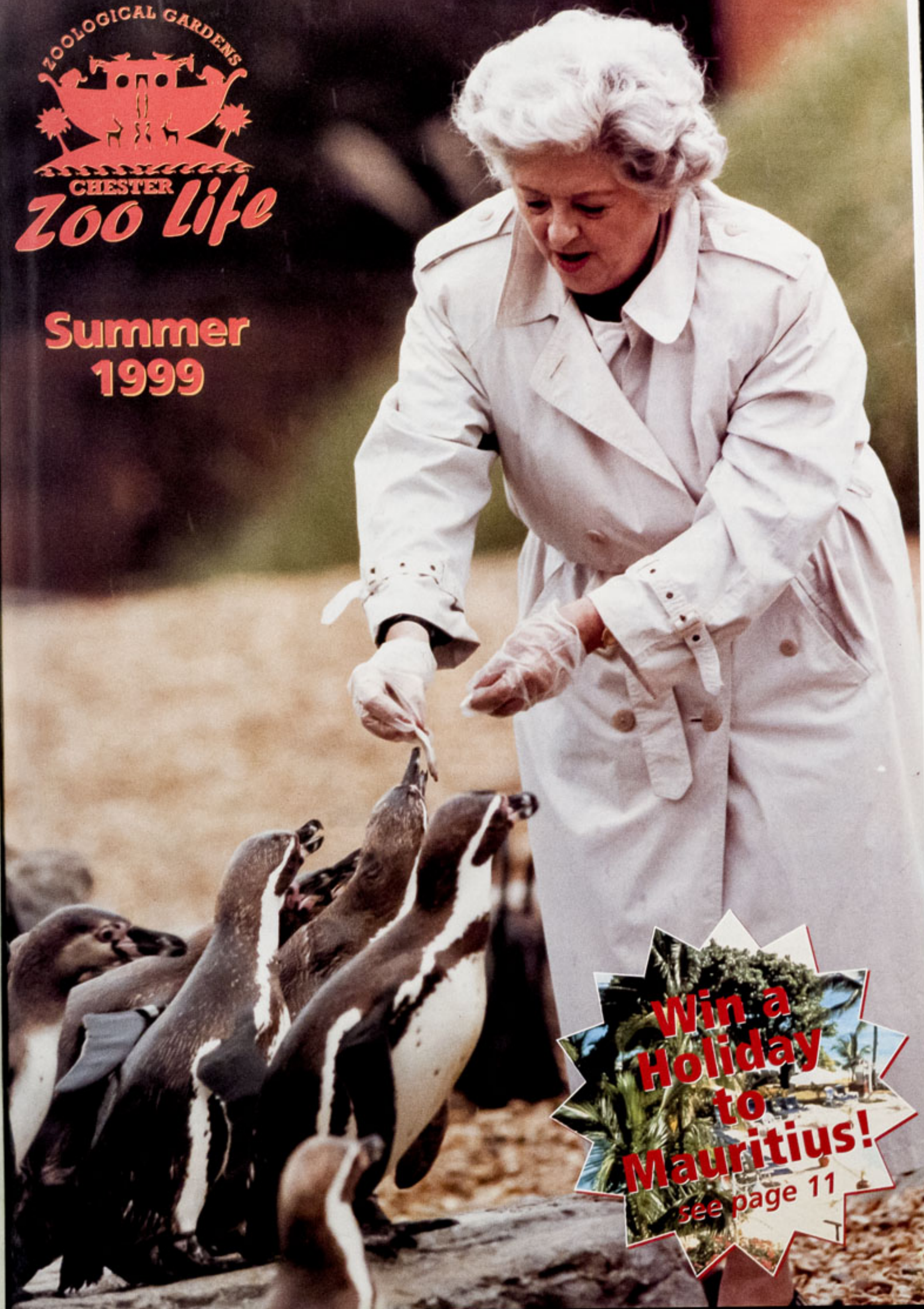


ZOOLOGICAL GARDENS  
CHESTER  
**Zoo Life**

**Summer  
1999**



**Win a  
Holiday  
to  
Mauritius!**  
see page 11

### Retirement of Vice President

Professor J. O. L. King has retired from his Vice Presidency after an outstanding 37 years of dedication to the Society. In that time he has also served as both a Council Member and Chairman. We thank him for his immense voluntary input to the Zoo and wish him all the best for the future. A small informal lunch was held in his honour in the boardroom and he was presented with a commemorative pottery 'Ark'. (See photograph page 5)

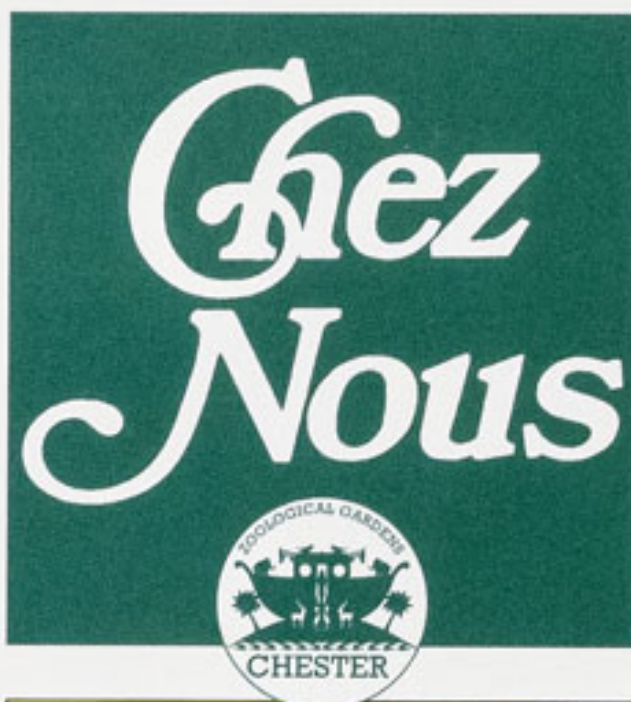
### Curatorial Changes

On 5 March, we said a fond farewell to Nick Ellerton who has taken up the challenging post of Curator at Knowsley Safari Park. Curator of Mammals since 1985, Nick has been with Chester Zoo since 1969 when he began as a primate keeper. He arrived at a time when conditions for the animals and the keepers were much improved but not as favourable as they are today, and when a real conservation awareness in the zoo community was only just beginning. Indeed, this general process of awareness was triggered by our founder George Mottershead who in 1964 – as Chairman of the International Union of Directors of Zoological Gardens (now the World Zoo Organisation) – co-organised, with London Zoo, the first *International Symposium on Zoos and Conservation*.

Following on from this, Nick's considerable knowledge and skills were energetically applied to bring forward the principles and practices of conservation breeding. This includes notable successes with our monkeys, chimpanzees and orang utans and, of course, our current successful breeding programme for Asiatic elephants from our first faltering beginnings in 1974. Nick has also played a major role in elevating standards in the health, safety and welfare for our animals. A dinner was held in the Oakfield House and a separate lunchtime reception to say goodbye and pay full tribute to his contribution to the Zoo. We are sure that Nick's career move will bring further success to Knowsley Safari Park and cement our already warm relations with that organisation. Nick's wife Caroline has also greatly assisted the Zoo in scientific projects.

### Job Changes

There has been a major re-structuring of duties within the Animal Division and we now have three new posts reporting directly to Chris West our Chief Curator. Dr Roger Wilkinson is now General Curator: Higher Vertebrates responsible for the Zoo's research and outreach programmes, among other aspects. Mark Pilgrim is General Curator: Operations, which involves the day-to-day running of the animal collection and its staff. Neil Spooner is now Projects Manager bringing together ideas and helping draw up plans for new animal projects in the Zoo. He will liaise closely with staff from the Animal and Estates Divisions. Congratulations to



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Director: Professor Gordon McGregor Reid  
Editor: Pat Cade



all three on their new roles and good luck with the new responsibilities! Chris West will be giving a brief resumé of the new jobs and their holders in *Zoo Life* – starting, in this issue, (page 6) with Mark Pilgrim.

