ISSN 1759-8036

PULSE

Issue 14
May 2012

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

Buchanan-Hamilton: inspiration in Kathmandu

In March, Nepal welcomed home an exhibition of plant and animal paintings drawn in the Kathmandu Valley over 200 years ago. These are the first natural history collections from Nepal and represent the start of the scientific exploration of these Himalayan lands so rich in biodiversity. Nearly 100 of these drawings have lain in the scientific collections of the Linnean Society of London and this is the first time that they have been shown in public anywhere in the world—so it is very appropriate that their inaugural display is in Nepal.

Public reaction has been tremendous, with people marvelling at the vibrancy and artistic detail of the paintings and the long history of Britain-Nepal relations that they represent. The exhibition also conveys messages on the real and immediate threats to biodiversity in the Himalayan region. Many of the plants pictured were once common in the Kathmandu valley, but are now hardly seen at all. Some have declined due to habitat destruction and deforestation, but many, especially the orchids, have suffered greatly from over-collection for trade in ornamental or medicinal plants. The Nepalese native White Butterfly Ginger Lily was once prized in western horticulture but when introduced into South America it became a pernicious invasive weed. This mirrors the South American 'Mile-a-Minute' plant (*Mikania micrantha*), a major problem in Nepal's lowland Tarai region, blanketing out indigenous vegetation and so threatening prime rhinoceros habitats.

The exhibition includes reproductions of 30 species, the original drawings prepared by an Indian artist from Calcutta, sadly as yet un-named. The artist worked for Dr Francis Buchanan (later Hamilton, now known as Buchanan-Hamilton), Surgeon-Naturalist on the first British mission in Kathmandu led by Captain William Knox. Buchanan spent a year in Nepal between 1802–3, recording over 1,100 species, at least 800 of which he thought had not previously been described. Buchanan recorded thousands of local plant names and used these in coining the hundreds of scientific names he needed for his notes. Some of these vernacular names live on in the Latin names we use today—the Newari name *Luculi* is the basis for *Luculia gratissima*.

(Continued on p. 2)

Discussing the exhibition in Nepal

Image courtesy Mark Watson

Buchanan's *Dendrobium densiflorum*

The LINNEAN SOCIETY of London

Buchanan-Hamilton

(Continued from p. 1)

Returning to England in 1806, Buchanan gave all of his notes, specimens and drawings to Sir James Edward Smith, becoming part of the archives of the Linnean Society of London. Smith did little with them at the time, and it is only now that we are realising the true scientific and historic value of this pioneering work by the 'Father of Nepalese Botany'. These scientific records are being researched and included in the *Flora of Nepal*, the first volume of which was published in 2011 (www.floraofnepal.org).

The exhibition of Buchanan's drawings was brought to Nepal by the Linnean Society of London and Royal Botanic Garden Edinburgh as part of a project funded by the UK's Foreign and Commonwealth Office. It was opened at the Siddhartha Art Gallery in Kathmandu by HE John Tucknott MBE, the British Ambassador to Nepal, and has been well-received by an audience interested in art, history, social science and the environment. It then moved to the British Council in Kathmandu where it was opened by the Director, Dr Robert Monro. Captain Knox's mission was stationed where the British Embassy and British Council stand today—so these paintings are being shown exactly where they were drawn 210 years ago. The exhibition will go on to tour other centres around Nepal.

Students study the illustrations

Image courtesy Mark Watson

The Nepalese people have felt a deep connection with these paintings, and this is proving an excellent way of spreading awareness of biodiversity conservation. The exhibition has been covered in articles in all major Nepali and English language papers in Nepal (many of these are online, e.g. Republica) and Dr Mark Watson was interviewed by Nepal TV as part of a documentary covering the exhibition. HE Dr Suresh Chalise FLS, the Nepalese Ambassador to the UK, was presented with a reproduction of Buchanan's *Dendrobium densiflorum* at Dr Watson's evening lecture on Francis Buchanan-Hamilton at the Society in January. The talk was repeated at the British Embassy in Kathmandu where Dr Watson presented HE John Tucknott MBE with a matching picture. These are now proudly displayed at each Embassy, representing the strong connection between the two countries. All of Buchanan's illustrations have been digitised and are available to view in the Society's online collections. [www.linnean-online.org/view/buchanan_hamilton]

