

Zoo Life

Winter 2002 - Issue 12

CHESTER ZOO'S MAGAZINE FOR MEMBERS AND ADOPTERS



TV vet opens Health Centre • Penguin matters • Take a trip to Munda Wanga

From the Director's Desk

Professor Gordon McGregor Reid



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THEY say time flies when you are having fun – and these last 12 months have certainly flown by.

It has been a roller coaster year of Royalty, of new and exciting developments and of awards and achievements.

We have come face to face with HM the Queen on three occasions, firstly during visits to the area and latterly during a visit to Buckingham Palace.

QUEEN'S AWARD

Together with Mick Jones and Hazel Russell, we received the *Queen's Awards for Enterprise* on what was a thrilling and wonderful day. The award is testimony to the hard work and dedication shown by all at the zoo and it was a real honour to meet the Queen.

But, as ever, our work has been about helping the animals – not just our own but further afield too.

We welcomed Red Pandas *Lushui* and *Lushan* from Cotswold Wildlife Park where they were born and what an attraction they have been! Their purpose-built enclosure meets all their needs and an impressive artificial tree trunk camouflages their 'indoor

accommodation'. The young duo have had a great number of visitors over the last few weeks – mostly people with sore necks who have been looking high up into the trees to see these beautiful and increasingly threatened creatures!

SURVIVAL PLAN

Our *Asian Elephants in Crisis* 'species survival plan' got under way this year and Mark Pilgrim and Scott Wilson represented Chester Zoo at the World Conservation Union meeting in Cambodia for the Asian Elephant Specialists Group.

Funding support from our campaign made what proved to be an invaluable meeting possible. We also hope to further develop the project to help these majestic creatures in Assam.

Our new Jaguar *Sofia* was welcomed into the fold at *Spirit of the Jaguar*. She has joined us from Germany and we are hoping that, given time, she will mate with *Salvador*. Not only is she a mate for *Salvador*, but by increasing the number of Jaguars we increase the visitor experience for you!

One of our most gratifying projects has been the completion of *Tsavo the*

Black Rhino exhibit. A lot of thought has gone into interpretation to enhance the learning experience. It is wonderful to see our young Rhinos altogether and we now have a nice social group that is a joy to behold.

In August we welcomed TV vet Steve Leonard to the zoo for the official opening of our *Animal Health Centre*, which has given us more flexibility in looking after our animals. Head vet Stephanie Sanderson and her team have settled in well and the animals greatly benefit too!

STRONG RECOVERY

We have made a strong recovery this year following the devastating effects of foot and mouth disease precautions. More than a million visitors have come to the zoo and we have picked up an astonishing £1m in Gift Aid, thanks to YOU our visitors.

This is a great cash injection for us and, as ever, we are grateful to all of you who have taken the time to fill in the forms on your way into the zoo. Gift Aid can make a real difference to charities like us and we are thankful for every penny.

We have packed a lot into this record-breaking year and we hope that you, as our valued members, have enjoyed being a part of it.

We intend to build on this success next year and we look forward to welcoming all of you – old friends and new – again soon.

On behalf of us all here at the zoo, may I wish you a happy Christmas, a peaceful New Year and a prosperous 2003.

Front Cover: Oriental small clawed otters. More information and photographs on these on page 6 and 7. Picture: Andrew Price



Mick Jones, Gordon McGregor Reid and Hazel Russell

ANIMAL ADOPTERS

ANIMAL adopters were given a big thank you for their part in helping to look after our animals.

The zoo's two adopters' days held in October attracted more than 1,600 people who came to see the animals they support.

Last year the adopters' scheme raised £150,000 towards animal feeding costs and as a thank you this year, adopters were given free admission, a free monorail ride, drink and 10 per cent discount in the zoo shop.

Each adoption pack also comes complete with a certificate, two complimentary tickets, acknowledgement on the 'thank you' board, the quarterly magazine Zoo Life and a bookmark.

All money raised through sponsorship goes directly towards the feeding costs of the animals we care for.



Adopters Alison and Robert Bradley.

NOBEL PRIZE RECEPTION

ON behalf of the North of England Zoological Society and the Linnean Society, the Director Professor Gordon McGregor Reid attended a reception at the House of Commons in honour of the Nobel Laureates Prof. Timothy Hunt and Prof. Paul Nurse

Mr Ian Gibson MP, chair of the House Science and Technology Committee hosted the reception in order that representatives of learned societies could pay tribute including the Society for Microbiology, Biochemical Society, Genetics Society, Society for Developmental Biology, British Society for Cell Biology, Institute of Biology and the Linnean Society.

The Nobel Prize was gained for brilliant research work on the humble nematode worm, the results of which provided a basic framework for the

human genome project – the most important large, international biomedical project developed to date.

BUSINESS

Promoting Diversity and Work Life Balance Week



Rachael Ashton and Tamara Metcalf take the jaguar to Jaguar.

WORKING a busy job, juggling social commitments, raising children, planning holidays and maintaining the house and garden are just some of the many activities that fill our lives.

In September, all Jaguar sites held a "Promoting Diversity and Work-Life Balance Week." At Halewood, various events, activities and exhibitions took place during the week including 'Go Home on Time Day' and the stress-busting 'Bacon Buttie Break.'

Various display stands were set up in the Escort, Anglia and Capri restaurants. A Community and Making the Difference display was set up in Escort Restaurant, which included photographs of various community and family events. Chester Zoo, one of our community partners, came on-site to promote a special prize draw for free family passes.

FOR THEY ARE JOLLY GOOD FELLOWS!

THE title of Honorary Fellow was presented to two of the Society's most loyal supporters on Tuesday, September 17: John Mercer and Neil Kemsley. The Honorary Fellowship is awarded to acknowledge that the challenge of preventing the imminent disappearance of so many animal species requires the committed involvement of leading figures in the business disciplines as well science and husbandry.

When he was Chief Executive of Capital Bank, and subsequently Divisional Chief Executive of the Bank of Scotland, John Mercer facilitated financial support for several of the Zoo's major projects. This relationship is still going strong today, and the Bank of Scotland is certainly the Society's oldest

CHESTER ZOO 100 CLUB

The winners of latest monthly prizes are:

JULY 2002

£100 Mr George Hilton, Preston

£100 Mrs Jayne Quinn, Stockport

£50 Rev Ronald Berry, Oldham

£50 Mrs Maureen F Cordes, Shrewsbury

£50 Mr David L Lloyd, Leamington Spa

AUGUST 2002

£100 Mrs Ivy Thompson, Chester

£100 Miss Barbara A Lee, Bootle

£50 Mr A F Chiverton, Bognor Regis

£50 Mrs Florence G Bland, Richmond

£50 Mrs Laura Haddock, Ellesmere

SEPTEMBER 2002

£100 Mr Glyn E Jones, Goostrey

£50 Miss Susan C Gladwin, Chester

£50 Mrs L A Parsons, Liverpool

£50 Mrs Elizabeth Hart, Chester

All prize winners will be notified by post and will be listed in the next edition of Chester Zoo Life.

Membership of the 100 Club is still invited. Please contact Lynsey Jones, Development Officer or Maureen Allsop, Membership and Adoptions Secretary, if you wish to participate.

corporate supporter. Over an extended number of years John Mercer has proven an unfailing ally and advocate for the vital zoological work of the Society.

Neil Kemsley, is a founder member of the Society's Advisory Board. He has been extremely helpful in widening the Zoo's circle of friends and allies in the commercial, political and social arenas. He has equally provided valuable advice on a number of issues and projects.

The Fellowship badges and certificates were presented by the Society's Chairman John Makinson in the presence of both gentlemen's families. The ceremony was followed by a tour over to the Tsavo Black Rhino Experience.

Orchid Festival

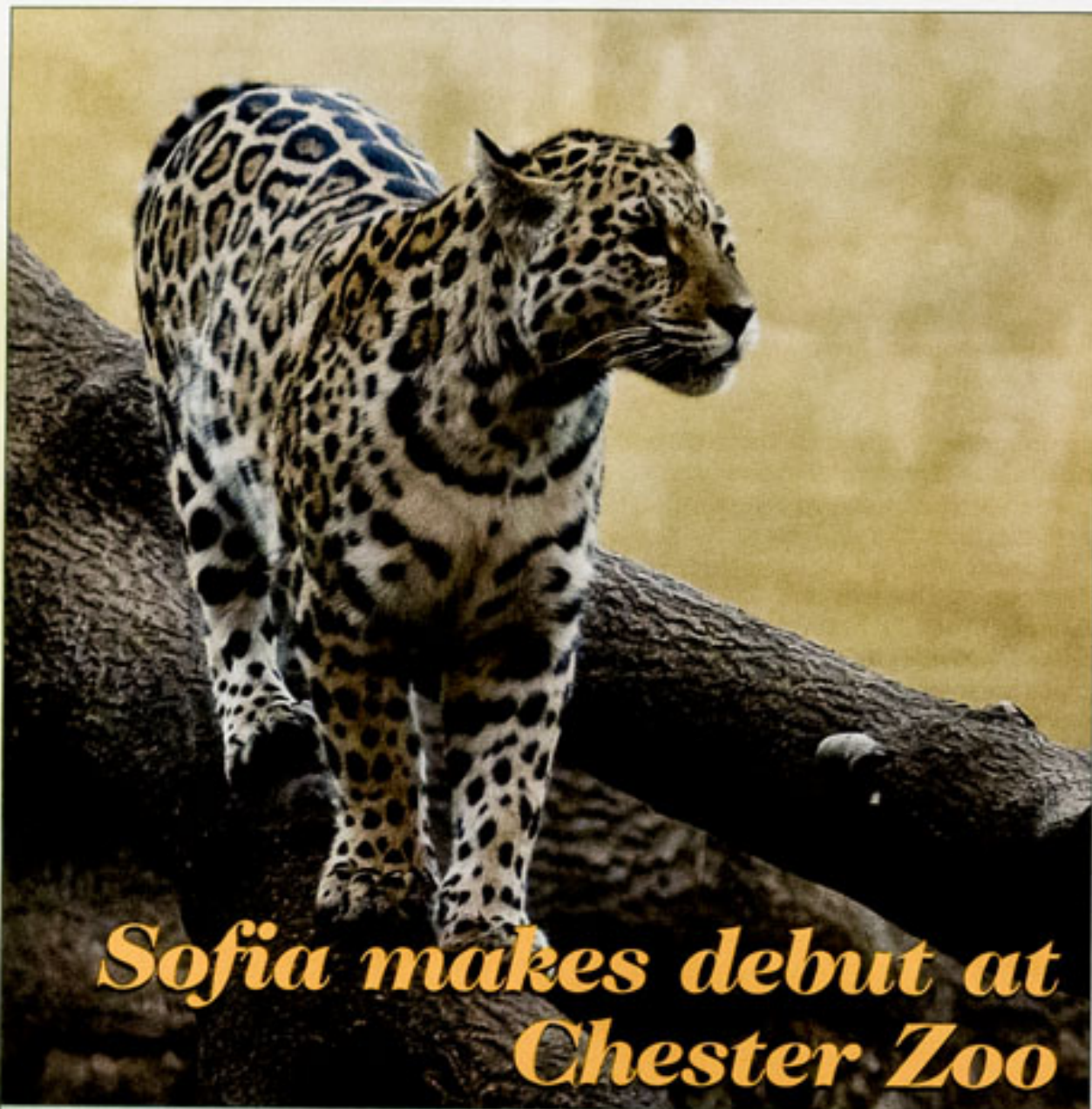
Saturday 15th
To
Sunday 23rd
February 2003