### New Attractions

The *Rare Penguin Breeding Centre* was completed in the early part of the year and the birds are settling in well to their new five star home! They were seen using the new nests in the enclosure during February, so we hope for success in parent-rearing with the improved facility. We were delighted that the Speaker of the House of Commons, The Rt. Hon. Miss Betty Boothroyd MP officially opened the new penguin pool complex on 7 May, and this issue carries a photographic record of the event (pages 12, 13).

The new *Bull Elephant Facility* has also been completed and looks excellent. This gives both animals and staff more room to move and provides a more pleasant and secure environment for our large bull 'Chang'. Our thanks go to all staff and contractors who worked so hard on this project through the depths of winter. The addition of Indian Hornbills to the elephant building brings in an educational link on the Asian continent and the garden staff

have done an excellent job re-landscaping the old Tapir enclosure to house these birds.

The Education Division have been busy with several new developments this year and the new *Wildlife Activity Centre* opened to the public in time for Easter. This is to be followed by the *Animal Discovery Centre* which is being built next to the children's farm.

### Outreach support

A major part of the Zoo's mission involves science directed towards conservation and we now have a budget specifically for the scientific support of field projects. Chris West and Roger Wilkinson recently went on a study trip to the Philippines to investigate the possibility of Chester Zoo sponsoring a small island which is desperately in need of conservation protection (see pages 8, 9).

### Cubs are stars!

Early February saw the debut of *Jake* and *Chandani's* latest litter of three Asiatic Lion Cubs. The youngsters were very soon covered in mud thanks to the typical winter weather, but they didn't seem to mind! As usual, mum and dad are proving to be excellent parents, protecting their little ones from anyone they think may be a threat. The previous litter have now all been moved on to other zoos to give them a chance to breed later in life. I am sure that everyone will enjoy watching the growth and development of the new cubs. It is sobering to think that, in the wild and in zoos, the total remaining population of these rare creatures may be less than five hundred.



■ Nick Ellerton with the one of the pair of specially commissioned pottery hares he received from colleagues.

■ Front cover: Betty Boothroyd MP, Speaker of the House of Commons feeds the Humboldt's penguins.

# MEMBERS' MEETINGS

Saturday 23 October 1999

2.30pm in the Lecture Hall

Professor Mark Ferguson –

**'Alligators and Crocodiles: Marsh monsters or swamp sophisticates'**

Saturday 27 November 1999

2.30pm in Lecture Hall

Steve McKeown, Chester Zoo's Head of

Education – **'Messages, the art and science of interpretation in the Zoo'**

Saturday 11 December 1999

2.30pm in Lecture Hall

Prof Gordon McGregor Reid, Zoo Director

– **'Chester Zoo, Past, Present and Future'**

Saturday 15 January 2000

2.30pm in Lecture Hall

Mark Sparrow, Chester Zoo's Curator of

Botany and Horticulture. – **'From Kew to the Zoo'**

Saturday 12 February 2000

2.30pm in Lecture Hall

Michael Coupe – **'Birds of Prey in Britain and North America'**

(with live demonstration)

March 2000

Date and speaker to be confirmed.

Saturday 15 April 2000

2.30pm in Lecture Hall

Director and Heads of Division –

**'Zoo Review'**

Details of the March and May 2000 meetings, will be included in the Autumn issue of Zoo Life, which will be published in September.

# CHESTER ZOO

The winners of the recent prize draws are:

January 1999

£100	Mrs M. Garbutt
£100	Mrs S. Dodd
£50	Ms F. Matthews
£50	Mrs L. M. Hughes
£50	Ms P. Jones (Africa)

February 1999

£100	Mr K. G. Holmberg
£100	Mr G. F. Hooke
£50	Mr S. P. Ryder
£50	Ms L. J. Ash
£50	Miss C. Burrows

March 1999

£100	Mrs P. M. Jackson
£100	Mr B. L. Piercy
£50	Mr R. Callaghan
£50	Mrs P. Cate
£50	Mr M K Batchelor

Membership of the '100 Club' is still invited. Please contact Alan Sykes at the zoo if you would like to join.



THE zoo was one of the six major winners in the annual Duke of Westminster Awards for Business and Industry in the North West. Director Gordon McGregor Reid, with Council Chairman Keith Maybury (centre), accepted the award – a splendid crystal chalice – from His Grace (left) for the category 'Organisations with charitable or not-for-profit objectives.'

The judges' comments on the reason for their choice included: 'Constant innovation and improvement; excellent staff involvement and training; strong links with education, local business and the community are just some of the aspects which impressed us.'

## 'The Legacy Pledge Club'

WE are delighted that this scheme has taken off so well. To date 13 supporters have been kind enough to notify us that they have mentioned us in their estate plans. Members now include: Mrs F. V. Stanton and Mr J. Blewett. From the Council of NEZS, Miss Jean Dixon. A number of other people have joined recently, but have chosen to remain anonymous.

For details contact John Regan on 01244 650230. e-mail: johnr@chesterzoo.co.uk

## TWYXCROSS TRIP

JOIN us on an Autumn trip to Twycross Zoo, to see the two baby elephants born there last August – offspring of Chester Zoo's Chang, and half sisters to our own Sithami. Details are included in the flyer with this magazine.

## NEW FEEDING TIMES

TWO extra public feeding times have been added to the list, and some timings changed, in order to allow visitors to plan their day to include all the feeds. The two additions are condors and coatis, and the new timings are:

Sealions:	10.30am, 2.30pm, 3.30pm
Lions:	12 noon (except Fridays)
Condors:	12.30pm
Coatis:	12.45pm
Chimps:	2.15pm
Penguins:	3.15pm
Elephants:	2.30-4.00pm (see notice by elephant island)
Ring-tailed lemurs:	3.00pm (summer)

As always, target times are subject to variation, depending mainly on the appetite of the animals. Notice of such changes is given at the entrance gate.

## NEW SELF-SERVICE RESTAURANT

THIS Autumn the Jubilee Cafeteria will be completely refurbished, doubling its capacity, with improved facilities for visitors and staff. This will cause some disruption to catering facilities through the Winter months.

The Oakfield Restaurant will have all rooms open, with a simpler, faster style of menu, and there will be additional facilities at the Oasis. This is an artist's impression of the new restaurant, which is planned to open at Easter next year, with a new name.





## Award for John Prescott

THE North of England Zoological Society – the charity that runs Chester Zoo – is to award its Gold Medal to the Rt Hon John Prescott MP, Deputy Prime Minister and Secretary of State for the Environment, Transport and the Regions.

The medal is awarded on an occasional basis to individuals of distinction in the field of zoology, conservation or environmentalism. Previous recipients are Dr Jane Goodall, the celebrated primatologist; Dr Michael Brambell, retired Director of the Zoo and Acting

Director General of the Zoological Society of London, and Sir David Attenborough.

The Society's Council is making the award to John Prescott in recognition of his achievements in environmentalism and conservation.

Under his leadership the DETR has taken steps towards enhancing and tightening the UK Zoo Licensing Act and secured support for a European Directive on Zoos, with a particular emphasis on greater zoo focus on endangered species.

Gordon McGregor Reid, the Zoo's Director, commented:

'As Chester Zoo acted as a model for the UK Zoo Licensing Act, we welcome the new Europe wide directive. Extending the high standards required of UK Zoos to all European collections is a great step forward in animal welfare and conservation breeding programmes.

'The DETR, under John Prescott's leadership, has added 10 more species to the endangered UK native list, and he has extended the size of protected nature conservation areas in the UK'

It is hoped that Mr Prescott will visit the Zoo to collect the award in July.

## Infanticipating!

GREAT news from the Elephant section! It has now been confirmed that *Jangoli* is pregnant. It's early days yet, but if all goes well, *Sithami* should have a young half-brother or sister sometime in the late Summer of 2000.

## Have you met the Mara?



A MESSAGE to the *Zoo Life* office that a group of Mara had arrived at the zoo, sent the Editor searching for her reference books! Mara are large, long legged South American rodents.

You will find them sharing an enclosure with the Pudu, on the paddock between the Oakfield lawn and the lions' view kiosk.