Dr Mark Watson FLS
m.watson@rbge.org.uk
Royal Botanic Garden Edinburgh

President's Greeting

My 'journey' as President of the Linnean Society of London is now coming to an end and it has been both a great honour and privilege. Three years have flown by all too quickly, but this may simply be a factor of age! Much has happened during this three-year period: for example, *PuLSe*, the annual Darwin lecture with the Royal Society of Medicine and the continued work on the digitisation of the collections (often financed via individual support and/or charitable funds), making them freely available throughout the world.

© Leonie Berwick

Meetings have been a highlight, and I hope that the Darwin Lecture, Founders Day Lecture and the Annual Field weekends will become firmly established in future programmes. I have found admitting new Fellows a truly rewarding experience, and have enjoyed working on the development of our strategic plan, aiming to give the Society a clear direction over the next five years.

Burlington House has seen much development: with the support of two charities and a legacy, the Tower rooms have been refurbished, providing a bespoke archive room and a well-equipped meeting room. The installation of a lift, accessing all parts of the Society, will now go ahead in 2013. The Society is grateful for all donations and legacies and these do allow initiatives to take place; more information on legacies can be found on our website.

Our relationship with journal producers Wiley-Blackwell goes from strength to strength, and together with grants from NERC, BBSRC and the Systematics Association, we have been able to provide seed money for scientists to further their research.

I have enjoyed working with the staff and volunteers who give their time and expertise to aid valuable ongoing work. The Society will be expertly led over the next three years by Prof Dianne Edwards CBE FRS—I wish her much pleasure and fulfilment in her role.

Vaughan Southgate DL

Please Note: London 2012 Olympics

Fellows and other visitors to the Linnean Society are reminded that the London 2012 Olympic Games will take place between 27 July–12 August, with the Paralympics following from 29 August–9 September. Due to a projected increase in visitors to the city, there will be more pressure than usual on public transport and services in the Piccadilly area in general. Green Park, one of the London Underground stations nearest to the Linnean Society, has been listed as a 'hub' station for the Games and so will be extremely busy. To avoid disappointment, please take these dates into consideration before planning any visits to the Society.

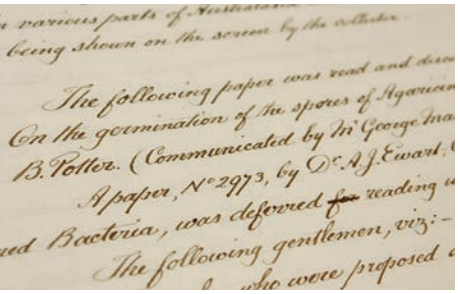
Beatrix Potter, the Mycologist:
20 April 2012

What an adventure this meeting turned out to be! We had significant press interest as well as trans-Atlantic calls and emails to ensure that we got the facts right. Beatrix Potter and her interactions with the Linnean Society of London have been the subject of much conjecture, leading to considerable controversy, particularly regarding her treatment by the Society. The popular myth is that she was rejected outright—and that is patently not the case.

The meeting held on 20 April, in conjunction with the Armitt Museum, gave the Society the chance to put the record straight regarding Helen B. Potter, as she called herself in 1897, and her paper "On the germination of the spores of Agaricineae", which was designated No. 2978. Our hand-written records show that her paper was 'read and discussed' on 1 April 1897 but then withdrawn 8 April, and never resubmitted. No copy appears to be in existence.

Ali Murfitt, a freelance mycologist, in close collaboration with Professor Roy Watling, enacted a presentation of the paper for the meeting, using old-fashioned chalk and a blackboard to illustrate germinating fungal spores (*Flammulina velutipes*). Watling, a Fellow since 1996, was former Head of Mycology and Plant Pathology and one-time Acting Regius Keeper at the Royal Botanic Garden Edinburgh, and also former President of the British Mycological Society. He came to Beatrix Potter's fungi through the eminent mycologist Dr Mary Noble, following the discovery in 1974 of Potter's letters to the postman and mycologist Charles McIntosh, who supplied fungal specimens to Potter, and guided her painting.

