Executive Secretary:  
Dr Elizabeth Rollinson

The Linnean Society of London is very pleased to announce the appointment of its new Executive Secretary, Dr Elizabeth Rollinson. We are sure that all Fellows, Council, Officers and Staff will be keen to meet and work alongside Elizabeth after taking the helm on 14 November.

Elizabeth has developed a wide-ranging career as a respected and enthusiastic biologist with diverse experience of general management in the human, animal and plant health sectors, having worked closely with Research & Development (R&D) teams in various organisations, leading the development and implementation of R&D and business strategy. Latterly, she has focused on the more commercial aspects of exploiting intellectual property, including fundraising, interacting with academia, companies, charities, grant-awarding bodies and venture funds/investors. She also has broad editorial experience having been on the editorial boards of the IOBC (International Organization for Biological Control) Newsletter, International Antiviral News and Molecular Therapeutics. Elizabeth is a Non-Executive Director of PhotoBiotics Ltd, a biotech spin-out from Imperial College London, and Chairs their Scientific Advisory Board.

Elizabeth has had a long-term interest in natural history, with diseases being a common theme. Initially, she gained a First Class Honours degree in Plant Sciences at Wye College, University of London, followed by a PhD in plant pathology at Imperial College Silwood Park. There followed a three-year term in Paris as Scientific Advisor to the Director-General of the European and Mediterranean Plant Protection Organisation (EPPO/OEPP), an intergovernmental organisation, after which she moved into microbiology/virology drug and vaccine research at the Wellcome Veterinary Research Laboratories. Following this period in the animal health industry, Elizabeth joined a biotech company in Cambridge where she worked primarily on developing vaccines for infectious diseases and cancer in humans. More recently, Elizabeth has been doing freelance consultancy for start-up biotech companies, while returning to her plant ‘roots,’ studying Plants and Planting Design at Capel Manor College and undertaking desk research as an RHS volunteer on old French dahlias. She is just completing a term as President of the Veterinary Research Club. Elizabeth is a keen general naturalist and particularly enjoys observing and photographing plants and wildlife. She was formally elected as a Fellow of the Linnean Society of London earlier this year although she has been a keen participant in the Society’s events over a number of years.

We are sure that Elizabeth’s wealth of experience in both the academic and commercial fields will benefit the Society and further help us to attain the goals laid out in our strategic plan. Elizabeth herself has said:

“I am really looking forward to the opportunity of leading the staff and supporting the Council/Committee in promoting the Society’s Scientific and Educational activities, achieving public out-reach, and in building the Fellowship, to ensure that The Linnean Society of London remains successfully at the forefront of natural history. I hope to meet many of the Fellows at Burlington House but would also be pleased to engage by email (elizabeth@linnean.org) or telephone (+44 (0)20 7434 4479 ext. 12) with the Fellowship to hear their views and ideas for meetings and any other aspects of the Society.”
Awards

Dr Sherwin Carlquist

We are delighted to inform you that Dr Sherwin Carlquist FLS has been named as the recipient of the Botanical Society of America’s 2011 ‘Grady L. Webster Structural Botany Publication Award’ for his paper ‘Xylem heterochrony: an unappreciated key to angiosperm origin and diversifications’. Botanical Journal of the Linnean Society, 161: 26–65 (2009).

Having studied Botany at the University of California, Berkeley (1952–56), Dr Carlquist continued with his postdoctoral studies at Harvard University before beginning his teaching career at Claremont Graduate School (1956–92). He has authored many plant taxa but it was during a trip to Western Australia in 1974 that he discovered the genus Alexgeorgea; its female flowers and fruits are mainly subterranean, with the stigmas protruding above ground. Specialising in plant anatomy (specifically wood anatomy) and island biology, Dr Carlquist served as a Plant Anatomist at Rancho Santa Ana Botanic Garden in California from 1984 to 1992. The genus Carlquistia, a relative of the Hawaiian silversword, is named for him.

The Linnean Society of London would like to offer their sincere congratulations to Dr Carlquist on receiving this prestigious award.