## Web of Life

IF you are visiting London this year, do make a point of going to see London Zoo's wonderful new exhibition, *Web of Life*. This £4.4 million project is supported by funds from the National Lottery, and it is a very exciting and thought provoking exhibition.

It features a combination of 65 live animal exhibits, interactive displays and on-show breeding facilities. It aims to challenge your perceptions of life on earth and how we can conserve it.

## Parliamentary Pressure?



CHESTER'S Member of Parliament, Mrs Christine Russell, visited the zoo in the Spring, to learn about future plans and developments. Prof. Gordon McGregor Reid took her on a guided tour, and she enjoyed trying out the new 'try your grip strength' device in Monkey Islands.

As our picture shows, she was greatly amused to find that at 31kg she just about matched what a black-faced spider monkey can achieve with its tail!

## Disability Awareness Evening

LAST year we held our first disability awareness evening, superbly organised by Mike Elkerton, the Zoo's volunteer adviser in this field. Despite a rather wet evening, we were delighted to welcome over 5,000 visitors.

This year, the date is Wednesday 30th June, from 5.30 pm to 8.30 pm. People with all kinds of disability are invited, together with carers and immediate family, are invited as our guests. Groups and organisations for disabled people are also welcome. No tickets are necessary – just turn upon the night!

## Professor King's Retirement

THE Society's Vice President Professor Oliver King, is pictured with his retirement lunch guests at the zoo in April.

From left: Past Council Chairman, Beatrice Jones; Director Gordon McGregor Reid; Council Member, David Cooke; Chris Gaskell, Dean of Medical Division, Liverpool University; Professor King; Council Member, Brian Coles; Council Member, John Makinson and Senior Curator, Chris West.



## Mr & Mrs Noah

VISITORS waiting to come into the Zoo at the Easter and May bank holiday weekends were surprised to meet Mr and Mrs Noah and a variety of animals! Cheshire drama group *The Caretakers* provided entertainment, based on conservation messages, at the entrance and, later in the day, at other areas in the zoo.

With eight entrance gates and 50 hectares to absorb large numbers of people, queuing is not normally a lengthy process. But young visitors are always impatient to get into the Zoo, and this proved a good way to keep them happy!



## Crafty Ideas from the Education Division

HAVE you visited the new *Wildlife Activity Centre*, by Jubilee Square Station?

This recently extended building now houses Animal Brass Rubbings and the Wildlife Shop, as well as the original Activity Centre (formerly known as Let's Make).



Do pop in to make a mask or a badge, rub an animal brass, or see the new craft products in the shop. Take home a cross stitch fridge magnet to sew or a pack to make a stunning animal card (at half shop prices!) Buy a unique piece of 'Snake Art.' All the favourite packs and kits, including stained glass windows, 3-D pictures, colouring sheets, cross stitch cards and activity sheets are still available. Watch out for new lines planned for later this summer – make your own bird and bat kites, and paint your own model poison dart-frogs.

## Love a Lion!

FANCY giving house room to a very large cuddly lion? Our retail staff could not resist these enormous huggable animals when they were choosing shop stock. For some *really* special, you can buy one for £399 including free delivery.

But there will soon be a chance to win one for much less than that – just buy a raffle ticket in the Ark or Fountain shop, and hope you are lucky!



# Familiar Faces in New Jobs!

Chief Curator, Chris West, writes about job changes in Animal Division

At the beginning of the year, some new roles were established in the Animal Division to better reflect the variety of challenges. Over the next few issues of Zoo Life these will be featured – starting with Mark Pilgrim.

Mark will be known to people as he has worked at the zoo for 11 years, concentrating on birds, with parrots being his area of specialist research. He is now General Curator:

Operations, and has day to day responsibility for the care and welfare of all the mammals and birds in the zoo, via a very large team of dedicated keepers. Mark is also heavily involved in the development of new enclosures and the refurbishment of existing ones, working closely with engineering and education colleagues.

Over the next year or so, Mark will be working hard to consolidate teamwork and ever higher standards of welfare. Mark is a key player in the Zoo's new plans, and while we wish him luck in his new role, we are confident that he will continue to be a tremendous asset.



## Gifts of Lifetime

### Vera's Pledge

A little while ago we received an extremely generous legacy from the estate of the late Mrs Vera Franklin of Telford. With her husband, Sydney, Vera was a regular visitor, and as mobility became a problem, she often made good use of the electric scooters. Because they had spent so many happy times together at the zoo, they both wanted Vera's generosity to help other people with mobility needs. At Sydney's request we therefore purchased two brand new state-of-the-art scooters, which are already being well used.

### Our thanks to Leslie and Freda

Leslie Cole, a life long supporter of the Zoo, passed away last August, just four months after his wife, Freda. The couple lived in Culcheth for most of their lives, and were keen birdwatchers. They were childless, and in 1988 they drew up mirror image wills. Leslie's niece, Pauline, explained 'It was agreed that whichever survived the other, then the remaining estate was to be distributed in various ways, with Chester Zoo and the RSPB being substantial beneficiaries. They realised that vast amounts of cash are needed to continue the good work, and this was reflected in the sum left to you.'

The foresight, generosity and practicality of people like the Coles and the Franklins, mean an enormous amount to Chester Zoo. Their willingness to make a gift – no doubt founded on an entire lifetime of hard work – means our work to preserve the world's animals for the future can continue and develop.

## THANK YOU TO JAGUAR



FOLLOWING the very generous sponsorship decision from Jaguar Cars to support a new jaguar enclosure, Chief Executive Nick Scheele was presented with a commemorative plate when he visited the zoo shortly after the announcement.

Picture shows: Zoo Director, Gordon McGregor Reid; Nick Schiele; Council Chairman Keith Maybury and Peter Foden of our Fundraising Advisory Board.

## ANIMAL PLANET

CHESTER Zoo's CD-ROM is now available in the zoo shops. This a fully interactive exploration of the zoo, based on a journey on the Zoofari overhead railway. It includes photographs, animations, diary of a zookeeper, information panels, and four unique screensavers.

The cost is £9.99 plus £2 p&p and it would make a lovely gift for any young computer enthusiast who is also mad about animals!



# LEARNING WITH LUCY



RESEARCH at Chester Zoo by a group based at Liverpool University has been using state-of-the-art computer simulation techniques to reconstruct the way our early ancestors would have walked.

This is the first group in the world to have successfully applied dynamic modelling to extinct species.

First, new techniques were developed for measurement of 3-D inertial properties – body build – from animal bodies following a natural death, and also measurements from living animals.

The resulting data were then used to build inertial models of living chimpanzees. The ability of these models to correctly predict the forces applied by the limbs during walking was verified against force data derived from a force-sensitive platform installed on Chimpanzee Island.

The proportions of extinct human ancestors, the 3.6 million year old *Australopithecus afarensis* 'Lucy' and the rather more modern 1.8 million year old *Homo erectus* – the Nariokotome Boy, were then applied to the inertial models.

Sets of motion data representative of functions such as erect bipedal (two leg) walking, like our own, and erect or the semi-crouched bent-hip, bent-knee, bipedal walking usually ascribed to our early ancestors, were run through the models.

*Chester Zoo's chimpanzees have – unknowingly – been providing fascinating and valuable information to scientists.*

*Dr Robin Crompton of Liverpool University reports on the findings of recent non-intrusive studies of our island group.*

This showed that the proportions of the early species, let alone those of later human ancestors, were quite incompatible with the bipedal walking of living common chimpanzees.

Detailed studies of the ability of muscles to generate forces and motions, also involving Chester's chimps, show that the animals are so specialised for powerful climbing that they are incapable of sustaining the forces needed for erect bipedalism.

However, simulations of Lucy showed that this species was capable of either erect or semi-crouched walking. But the mechanical efficiency of the latter would have been very low and increased core body temperature would have resulted.

These predictions have now been confirmed by the same group for living humans walking on a treadmill while oxygen consumption and core body temperature are measured. These physiological studies show that the energy costs of 'bent-hip-bent-knee' walking are double those of erect walking.