© The Linnean Society of London



Top: Ali Murfitt reads as Beatrix Potter;
Bottom: Potter's paper in the minute book

Professor Roy Watling, via a film by Andrew McDonald (due to ill health, Professor Watling was unable to be present), provided an informative account of the history of mycology in Europe, from the Swedish 'father of mushroom taxonomy' Elias Fries who wrote *Systema mycologicum* in 1821, through Robert Kaye Greville's *Scottish cryptogamic flora* of 1823, and the 'father of British mycology' Miles Berkeley. Berkeley pinpointed the causal organism of potato blight and was in correspondence with Mordecai Cubitt Cooke, the head of Mycology at the Royal Botanic Gardens, Kew (RGB Kew) around the time that Potter was born (Cooke also received the Linnean medal in 1903). The Cryptogamic Society of Scotland was founded in 1875, involving a number of notable mycologists, including John Stevenson, whose *Mycologia Scotia* was published in 1879—a copy of which we know Potter consulted. She also read Oscar Brefeld's extensive works, concluding that he was 'unreliable and like *Dacrymyces*', a jelly fungus that changes shape—a considerable insult in the mycological world!

There is no doubt that Potter was a consummate illustrator who closely observed and faithfully recorded what she saw. McIntosh's reaction to her paintings, stated Watling, was that he "drooled" and recognised their "wonderful draughtsmanship". Another supporter of her work was George Massee, successor to Mordecai Cubitt Cooke as Keeper of Lower Cryptogams at RGB Kew; in fact, it was Massee who actually went on to read her paper at the Linnean Society. According to Watling, Massee recognised in Potter "a draughtsperson when he saw one" and that he:

> *realised that Beatrix Potter was a wonderful illustrator. She illustrated the fungi precisely, not something that she would have copied out of a book. She illustrated what she saw in nature.*

Indeed, the spores of *Tremella* in her paintings were not formally described until some 45 years later—she was illustrating what other people did not even see, and she was continually asking questions in her letters to McIntosh, especially regarding the possibility of intermediate species.

Massee's interest in her work led to the suggestion, stated Watling, to "concentrate, perhaps, on microscopic fungi, on *Discomycetes*". Watling revealed that the V&A Museum library holds many Potter illustrations of germinating spores, and that, with regard to her eventual submission to the Linnean Society, of "about 50 different species […] she only chose one, that of *Collybia velutipes* (now *Flammulina velutipes*) for her paper".

A cake, specially commissioned for the event, was decorated with handmade fungi by Joan Warlow.

Dr Elizabeth Rollinson
elizabeth@linnean.org
Executive Secretary

© The Armitt Museum

Potter's illustration of *Flammulina velutipes*

Smith Corre

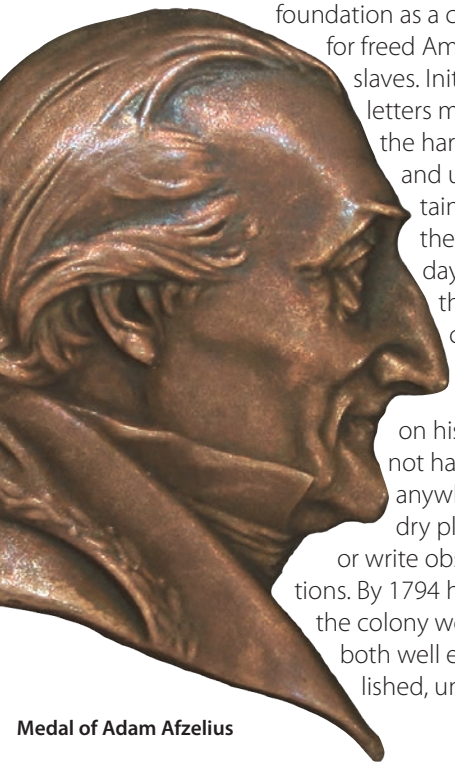
Science, Socie

Sloth bear (*U*

Sir James Edward Smith (1759–1828), founder and first president of the Linnean Society of London, corresponded with a wide variety of people over the course of his life. Though the bulk of his letters deal with botanical matters they also often discuss political and cultural events. New discoveries in science, the impact of developing technologies in agriculture and manufacturing, politics, and even royal scandal were amongst the diverse topics on which Smith and his contemporaries conversed.