Dr Atsuko Sato

The Linnean Society’s Anne Sleep Award is awarded to scholars who have recently been awarded a PhD degree in order to assist them to carry out biological research in the Middle and Far East, or similarly for scholars from the Middle and Far East to pursue their own research in the UK. This year’s award goes to Dr Atsuko Sato, who currently holds a position as a Post-doctoral Fellow at Okinawa Institute of Science and Technology, Japan. Dr Sato will be carrying out a research project entitled ‘Role of developmental buffering in ecology and evolution of the chordates’ at the Department of Zoology at the University of Oxford. She will be investigating the role of heat stress in altering of the regulatory region and environmental stress by transposons and methylation patterns in the genome of the ascidian Ciona intestinalis (a sea squirt). Many congratulations to Dr Sato on her award.

President’s Greeting

The Linnean Society has enjoyed another fine year of meetings and events, including the Darwin Lecture given by Sir David Attenborough in conjunction with the Royal Society of Medicine. His lecture Alfred Russel Wallace and the Birds of Paradise garnered a rapt audience of 432. Additionally, our day-meeting The Chagos Archipelago: The World’s Largest No-take Marine Reserve organised by Charles Sheppard FLS was immensely popular, even over-subscribed.

The Society has some interesting meetings to start the New Year: the two-day (January 12–13) meeting Worlds of Paper—Writing Natural History from Gessner to Darwin, organised by Staffan Müller-Wille FLS, looks set to be a fascinating study of how early modern writing practices (using books, personal notebooks, files and marginalia) have influenced concepts of biodiversity. To register please go to the events page on our website (www.linnean.org) and download the registration form. On January 19, Dr Mark Watson FLS will present an evening lecture entitled Francis Buchanan-Hamilton and his pioneering natural history collections from Nepal 1802–3.

May I wish all of our Fellows a very happy Christmas and New Year—I look forward to welcoming you to the Society next year.

Vaughan Southgate

Christmas Card Winner

Congratulations to Dr John McCormack FLS on winning the Linnean Society Christmas card competition with his eye-catching macro image of ‘Four Christmas fruits originally named by Linnaeus’: Ilex aquifolium (Holly), Hedera helix (Ivy), Viscum album (Mistletoe), Taxus baccata (Yew).

Calling all Reviewers

Book Review Editors Dr Pat Morris FLS and Dr Maria Vorontsova FLS would like to invite all Fellows to take part in critiquing the many wide-ranging books sent to the Linnean Society for review.

If you think you may be interested in becoming a reviewer (either of general material the Linnean Society receives or on specific topics of study) please email info@linnean.org for more details.
Linnaeus and Alcohol

Alcohol seems to be an important issue for Linnaeus; references to it can be found in many of his works. In his definitive Linnaean biography The Compleat Naturalist, Wilfrid Blunt concludes: “[.] the subject of drink crops up again and again. Though not a teetotaller, Linnaeus denounces the excessive drinking of the Swedes.” But does he? With the Christmas season approaching (its merriness often assisted by a variety of alcoholic drinks), a sober look at Linnaeus’s relationship with alcohol seems timely.

His views can be quite mixed, if not contradictory. In the unpublished account of his journey through Lapland (Iter Lapponica, in J.E. Smith’s translation), when he initially writes of “brännvin” (brandy), it is to say that it is hard to come by in the region, the implication being that the people are more civilised as a result. Yet later, in the town of Lycksele, he deplores the fact that the Laplanders have not mastered the art of distilling liquor from berries, and happily proceeds to show them how to make a kind of brandy. Hardly the kind of behaviour one might expect of him! Especially when he concludes with some disappointment: “They seemed determined to keep entirely to water.” This may seem contrary to some evidence that the native Laplanders developed an alcohol problem as early as the 17th century, and, in fact, Linnaeus states that “Laplanders are very fond of brandy.” Perhaps alcohol was just not available everywhere in this remote country, but was consumed with great relish when it was.

Linnaeus’s work of “experimental theology”, Nemesis Divina (written between 1758 and 1765 and never published), contains numerous case studies of divine retribution in which alcohol acts as a catalyst; one episode sees 14 members of parliament ‘get dead drunk and catch gonorrhoea’.

But it is in Linnaeus’s academic dissertations that the uses and abuses of alcohol are more systematically dealt with. In Odores Medicamentorum (1752) it is shown how a person becomes as helpless as a child through alcohol. In Spiritus Frumenti (1764), the emphasis is on the more medical aspects of intoxication.