Most recently, using computer simulation, the Liverpool group compared the performance of Lucy and the more recent Nariokotome Boy, in loaded and unloaded walking. When they simulated erect walking by Lucy, the model exerted half the effort it needed in bent-knee walking.

However, Nariokotome Boy, gained even greater savings than Lucy by walking erect, and could carry a load of 20% body weight at no greater relative cost than Lucy incurred, unloaded.

Remarkably, *Homo erectus* required less effort than humans when carrying light loads, although the reverse seems to be true for higher loads. Thus, humans are better adapted for carrying heavy loads, but, surprisingly, less well adapted for unloaded walking or light loads.

Load carrying would thus have been a crucial influence on the evolution of walking. Further studies on the chimpanzees at Chester will help further our understanding of early humans.



# CHESTER ZOO HELPING PHILIPPINES CONSERVATION

Zoo Curator Dr Roger Wilkinson reports on his visit with Chris West to the Philippines earlier this year

## BACKGROUND

Chester Zoo has financially supported the Philippine Spotted Deer Conservation Programme since 1994. This has been channelled through Dr William Oliver, Philippines Conservation Programmes Coordinator for Fauna and Flora International (FFI). The programme began in 1985 following a survey indicating a 95% contraction in range of this critically endangered endemic cervid. The creation of three rescue and conservation centres in the Philippines and the establishment of two *ex-situ* groups in Europe with financial support for parallel *in-situ* conservation, have been important components of the species recovery plan. The West Visayas faunal region is probably the world's single highest priority area for conservation concern.

the zoo's involvement necessitated an on-site visit, to report back with an assessment of the conservation opportunities, and especially to meet the people involved in this work.

## Itinerary

This was organised by William Oliver in consultation with Bristol Zoo, who are also supporting projects in the Philippines. Our schedule covered projects on three major islands in the Western Visayas, visits to government offices on the main island of Luzon and an expedition to Polillo Island. Three centres working with conservation projects for threatened Philippine endemics were visited as were the Department of Natural Resources (DENR), Protected Areas Wildlife Bureau (PAWLB) and Wildlife Rescue Centre; two major zoos (Manila and Montalban) and several private collections, including the Birds International Inc., commercial avian breeding complex owned by Antonio de Dios.

## Three Islands in one day!

After meeting up with William in Luzon, and somewhat jet-lagged, we visited Manila Zoo to meet the Director Dr Andrew Buencamina, Dr Jose Diaz and the zoo's veterinarian Dr Glenn Rebong. Glenn had once visited Chester, gaining experience with hornbill husbandry. The zoo holds a wide range of both exotic and native species. Of particular interest were the endangered Philippine Eagle Owls, Rufous and Luzon Tarictic Hornbills, Saltwater Crocodile and Gray's Monitors. We then flew from Manila to Dumaguete on the island of Negros for a whistle stop tour of Siliman University's Wildlife Rescue and Breeding Centre. Professor Felina

Tempo, Director of the Centre for Studies in Tropical Conservation, introduced us to their work with endangered fruit bats and showed us our first Philippine spotted deer and Visayan warty pigs. Still catching our breath we took a ferry to Cebu City on the island of Cebu.

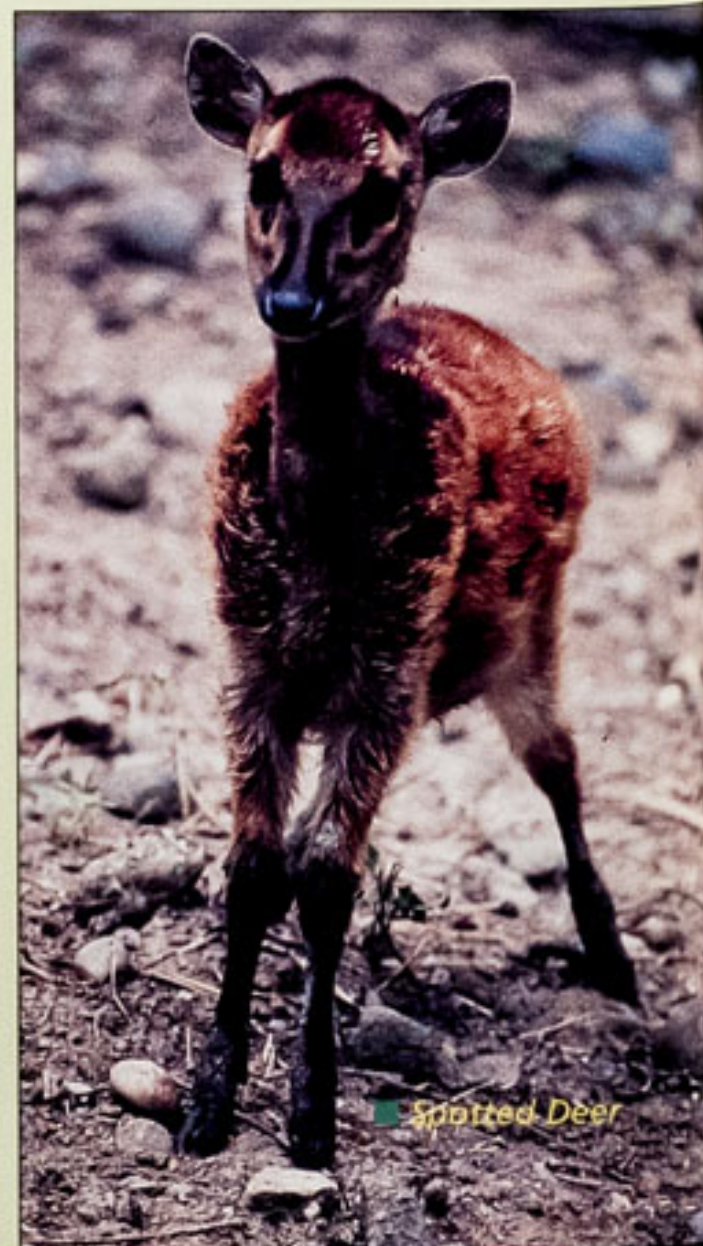
## Tabunan Forest, Cebu

An early start next day to Tabunan Forest where a tiny area of relict forest holds two of the world's most threatened birds; the Cebu Flowerpecker and the Black Shama. The Cebu Flowerpecker was thought

CHESTER Zoo's support over a three year term from 1994 - 96 has made possible planned and phased developments. Rescued Spotted Deer have been housed and bred in a number of centres in the Philippines. The support was increased for the period 1997-1999, when it was agreed that our funds could be diverted to support other important conservation initiatives in the West Visayas. These include habitat protection on Negros, Panay and Cebu and on-going rescue programmes for warty pigs, cloud rats, hornbills and bleeding-heart pigeons.

The Society was recently approached by William Oliver to become the major financial sponsor for the 'Adopt-An-Island' Polillo Islands Stewardship Project. This was an attractive proposition as it links well with the zoo's ongoing 'Islands in Danger' project. Additionally, the zoo has been asked to become a joint signatory with Vogelpark Avifauna, Netherlands, to a Memorandum of Agreement on Philippine hornbills with the Protected Areas and Wildlife Bureau of the Philippines Department of Environment and Natural Resources. All but one of the ten endemic Philippine hornbills are threatened by deforestation and hunting. Three species - the Sulu Hornbill, the Visayan Wrinkled Hornbill, and the Visayan Tarictic Hornbill - are critically endangered.

Such a significant projected increase in



Spotted Deer

extinct since 1906 until rediscovered at Tabunan in 1992. The wardening of this area is funded by Bristol Zoo, and while their General Curator, Duncan Bolton, spent all day with the forest guards, we met the Polillo project directors Andre Dans and J. C. Gonzales. We also met Alexandra Zimmermann, visiting the site for a planned Philippines Conservation Projects newsletter. We saw a Black Shama, albeit one that had been netted earlier, but to Duncan's delight, suffered the hike through karst forest without seeing the Flowerpecker. Of special interest was a huge gorgeous bright green sail-fin lizard of uncertain species-level taxonomy. Chris assisted taking a blood sample, for future DNA analysis, before it was released.