The late 18th and early 19th centuries were a time of exploration and Smith received letters from places such as Sierra Leone, Nepal and India. Even letters from closer to home ardently discussed species native to some of these countries. An exchange of letters between Smith and Sir Thomas Gery Cullum, 7th baronet (1741–1831) in October 1799 illustrates the taxonomic difficulties posed by new exotic species. Having seen Dr George Shaw's (1751–1813) *Bradypus ursinus* exhibited at the Bury Fair, Cullum came to the conclusion that it was of the genus *Ursus*, the bear. Yet, Smith was convinced that Shaw was correct in placing it in the genus *Bradypus,* the sloth. (Shaw and Frederick P. Nodder were drawn to this conclusion due to the animal's long claws and lack of the upper two middle incisors.) However, taxonomy has proved Cullum correct, and the species is now known as *Ursus ursinus,* or sloth bear.

Smith received a series of letters from Adam Afzelius (1750–1837) in Free Town, Sierre Leone, where he acted as botanist to the Sierra Leone Company from 1792 to 1795, arriving just months after its foundation as a colony for freed American slaves. Initial letters mention the hardships and uncertainty in the early days of the colony and its impact on his work, not having anywhere to dry plants or write observations. By 1794 he and the colony were both well established, until the arrival of a terrifying raid by the French on 28 September 1794. Afzelius finally managed to write to Smith on 19 November 1794 and described how the French "plundered all the houses and the store [...] killed all the livestock [...] burnt the public buildings and all the houses belonging to white people, as well as the shipping". The only consolations were that the huts of the settlers were left untouched, and only two people were killed. Afzelius was left destitute and estimated his losses at £1,600, having lost all his writing and collecting tools, and his journals and manuscripts. Ever the botanist, his most urgent request was for paper in order to begin rebuilding his dried plant collections.