One particular dissertation, however, provides the most entertaining example of the curious ambiguity that always seems to surround Linnaeus and his attitude to alcohol. In “Intoxicants” (Inebriantia, Uppsala, 1761), he talks about how alcohol can rapidly restore the power and health of body and soul. If taken in light excess, uncontrollable laughter and problems of vision will occur. In heavy excess, there will be torpor, stammering, vomiting and apoplexy. If not the former, the latter would definitely spoil the Christmas dinner.

Never one to be accused of relaying second-hand knowledge, Linnaeus then invites his reader to a wine-bar to witness the effects of alcohol on “the excellent old man N.N.” who is the very picture of ailing old age, sporting a lame leg, drooping head and a dripping nose. Linnaeus buys him a glass of wine, using his authority as a physician to get the reluctant man to drink, uttering statements about how wine is good for the heart. “Only after many entreaties” does the old man drink, reminiscent of the reluctant Laplanders. Witness the amazing process of rejuvenation! After the first glass, he becomes cheerful, and “his wrinkles have been smoothed away.” Linnaeus cajoles him into having a second glass; his face flushes and he talks animatedly about war and politics (whilst, of course, praising the wine). After the third glass—Linnaeus has cunningly replaced his own wine with water—the man starts joking with the waitress. No more cajoling is henceforth needed to keep him drinking. After the fourth glass, he fondly remembers his youth and talks incessantly about the things he used to enjoy. After the fifth glass, he is unable to walk, and his words become slurred. He gulps down the sixth glass in one go, turns very pale, and vomits. He has to be carried home unconscious. Linnaeus seems to surround Linnaeus and his attitude to alcohol. In

Ortus Sanitatis (1499)

An image from Linnaeus’s own copy of

Ortus Sanitatis (1499)

Deputy Librarian

Elaine Charwat

Deputy Librarian

Elaine Charwat
When Kate Longhurst left her job as Communications Manager at the Linnean Society of London to study for a Masters in Conservation, she wasn’t sure where it would lead. After completing her course Kate went on to work as Project Scientist for Coral Cay Conservation in the Philippines.

Arriving in Tacloban airport on the island of Leyte in the Visayan region of the Philippines, I must admit that I didn’t really know what to expect. My hopes of tropical paradise were perhaps slightly dampened by the fact that it was raining; the kind of rain that, in England, would make you think twice about going outside, even with an umbrella. Flying over the island I could see brown plumes of silty water spreading out from river mouths into the ocean and it seemed evident that the area had problems. Yet being an early career conservationist, I am filled with optimism about conservation and belief in the changes people can make by working together. So perhaps my realisation on the aeroplane didn’t faze me as much as it could have done, but I still felt a bit clueless: how exactly could I help?

My colleagues and I arrived in the village of Napantao six and a half hours later after delays due to extensive damage to infrastructure caused by landslides. The project site itself is a disused dive resort that, due to its rural location, failed to find success as a business. The facility offered basic lodgings to the team with bedrooms, a kitchen, storage sheds, a washing area, a communal dining area and a porch less than 10 metres away from the ocean. As a base for a conservation project, I’ve definitely seen worse. More importantly, a few paces from the front door, was a stunning coral reef.

At this point it would be prudent to give a little background on the project itself. Coral Cay Conservation (CCC) is a conservation charity that runs marine and terrestrial conservation projects around the world, at the request of local or national governments, involving both the collection of scientific data and a range of community engagement activities. These projects are funded by international volunteers who pay to join the organisation for anything from two to 20 weeks. Volunteers receive essential training in SCUBA diving and science, then help to collect data for biodiversity surveys and habitat mapping. In the Philippines, this data is collected on behalf of the Provincial Government of Southern Leyte to inform the management of marine resources and assist in the establishment of Marine Protected Areas (MPAs).

So, where to begin my management of the project? In many ways it began with taxonomy. The first time I dived on the reef at Napantao, which is within an MPA, I was almost overwhelmed by the sheer diversity that was on display. I couldn’t help but wonder what Linnaeus would have said if he had witnessed it. The Linnaean collections (of which the Linnean Society of London are caretakers) contain only 168 species of fish, with only 414 species known in Linnaeus’s lifetime. But there are now over 1,000 species of reef fish recorded from the Philippines alone (current projected global totals reach upward of 35,000 species), combined with the algae, sea grasses, coral, and other invertebrates, all of which were included in the surveys that volunteers were required to carry out.