#### **Panay**

Early next morning we flew back to Negros, this time to Bacolod City where we made a quick visit to the Negros Forests and Ecological Foundation (NFEFI) Biodiversity Conservation Centre where we met the Curator, Dr Ed Delima, and Finance Officer, Arlene Ebalde. The next ferry to Panay docked at Iloilo from where we travelled to the West Visayas State University Mari-it Conservation Park at Lambunao. There we met two more people seriously committed to wildlife conservation. These were the Park's Project Manager Professor Lucia Lastimososa and a former Stuttgart Zoo keeper Jana Wolf who was working voluntarily. Philippine spotted deer and warty pigs were, as at Dumaguete, well represented. New quarters had recently been completed for cloud rats. It was exciting to see the centre's three young rescued Visayan Writhe-billed Hornbills. The males' bright yellow face skin strikingly contrasted with their orange red bills, whilst the single female had a most unusual aquamarine face. A large new breeding aviary had been built for these, and another for the Panay stock Visayan Tarictics.

Both species are critically endangered. I left Mari-it full of enthusiasm for Lucia's work with hornbills and fully hooked on warty pigs!

#### **Negros**

A meeting with Dr Benabe Cocjin, President of the West Visayas University (which supports Professor Lastimososa's work at Lambunao) preceded our return the next day to the NFEFI Biodiversity and Conservation Centre at Bacolod on Negros. This centre has recently completed some aviaries for Negros stock Visayan tarictic hornbills and bleeding-heart pigeons, and was building new facilities for its spotted deer and warty pigs. Gerry Ledesma, the President of NFEFI, explained that this was part of the centre's forward planning to become a major conservation, education, research and threatened species breeding centre. Heavy un-seasonal rain falling in this La Niña year resulted in our planned visit to the Northern Negros Forest Reserve being changed in favour of hitching a ride with Terence Dacles, (a

marine biologist working on mangrove re-forestation with the Philippine Reef and Rainforest Conservation Foundation), to Danjungan Island. This gave us the opportunity to see Coral Cay's project on Danjungan and the unforgettable experience of a real coral island.

#### **Luzon, Los Banos**

The scheduled rest day was not taken! Instead we visited the Botanical Garden in Los Banos, which included the Centre for Philippine Raptors. The wide range of birds of prey and owls included a number of Philippine Eagle Owls and two magnificent Philippine Eagles. It functions primarily as a rescue centre for confiscated birds, with larger groups of commoner species in aviaries and single birds in rather small holding cages. It does not yet realise its potential as a breeding or educational facility.

#### **Montalban and Manila**

Montalban Zoo is a new development a few hours outside Metro Manila.

Jake Gaw, the zoo's director, has built impressive new aviaries to house some of his large collection. A lion enclosure was nearing completion and the attention to detail on many of the exhibits mirrored that shown by our own director. The majority of stock, including hundreds of snakes, remained in holding areas. This included some rare Philippine endemics such as warty pigs, Philippine eagle owls, a giant scops owl and two races of Luzon bleeding-heart pigeons.

The following day we visited two contrasting wildlife facilities. The Ninoy Aquino Parks and Wildlife Nature Centre in Quezon City includes the Department of Natural Resources Protected Areas and Wildlife Bureau 'Wildlife Rescue Centre'. Dr Mundita Sison-Lim briefed us on the challenges faced by government-funded Wildlife Rescue Centres in terms of limited resources and an increasing need to find homes for confiscated native and exotic stock.

By contrast the commercial Birds International Inc. Breeding Centre owned by Antonio de Dios faced none of these restrictions. It was well staffed and extremely professional. We saw a young Spix's macaw and many young Palm cockatoos as well as juvenile crowned pigeons and West African crowned cranes. The many young hand-reared 'mutation' macaws were not to my personal taste, but the physical quality and numbers of



■ **Warty Pig**

them were more than impressive. More recently, breeding pairs of hornbills have been set up, including Great Indian and Rhinoceros. I was particularly interested to see two pairs of Mindanao Writhe-billed Hornbills and three male Sumba Hornbills.

After a four day visit to Polillo Island, which will be the subject of a further article, we spent our final day in Manila back at the DENR/PAWLB Offices. There we met Mrs Josefina de Leon, Chief of the Special Projects Section of the Wildlife Division. Mrs de Leon is responsible for deciding the terms of any Memoranda of Agreement between organisations such as Chester Zoo and the Philippine Government, represented by the Department of Natural Resources. She welcomed our initiative in wishing to assist in the conservation of Philippine hornbills, but expressed caution that other similar visits had not always been repeated. This indicates the need for commitment to longer term conservation projects over many years.

With the zoo's commitment to conservation, and following the precedent Chester first set in supporting the Philippine Spotted Deer project, I believe this help for critically endangered species can be assured.

*Roger is grateful to British Airways Assisting Nature Conservation for his flight and to Rod Hall and Kathie Alban for facilitating this sponsorship.*

# Old Meg

**Niall Ormerod, Section Head, Apes, writes about one of the UK's oldest chimps**

*As keepers, we are usually the front line for answering questions from visitors. We also receive letters from students, schools, colleges, universities and the general public. Most are straightforward, but some require delving into the records and sifting through personal memory banks. Early this year I received a letter asking about our oldest female chimp, Meg. This was the reply – which I hope will prove as interesting to Zoo Life readers as I know it was to the gentleman who made the enquiry.*



**M**EG arrived at Chester Zoo on 16 January 1950 aged about 3½ years. She was donated by Major Lamb from Sierra Leone. Later that year she was joined by another female named Babu and three males, Solomon, Simon and Elmer. These four, along with a female named Topsy who had been here since 1948, were soon being shown how to behave by Meg, who had suddenly turned into a role model! Though a little younger than Topsy, Meg tended to 'mother' the other chimps for their first few years at Chester Zoo. During these early years, Meg and Babu became really close friends.

Meg's brain and Babu's size ruled the roost. On 17 October '56, Meg gave birth to the first of her many babies. It was a female, but sadly died the same day. This was the very first chimpanzee to be born at the zoo and in those early days, knowledge and experience of breeding animals such as chimpanzees was more or less non-existent. This explains why it was not until 1961, when Meg gave birth to her fourth baby, named Jeannie, that this was the first chimp born here to reach adulthood.

From the mid 60's to the mid 70's, Meg was an important member of the main group of chimps at Chester. This group consisted of two males (dominant male Bolden and Prince) and five females (dominant female Babu and Meg, Jeannie, Jane and Judy). Until then we had small separate groups of chimps and in 1979 all these groups were amalgamated.

This new group of 15 animals, still being led more or less jointly by Bolden and Babu, became a focal point with the visitors. The group was the real start for Chester keeping chimpanzees in as near to natural conditions as possible.

Over the ensuing years, more babies were born, some new females were brought in from other collections and, of course, some unfortunately died. The next big change to the group's status was towards the end of 1986. Bolden, then the old man of the group, relinquished

power. The mantle of chimpanzee dominance was picked up Boris, who had to learn very quickly how to control the group. Fortunately for him, Babu did much of the work and helped to make the change-over run smoothly.

On 1 June, Bolden died after suffering a stroke. He was 37 years old. He was sadly missed by the chimps and the keepers, but left Boris feeling more assured of his position. Wilson, who is the son of Bolden and Meg, challenged Boris briefly, but to no avail. Only two years younger than Boris, and with family and friends in the group, he was unable to overcome Boris. This was mainly because he had inherited Meg's small size, and all but one of her children have also been small.

In 1989, the present *Chimpanzee Breeding Centre* was opened – memorably by Diana, Princess of Wales – and the 21 chimps made their way across a bridge of tree trunks from the old house and island onto their new larger island and into the new house.

The group was led over by Boris, closely followed by Babu, Meg, Poppy (Meg's five year old daughter) and Gloria. The rest

stayed on the old island until those five had made sure it was safe to go over. They all soon settled in very well and enjoyed their new home.

On 12 March 1990, Babu died at the age of 41. Meg spent the next two weeks wandering about like a lost soul, desperately trying to find her old friend. She eventually seemed to come to terms with the fact that Babu was not coming back and set about her normal life again. Cleo became the dominant female and a little 'explosion' of new babies helped Meg to pass on some of her wisdom.

