contain approximately 100–150 letters, each correspondent being separated with a page of blue paper labeled with their name. We photograph and document each volume before the letters are carefully removed. Every letter has been guarded (adhered to a narrow strip of paper used to bulk out the binding) into the volume with a heavy wood-pulp paper which is causing cockling, tears and is obscuring text. We remove these

the most obvious damage we have to treat and are often the most disfiguring. Many of the letters have weakened areas with tears along folds, brittle edges which fragment on handling and holes where the seals were removed. To repair these damaged areas we must first carefully clean them, sometimes requiring delicate work on very friable and tiny areas of paper. We then choose a suitable Japa-

nese tissue which will be adhered using a wheat starch paste. The adhesives we use are generally water soluble and removable; wheat starch paste being a refined



Delicate repairs made to holes in a Smith C



Long fibres in Japanese papers

© Helen Cowdy

The Trade: Conservation Project Update



correspondence letter

© Helen Cowdy

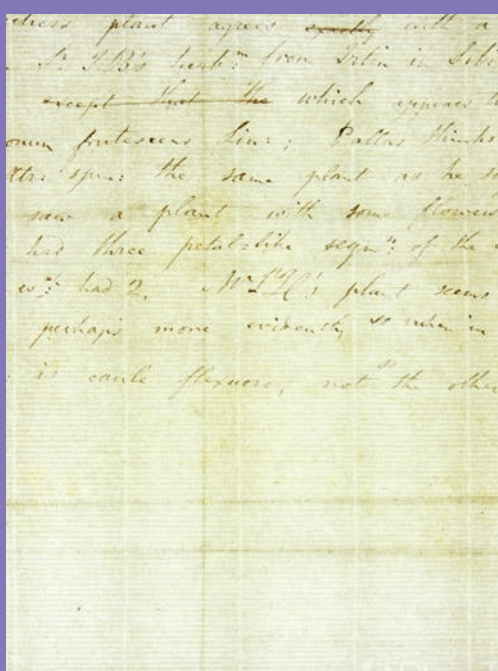
and gluten free wheat starch powder that we cook with water to make a paste which forms strong adhesive bonds. Wheat and rice starch pastes are the adhesives of choice for most conservators and have been used for many centuries in Japan and China.

Japanese tissues come in a range of thicknesses and strengths and are ideal for paper repair. They are made from the inner bark of the Kozo, Gampi and Mitsumata plants, each imparting slightly different qualities to the resulting papers. They can be hand or machine-made and are graded in a system which classifies them according to fibre content, production method and additives used during their manufacture. (Grade A Kozo infers a paper made by a master craftsman which has 100 per cent Kozo fibres.) The fibres in Japanese papers are left long, which gives them strength and flexibility both desirable features in a paper repair tissue. If the item is put under stress or over-flexed the Japanese tissue will be the component that fails rather than the original as their main function is to support, retain and join papers.

Conservators undertaking repair treatments must consider a variety of criteria, for example the weight of

the paper. Repair paper should not be thicker than the paper it is being applied to as this will cause stress, resulting in tears and further damage. Another criteria is the laid and chain lines; these are the fine lighter lines seen in some papers when you hold them to the light. They are a sign of hand-made paper—these lines are from the mould used to form the sheet. The lines should be aligned in both the repair and original papers. Other important criteria to consider include which side is the felt or wire side (which side was against the wire and which was pressed with felt), the opacity, colour and condition.

We use needles or water-pens to 'cut' the Japanese tissues so that the edge fibres remain long. This allows very thin paper to be used while still providing greater strength across a weak area. The repairs are cut slightly larger than the area they cover and are shaped to fit. The Smith letters have required repair mainly to support seal holes, brittle edges and tears or holes along the folds of the back pages. Letters of this period were also the envelopes clever folding allowed the correspondents to utilise the paper as both. Many have postal marks



Laid paper showing thick vertical chain lines

© The Linnean Society of London



Helen Cowdy, Assistant Smith Project Conservator

© The Linnean Society of London

and seals on the back pages, which also tend to have more obvious surface dirt and staining.

Lucy and I have been looking into many aspects of the project and are sure the next three years will give us ample opportunities to expand and further our research. Our current areas of research include iron-gall ink corrosion, wax or shellac seal consolidation, watermarks and even research on some of the correspondents themselves. We are both incredibly lucky to be able to use our conservation skills on such an interesting collection, and are thoroughly enjoying being part of the dedicated staff here at the Linnean Society.

We hope to share some of our conservation research and discoveries such as biological specimens with some of the letters, through *PuLSe* articles during this project.

If you have any questions about the conservation work you can contact us via email:

Conservator: janet@linnean.org

Smith Project Conservator: lucy@linnean.org

Assistant Smith Project Conservator:
helen@linnean.org

Donations to the Library

Coevolution: The Pollinators

Botanical artist Sue Mason kindly presented the Society with six prints of her work, *Coevolution: The Pollinators*. Each design is based on an illustration held at the Kew Archives and commemorates a famous scientist associated with the early days of the Royal Botanic Gardens, Kew. The print below illustrates an orchid, *Angraecum sesquipedale*, and is associated with Charles Darwin who correctly predicted that there would be a pollinator moth with a proboscis long enough to reach the nectar deep inside the flower; this moth, *Xanthopan morgani*, is also shown.



Audubon's *The birds of America*

Another contribution to the Society comes in the form of a beautiful four-volume double elephant folio facsimile of John James Audubon's *The birds of America*, originally published in sections to subscribers between 1827 and 1838. Dr Jonathan Singer, who donated a print of his photograph 'The Jade Vine' as reported in the April issue of *PuLSe*, was instrumental in securing this kind donation from Bob Abrams, Director of Abbeville Press in New York. The facsimile is stunning, including all 435 of Audubon's engravings, with images taken from the plates of the Audubon Society's own original double elephant folio copy. Shown here is the plate of the Ivory-billed Woodpecker, now presumed to be extinct. The volumes are a fantastic addition to the Linnean Society's Library and we are very grateful to Dr Singer and Abbeville Press for this generous donation.



Forthcoming Events 2011

7th July, 6.00pm

Species on the EDGE
Craig Turner FLS

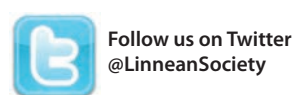
16th July
Afternoon meeting

Conversazione
(Registration required)
Organised by Tim Upson FLS

8th September
Day meeting

The Role of Behaviour in Evolution:
"organisms can be proud to have been their
own designers"
Organised by Dick Vane-Wright FLS

More information about these and all of the Linnean Society's events can be found at www.linnean.org or contact Claire Inman on +44 (0)20 7434 4479 ext. 11, email: claire@linnean.org



All articles welcome! Please submit your articles in electronic format to the Editor at pulseeditor@linnean.org. Images are also welcome in high resolution format with appropriate permission and copyright.