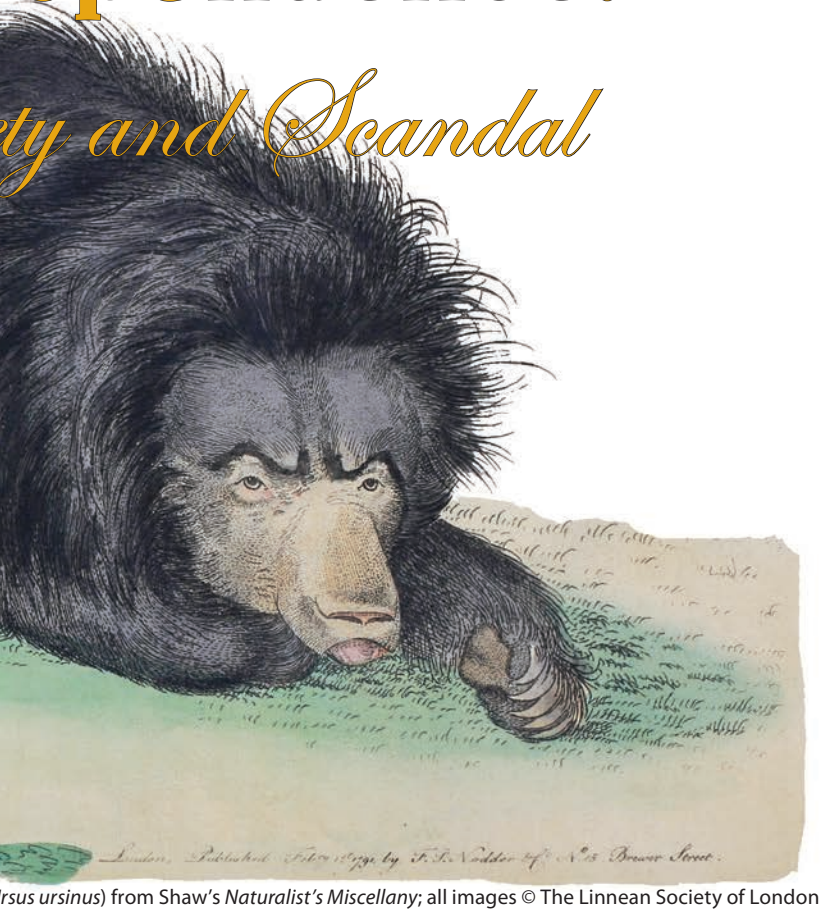
Medal of Adam Afzelius

Dukes, politicians and bishops all corresponded with Smith, often discussing the political events and scandals of the day. No scandal was bigger or more sensational than the 'trial' of Queen Caroline (1768–1821), the estranged wife of George IV (1762–1830). George and Caroline had an acrimonious relationship and shortly after the birth of Princess Charlotte (1796–1817), their only child, they separated. Caroline led a life of leisure and rumoured infidelities in Europe until George's accession to the throne in 1820 when she returned to claim her rightful position as Queen Consort. Samuel Goodenough, Bishop of Carlisle (1743–1827) was in London at the time and in a letter to Smith of 7 June 1820 described her triumphant entry to the city accompanied by "violent huzzaing & running of people", but "while she was thus with a mob at her heels, the King was presenting a variety of papers to both Houses [of Parliament], & means to institute some proceedings against her". George IV introduced a bill to the House of Lords in an attempt to divorce Caroline and strip her of her titles, and it came to be viewed as a trial of her character. The King was deeply unpopular and Caroline received massive support from ordinary people, including radicals, who in their newspapers called her "pure as unsunned snow [and] spotless innocence". The view of the Establishment was that she had outraged "all the decencies of which she ought to be the fairest example", as put by William Smith (1756–1835), politician and dissenter, in his letter to Smith of 12 September

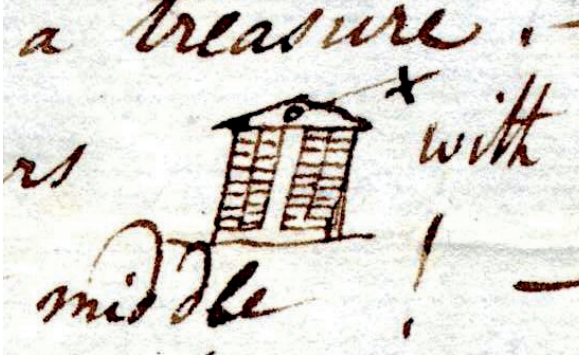
Samuel Goodenough, Bishop of Carlisle

espondence:

ty and Scandal



rsus ursinus) from Shaw's *Naturalist's Miscellany*; all images © The Linnean Society of London



Davall's sketch of his 'Smith-style' cabinets

That Smith directly inspired others to take up botany can be seen in his friendship with Edmund Davall (1763–98), an English botanist who lived in Switzerland. Davall's devotion to botany was only exceeded by his devotion to Smith, and on several occasions stated that it was only for Smith that he continued on his exhausting task of recording the flora of Switzerland. Davall held Smith in such awe that he was afraid to inform him of his marriage lest Smith should think him "a deserter of the good cause", and in a letter of 29 January 1790 informed him that he had had two herbarium cabinets made up in the same style of Smith's. The cabinets inspired Davall to become very ambitious with regard to his herbarium, although he concedes the limitations of some dried plants, noting that the papilla pili of *Trifolium incarnatum* "becomes quite rufuous in dried specimens" compared against the living plant.

Trifolium incarnatum

The effects on biodiversity of new farming techniques during the agricultural revolution was not overlooked by Smith's friends. In a letter of 24 November 1800, Samuel Goodenough wrote to Smith lamenting how all of the country around his living of Cropredy, Oxfordshire "is in [such] a state of cruel high cultivation, [...] that Nature's original designations are not to be discovered". The cost of improved productivity on diversity is echoed by the Revd Robert Francis Bransby (c. 1768–1850) who wrote to Smith on 20 September 1809 expressing his concern that the habitat of a newly discovered rare bog-plant in Norfolk, probably *Aspidium cristatum,* was "in danger of being destroyed within a few years by the turf-cutters, & the approaching, I must not say encroaching, banks of the recent enclosures".