Today, the group consists of 28 chimps. Meg's family in this group is son Wilson and daughter Mandy; granddaughters Rosie and Zee Zee; great granddaughters Sally and Lizzie.

She also has children and grandchildren around the world. Though, at 52 or more years, Meg's hearing and eyesight is apparently failing and her stamina somewhat lacking, the rest of the group still look to her for guidance and reassurance and, of course, we all hope this will go on for at least a few more years to come.



Belle Mare Plage Hotel

# Win a trip to Mauritius!

## Photographic Competition 1999

**AIR MAURITIUS**  
and the Belle Mare Plage Hotel

THERE are lots of other valuable prizes on offer. In the **Print Section**, the first prize is a Canon Eos 1X7 camera kit, with a retail value of £350. This is a single-lens reflex camera designed for use with the Advanced Photo System film. It is very light and compact and offers a wide range of functions for all uses, from simple fully-automatic shooting to advanced photography. Second prize in this section is free film for a year - 52 rolls of Max Spielmann 35mm, 24 exposure film. Max Spielmann has recently opened a Photo Technology Visitor Centre in Wallasey. Visitors are invited to take their film in, follow its progress through the lab - and receive the prints free of charge. If your children have ever asked how that little roll of film turns into a set of colour prints - this will show them!

Prizes for the **Slide Section** have been supplied by Jessops. There's a £100 voucher for the first winner, and a £50 voucher for the runner up. Jessops have branches all across the North West, with a wonderful selection of cameras and photographic materials. Their Chester branches are

in St Werbergh Street and Grosvenor Street.

The popular **Gardens Section** is again sponsored by Bridgemere Garden World, and the winner will



Canon Eos 1X7

receive a £100 voucher to spend at this amazing centre, which claims to have more plants in more varieties than any other garden centre in the country. The runner-up will receive a £50 voucher from KJP/Hargreaves.

Canon have also provided the first prize in the **Junior Section**, open to all children under 16 at the end of October. This is a Sureshot 85 Zoom

*This year's photographic competition has a wonderful top prize - a holiday for two on one of the world's most beautiful islands. Air Mauritius have offered the flight, and the accommodation is for six nights at the luxurious Belle Mare Plage hotel, on a half board basis.*

*The hotel has an extensive array of amenities, including three restaurants. It is situated on one of the island's loveliest sandy beaches on the east coast, set in 20 acres of tropical gardens, plus 158 acres for the golf course.*

*The holiday will be valid, subject to availability, throughout the year 2000, except for peak periods.*

*This will be the prize for the photograph judged to be the overall best entry in the competition, from any of the five categories*

camera, worth £100. Second prize is a Ness Laboratory voucher for £50.

Last year we introduced the new category of **Best Digital Photograph**. The leading magazine in this field, *Digital Photographer*, will provide a selection of digital imaging software and a year's subscription for the first prize. A Ness Photo Laboratory voucher for £50 will be the runners-up prize.

There are trophies for each section, and also framed prints of the winning photographs. The subject is simply **'My Favourite Chester Zoo Photograph'** and all photographs must have been taken during 1999. The competition is open to amateur photographers only, and the maximum size for prints is 6 x 4".

All entries must be accompanied by an entry form, and these are available in the zoo.

If you would like one sent by post, please send a stamped addressed envelope with your request to:

**Marketing Department  
Chester Zoo  
Upton-by-Chester  
CH2 1LH**



Youngsters from Utkinson County Primary School didn't mind getting wet as they waited to meet Madam Speaker.



The plaque is unveiled, and the Rare Penguin Breeding Centre is officially opened.



Madam Speaker met two familiar faces from Parliament: Andrew Miller, the Member for Ellesmere Port and Neston, and Christine Russell, Chester's MP.



# ORDER IN THE PENGUIN POOL!

It was weather that favoured penguins rather than people – but the visit by Betty Boothroyd MP, Speaker of the House of Commons, to officially open the new penguin pool, was still a very cheerful occasion!

As she watched the zoo's Humboldt's penguins swimming and strutting, Miss Boothroyd commented 'Penguins and MPs have one thing in common – they're both unflappable!'

After a welcome by Zoo Director Gordon McGregor Reid, and a short address and poetry reading by performance poet Lemn Sissay, Keith Maybury introduced Madam Speaker, and invited her to unveil a commemorative plaque. Keeper Andrew Bagnall then supplied her with a pair of plastic gloves and a bucket of fish, and the penguins quickly came to order to receive their supper!

The Director was gallantly holding an umbrella over Miss Boothroyd, but she happily agreed to the requests from the photographers and TV cameramen to have it removed for the sake of good pictures.

Following the ceremony, over 100 guests enjoyed a light buffet in Oakfield House.



'Will the Honourable Member at the back please come for his supper-break!'



'On reflection, penguins are even more fun than parliament!'

# IN THE 'LAND OF MANY WATERS'

In 1997, Zoo Council member Graham Pollard, travelled independently of the Zoo on an expedition to Guyana, South America, working on conservation projects and looking at the environmental issues and spectacular sights of that country.

**L**ITTLE changes quickly in Guyana. For example, Karanambo Ranch in the Rupununi savannah, written about by both Gerald Durrell and David Attenborough more than forty years ago, is still a cattle ranch and is still run by the McTurk family: Tiny's daughter Dianne now presides over the small Amerindian community.

Now however, she has her own conservation mission to pursue as well as developing the ranch as a centre for nature tourism with guest rooms equipped with comfortable beds, mosquito nets and all bathroom facilities.

Believe me, you don't notice that the shower is cold, just refreshing: Guyana (meaning "Land of Many Waters") is very hot and humid.

Dianne runs a rehabilitation centre for Giant Otters – the largest of the all the world's otter species, with adults measuring up to eight feet long.

When I visited Karanambo in October 1997 as part of an expedition team, Peter (a juvenile) was the only otter in residence, although a baby was brought in on our last night at the ranch. There is conflict between the otters and the Rupununi communities because both want fish from the rivers.

As a result, many young otters are injured or orphaned, and so it is to Karanambo that many are brought for loving care and attention.

The aim is to teach them to fend for themselves and to have them accepted by the wild otters on the nearby river.

Dianne has achieved many successes and has often seen otters she has known as cubs passing by in the company of other adults and their new cubs. Visitors to Karanambo may have the pleasure of an afternoon swim with the young otters.

Until recently the river was the only place where Dianne could take her charges to swim. Now she has a pool at the ranch because the river is not really safe for the smallest of them.

There are other delights at Karanambo: boating along the Rupununi River itself is an excellent way to go birdwatching: various egrets, herons, cormorants, storks, skimmers and parrots are all there to be seen.

On ponds covered with Giant Amazon Water-lilies are grebes and lily-trotters; there are vultures, falcons,

flycatchers; monkeys in the tree-tops (we saw Brown Bearded Sakis); Caiman basking beneath them at the water's edge; and those wild Giant Otters.

Elsewhere, Guyana is a fantastic place for nature tourism. If you visit, you can go far up-country if you are prepared to rough it.

Alternatively, there are hotels in Georgetown (and birds and Manatees in the Botanical Gardens) and light aircraft can take you to nature tourist lodges like Karanambo.

Be sure though not to miss the chance to visit Kaieteur Falls. It is difficult to describe Kaieteur: "spectacular" and "awe-inspiring" do not seem adequate. After all, at 741 feet it is the highest continuous single-drop waterfall in the world.

Set amid the lush rain forest, it is a curtain of white water plunging over the edge of the cliff (even when *El Nino* had reduced the flow to a comparative trickle in 1997).

You can stand right on the lip of the precipice if you dare (there is no rail to lean on) and right on the edge of the river itself.

But your attention is always drawn to the water and eyes inevitably follow it down to the pool below.

Or else you will stare at the view down the gorge of the Potaro River with the meanders of the river glistening through the gaps in the forest.