Interactive sessions,
cultivation advice
and plant sales
will be held here each day
between
12.30 pm and 3.30 pm

For further details please contact:
Chester Zoo on Tel: 01244 380280

Zoo Review



Sofia makes debut at Chester Zoo

CHESTER Zoo has a new purr-fect arrival as part of its on-going commitment to conservation.

Sofia, a spotted female Jaguar, arrived at the Zoo from Germany.

At just 16 months old, it is hoped Sofia will be a mate for 10-year-old Salvador with a view to breeding. Sofia will also join 24-year-old Carlos and Ebony, 18, in the *Spirit of the Jaguar* exhibit, which is now in its second year and was opened by actress Stefanie Powers.

The aim is to mate Sofia with Salvador with a view to having cubs by 2004.

Chief Curator Mark Pilgrim said Sofia had had a quiet few days and he was confident she would be happy at the Zoo.

He said: "Sofia is settling in very well. She is quiet and fairly calm and now that we have such excellent facilities, we have high hopes for her and Salvador."

Mark is also now working on a European studbook for Jaguars, which will help zoos identify those that have spaces for them and where animals are available for breeding. It is hoped that will be completed next year and will be available from the zoo.

LEAVE A GIFT TO THE ZOO

LEAVING a gift to the Zoo in your will is so important, because as a registered charity we do not receive any regular Government grants or funding for our running costs. We are dependant on our visitors through their admissions to pay for the upkeep and improvement of the Zoo. By letting us know that you have left us a bequest, not only does this allow us to thank you properly for your kindness, it also allows us as a charity to plan for the future.

If you would like further information on how to go about making a donation to the zoo in your will, please contact Lynsey Jones in the Development Office on 01244 650292 or by e-mail on l.jones@chesterzoo.co.uk

ZOO GIFT TOKENS

IF you are looking with a present with a difference, then why not splash out on a Chester Zoo gift token.

The £5 tokens can be exchanged for purchases in the Zoo's shops, cafes and restaurant or at the entrance. The vouchers, which are available from the information point in the Ark shop, are valid for two years.

PRESTIGIOUS AWARDS

THE marketing department has reason to celebrate after picking up two awards for work.

Two prestigious silver awards for Tourism and the Environment and Tourism Marketing were presented to Tourism Co-Ordinator Ruth O'Hare at the England Tourism Awards 2002.

The awards are given by the Northwest Tourist Board, together with the Northwest Development Agency. During the event held at Manchester Airport Ruth won fourth prize in a raffle, picking up a Rally experience voucher for Oulton Park.

Farewell to Hazel Russell

SINCE the last issue of *Zoo Life* Hazel Russell in the Development Office has left the Zoo for pastures new. Hazel worked here for nearly 3 years in which time she was involved in many fundraising activities.

She will be known to some of you through *The Legacy Pledge Club* that she herself developed significantly. Hazel has worked extremely hard to get the important message across about the Zoo being a charity and how people can get involved by remembering the Zoo in their will. However, she took most pleasure in getting to know the members of the club personally when she met them at various events and exhibit openings.



As well as being involved in major exhibit openings such as *Islands in Danger* and *Spirit of the Jaguar*, Hazel was also involved in various appeals. One of these was The Animal Health Centre appeal and she was so pleased that it raised some money to buy much need equipment for the Zoo's veterinary team. And who could forget all the generous donations that came as a result of Foot and Mouth Disease – the generosity of everyone was astounding and writing to thank all the donors was heartening at such a time.

She will be missed and everyone here wishes her every success in her career.

STAFF NEWS

A WARM welcome has been given to all new starters.

Head of Marketing and Development Amanda Wright unveiled her new team including Media Coordinator Kristine Beaumont, Tourism Coordinator Ruth O'Hare, and Public Relations Officer Rachael Ashton.

Also new to the zoo are Events Coordinator Sharon Mottram, Security Officer Michael Lowe, IT System Support Technician Martin King, Bird Keeper Claire Daniel and Temporary Mammal Keeper Kelly Johnson.

Farewell To:

We have also bid a fond farewell to Paul Evans, Estates, and Suzanne Thomas in Education.

Huge Thanks To:

A huge thank you to all the seasonal staff who have left us now the season comes to an end.

▼ From left are Ruth O'Hare, Amanda Wright, Kristine Beaumont and, top, Rachael Ashton.



OTTER *breeding* SUCCESS

THE oriental small clawed Otter is the smallest of the 13 species of Otter that exist in the world today. Their average length is 75 cm (nose to tail tip) compared with the huge 3m of the giant Brazilian Otter.

It is this small size along with their playfulness and inquisitiveness around them, which has always made them extremely popular with zoo visitors.

Oriental small (or short) clawed Otters are found throughout most of Asia in freshwater and in Mangrove swamps. Despite being legally protected in most of their natural habitat, these laws are not always strictly adhered to and sometimes not even enforced at all. So, although they are currently at a lower risk from extinction, they are an endangered species.

Otter habitats (not only in Asia) are under threat from human encroachment and the overuse of pesticides in the agricultural industry. They are also hunted for their pelts (their fur is warm and often used to make gloves), their livers (used in Chinese

medicines) and also because of the direct competition fishermen feel they are threatened with by the otters.

Owing to these threats, oriental small clawed otters are part of the UK Zoo Federation conservation breeding programme in which Chester is involved. However breeding Otters is not as simple as putting a male and female into an enclosure and letting them "get on with it." If only it were that simple!

JUST GOOD FRIENDS

Popeye and Mona, our two old otters, were introduced to one another at Chester with the plan to breed from them. Unfortunately this never happened. Despite introducing flowing water to the enclosure, changing their diet several times, changing their dens, adding more to the enclosure and attempting to stimulate them with various enrichment techniques, the pair preferred simply to remain "just good friends."

In February 2001, Popeye sadly dies at the ripe old age of 16, a good age for an otter. Later that year, Mona was moved to another collection to spend her twilight years with another elderly male.

Left with an empty enclosure and the plan of obtaining two young otters, we set to work on the alterations determined that this time next year we would have young otters.

The first thing we did to the enclosure was chop down the two great conifer trees which stood in the middle casting a lot of shadow on the area beneath.

After more than a quarter of a century, Chester Zoo has bred its first otters.

Here Helen Wright and Laura Kelly tell the extraordinary story of how the breeding programme finally worked.

We then discarded the old wooden nest boxes, which gave the otters little privacy and built two new dens (or holts) and sunk them into a large mound of earth were placed behind the existing waterfall. These new dens, which are keeper accessible from above, were now secure, draught free and private, being connected to the outside world only by otter-sized tunnels.

To the two existing pools, we added



▲ We are family! The new arrivals venture out into the big wide world.



reeds, lilies and gravel to encourage pond life and give the pools an added filter system. An area between the pools was also altered to create a new dabbling pool, which the Otters could use to search for food in the shallow water and gravel bed. The final thing left to do before the new otters arrived was to revise their diet.

NEW ARRIVALS

Our previous otters were fed twice a day on a diet of coley, chicks and mussels. We felt this was too bland and it also failed to keep our otters occupied for very long.

The diet was therefore changed completely with a larger variety of food fed more often.

All we needed now was our otters.

Our female otter Malecca arrived from the Otter and Owl Sanctuary in the New Forest in early February of this year. She settled into her new surroundings with no problems. However, she was not on her own for long as Khuma arrived the next week from London Zoo. Khuma is a very handsome young male and he is easily distinguishable from Malecca as his chest is almost white in colour and he has a very appealing pink nose!

The pair took to one another immediately and all our fingers were crossed that they would mate successfully. We did not have to wait long as the first mating was observed on the very same day.

We began to suspect pretty early on that Malecca was pregnant. Then one morning in the first week of July, she did not appear for her morning feed. Khuma however was out straight away, collecting the food we threw in and taking it back to the nest box to feed his mate. From this moment, no one was allowed into the enclosure and we certainly couldn't check the dens. Otters with young are not only extremely aggressive but are also likely to kill their young if they feel under threat.

After 25 years of waiting, we could not afford to make any mistakes. For the

next five weeks, we threw food and nest material into the enclosure every day and watched Khuma collect it all and take it back to the den. Malecca made the occasional appearance during this time, but there was still no sign of the youngsters.

Then, almost five weeks to the day after Malecca first vanished into the den, we heard the youngsters for the first time. This was a brilliant moment. Although we did not know how many of the otters there were, at least we knew they were there.

After two months of patience and many spare moments spent watching the entrances to the nest boxes, we finally had our first glimpse. Two tiny little heard emerged from one of the tunnels, blinked in the sunlight and then shot back in again when they realised they were being watched. Three days later, four youngsters were spotted and then nearly two weeks on we had the final count of five. Five baby otters after 25 years of trying!