Aspidium cristatum from Smith's *English Botany*

The current project to catalogue, conserve and digitise Smith's letters is ongoing, with the view to making them accessible to all; the catalogue is due to be completed by the end of 2012. The importance of Smith's correspondence should not be overlooked; his collection offers not only a scientific but social and historical overview of this period, and opens up an invaluable source of information to scientists, historians and biographers. Not only does it outline the work of Smith himself, but also shines a light on the characters and interests of his contemporaries.

1820, although even he concluded that many of his friends would think this opinion "rank treason against injured innocence". It is interesting to note that Smith, who was also a dissenter, appears to have had some sympathy for Caroline. Goodenough wrote to Smith on 5 October 1820 disagreeing with Smith's statement that he looks "with scorn & contempt upon the whole business of the proceedings against the Queen"; Goodenough, as a pillar of the Church of England, thought that "if one fiftieth part of what has been urged against her be true [...] she is unfit for elevated rank".

Smith made another contribution in popularising botany through his friendship with Charlotte Smith (1749–1806), poet and novelist. On 15 March 1798 she wrote to Smith saying she had not forgotten Smith's hint "of introducing botany in a novel—the present rage for gigantic and impossible horrors, which I cannot but consider as a symptom of morbid and vitiated taste, makes me almost doubt whether the simple pleasures afforded by natural objects will not appear vapid to the admirers of spectre novels, & cavern adventures. However I have ventured a little of it", and there are indeed several references to botany in her 1798 novel *The Young Philosopher*.

Tom Kennett
tomk@linnean.org
Cataloguing Archivist

Pongo, an adult male orangutan at the Center

Many Fellows will know that orangutan is a name of Malayan origin which means 'person of the forest'. Orangutans are only found in Southeast Asia on the islands of Borneo and Sumatra and are divided into two species; the Bornean orangutan (*Pongo pygmaeus*) and the Sumatran orangutan (*Pongo abelii*). Orangutans share 96.7% of our own DNA and are arguably the most intelligent of the great apes, yet sadly they also list amongst the world's most endangered species.

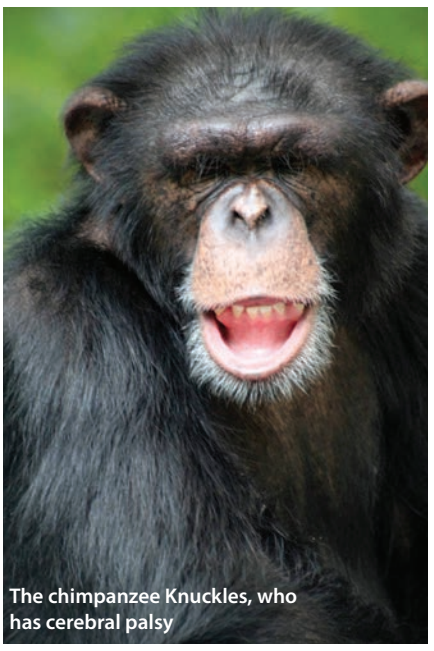
Orangutan research, reintroduction, habitat protection and environmental education are all key factors in securing a future for this great ape. It's imperative that we know as much as we can about the species if we hope to aid the species' survival. While initiatives to improve and expand the protection of conservation areas are vital (and a priority), there is another problem: caring for the apes that have no chance of returning to a wild habitat. The best alternative available to some individuals is a 'good' captive environment. Whilst this is far from ideal it is too frequently a problem faced by sanctuaries in Southeast Asia and elsewhere.

In 2001 I became aware of one sanctuary that was trying to provide a good home for five unwanted apes. While sanctuaries are not uncommon, this one, while small, seemed different. I was fortunate to be able to spend a month at the Center for Great Apes, located in Wauchula, Florida, USA. The Center's aim is to provide a permanent sanctuary for orangutans and chimpanzees who have been retired from the entertainment industry, from research or who are unwanted pets. Since this initial visit the Center has grown in size and now cares for 44 great apes, 15 orangutans and 29 chimpanzees; the Center has added further enclosures, night houses, a health centre and even a specially designed area suited to the unique needs of handicapped apes, such as a young chimpanzee with cerebral palsy. Not having visited for four years I made a return trip to the Center in February this year to see some of the many changes and meet some of the new apes.