Forest paths enable you to find other vantage points to see the entire fall. The walks can be used to go wildlife spotting as well: seek out the red/orange Cock-of-the-Rock at their nearby lek, or part the bromeliads and try to spot the tiny golden frogs before they dive back into the pools of rainwater collected at the base of the leaves.

Should you be able to stay a night (roughing it I'm afraid), don't miss the huge flocks of swifts returning to their roosts behind Kaieteur Falls themselves. That is one stunning sight! Believe it or not, you forget to look at the Falls.

Guyana is a friendly country, aware of its natural treasures and trying to hang on to them. It is very welcoming of tourists wishing to sample those environmental gems, adding long-term value to the forest standing, rather than cut for short-term timber profits.

■ Kaieteur Falls – at low tide!



■ Giant Otter 'Peter' (Karanambo)

## IWOKRAMA: Guyana's Precious Heartland

At the 1989 Commonwealth Conference, the President of Guyana offered to set aside an area of his country's huge rainforest (it covers some 80% of the country) to be used as a research and conservation region for the protection of forests. His offer was taken up, and now the Iwokrama International Centre for Rainforest Conservation and Development is up-and-running as an autonomous region covering 900,000 acres (or 2%) of Guyana's rain forest, under an independent international Board of Trustees.

Funded by the United Nations Development Programme and the Commonwealth Secretariat, the Iwokrama's mission is to demonstrate that tropical rain forests and their biodiversity can be both conserved and utilised to yield sustainable ecological, economic and social benefits, not just for the Guyanese, but more generally to people the world over; not just for today's generations, but for all those to come. If this can be achieved, it will reduce the incentives to clear-fell rain forests to make money in the short-term.

There are unexplored areas of Guyana where humans have never set foot. Some Amerindian tribes are known only from aeroplanes flying over their clearings. Many other areas have scarcely been visited even by the forest inhabitants. Being remote, there are very few villages near the Iwokrama, the largest being Kurupukari on the Essequibo River. Consequently, very little is known about what exists in the reserve. The major drive now is to learn about the flora and fauna, the ecology, climate, geology and hydrology of the forest. Only then can management plans be written to preserve the wildlife and to begin the research into sustainable

timber production which will be conducted in half of the reserve.

To back up the research, information databases have to be compiled and explorations undertaken to seek out forest products other than timber which may be economic to harvest. The staff in the reserve will be trained Guyanese rather than other nationals. Neighbouring communities (such as in the North Rupununi, like Karanambo) are being brought 'on board' with the project's aims thus creating a large empathetic 'buffer zone' of participating communities around the Iwokrama, extending its influence still further in Guyana.

Another way of adding value to the forest standing is to bring in visitors spending tourist dollars. At the moment this is in a very rudimentary phase: expeditions are being welcomed as they show the potential for nature tourist markets, give feedback on what such visitors would like, and provide a source of volunteer labour to help establish facilities for those following.

My expedition in 1997 was based twenty minutes by boat downstream from the Kurupukari. Our task was to clear a previously-marked trail from the bank of the Essequibo to the top of Turtle Mountain where a rocky outcrop gives the only view in the area across miles and miles and miles of unbroken (and probably unexplored) rain forest canopy with Howler Monkeys calling from somewhere below, and Macaws and Toucans sitting in the tree-tops. The trail is only two to three metres wide and all but the biggest logs across the path have been moved to one side. The objective was to create a trail along which nature tourists can move with relative ease and safety.

There is still much work of this kind to be done in the Iwokrama. Hopefully, my expedition in 2000, and any in subsequent years, will include a team working in the reserve. It is great fun and very rewarding for all those who go there. Everyone who goes (and I'm always looking for volunteers) has the chance to take part in an international rain forest conservation project.

The government of Guyana is very conscious of its conservation responsibilities to the whole world, but is also tempted to sell timber concessions to foreign companies, such is its need to repay Western debts. This is why it so desperately needs the Iwokrama to be a success. We all do.

The rain forests of Guyana, like those throughout the world, are threatened. There is timber, diamond and gold extraction. Nevertheless, there are vast tracts of forest still undisturbed: I flew over some of it in a light aircraft and there was unbroken rain forest stretching to the horizon in all directions. The situation is far from hopeless: now is the time to act to ensure that it never becomes so. In the Iwokrama they are doing just that.



■ Red-capped Cardinals (Karanambo)



## A Sprinkling of Pixie Dust

**A** Disney Zoo? Wow! If the world's top leisure company is opening an animal attraction, it will certainly be stupendous!

That was the opinion I was getting from colleagues at Chester and other UK zoos. So it was with high expectations that, together with a group of marketing staff from other Federation zoos, I walked under the dazzling, flamboyant, all-singing ('I'm the King of the Jungle . . .') kaleidoscope of gigantic animal faces and into Disney Animal Kingdom in Orlando.

First impressions quickly confirmed that this is not really a zoo at all. It's a Disney theme park; a theatrical experience, produced superbly, with liberal shakings of pixie dust. But you could be in the park for a couple of hours before seeing a live animal.

They are grouped in the concept of the Disney 'imagineers' with the cartoon animals. To quote from the guide book: 'Hundreds of animals roam about, from tiny naked mole rats to 50 foot tall audio-animatronic dinosaurs.'

After a presentation by Disney marketing staff, we boarded the jeep for the **Kilimanjaro Safari**. The jeep, driven by a word-perfect cast member (an Australian student), took us through 100 acres of forest, grassland, desert and stream.

*Pat Cade, Public Relations Manager, and Jane Lawson, Group Sales Manager, joined marketing staff from other zoos, on the Zoo Federation study trip to Orlando in January. This is Pat's impression of the trip.*

We saw lions, white rhino, giraffe, nyala antelope, cheetah, hippo and zebras. But, this is Disney Country, so we must take part in a drama.

We learn, via the driver's radio, that a mother elephant, Big Red, has been wounded and her baby is missing. Our driver chases the poachers over lava pits, through geysers exploding 20 feet in the air, and we hear machine-gun fire. As the jeep slows down, we learn from a ranger that the nasty poachers have been apprehended.

The baby elephant is safe in the jeep – we can see his plastic trunk waving! – and the ending is a happy one.

A fun way of getting the conservation message across – or a slightly tacky intrusion into the animal experience? Depends on your point of view!

The **'Gorilla Falls Trail'** was much closer to expectations. The bachelor troupe of Western Lowland Gorillas have an imaginative, spacious habitat and the animals are superb.

In the Pangani Forest Exploration Trail is the Avian Research Centre, with a colourful display of African birds. Here, too, are the naked mole rats and the hippos.

The park's centrepiece, the **Tree of Life**, is amazing. Its trunk and branches are covered in an intricate design of 325 hand-carved animals. Inside its roots, is the hilarious 3-D show 'It's tough to be a bug.' This is wonderful entertainment, viewed through 3D glasses, featuring a band of trouble-making grasshoppers – and the audience can feel the bugs crawling up their legs! But how much better if there had been a display of real, living bugs in the foyer as you left the show.

**Conservation Station** is an innovative, interactive, hands-on centre where visitors

— sorry, guests! — can discover how Disney is caring for the animals in the Kingdom and also about the Disney involvement in outreach conservation.

This was impressive. I particularly enjoyed sitting in a sound booth and being immersed in the whispers and weepings of a diminishing rainforest.

Animal Kingdom had been open for a year when we visited, and was not yet complete. The **Asian Adventure** was due to open this Spring, and this will undoubtedly add to the animal experience.

Worth a visit? Of course — no other organisation in the world provides such superlative attractions, and Animal Kingdom is surely at the top of Disney's Tree. But don't expect a zoo!

## Busch Gardens

Two hours away, in Tampa, is **Busch Gardens**, and my expectations here were not high. I had visited five years ago, and thought it a huge funfair, with a train-ride animal safari added on.

My rather sniffy expectations were soon exploded! What Busch has achieved over the past two or three years with its animal habitats is quite stunning.

The **Serengeti Plain safari** allows close-up contact with the animals. Standing in a truck, visitors are given carrots to feed to the giraffes, who come and put their heads into outstretched hands. Ostriches make a staccato rattle with their mouths around the padded rail of the truck. No need for a long camera lens to snap the zebras, antelope and flamingos.