FIRST GLIMPSES

The following six weeks were made up of occasional glimpses, early in the mornings and late in the afternoon.

Now, nearly four months since their birth, the youngsters can be seen out and about much more frequently. They have settled into their daily routine well and their calls can be heard a good distance just before feed times now that they are properly weaned and eating solid food.

We now know we have three females and two males and their enclosure is full of life. It is an honour to watch five small bundles of excitement playing and wrestling with each other after such a long wait.



Hand rearing of Chester Zoo's baby Penguins

FOR the birds – and for us – the breeding season starts around February/March (depending on the weather). The birds start to pair; almost all pair up with the same mate as the year before unless for any reason it has been removed from the collection. Our birds use the same nesting area each year, so we can easily see if there have been any changes in the pairings.

The first sign of breeding is the old sand/soil being kicked out, new stones and pampas grass being brought in and arranged in the nest boxes. Before any eggs are laid, the female will feed herself up and beforehand can be seen sitting on the nest for up to a week. The male will visit the nest, but it is very rare to see him sitting in the nest with her.

From here on the pairs react differently; once the first egg is laid

Karen Davies explains how Chester has successfully reared penguins for many years and we think it's about time, you the adopters and members find out how it's done . . .

some females will sit on it and lay the second egg (two to four days later) before leaving the nest while others will swap with their mate soon as the first egg is laid. Whichever way the birds do things, both birds, from the laying of the second egg, will take it in turn to sit and keep the eggs warm. Yes even the male, though we do have one male that mates with two females leaving one to sit her eggs alone.

The total incubation period for our

Penguins is around 41 days. On day 39 we can usually see the chick pipping the shell leaving a small breathing hole; two days later the chick is out and dry; it is at this point that the chick would be taken for hand rearing, leaving the parents thinking they have lost their chicks and allowing them to re-lay and letting them try to rear the second brood of chicks themselves.

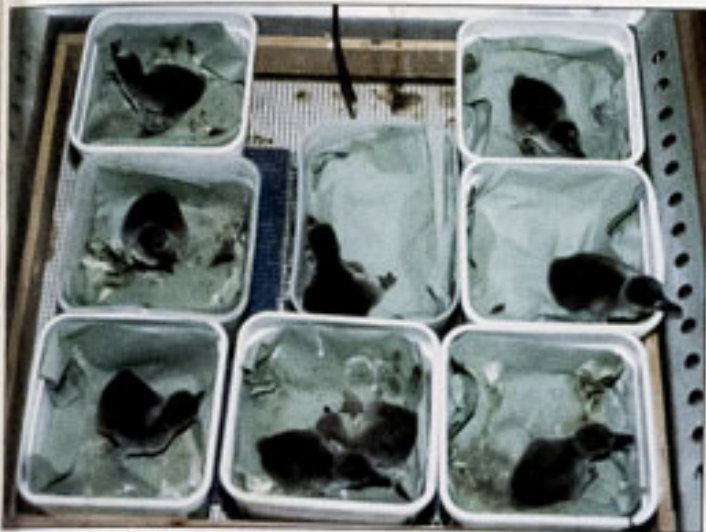
The newly hatched chick is taken to our rearing room and put into a clean empty 2 litre ice cream tub, the base of which is covered in tissue paper, which is changed at each feed. The chick is weighed every day before it is fed, so we can check it is gaining weight.

Feeding is done by liquidising fish with salty water and vitamins, putting this into a syringe and warming this up. This is done by placing your hand over the chick's head and putting its beak in between the thumb and finger and tapping the beak. This encourages the chick to beg, meaning the food can be taken as the parents would feed the chick and not forcing the chick to eat in any other way.

The first feed is 8am with another two, four hourly feeds at noon and 4pm. The last feed is given five to six hours later, between nine and 10pm. This gives the chick time to digest the food it has been given during the day and they don't have to wait so long over night before the next feed.

By day 10 the feeds are reduced to three times a day.





▲ The chicks were taken away to be hand reared.



By day 30 the chicks are big enough to be put on to fish.

Day 40, the feeds are reduced to twice a day, morning and night.



Day 50 the birds are fed *ad lib* – they are given as much food as they want to eat.

Day 90 the chicks are taken from the rearing room to the baby pool in the penguin enclosure and take their first swim.

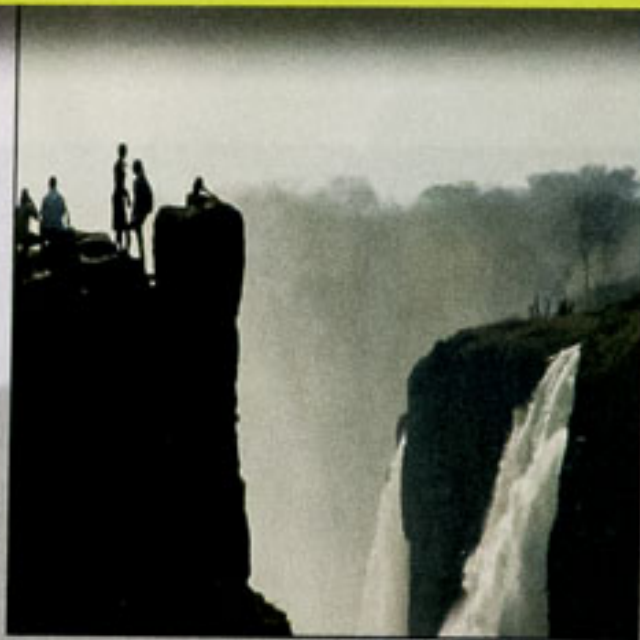
Here the chicks are taught how to swim and dive and how to find and catch fish from under the water. Not until they can do this, which can take up to three weeks, will they be let out on to the main pool and join the main group.

As we have been so successful with

hand rearing we are now concentrating on letting the birds rear the chicks themselves. Last year six out of eight chicks were reared, by four pairs of birds, I quote this as two pairs – not forgetting that this is one of the first times they have reared their own chicks – produced twins.

This year the birds have hatched 13 chicks, with 12 surviving four pairs of which are twins. This is the best news a keeper can have, chicks being reared by their own parents after years of interference from us.





MUNDA WANGA *Revisited*

The Zoo's Head of Education Steve McKeown reflects on a return trip to Munda Wanga aimed at improving conservation education.

STEPPING out of the plane at Lusaka airport we were greeted by a military band, saluting generals, red carpets and a fleet of armour-plated limousines. 'Are you with the President's party?', a flight attendant asked dubiously. 'Not exactly', I replied, trying to struggle back to the economy class stairway through a sea of important-looking men in dark suits.

And so we were back in Zambia, two years after Alan Woodward, Head of Carnivores, and myself had come out for the first time to establish links with the Munda Wanga Zoo and Environmental Park. My colleague Gill Wells had joined me this time on an exercise intended to further help Munda Wanga build up its conservation education function.

Munda Wanga lies 15 km outside the Zambian capital in a village called Chilanga. Travelling those 15km is like entering a time machine. One minute you are negotiating Lusaka's chaotic traffic in the shadow of tall



▲ Learning to be a presenter Munda Wanga style!

glass-sided buildings, then suddenly the modern city disappears and through the red dust, miniature cities of breeze block houses with corrugated iron roofs emerge. People try to scrape a living by using what they can in this slightly depressing environment. Periodically at the roadside we find a conglomeration of stalls made invariably from pieces of crooked acacia, topped with rough thatch or plastic or sheet metal. Many are manned by children, some as young as six or seven. Goats wander everywhere, the sharp, musky smell of their dried powdered dung mixes with the swirling dust and is always in your nostrils. Scattered amidst all of this are beautiful purple-flowered Jacaranda trees breaking up the monotony of grey shacks and red dust.

Further along, deep labyrinths are gouged out of the ground – what looks like a dried out riverbed is, in fact, a mine. Women, using makeshift pickaxes and shovels, labour to excavate huge boulders. In the few seconds it takes to pass in a car you absorb the enormity of what happens to them next. There is a production line of women, sitting in the sun and reducing these boulders, bit by bit to little chippings using nothing but small hammers. I guess that in a country where labour is so cheap it is more cost effective to use people instead of machines. Gill later finds out that it is commonplace for women to carry baskets of trade goods weighing over 20kg (our luggage allowance on the flight!) on their heads 40km to market.

Closer to Munda Wanga the breeze block huts recede into the distance and agricultural land dominates the scenery.

Munda Wanga ('My Garden' in a local dialect) was established as a Botanical Garden by a Belgian called Ralph Sander in 1950. After he died in 1978, the estate was

sold to the Government who developed a zoological garden in the grounds based on tigers and bears gifted to the government by Chipperfield's Circus. Over time, however, the whole facility fell into disrepair and was eventually taken over in 1998 and has been operated as a charitable trust since 2000. Munda Wanga acts as an animal sanctuary too with current rescued animals including pangolins, owls, baboons, Meyer's Parrots and an orphaned baby elephant called Phoenix.

When we are first introduced to Phoenix, her tiny trunk frisks Gill with the speed and efficiency of a customs officer looking for contraband. Disappointed at not finding anything edible, she saunters off to join the Munda Wanga keeper designated as her foster parent since losing her mother just over a year ago. Game rangers found Phoenix in Zambia's South Luangwa National Park trying to suckle from her dead mother, her tusks crudely hacked off by poachers who had apparently poisoned her a few days before.

Horrific and tragic though we may find this above, it's easy to see why the average Zambian doesn't have wildlife conservation high on his or her list of daily priorities. In this country of some ten million souls, 86% of the population lives under the poverty line, unemployment runs at 50% and the prevalence of HIV/AIDS in 20% of the population helps make the average life expectancy just 38 years.

Owls are strongly associated in many Zambians' minds with witchcraft and so are very often killed on sight. Some barn owls in the sanctuary had been rescued from a chimney where they were about to be burned out by the householder. Meyer's Parrot, a relatively common species throughout Zambia, were openly traded on the street. Munda Wanga works closely with the Zambian Wildlife Authority in confiscating such animals, nursing them back to health and, where possible, releasing them into the wild.