How do you survey such diversity? I don’t doubt that Linnaeus would have taken on the challenge; his comment ‘Deus creavit, Linnaeus disposuit’ (‘God created, Linnaeus ordered’) showed his confidence in his taxonomic abilities. He was the Father of Modern Taxonomy; however, the volunteers working on the project were students taking gap years, new graduates, people taking career breaks, engineers, pharmacists, social workers, doctors… Even those with a biological background (A’Level/ SAT or even a degree) had little familiarity with taxonomy beyond some experience of using keys to identify varying wildflowers. We didn’t attempt to teach them to identify...
everything, a range of target species for surveys had been carefully selected based on a number of factors such as local abundance, biological or commercial importance, or simply being easy to identify. But still, the task of learning 71 fish species, 30 coral species, 62 other invertebrate species, 22 species of algae and two seagrasses can be daunting for an absolute beginner. In my six months in the Philippines, I heard every possible variation on the phrase ‘this is the hardest thing that I have ever done’.

Teaching taxonomy for CCC is part of what they call the ‘Skills Development Programme’ or SDP. In my opinion, SDP is one of the great initiatives that sets CCC aside from similar organisations. It is a carefully constructed programme of lectures, films, underwater teaching activities, self-study time and tests, supported by a whole range of learning aids, which in two weeks equips volunteers with all the skills and knowledge they need to collect useful survey data. Intensive, frustrating and tiring, yet enormously effective and fulfilling, the sense of achievement in every volunteer upon completion was enormous. It was exciting to see the power of taxonomy in action, not least because there is a world of difference between ‘diving on a coral reef’ and ‘diving on a coral reef that is predominantly Acropora species, but with some Euphyllia and Galaxea—I nearly swam into a Balistoides viridescens…’

Of course teaching taxonomy to international volunteers was not the overall goal, it was merely one element in a complex and involved project. CCC say that their work in the Philippines has three main elements: resource appraisal, community education and capacity building, but these simple concepts do not do justice to the extent of the work they do. I think that it is quite easy, on a project of this nature with funding coming from international volunteers, to get caught up with giving them a great experience and to forget the reason why you are there to begin with. This is not the case with CCC in the Philippines. Everything the volunteers are asked to do is done for a reason; data is collected, analysed and presented to local and regional government officials, as well as local communities, in a useful and accessible way which will enable them to make informed management decisions. In addition, the staff and volunteers organise and participate in community events regularly. This not only means lectures, open days, training events and committee meetings related to coastal resource management (although these are of course an important part of the work), it also means being part of the activities and celebrations of the community with which we have become involved.

People in the Philippines understand the issues that they are facing and they want to make a difference. Of course there are challenges and it goes without saying that conserving the coral reefs in the Philippines will not be an easy task. But during my time there it was hugely inspiring to work with people who were willing to take on those challenges. It was encouraging to meet people representing communities who had already decided that they needed an MPA, they just required the technical knowledge to set it up. The impetus to conserve their natural resources for the good of future generations comes both from the communities themselves and from the local, regional and national governments. What CCC does is provide scientific data and practical advice to facilitate this. To learn more about Coral Cay Conservation visit their website: www.coralcay.org.
Galoshes and umbrellas were the order of the day when we assembled for the annual Conversazione at the Cambridge University Botanic Garden early in the afternoon of July 16. We were privileged to be led round the garden and new Sainsbury Laboratory by Dr Tim Upson, acting Director, who apart from sharing his extensive and deep knowledge of the garden, and his evident enthusiasm for his work, was also happy to answer many questions from the group.

It was ironic that the Garden is in one of the driest parts of the UK, and that most of its annual 557mm of rain should choose to fall that day!

We started our tour at ‘1, Brookside’, the fine William IV house by the Brookside Gate, during which we listened to an introduction by Dr Upson. We were then momentarily able to abandon our wet-weather gear and venture forth, though we had to wait a while longer for the sun to shine upon the ‘righteous’—deservedly perhaps for those who had travelled from as far as North and South Wales and the West Country.