The Center exists because of founder Patti Ragan. It was in 1984 that she first experienced working with these great apes in Borneo, volunteering at a rehabilitation project for wild orangutans. Ragan, who lived in Miami, Florida at that time, was later asked to help care for a four-week-old infant orangutan at a bird park. Believing that the infant was eventually going to live with other orangutans at an AZA accredited zoo, she was disheartened to hear that the owner would be handing the ape to a trainer for circus work. Fortunately the owner agreed to allow Ragan the opportunity to find an appropriate captive environment, but she soon discovered that most accredited zoos do not want a mixed Bornean/Sumatran orangutan. In the hope that someone would set up a sanctuary for orangutans that could not be cared for in major American zoos (or be returned to the wild), Ragan decided to establish a non-profit organisation. Following this, she was asked to care for an infant chimpanzee, who was to be sold for work at the Universal Studios tourist attraction in Orlando; the sanctuary would now care for both great apes. After four years of investigation Ragan found an affordable, and feasible, plot in Wauchula, a small rural community in southern central Florida, originally

Images courtesy The Center for Great Apes

The Center's chute system



The chimpanzee Knuckles, who has cerebral palsy

nter for
pes

with 15 acres of forest setting including oak, pine, magnolia, sweet gum, willow, bamboo, palm, guava, mango, ginger, banana, and other exotic fruit trees. The sanctuary has now increased to over 100 acres.

My visit this year was within a month of the addition of the Center's newest arrivals, Popi and Allie. These two adult female orangutans arrived from the Great Ape Trust of Iowa, a scientific research center that conducts cognitive studies but whose primary focus will now be bonobos (*Pan paniscus*), so a new home was needed for Popi and Allie. I was keen to learn more about them and see how they were adjusting to their new environment. All of the Center's chimpanzees and orangutans live in three-story enclosures, providing substantial running room and height for the apes to swing. The habitats have a variety of climbing structures and swinging vines as well as numerous enrichment devices. Yet what is unique about the Center is the elevated tunnel system that meanders for more than a mile (5,300 ft) through the property. This chute system connects all the enclosures and allows the apes the freedom to run through the forest. It is impressive that a relatively small non-profit sanctuary has been able to provide a system that could be regarded as superior to other larger, and better funded, captive environments. A captive environment can quickly prove to be dull for a great ape so it is pleasing to witness the sense of freedom the chutes provide.

Outside enclosure

Popi (an older female) quickly settled into her new environment. For many years she had been owned by the circus trainer Bobby Berosini. Berosini used orangutans in his 1980s Las Vegas stage show and was eventually in court over filmed evidence of physical abuse of these great apes. Popi was at the centre of what was the first animal welfare case that raised critical questions about the treatment of great apes in entertainment. After public outcry, Berosini's orangutans were acquired by a Californian company who provide animals for films and TV shows. Popi lived in that compound for over a decade until she was moved to the Great Ape Trust in Iowa in 2008, her home before the Center for Great Apes in Florida.

The other orangutan, Allie, was originally born at the Yerkes Primate Research Laboratory in Atlanta, and was then sent to the Denver Zoo with her mother when she was still an infant. When she was six years old, her mother died unexpectedly and shortly after Allie came down with an unrelated illness which left her handicapped. She cannot use her legs for walking but Allie pulls herself along with her arms. I'd been present when another orangutan called Mari arrived at the Center who has no arms, so I already knew that the Center had the experience to care for such individuals.

Currently Popi and Allie are being housed in a new night house but the Center is working hard to fundraise and complete the outdoor area. The eventual aim is to give them the choice of new companions; there are 13 orangutans at the Center.