The release recently of a troop of Yellow Baboons into a safe area shows how successfully this can be achieved. Baboons are treated as vermin in Zambia as, given an opportunity, they will happily steal food and destroy crops. Orphaned babies are sometimes kept as pets until they become too big to safely keep at home. Any rescued baboons are housed in a spacious enclosure where they are given 'survival training' ready for a controlled release into the wild where their progress is closely monitored. Any found incapable of fending for themselves are recaptured and given some additional training in finding food.

Munda Wanga has recently taken on Hunting Dogs, or Painted Dogs as they are known here, as part of a co-operative breeding programme with some South African zoos. Two huge enclosures have been set aside and there are great hopes now that Munda Wanga can make a real contribution to the future of this species whose numbers have been decimated by disease and persecution.

As well as working in direct conservation, Munda Wanga staff are deeply committed to conservation education. Chester Zoo's Education Outreach Programme has paid for a roof to be put on the Education Centre – handy during the rainy season! We have also donated a laminating machine, overhead projector and various pieces of interactive resin casts such as lion dung, crocodile skin and lion pugmarks.

Walking round Munda Wanga, Gill and I were very impressed with the changes that have taken place over the past two years. All of the animals now live in spacious new enclosures with balanced diets and opportunities to hide from the visitors if they so wish. Munda Wanga certainly seems to have benefited from Head Keeper Chris Ntitima's one month training visit to Chester. Enrichment devices for the animals, developed by the keeping staff, are in use

and everyone seems more generally aware of health and safety issues.

Gill and I had been asked to help train up keepers and interpretive guides to give tours around the park. We began by talking about very basic communication skills. We followed this up with some training on using the portable public address system we had donated, which went down very well indeed. Next, after watching Gill and myself demonstrate set pieces at the lion and ostrich enclosures, the trainees had a go themselves. This was all recorded on videotape and played back (to general hilarity) later on.

As a member of the IZE (International Zoo Educators) Executive Committee, I was particularly interested in talking to Emma, the Education Officer, about next year's AZOREN (African Zoo and Reserve Educators Network) Conference which is to be hosted by Munda Wanga. We managed in the space of a day to get much of the forward planning done, including inspecting different accommodation options in the area and discussing costings, sponsorships, audio-visual provision and all the other intricacies that are part of an international meeting.

Chester Zoo increasingly tries to reflect habitat country themes in its exhibit design. Tsavo – the Black Rhino Experience is a good example of this where the main building is based on an African 'rondavel'. We are currently trying to build up a source book of designs, patterns and architectural techniques to refer to when planning up a new development and so Gill and I ventured out into the bush armed with digital camera to record as much as we could that might be of use in the future.

We also established contact with a local wood carver called Benson who had done some beautiful work for Munda Wanga and explored the possibility of a 'fair trade' type arrangement where Zambian carvers might do some signage for Chester Zoo.



▲ Stephen with a new friend at the new Education Centre (below).



One of the joys of assisting in a developing country is that whereas £5 would barely buy lunch in the UK, it would be a week's wages for most people in Zambia so you can achieve an awful lot for relatively small amounts of money. As a charity ourselves we have to ensure that every penny we spend is used to its best advantage and in Zambia that is certainly the case.

We are committed to further helping Munda Wanga realise its aspirations in conservation education and will keep you updated with future developments.



▲ Stephen at home in his tent and right planning training sessions.



TSAVO

The Black Rhino Experience THE INTERPRETATION

Sara Ruks reports on how the Tsavo Experience was designed to allow visitors a glimpse into the world of the Black Rhinos



PLANNING the interpretation for a new exhibit is always an exciting time. Developing the individual elements can be challenging as well as time consuming, but the satisfaction of seeing them come together and installed (on time!) is worth all the hard work. This was especially true for the interpretation for *Tsavo*.

A Black Rhino doesn't live in isolation; its life is linked to the changing seasons and the local flora and fauna, including other Black

Rhinos and, of course, people. Exploring these relationships as well as helping to create the feeling of entering the African Savannah

were just two of the aims of the interpretation.

Themed signs welcome you to *Tsavo*. Explore further and you will have the opportunity to discover how the Savannah changes over the year and how the lives of the animals living there are affected, the differences between Black and White Rhinos and how a Black Rhino uses its pointed lip while feeding.

FOOTPRINTS

Footprints appear on the reddish coloured path. Who do they belong to? Would you make a good game warden or poacher? Can you distinguish the footprint of a Black Rhino from that of a White Rhino, Zebra, Giraffe or Hippo? Examine the life-size model footprints and lift the flaps to see if you are correct.

What are Stock Rhinos called in

Black Rhino

Each Rhino horn is mounted on roughened knobs of the skull. It does not include a bony core, but is an outgrowth of the skin.

Like our hair and nails rhino horn is made of a protein called keratin.

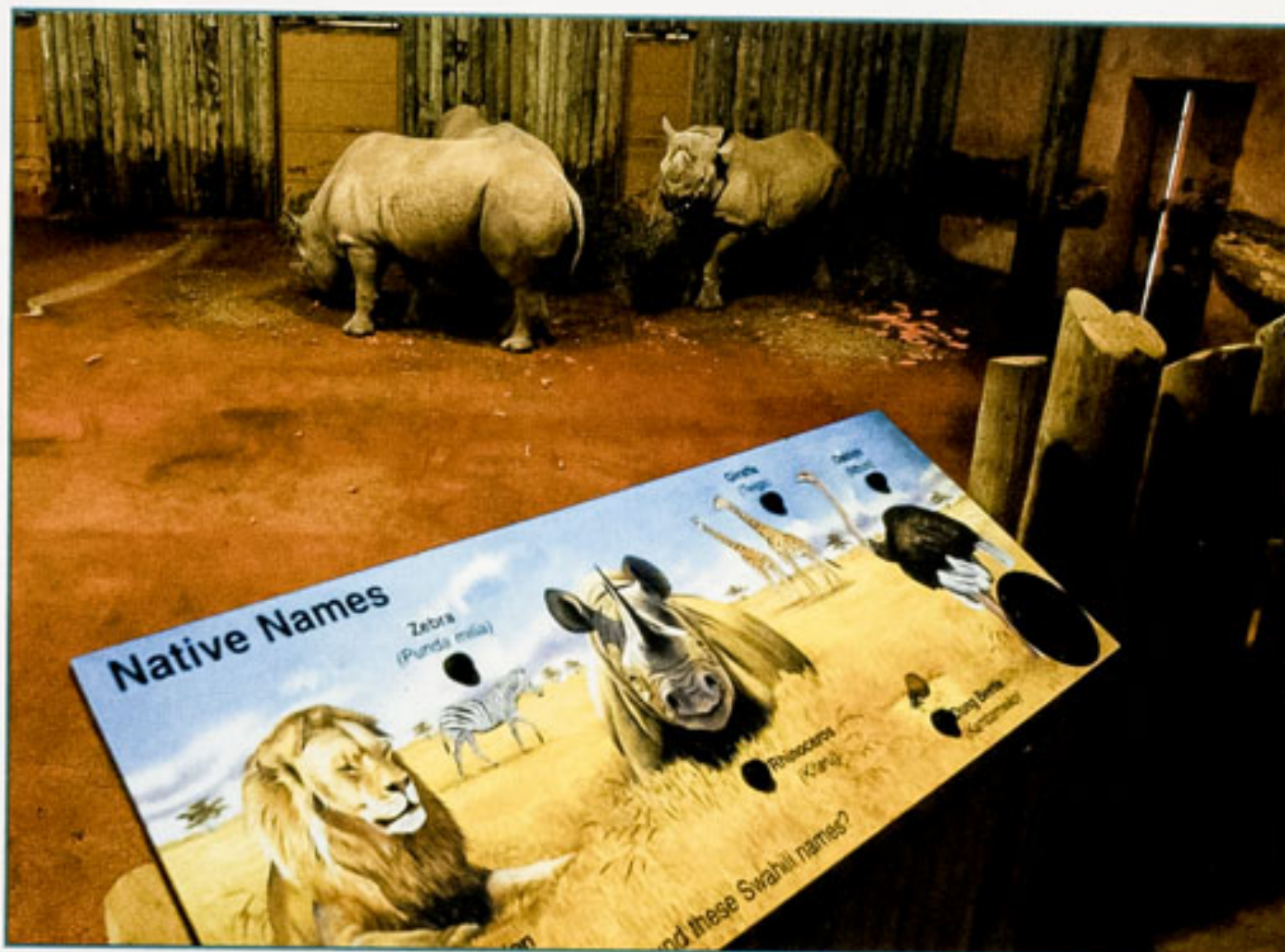


Hair-raiser

Rhinos use their horns for many purposes such as pulling down branches; shovelling the ground for mineral salt; fighting over territory or a female; defending themselves and their young against attack.

Did you know?

• Although the average horn length is 50-80cm, the World record belongs to Gertie, a female from East Africa whose horn was 138cm.



Swahili? Press the buttons of the sound box to find out that 'Kifaru' is Black Rhino, 'Twiga' Giraffe and 'Simba' is lion in Swahili. A native Swahili speaker, now living in the North West of England, kindly recorded these words for us. A second sound box explores the different ways that rhinos are perceived by a villager, a game warden, a poacher and a trader in rhino horn. You may recognise the voice of one of our keepers, who agreed to play the trader. Three African colleagues working in different wildlife establishments in Kenya and Zambia recorded the other points of view for us.

MYTHS AND LEGENDS

Feel the life-size model of half a rhino's head complete with horns to find out how the horns grow. Other signs describe some of the myths and legends connected with rhino horn, the threats facing Black Rhinos today and the work Chester Zoo is doing to help save these magnificent animals from extinction. A deserted poachers' camp reinforces the message that rhinos need our help.

Don't think that is the end of the story. Black Rhinos signal their presence to other rhinos using scent. Look out for the very realistic urinating rhino and the piles of dung as you leave *Tsavo!*





Topical Trails

Did you get your Commonwealth Games Passport stamped this summer? Have you followed our Atlantic Rainforest trail yet?



TO celebrate the Commonwealth Games in Manchester, Zoo visitors were encouraged to look out for 10 flags of Commonwealth countries, note down their date of joining and to stamp a 'passport'.