The magnificent garden is set in about 16 hectares (40 acres) of land containing about 8,000 different species of plants and trees from all over the world. The garden opened in 1846 and succeeded an older, smaller garden elsewhere in the city. Initially (1831), the University funded development of only the western half, the layout of which is credited to the first Garden Curator, Andrew Murray, in consultation with Rev John Stevens Henslow, and is now a Grade II* Listed Landscape. Well-known as a mentor of Charles Darwin, Henslow was Professor of Botany (1825–1861) and had firm ideas about variation and the nature of species. In an almost literal sense, the garden sowed the seeds of Darwin’s later thinking on these topics. The flower beds were laid out, according to plant systematics of the time, on a silt and sand soil, and this soil lies on chalk and flint. Owing to the low rainfall; extensive mulching is carried out, minimising the amount of watering necessary to keep the plants healthy. Chemical fertilizers and pesticides are used to an absolute minimum.

Arriving outside the new Sainsbury Laboratory, we were able to admire the formal lines of maidenhair trees (Gingko biloba) set outside the main entrance. The building was opened by HM The Queen in the presence of the Chancellor of the University, the Duke of Edinburgh, on April 27, 2011. The tour proved fascinating both for its architecture and its very ‘high-tech’ specification. The building houses a herbarium, an auditorium, extensive work areas and meeting rooms for botanical staff. This world class facility, costing £82 million and funded by a grant from the Gatsby Foundation, was designed by Stanton Williams, and will provide envious facilities for about 120 plant scientists. There are two storeys above ground-level and another suite at subterranean level, designed partly to ensure efficient environmental control, but also to help give the entire structure a lower elevation.

With the weather now improving rapidly, we moved on to the pinetum area along Main Walk, including the magnificent grove of black/Austrian pines (Pinus nigra) illustrating striking variation in its forms, and then the corner devoted to ‘living fossils’ like Sequoiadendron and Metasequoia. Finally, we were treated to high tea and chatted happily amongst ourselves in the warmth of the most unexpected late afternoon sunshine. While longer-distance participants then had to rush to catch their trains or start their long drives home, the rest still had time left before closing time to make the best of the weather for their own informal explorations of the garden.

It was easy to forget, amidst majestic trees, a myriad of plants and soothing water features that this haven of tranquillity was situated so close to the heart and attendant hustle and bustle of the city. In summary, it was a memorable experience, much enjoyed by all of us, and on behalf of those present we would like to thank Dr Tim Upson for guiding us throughout the afternoon and making everyone so welcome. (For more information visit www.botanic.cam.ac.uk)
The Smith Carpological Collection

Linnean Society founder Sir James Edward Smith’s personal collections consisted of his Herbarium, a supplementary lichen collection and a carpological collection which might more accurately be described as a ‘cabinet of curiosities’. This cabinet of curiosities consists of approximately 600 items of economic botany and includes seeds, fruits, wood, fibres, fungi, lichens and resins. There are also other processed items such as textiles, a covered bottle, a piece of whale skin, the wing from a flying fish and human hair.

Some of the material has been labelled and wrapped, and some of it is loose. In the early 1980s Desmond Cull FLS listed the material and housed it in stationary envelopes and glass topped boxes. The smaller items were stored in the drawers of a wooden specimen cabinet, whilst any larger items were kept in Manila boxes. At the Society’s 1982 Conversazione Mr Cull prepared a small exhibition of some of the material, accompanied by the following notes:

Smith’s carpological collection, which dates from 1775 to 1827 was recently examined and found to contain many items other than seeds reflecting the interest of the times, such as gums, cochineal, lac, tea blossoms and dried potato. There is even a piece of dolphin skin and part of the wrappings of a mummy.

The exact origin of the collection is in doubt but may have been a “Museum Collection”, which in part included some seeds sent by John Ellis to Linnaeus.

Collectors providing specimens included William Aiton of the Botanic Garden Kew, Sir Joseph Banks, J.B.C.F. Aublet, Dr A. Menzies and the Earl of Mountmorris. Specimens have come from many parts of the world including: Botany Bay, Calcutta, Cochin-China, East Indies, Kew, Lima, Mill Hill, Norfolk Islands, Sandwich Island, Sierra Leone, Terra del Fuego and even Yarmouth.