There's no doubt that research, reintroduction, habitat protection and environmental education is incredibly important if we hope to learn more about orangutans. It easy to understand why people question the huge resources that are required to support apes in captive care. Providing for such individuals, such as those at the Center, is incredibly expensive. However there is a need to provide captive environments that meet the physical and psychological requirements of apes that really have no other alternative. It is gratifying that the Center is able to provide an environment that supports these apes and offers them a base for life. To read more about the Center go to www.centerforgreatapes.org

A night house at the Center

Victoria Smith MSc

Dedicated to Tina Gilbert-Schenck, Operations Manager at the Center for Great Apes, who passed away during the writing of this article.

Lewin: Wild Art

The Australian exhibition, *Lewin: Wild Art* has now opened at the State Library of New South Wales in Sydney and is proving very popular.

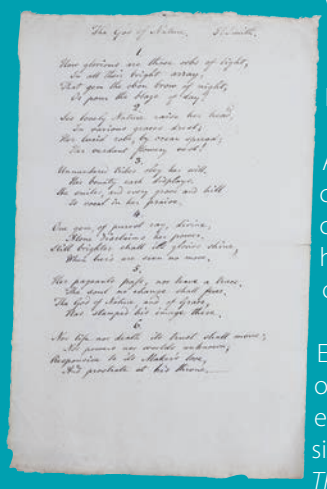
The Linnean Society has loaned six artworks by John William Lewin to the exhibition: studies of fish and koalas and paintings of a Superb parrot (*Polytelis swainsonii*) and a Thylacine or Tasmanian tiger (*Thylacinus cynocephalus*). The parrot image was chosen as the overall emblem of the exhibition and appears on all the publicity, on a huge stairwell banner and on the cover of the accompanying book, *Mr Lewin: painter & naturalist,* by the curator (and Mitchell Librarian at the State Library of New South Wales), Richard Neville.

The Society's material was shipped to Australia along with loans from the Natural History Museum, London (NHM) and the British Library. A member of NHM staff accompanied the crates on their journey to the Antipodes and reported back on a very smooth and uneventful transfer.

When the exhibition finishes its run in Sydney, it will move on to the National Library of Australia in Canberra where it will be on display from July until October 2012.

Smithian Hymns

The Linnean Society of London has recently purchased two manuscript hymns for the archives. They are both in the hand of our Founder and first President, Sir James Edward Smith (1759–1828) and bear his distinctive signature, with which he marked all his own books and those of Linnaeus purchased from Linnaeus's widow in 1784.



A rare book dealer in Bristol came across the hymns and contacted the Society once he had realised the significance of the signature.

Each document consists of one foolscap leaf with each hymn comprising of six stanzas. They are entitled *The God of Nature* and *Social Worship*. The Smithian collection already contains one hymn but the emergence of two more has opened up the possibility of there being others that he may have penned.

The hymns have now been gently surface-cleaned with a 'smoke' sponge and housed in a specially constructed folder by one of our conservation volunteers, Naomi Mitamura.

Lynda Brooks FLS
Librarian

Forthcoming Events 2012

14 June, 6.00pm	The History of Coffee *Fernando Vega*
21 June, 6.30pm	Withering—the English Linnaeus and the flowering of pharmacology *Peter Sheldon* **This event will be held at Birmingham and Midland Institute (BMI)** **To register visit www.lunarsociety.org.uk**
5 July, 2.00pm	Conversazione (at the Linnean Society)

LONDON 2012 OLYMPICS: The Games will take place between 27 July–12 August, with the Paralympics following from 29 August–9 September. The Piccadilly area will be much busier than usual. Please take this into consideration before planning your visit to the Society.

20 Sept 10.00–17.30, plus evening	Online Taxonomy Day *Malcolm Scoble and Paul Wilkin* **Please note:** an evening meeting follows this event

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

Find us on Facebook

Follow us on Twitter @LinneanSociety

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.

The Linnean Society of London, Burlington House,
Piccadilly, London W1J 0BF UK
Tel: +44 (0)20 7434 4479 Fax: +44 (0)20 7287 9364
Web: www.linnean.org

Charity Reference No. 220509

Manufactured in the UK, using paper with a minimum of 75% recycled content, that is FSC accredited.
Printed to ISO 14001 accreditation