Using the special trail booklet,

which is available until the end of the year, children and adults find out about animals from the threatened Atlantic Rainforest of South America. Questions about the animals can be answered by doing the mini brass rubbings located by each of the 10 species visited.



These trails are a new initiative developed by the Education Division. Look out for more fun, topical or awareness raising trails in 2003.



Recent Environmental Enrichment on the **RHINO SECTION**

Helen Boezek reports on the success of the Tsavo Black Rhino Experience.

Rhino pictures: Mark Cleave
Meerkat pictures: Helen Boezek

ENVIRONMENTAL enrichment is an essential aspect of animal management. It is important to stimulate animals to perform a wide range of natural behaviours mainly through interactions with companions and with their habitats. This can be of direct benefit to the animal's physical and mental health resulting in increased animal welfare and perhaps a better



▲ *Who is watching who? The rhinos at leisure.*

breeding output. Over the last year you may have noticed the building of *Tsavo*, the new Black Rhino experience including the new Meerkat enclosure. The rhino exhibit has allowed the keepers to implement proven and innovative enrichment ideas, many of which have been suggested by keepers following visits to Sweetwaters Nature Reserve in Kenya and observing wild rhino behaviour.

INNOVATIVE IDEAS

To this end *Tsavo* has larger paddocks, which increases personal space and improves the breeding potential. Logs can be found all around the paddocks to rub against and throw around, whilst inside the pens logs have been planted into the floor to act as scratching posts and to allow leafy branches to be hung from them. Large mud wallows can be seen on the paddocks, the rhinos use these to cool down by covering themselves in mud, this is important as

they are unable to sweat. Following a visit to the Zoo at Port Lymphe we adopted the idea to plant shrubs and bushes behind paddock barriers, to enable browsing but prevent the vegetation from being destroyed. Around the walls of the indoor pens



▲ *The meerkats at work, digging in the sand.*



▲ Meerkats 'fishing' food out of a feeder log.

tree bark has been attached, for the rhinos to rub against. By drilling holes and placing leafy branches, inside a more natural feeding behaviour off the ground is encouraged.

MEERKAT NEIGHBOURS

Recently the meerkats have moved from their indoor enclosure in the camel house to their new exhibit by the Tsavo rhino experience. It has both an inside and outside area. The outside area has proved to be particularly successful as the meerkats appear to spend the majority of their time there. They especially enjoy basking in the sun. Logs have been placed in the outside



▲ Meerkats are excellent climbers.



Pictured above and below: The new Tsavo Black Rhino Experience.

area along with root balls. A lot of time is spent climbing these and keeping watch as now the meerkats are able to see over the exhibit walls from on top of the logs. In the wild, animals spend most of their time foraging for food, it is therefore beneficial to stimulate this behaviour in captivity. Food can be hidden on and within the logs, some have had holes drilled into them allowing mealworms to be hidden

inside, extending foraging time and thus simulating conditions found in the wild. The floor of the exhibit has been covered with sand, with a large sandpit outside. The sandpit has allowed the meerkats to dig and make burrows. It is planned to have fake termite mounds constructed within the exhibit. These can be used for climbing and food can be hidden in them, provoking a natural foraging response



Recipe for Success



Andrea Fidgett is Chester Zoo's animal nutritionist – the first full-time position of its kind in the UK. In her first article for Zoo Life, Dr Fidgett explains her role at Chester Zoo.

ONE of the biggest expenses in any zoo's budget is its food bill and here at Chester Zoo, we have a lot of mouths to feed! Did you realise that we have more than 7000 individuals from over 500 different species, ranging from corals in the Aquarium through to rhinos and elephants? To satisfy these diverse appetites our food bill approaches £1,000 a day. The Animal Supplies Department are a full-time team of four working to buy and check high quality food, and then deliver it around the zoo to the relevant section.

Food is clearly an important

component in the day-to-day running of Chester Zoo. At a more detailed level, nutrition plays a crucial role in the ability of zoos to maintain the health and welfare of the wild animals in their care. Few zoos have qualified nutritionists on staff, yet all could utilise this expertise. I'm based in the Zoo's new Animal Health Centre and my job is to provide a nutrition advisory service, complementing the work of the veterinary team.

FORMULATING ZOO DIETS

But how do we know what wild animals need to eat? Diets for captive animals must meet basic nutrient requirements. Just like us, all animals need to get energy from their food; they also need protein, fat, vitamins and minerals. How much of each is largely determined by their lifestyle. Therefore when zoo

nutritionists design diets, they start with what is known about the natural history and particularly any information on the 'wild' diet. Knowing what free-ranging animals eat can give us a clue about the nutrient requirements of the animals.

Often, the chemical composition of the natural diet is unknown. This can be a problem because we try to feed for nutrients in zoos, not ingredients, since we simply cannot provide exactly the same food items that would be

Within the international zoo community Andrea's professional responsibilities include:

- Steering Committee Member of the American Zoo & Aquarium Association Nutrition Advisory Group
 - Founding member of European Zoo Nutrition Research Group
 - English language editor for special Nutrition issue 1 of the EAZA Newsletter and the book, Zoo Animal Nutrition
 - Editor in Chief for the second special Nutrition issue of the EAZA Newsletter and Volume II of Zoo Animal Nutrition
 - Consulting editor for Nutrition section of International Zoo Yearbook (Vol 39)
 - Appointed as Nutrition Advisor to the EAZA Parrot Taxon Advisory Group
- Research for her PhD addressed the complex relationship between nutrition, female condition, and reproduction by looking at egg production and egg composition in birds.

Her MSc studies focused on investigations of dietary intake and food composition in captive Alaotran gentle lemurs (*Hapalemur griseus alaotrensis*) in association with Jersey Zoo.

found in the wild. It can be difficult to mimic the natural diet, but we try to feed similar nutrients to captive animals. Therefore it would help to know that particular wild food items are eaten for specific reasons, e.g. perhaps because they contain calcium, (essential for strong bones), or are a good source of vitamins.

Much of what is known about animal nutrition comes from studies of cattle, sheep, poultry and other livestock. However, that research is generally aiming for different goals; production of meat, eggs or growth. By contrast, in zoos we are striving for health, longevity and reproduction, the latter being particularly important for all the species (more than 220 at Chester Zoo)



that are part of managed breeding programmes. There are also other limitations. Domestic poultry eat mostly seeds, but we use still that model for all types of birds feeding on very varied diets, simply because domestic poultry have been very well studied.

There are many other factors that determine any animal's nutrient requirements. Small animals tend to have higher metabolisms than larger ones, and young, growing animals have different needs compared to full grown adults. We also need to consider the time of day or how often an animal eats. For instance, does the animal eat once per week, once a month or several times a day? Finally, the anatomy of an animal dictates what it is actually able to eat. Think of how varied animal dentition and beaks are when you next walk around the zoo, and how well suited they are for dealing with the type of food each animal eats. Other features like the fingers, lips, tongue and (internally) the gut structure determine how and what an animal is able to select and digest.

PARTNERS IN CONSERVATION NUTRITION

My nutrition position is a unique partnership with Dr Ellen Dierenfeld of the Wildlife Conservation Society (WCS). Established over 16 years ago and based at the Bronx Zoo in New York, Dr Dierenfeld's Department of Nutrition

oversees the feeding of more than 20,000 mouths daily in five city-based wildlife centres, and an off-exhibit breeding facility on St. Catherine's Island, Georgia. Diet preparation, nutritional evaluation, feedstuff handling and storage protocols, and quality control are all coordinated through Nutrition Department staff. I will spend one-third of my time in New York over the coming years, developing a model to be adopted for Nutrition Services as part of Chester Zoo's Animal Health Centre.

This summer I spent two months familiarizing myself with a wide range of the Wildlife Nutrition Department's activities. This included conducting laboratory analyses to measure nutrient composition (fat, protein, vitamins and minerals) of novel food items, i.e. those not normally eaten by humans or domestic animals, but used in zoos to feed wild animals. Insects are a good example. Many species use insects to rear their young and at Chester Zoo we produce locusts specifically for this

purpose. However there was no information about their composition as a food item. From chemical analyses I discovered that although the locusts were rich in protein, they lacked adequate calcium, an important nutrient for all growing animals. With this knowledge we are now able to provide alternative sources of calcium in the diet.

With such a large and diverse collection at Chester Zoo, representing all kinds of animal appetites, clearly my work is cut out for me! I look forward to bringing you more nutrition news in the future.



▲ Maintaining records helps Andrea with her work.



▲ Andrea carries out some food testing and right with some samples.



THE EAZA 2001/2002 ATLANTIC RAINFOREST CAMPAIGN

EACH year the European Association for Zoos and Aquaria (EAZA) run a conservation campaign. Last year the campaign successfully highlighted the bush meat trade. This year the campaign focused on the Atlantic Rainforests of South America - as reported on in the Summer issue of Zoo Life this year by Roger Wilkinson.

During the EAZA annual conference in September the Atlantic Rainforest campaign officially made way for the 2002/2003 Tiger campaign. Over £90 000 has been raised (as of 25th September 2002) by the 90 EAZA zoos registered for the campaign. Just over £6,500 of this was raised through activities at Chester Zoo and the support of our members and visitors...with still more money to come! This article looks back at Chester Zoo's contribution to the EAZA Atlantic Rainforest campaign.

WHY CAMPAIGN TO SAVE THE ATLANTIC RAINFOREST?

The Atlantic Rainforest has been reduced to around 7% of its original size. The remaining forest exists as isolated fragments that are home to a huge diversity of wildlife, including many highly threatened plants and animals. One of the most famous inhabitants, and certainly one of the most appealing, is the Golden Lion Tamarin. This critically endangered primate can only be found in the Atlantic Rainforest and is being used as an ambassador, or "Flagship", species to promote

By Scott Wilson

conservation in the Atlantic Rainforest.

The campaign's aims were to raise awareness of the conservation issues and threatened wildlife in the Atlantic Rainforest and raise funds to support the essential conservation work that is striving to protect the remaining rainforest and its inhabitants. Funds raised at Chester Zoo went towards supporting The Lion Tamarins of Brazil Fund, whose excellent work, a large part of which is the purchase of land and construction of forest corridors between isolated forest patches, continues to have a positive impact for all Atlantic Forest species.