Mr Cull further explains:

Most specimens were named but several only had numbers; the key to the system has so far eluded discovery. There appears to be

- a[n] SN series
- a[n] S series
- a B series
- a number only series
- a 200–300 [in Smith’s own handwriting] series

Mr Cull then ends his note with a call for more information. In December 2000, the condition of the collection was briefly assessed as part of the overall assessment of the Smith Herbarium. It was noted that the cabinet drawers were over-packed and the cabinet door latch broken, underlining the need to re-evaluate the situation of the collection. Additionally, the specimens and wrappers were extremely dusty; even those items stored in Manila boxes were also found to be so, and unfortunately the envelopes used by Mr Cull did not close properly, with some of the contents escaping. However, generally the specimens were in good condition. There was a proposal made to clean and re-house the collection, but at the time funding was only available for the conservation of the Smith Herbarium.

Several years later, with the Smith Herbarium having been conserved, re-housed and digitised, the supplementary Smith collections were once again reviewed. The collection of over 400 lichens (not part of the body of Smith’s main collection) has been conserved by the Society’s Conservator Janet Ashdown. The lichens were then documented by Dr Holger Thues, Curator of Lichens at the Natural History Museum, London, who put them into taxonomic order; now they can be re-housed with the Herbarium. The ‘carpological’ collection has been checked against Cull’s lists and is currently stored in new Manila boxes awaiting conservation, cataloguing and re-housing.

A check of the material brought to light many items not included in Cull’s list, including some additional lichens which have been integrated into the supplementary lichen collection.

Though we have discovered much more about the supplementary collections over the past couple of years, the numbering system of the specimens still remains a mystery. We would be most grateful for any feedback or information from our Fellows; if you could shed light on this system or anything else to do with the ‘carpological’ collection please contact the Executive Secretary, Dr Elizabeth Rollinson at elizabeth@linnean.org.

Janet Ashdown, Conservator

Specimen of *Inocarpus edulis* collected by Nathaniel Wallich in 1819

Bottle of Citronella in leather casing

Mr Cull’s notes continued:

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Digitisation Project Officer

In September of this year, Andrea Deneau started at the Linnean Society as a Digitisation Project Officer. Although this is a new role for Andrea, she is no stranger to the Society. Before taking on this role, Andrea had spent the previous year working on the Legacy Journals Project in co-ordination with Wiley-Blackwell. For over a year she scrutinised more than 500 volumes of Linnean Society journals, comparing each title and page with the online version, recording amendments and scanning missing pages. With some overlap between roles, the Legacy Journals Project was officially completed in early November.

Andrea’s latest project involves digitising Linnaeus’s annotated publications, Francis Buchanan-Hamilton’s artwork and the Alfred Russel Wallace notebooks using the Society’s newly-acquired digital-SLR cradle scanner. She has enjoyed the new project thus far but can’t believe how many copies of his own Systema Naturae Linnaeus annotated!

The Linnean Society at Christmas

As a small reminder to Fellows, the Linnean Society will be closed to all visitors over the Christmas period from Dec 26, 2011—Jan 2, 2012. From everyone at the Linnean Society, may we wish you a merry Christmas and a happy New Year.

Forthcoming Events 2012

12th–13th Jan
Two-day meeting
Worlds of Paper—Writing Natural History from Geessner to Darwin
Organised by Dr Staffan Müller-Wille FLS
Registration required (www.linnean.org), £75 (£35 for students)

19th Jan, 6.00pm
Francis Buchanan-Hamilton and his pioneering natural history collections from Nepal 1802–3
Dr Mark Watson FLS

16th Feb, 6.00pm
Biodiversity and Parks: Protecting the Best Places
Charles Bescancon

15th March, 6.00pm
Flora of Tropical East Africa: a very slow cutting edge
Dr Henk Beentje FLS

19th April, 6.00pm
Marine Protected Areas in English waters
James Marsden, Director Marine, Natural England

26th–27th April
Two-day meeting
(26th @ Linnean Soc., 27th @ RSM)
Meeting the challenges of Neglected Tropical Diseases
Joint meeting with the Royal Society of Medicine, organised by Dr Vaughan Southgate PLS and John Betteridge
Registration required (see www.linnean.org for details and fee)

To coincide only with the digital version of PuLSe you can now download a PDF of our January–April 2012 events brochure to either save to your computer or print off at your leisure.

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