GOLDEN LION JAGUARS?

Atlantic Rainforest tamarins are not presently kept at Chester Zoo, but as Chester's Atlantic Rainforest campaign activities unfolded the Jaguar took over the role of Chester Zoo mascot for the campaign.

The most successful fundraising event of the campaign, by far, was the Rainforest Raffle and first prize was a huge toy Jaguar. This well travelled (and well fondled) Jaguar visited many of the country shows during the summer and helped boost raffle ticket sales around the zoo, eventually finding a home with a lucky winner in Sheffield. Other prizes included the chance to be a keeper for a day, Jaguar adoptions and zoo tickets.

Winning tickets were drawn by Professor Gordon Reid on the September 4 in the Jaguar house (again with Mr Jag in attendance!)

The second Jaguar-themed event occurred in the form of a lecture theatre talk kindly given by Scott Silver and Linde Ostro of the Wildlife Conservation Society (WCS), New York. Scott and Linde have worked for many years in Belize studying Jaguars. This very interesting talk focused on their successful camera trapping studies, and the trials and tribulations of such work including camera films comprising of one slow moving snail and inquisitive hunters that come back for a second appearance! The talk raised several hundred pounds towards the campaign.

On the awareness-raising side of the campaign, the zoo staged a "Rainforest Week." Although hampered by the odd torrential downpour the week was enjoyed by many children and a few adults, who participated in rainforest workshops and attempted word search and colouring-in competitions. The Education Department also produced a rainforest trail, encouraging children to visit the Zoo's Atlantic Rainforest species and complete a rainforest trail leaflet using brass rubbing stamps at each enclosure. Two large colourful banners highlighting the plight of the rainforest and its inhabitants also adorned the fence outside the Education Department.

Finally, fundraising continues though a promotion in collaboration with Venture Portraits in Chester, as advertised in the last issue of Zoo Life. Venture Portrait kindly offered Zoo Life readers a family portrait worth £125 for a bargain £25, all of which will go towards boosting the money already raised for the campaign.

A big thank you to everybody who contributed towards the campaign and played a part in raising the profile of a highly important and threatened habitat and helped raise funds to support the invaluable work of the Lion Tamarins of Brazil Fund.



▲ Roger Wilkinson presents the cheque on behalf of the Zoo to Lise Hanssen.

AFRICAT PRESENTATION

AN African project helping to conserve large carnivores has been given a welcome boost by the zoo.

The Africat Foundation, based in Namibia, specialises in animal welfare, research and education.

To help with their ongoing efforts, the charity received a £500 boost from the zoo to help with its work, which is also being aided by zoo keeper Simon Marsh, who has taken six months leave to work with the Africat Foundation.

Simon's work is with orphaned cheetahs and other cats and he is also carrying out his own research.

The presentation to Africat was made by the zoo's Head of Conservation and Science, Dr Roger Wilkinson to Lise Hanssen, founder of the charity, who was at the zoo to deliver a talk at a Flora and Fauna International meeting.

ANIMAL HEALTH CENTRE Official Opening

TV VET Stephen Leonard opened the doors to the new £260,000 Animal Health Centre in August.

Chester Zoo Veterinary Manager Stephanie Sanderson, Chief Curator Mark Pilgrim and Chairman of the North of England Zoological Society John Makinson were all on hand to formally open the new project.

The Animal Health Centre houses examination, treatment and hospitalisation facilities as well as

diagnostic imaging, a laboratory, data collection and archiving.

It also includes office accommodation for the animal health team including two full time vets, a vet nurse, zoo nutritionist and visiting vets and researchers.

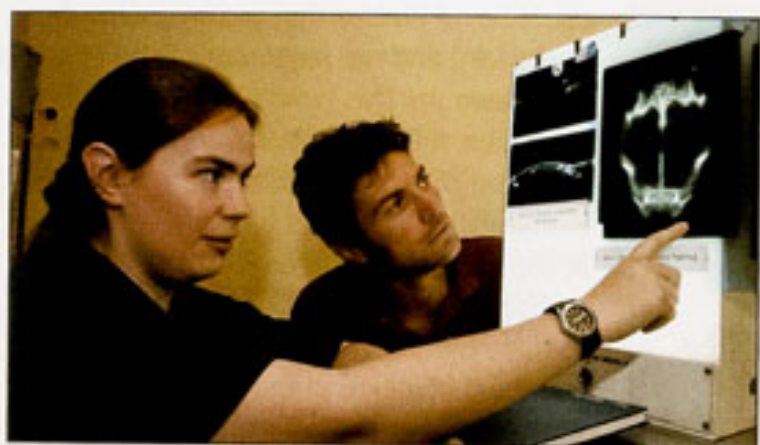
Mark Pilgrim, Chester Zoo Chief Curator, praised the onsite team for their hard work and efforts and thanked the zoo's members and adopters for their help in raising over £12,000 towards equipping the new facility.

"At Chester Zoo we recognise the paramount importance of providing the highest possible standards of animal welfare as well as making a significant contribution to conservation and education. There has been a pressing need to bring our on site treatment facilities into



line with our widely acclaimed general animal accommodation and the high standard of skill and commitment exhibited by our veterinary and zoological staff," he said.

Stephen Leonard is a keen supporter of Chester Zoo and the conservation work it is renowned for. Following his tour of the centre he said: "I am delighted to be involved in the opening of this exciting project and very impressed with the high standards of this facility. Chester Zoo is a world-renowned leader in the field of animal welfare and this facility will ensure that treatment is available for all the animals from a snail to an elephant."



▲ Stephanie Sanderson and Stephen Leonard in the Health Centre.

ITALIAN TRADE FAIR

Chester City Council took part in a trade fair in Italy in August and helped spread the message about the zoo. Here Cllr Eleanor M Johnson gives her account.



AUGUST 23 saw a party of four leaving Manchester Airport for Senigallia in Italy, bags, displays and art portfolio. Later that day we arrived in Ancona but with only one bag – the others were last seen by me in Munich.

All bags arrived the next day and we were able to set up the stand ready for the opening that evening by the Mayor.

The fair had a cross section of stands most displaying local produce in many guises. We were very fortunate to have the Zoo display and a similar one from the Tourist Office in Chester.

These drew in the crowds and we had many questions about the welfare of the animals at the zoo and about baby elephants.

We were very proud to inform people about the history of the Zoo and also its policies on animal housing and breeding.

In the week that we were in Senigallia and at the fair we must have given out over 1,000 zoo leaflets.

TAG KEEPS TAB

What exactly is involved in being a Species Co-Ordinator or managing a U.K Studbook? Here Isolde McGeorge talks about her work.

FIRST a bit of background information to identify the process by which a reptile or amphibian becomes a co-ordinated or programme species.

The British and Irish Zoo Federation Reptile and Amphibian Taxon Advisory Group (TAG), also known in the UK as the Herp TAG, was set up to provide Action Plans for the species that were most in need of a conservation programme. This working group comprises species co-ordinators, studbook keepers, taxonomic and scientific advisors and husbandry specialists and is headed by a chairperson. The main role and focus of the TAG is to select priority species and work out a management strategy to sustain and support these species.

Species are targeted for management when certain criteria are fulfilled, including the level at which the species is threatened, the availability of the species and the requirements of the species.

The ultimate goal of the TAG is to aid species conservation by ensuring well-organised self-sustaining zoo breeding programmes, which would be capable of supporting wild populations.

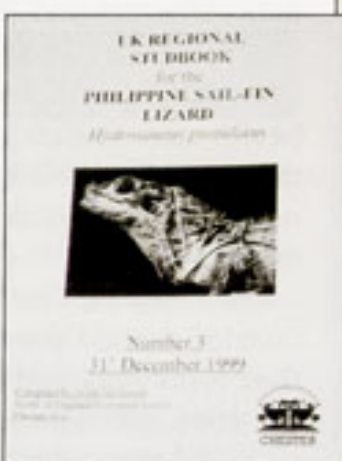
The Philippine Sail-fin Lizard, *Hydrosaurus pustulatus*, was selected by a process of evaluation based on several criteria.

Regarding conservation status, it appears in the 2000 IUCN Red List of Threatened Species as Data Deficient, insufficient information is available to currently judge how endangered this species is. Education: it is an Island species and subject to decline through deforestation, pollution of the river systems and over-hunting for the meat trade. Exhibition: it is a large old world lizard which captivates the public because of its high activity levels. If kept in a group, regular interactions between animals may be seen.

There is also much information available on the husbandry and the breeding of this species which is relatively straight forward. There are also strong links with field workers in the Philippines through other on-going zoo conservation projects. It is therefore important to maintain these links should an opportunity present itself where further study of the species become possible. From all of this information, the

Philippine Sail-fin Lizard was deemed a suitable candidate for further management within a properly organised and co-ordinated programme.

The next step is to appoint a Programme Manager responsible for collating information from all of the U.K holders of this species and formulating a studbook so that each animal may be tracked



◀ The UK Regional Studbook for the Philippine Sail-fin lizard.

individually. It is the responsibility of the manager to ensure that protocols for the husbandry and management of the species are drawn up. This would also include advice on suitable pairings, whether breeding of stock is appropriate and how many offspring should be allowed to hatch in the programme. In order for this management to be efficient it is essential to have the full co-operation of all the members involved in the keeping of the species. To this end a Memorandum of Participation (MOP) is voluntarily signed by all holding institutions.

Approval of the completed studbook, husbandry information and recommendations for the species must be obtained from the TAG Chair and for UK programmes the Joint Management of Species Committee (JMSC). Once approved, the programme manager is then required to implement any changes and be responsible for the regular up-date of the studbook. As the Herp TAG meets twice a year, an up-dated report is given at each session. This also gives other institutions not currently keeping the species the opportunity to become involved if they wish to do so.

Since writing this article, the Philippine Sail-fin Lizard was proposed for a European Endangered Species Programme (EEP) at the recent EAZA Conference in Barcelona. The ENAZA Reptile TAG Chairperson noted that Chester were currently operating a U.K Studbook and suggested a proposal be submitted to elevate this species to European Studbook (ESB) level and that Chester Zoo petition to manage it.



▲ Philippine Sail-fin Lizard studbook breeding programme.

ZOOM

In On Plants

IN THIS FEATURE, WE PLAN TO FOCUS IN ON PARTICULAR PLANTS AND GARDEN TOPICS AND LOOK AT THEM IN GREATER DETAIL.

I'M sure those of you who have visited the Zoo recently will have seen the new Rhino House. However, work on *Tsavo the Black Rhino Experience* is still continuing. The horticultural team are busy landscaping and planting in the immediate vicinity of the House, and on the paddocks, to try and bring a more East African feel to the area. Out have come the laurel hedges and conifers, to be replaced by shrubs, grasses and Acacia type trees to create this effect. The thatched roof picnic hut just outside the main house was also built by the horticultural team.

Another area of development in the Zoo is the new *Dragons in Danger* house being constructed behind the existing *Islands in Danger* complex. Landscaping will begin in the new year, once the building work is finished. The theme here is to create a tropical island effect using water and exotic looking plants.

Once again we are holding an Orchid Festival in the Zoo during the February half term break. The event will run from 15th – 23rd February 2003 and will

include orchid displays and demonstrations of orchid cultivation and flower arranging. For more details see page 2.

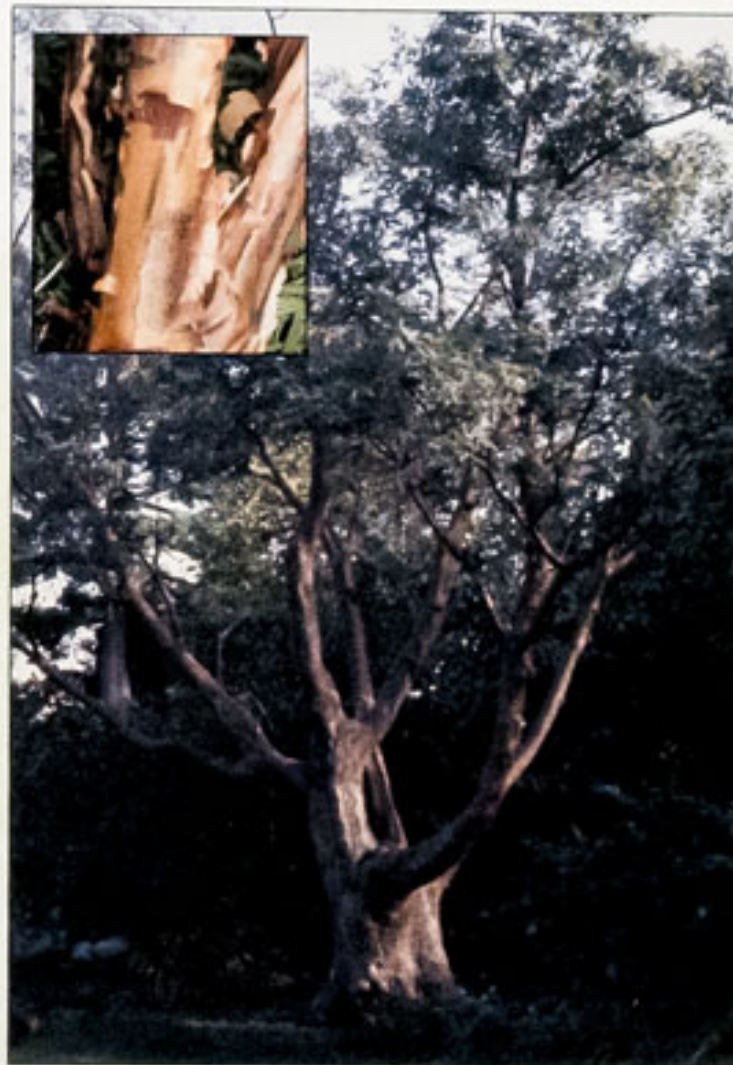
SOME trees and shrubs are grown for their stunning coloured bark and stems, as they lose their leaves in winter this attribute becomes



▲ Birch bark, *Betula pendula*.

even more obvious. Birches are perhaps the trees most often grown for their superb bark. If you want to plant one in your own garden *Betula pendula*, one of our native species, is a beauty. Alternatively you could go for a more exotic species such as *B. costata*, *B. utilis* or *B. jacquemontii*. Some maples have ornamental bark too. *Acer griseum* is a particularly fine example, with its peeling orange-brown bark. Of the shrubs by far the best are the dogwoods (*Cornus sp.*), with their beautiful bright stems. Colours range from red, yellow,

orange to vivid greens depending on species. To get the best colours, and keep the plants compact, *Cornus* bushes should be pruned hard with secateurs in spring, to 10cm/4in above the ground . . . be brutal – you won't regret it!



▲ *Acer griseum*

CONSERVATION CORNER

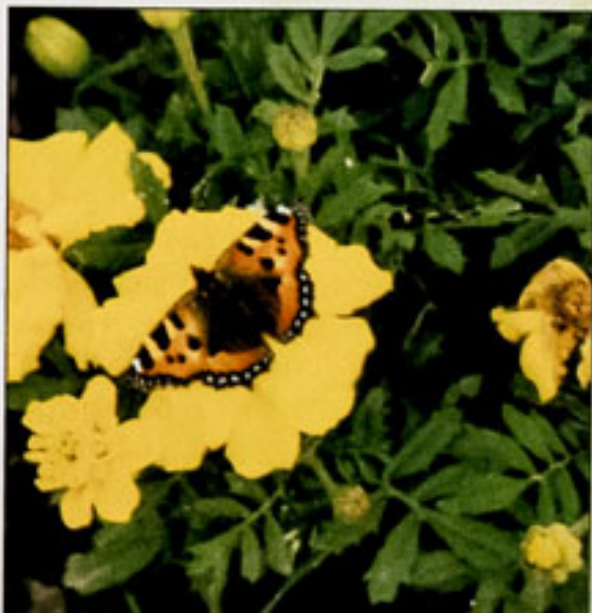
THERE'S no lawn to mow and not much is growing. Winter is a time when little appears to be going on in the garden, and a time

when the tidy ones among us often get stuck into cleaning out the shed and the greenhouse. But please take care! Many residents of our gardens do not appreciate tidiness.

The shed and greenhouse provide ideal shelter during the cold months for insects and other creatures. Butterflies are perhaps the most obvious squatters. Species such as the Peacock and Small Tortoiseshell are frequently spotted crouching in corners, their beautiful

Neatness and nature at odds in the garden

colours folded away until the spring. Other insect friends maybe hiding in there too. Ladybirds and lacewings for



▲ The small Tortoiseshell can be found hiding away until Spring.

example, who are allies of the gardener as they feed on pests like aphids. By providing these insects with shelter over the winter they can start feeding on plant pests early in the spring.

Outside as well our gardens have the potential to be havens for wildlife, and it is important that we don't clear away all the debris of Autumn and sterilise the garden too much. A pile of fallen leaves in a corner is great for hedgehogs to hibernate in – even better if you can find a wooden box to put the leaves in. The mass of dead foliage at the base of plants like Pampas grass provides good shelter too and a compost heap is a particularly appealing winter nest site as the decaying vegetation keeps it warm.

Of course I am not advocating mess everywhere . . . just a balance between neatness and nature.

RESEARCH

THE first steps in moving the zoo forward have been taken with the launch of a marketing research project.

The results from the first phase are already known.

Families were carefully chosen to take part in the research, which is being conducted for the marketing department by Leeds-based Quaestor.

Phase two will begin next year with a look at where we are now and where we want to be as a zoo before phase three finishes off with branding and promotion.

Amanda Wright, Head of Marketing and Development, said: "This research will help us understand where our customers come from, who they are and how they get here, where they stay when they are here and for how long.

"This information will help us to keep moving and developing, what we need to change and what needs to remain."

Family experience visits and in-depth interviews will also be carried out as part of the research to help build an overall picture.

Amanda added: "The research will also help us find out how aware the public is of our conservation, education and scientific work and of our charity status. The information we get back will help pave the way for the zoo's future."

WILD SHOTS

WILD shots is a brand new Granada Television series that encourages people of all ages to use their home video cameras to become wildlife photographers.

Presented by award-winning natural history filmmaker, Nick Gordon, Wild Shots reveals how to get great video footage of often elusive creatures. Nick, who has spent almost all of his professional life in the Amazon rain forest, will share his enthusiasm and passion for the natural world, and reveal some of the tricks of the wild life filmmaker's trade.

Over the years his work has seen him come face to face with wild jaguars, giant anacondas and a

tarantula the size of a dinner plate.

Says Nick: "The rain forest is home to the weird and the wonderful, but that doesn't mean that there aren't all sorts of fascinating indigenous creatures to capture on video. Insects in the garden shed or badgers in the local country park, urban foxes and bird life, all these and more are fascinating subjects. I hope Wild Shots encourages people to pick up their camcorders and start shooting. And if there are people out there who already have natural history footage we would dearly love to see it!"

If you would like further information please ring Wild Shots on 0161 374 5566 or email wildshots@mmarts.com Videos can be sent to us by freepost at the address below. We will copy the tape and guarantee to send it back immediately.

Wild Shots, Freepost NEA14081, PO Box 142, MANCHESTER M21 6WE

EDUCATION

HEAD of Education Steve McKeown was appointed Journal Editor for the International Zoo Educators' Association at their conference in Vienna.

Steve will co-ordinate the efforts of

three regional editors in Australia, Scotland and USA to put together a yearly journal and to submit information to the website.

He has also been invited to join a US/UK working group with the remit of re-writing the Education chapter of the World Zoo and Aquarium Conservation Strategy which was originally published in 1993.

ZOO 10K RUN

THE annual Chester Zoo 10K run organised by the Capenhurst Running Club took place on Sunday October 13. Congratulations to all those who took part on what was a



very chilly day, and especially the Zoo staff that ran. Pictured below from left to right are Tony Izzard, Peter Owens and Carol Karim. Liam Adamson, Mark Ormerod and Richard Jobson from the Oakfield restaurant also ran, but due to the busy Adopter Day they went straight back to work and couldn't stay for the photo!

WELL DONE!



Junior Puzzle Page?



Best Foot Forward

You will find all of these animals in the Zoo but can you identify them by their feet?

There is a £10 gift voucher to spend in the Zoo shops for the first correct entry opened on the closing date, 10 February 2003.



THE WINNER OF SPOT THE DIFFERENCE COMPETITION

We had dozens of correct entries in last edition's spot the difference competition.

A £10 voucher goes to our winner Tom Davies of Connah's Quay and the answers are revealed left.

SEND YOUR ENTRY TO:

JUNIOR COMPETITION

Zoo Life,
Marketing Department,
Chester Zoo,
Upton-by-Chester, CH2 1LH.



Zoo Life

JUNIOR MEMBERS



Meetings and Field Trips

Saturday 25 January 2003 Discovery Session

This is your chance to spend an afternoon discovering more about your own Zoo! We will split into three groups for three activities and everyone will do all of them.

One group will spend some time being shown around the zoo and hearing about some of the 'behind the scenes' activities. Another will be involved in a discovery session, learning about some animals in more detail and finding out how to handle a few too! Finally, you will get a chance to design an enclosure, using all your imagination to create the best living accommodation for a species of your choice. All the groups will do all three activities, so no-one will miss out.

Over 8s are asked to join us by meeting outside Oakfield House at 2pm. Parents can collect their children from there at 4pm.

Saturday 22 February 2003 Farm World Visit

This is a good time of year to visit Farm World near Wrexham, as they often have lambs to feed and several other animals to see and interact with. We will have a tour around the farm on the tractor and trailer and enjoy learning about how they look after their animals, as well as finding out more about trees and hedgerows.

Over 8s are welcome to join us and we will leave the staff car park at 11am, returning at 4pm.

Saturday 22 March 2003 Tracks and Signs

One of our most popular events is Tracks & Signs. This is your chance to see the zoo from inside some of the enclosures, when we go in to find footprints from which to make plaster casts. March is the best time of year for this as it is usually muddy, but this should not

put Juniors off! After this unusual day, most of you will have a souvenir to take home.

Over 8s can come along when we meet outside Oakfield House at 11am, returning there for collection at 4pm. You will need a picnic lunch, and it is important that you wear very old clothes and wellies.

Saturday 26 April 2003 Fossil Hunting Expedition

You will not need to be mad about fossils to really enjoy this trip! We will travel to the lovely area along the Long Mynd in Shropshire in search of fossils and fresh air. We have been remarkably successful in the past and will look forward to this event enormously.

Over 8s are welcome to join us and the bus will leave the staff car park at 9.30 am, and return at 5.00 pm. You will need a picnic lunch and decent shoes to walk in.

Saturday 24 May 2003 The Greenwood Centre

Back by popular demand, Juniors have the opportunity to visit this lovely spot in Snowdonia, where lots of events and exhibits connected with wood take place. We will make dens, walk the planks, try our hands at archery, and indulge in the lovely woodland walk - and much more. An event not to be missed!

The bus will leave the staff car park at 9.30am, returning at 5pm. Over 8s are welcome to attend.

Saturday 21 June 2003 The Wirral Way

Who would like a walk? Well, this is more than just a quick stroll, as the bus will drop us off near Burton on the Wirral and collect us at Thurston Country Park. In between is the old disused railway line, now known as the Wirral Way. It is a lovely gentle walk along



about five miles of interesting habitat for many of our native animals and we will take lots of breaks and have our picnic near the dungeons!

The bus will leave the staff car park at 9.30am, returning at 5pm. Over 8s should bring plenty of picnic and water, because although it is shady for most of the walk, it may be warm.

Wednesday 23 July 2003 Day With A Keeper

Always the most popular event of the year, when Juniors of 12 years and over have the opportunity to spend a day working alongside a zoo keeper.

The work can be tough so we have to strictly limit this event to over 12s. We try to match Juniors to their favourite section, but places are very limited, so this cannot be guaranteed. Please come prepared to work hard, with clean wellies and an additional *completely clean set of clothes to work in*.

Owing to the Zoo's bio-security measures, it is important that the clothes that you wear to work on the sections have not been in contact with any farm animals, or even your pets at home since they were last washed. You will also need a good picnic.

We will meet outside the Oakfield at 10.30am and the day will finish for Juniors at 4pm. Please note that bookings for this event will not be taken before Wednesday 9 July 2003 from 8.30am, and will be strictly on a first come, first served basis.

Friday 15 August 2003 Summer Barbeque

Most of our members have never been in the Zoo after all the visitors have left – but Juniors have this

lucky offer once a year if they come to the Summer barbecue.

There will be a surprise speaker or a tour of the Zoo, but you can be sure to have a fun and relaxing evening.

Over 8s are invited to join us starting at 7pm when you should arrive at the staff entrance off Caughall Road, and walk over to the *Ark Restaurant*. Parents are requested to collect Juniors from there at 9.45pm.

Sunday 21 September 2003 Cholmondeley Castle

(Please note that we visit Cholmondeley on a Sunday, as the grounds are not open on Saturdays)

Located near to the Bickerton Hills in Cheshire, Cholmondeley is a lovely relaxing day when we visit the Castle's pretty gardens and grounds and the Home Farm.

The bus will leave the staff car park at 11am and return there for 4pm. Bring a picnic.

Saturday 18 October 2003 Colwyn Bay Zoo

It is always interesting to visit other zoos and the Welsh Mountain Zoo at Colwyn Bay is always a popular trip for our Junior Members. Apart from its exotic inhabitants, the Welsh Mountain Zoo also assists with the rearing and rehabilitation of seal pups and we may find they have some there when we visit.

The bus will leave the staff car park at 10.30 am, and return at 4.30 pm. Bring and picnic and warm clothes as it can be quite exposed on the hill.

Bookings must be made for all events. Please ring Penny Rudd at the Zoo on 01244 650215, not more than two weeks before the event you would like to attend. Places are offered on a 'first come, first served' basis and may be limited.

This list is provisional, and in exceptional circumstances we may have to alter dates and venues. You will be informed of any such changes in Zoo Life – not by individual letter – so please keep up-to-date by reading the Junior Page in each issue.

A small charge will be made to cover the cost of those events which involve transport, materials or the provision of food and you will be informed of this at the time of booking.

NEXT year sees the fifth anniversary of Britain's fastest growing science festival in Wrexham.

Between March 24 and 30, more than 150 events of various

kinds will be held in the area covering a wide variety of topics.

Walks, talks, lectures and hands on activities will be devoted to subjects including animal behaviour, allergies, Alzheimer's disease and astronomy.

The Festival programme will be delivered during March to more than 200,000 homes throughout the region, although those on the mailing list may receive it earlier.

A number of celebrities will feature in the next festival including Sir Patrick Moore. Vets in Practice and Blue Peter star Joe Inglis will contribute towards the Natural World – one of the themes of the festival.

Iolo Williams will talk about the birds of Wales and Michael Leach will tell all about living with Mountain Gorillas.

For more information or to be added to the mailing list, please contact the Science Festival office on 01978 262696 or 01978 366366 or see the website www.wrexhamsf.com.

TALKS FOR MEMBERS & ADOPTERS

All these talks will be in the Lecture Theatre, on Saturdays, at 2.30pm

Snow Geese, Bats, Pere David's Deer, Arabian Leopard, Blind Cave Fish! Some advance information on future talks.

We anticipate that these speakers will attract a wide audience, so as we cannot guarantee availability 'at the door', we ask you to send for your free tickets in advance. Applications to the Membership Office, Chester Zoo, Upton-by-Chester, CH2 1 stating which talks you would like to attend, and number of tickets required for each. Please enclose a sae for return of your tickets. We ask those attending to make a donation of £1 per person to cover refreshments, payable at the door.

25 January 2003

From Assam to Arabia

Zoo Director Prof. Gordon McGregor Reid will give a talk on our elephant work, both in the zoo and the habitat countries, contrasted with more general zoo and field support for the biodiversity of the Arabian region (Arabian leopard, Arabian caracal, Mountain Gazelle, Nubian Ibex and Omani Blind Cave Fish) and our participation in conservation workshops and action plans to help save these and other species.

1 February 2003

William Fiennes

Reflections on The Snow Geese

Suffering a severe illness aged just 25 put William Fiennes on a new path that led to his literary debut with *The Snow Geese*.

During a long period of convalescence, William's thoughts turned to home and also saw him rekindle his interest in ornithology, which was inspired by his readings of a childhood book, *The Snow Goose*.

After recovering, William followed wild snow geese during their migration from Southern Texas to breeding grounds near Churchill on the shores of Hudson Bay, Canada.

His book is not just a study of animal migration, but is also part North American travelogue and also looks at the importance of home.



8 February 2003

The Extinction Club

The Extinction Club is the title of Robert Twigger's book and tells the story of the Milu, better known as Pere David's Deer. 36-year-old Robert studied a year of engineering science and two years of philosophy at Balliol College,



Oxford. His previous books include *Being a Man* and two collections of poetry, *Angry White Pyjamas* and *Big Snake*.

Robert is currently investigating dream hunting and animal ecology in the Peace River area of Alberta.

8 March 2003

Dr Roger Wilkinson

The Zoo's Head of Conservation and Science, Roger Wilkinson, will talk about Chester Zoo's world-wide outreach programmes with particular reference to China and South East Asia including the Philippines, Africa and South America.

15 March 2003

Phil Richardson

Bats

Phil Richardson has worked with bats since the late 1970s, initially as an amateur and juggling his interest with his work as a full-time teacher.

Now a Bat Conservation Officer for the National Trust, Phil spent his early days setting up county bat groups to spread the study, conservation and popularity of bats. In 1990, he helped set up the Bat Conservation Trust and served as treasurer, vice-chair and then chair from 1995 - 2001.



17 May 2003

Annual General Meeting followed by Zoo Review. The Director and Divisional Heads review recent and future developments.

12 April 2003

Corpses, Corruption and Creepy Crawlies

Due to the sad death of Dr Zakaria Erzinclioglu, the above talk has been cancelled. However we have been lucky enough to book Steve Hogarth, Wildlife and Environment Officer, Cheshire Constabulary, who will talk to us about his work in Cheshire. Same date, same time - more details in our next issue.

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