The **Myombe Reserve** area deeply impressed everyone in the party. The Great Ape Domain is a three-acre natural habitat for Western Lowland gorillas and chimpanzees. The landscaping required more than 500 trees and thousands of plants from 60 species, including vegetation to encourage the primates to forage.

We were told that the chimpanzee enclosure is re-planted every night, as the animals destroy the planting during the day! The gorilla habitat is lush with vegetation and magnificent waterfalls. A cooling mist is generated by a nozzle which forces water into droplets so small they become clouds.

Personally, I declined the opportunity to ride the *Kumba* — but my colleague Jane Lawson wanted to prove that she would turn circles and hang upside down in the line of duty!

We also visited **Miami Metro Zoo**, **Lowry Park Zoo** and **Sea World**. There's no space here to report on these in detail, but I must mention the manatee rescue schemes at both Sea World and Lowry Park. Manatees are wonderful creatures, and sometimes they are badly injured by fishing lines or collisions with boats.

There is a 24 hour call-out for rescuing these unfortunates, and they are treated with enormous care and skill. If possible, they are returned to the wild after treatment. If their injuries are too severe to make this viable, then they join the groups in the collections.

It was a very intense six days, but we came back brimming with ideas and images. If only Chester had the Florida sunshine . . .



■ A magnificent Western Lowland Gorilla in Busch Gardens



■ Tender loving care for an injured manatee at Lowry Park Zoo



■ The imaginative hand washing facilities at Animal Kingdom's Affection Section. One elephant's trunk provides water, and the other warm air for drying.



■ Julia's new species of *Bavayia*.

# Zoo Studentships

EACH year Chester Zoo awards sums of money to students who are carrying out particular pieces of research work abroad, that involve conservation programmes for endangered species. Here we give extracts from the reports of four of these students. Apologies for cutting down the excellent articles sent by the students – to print them all in full would have taken up half the magazine!

## Lizards of New Caledonia

*Julia Jones of Cambridge visited New Caledonia, a French territory in the south-west pacific off the coast of Australia.*

I HAD read about the urgent need for biological research in the islands' threatened forests, to determine conservation priorities. Together with three experienced colleagues, we organised a research expedition to the territory. The result was 'Diadema 98' – a six month biological research project working in ten forest sites on the main island of New Caledonia, Grande Terre. As I have always been interested in reptiles, it was decided that I would take on the herpetological aspect of the project.

My most exciting find was on Mount Ignambi, a 1300m peak in the north-east ranges. This area was last visited by biologists in 1930 and is the only definite site for the Diademed Lorikeet, (the lost parrot species) as it was here that two biologists collected the only specimen that persists in museums

today. On my very first day looking for lizards on the mountain, I was looking deep in a rock crevice with my torch, when I saw what could only be the movement of a lizard's tail. Nearly an hour later I finally managed to coax out what proved to be the largest gecko in the endemic genus *Bavayia* that I had seen. It had a particularly large head and a distinctive dorsal pattern, so immediately I knew it was not something I had seen before.

That evening, the rest of the team and I went through all the keys and papers meticulously, but in the end we all agreed. This must be an undescribed species. As conservation ecologists, making the decision

to take it as a specimen did not come lightly, but it is not possible to describe a new lizard taxon from photographs alone.

Everyone asks me, when they hear I have discovered a new species of lizard, if I will name it after myself. The answer is definitely no! This really isn't the done thing in taxonomy any more. In this case, we want to give it a name that means something in the local language.

We were going to call it the local word for mountain, as it appears to be a high altitude endemic, but that is rather unpronounceable, so we have settled for the local word for forest gecko.

## The Golden Fruit Bat of Rodrigues

*Iona McDonald, of Aberdeen University, used her zoo grant to join an expedition to Rodrigues Island, at the invitation of the Mauritian Wildlife Foundation.*

THE Rodrigues bat is the bat of Gerald Durrell's 'Golden Bats and Pink Pigeons.' There are now approximately 200 in Europe, at Jersey, Chester and Bristol Zoos, and 150 bats in seven North American collections. There's also a captive population of 35 at the Mauritian Wildlife Foundation Black River Aviaries.

In the wild, it is known only on the small island of Rodrigues, in the southern Indian Ocean. Initial reports from a census in the summer of 1998 indicate that there are between 1500 and 2000 wild bats, but the population is often decimated by recurrent cyclones.

For example, in August 1991, an expedition from Trinity College, Dublin, counted only 350 bats. This low number was thought to be due to a food shortage caused by a cyclone in February of that year.

The Mauritian Wildlife Foundation is trying to reforest the island with native and endemic species. The aim of my project was to show that fruit bats, being effective seed dispersers, can assist in this endeavour. By doing this, I hoped to demonstrate one reason for conserving the bat.

During my three month stay between June and September last year, I helped the Environmental Educator, Mary Jane Rabouté, to raise awareness in school children about the bat.

We compiled a questionnaire to gauge how much they knew and the degree of contact they had with bats.

Worryingly, many children knew of incidents where bats had been killed or injured by playing children, or adults angry with bats taking the fruit from trees in their gardens. Mary Jane is planning further work with the community which may reduce these incidents.

The majority of my time was spent studying bat dispersal of the

seeds of the endemic ebony, *Diospyros diversifolia*.

From the cumulative data of daily counts of the number of seeds on seed traps, I was able to show that the bats carry a substantial number of seeds away from the parent tree. They carry the fruits to other trees, of the *Cassine orientalis* species, chew off the fruit pulp and spit the seeds out there. This will aid the survival and spread of the rare ebony.

The activities that I was involved in are part of the ongoing conservation required for the continuing survival of the Rodrigues Fruit bat.

■ Iona makes the close acquaintance of a female Rodrigues Fruit Bat.



## The Birds of Vanuatu

*Gareth Douglas of Newcastle upon Tyne was able to travel to Vanuatu, the former Anglo-French condominium approximately 1500 miles off the Queensland coast of Australia, to study its unique birdlife.*

MY work in Vanuatu involved using the native villagers as a source of scientific knowledge. The information we gained was extremely useful, and proved to be largely accurate.

Of the seven endemic species, one of them, the Santo Mountain Starling (*Aplonis santovestris*) occurs on only one island, Espiritu Santo. Only a handful of villagers had ever seen it and it later transpired that it was only found in a small mountainous area of Santo. It is notoriously difficult to see, its brown plumage providing an excellent foil to the damp undergrowth it frequents. It is



■ Gareth with some young interviewees. Children proved unreliable sources, as they often claimed to have seen birds which weren't present!

classified as vulnerable in the 1994 IUCN data list. The other endemic bird in this classification is the Vanuatu Kingfisher (*Todirhamphus farquhar*). The Tanna Fruit dove (*Ptilinopus tannensis*) is deemed to be near threatened. Our survey findings matched this.

In a small island ecosystem such as Vanuatu, the threat of extinction is heightened due to the limited space. Many of the bird populations are very small and any further reductions in population sizes could leave them without the genetic diversity required to form a sustainable population.

The main danger is that of deforestation. The government has turned to selling off the acres of forest in order to fund a suitable infrastructure for the newly independent country. Species have been displaced from their traditional forests and forced to adapt to life elsewhere. The result is that many birds – perhaps, on occasion, entire species – will be lost.

The number of introduced species pose a problem to the native species. Early European settlers, apparently out of sentiment, introduced the House Sparrow. These birds are now abundant in the urban areas of Santo and Efate. The same applies to the Indian Mynah bird, introduced as a pest control measure. It is now putting extra pressure on the native pigeons and passerines normally found in the area.

The government has dramatically halted the decline of birds being hunted for meat, by introducing 'taboo.' This prevents the villagers from killing certain species at vulnerable times of the year. Our surveys showed a healthy population level that can almost certainly be attributed to this taboo.

Equipped with the survey information, the Department of the Environment can allocate resources more efficiently. Perhaps realistic conservation priorities can be set as immediate targets. Using data from surveys such as this, the most vulnerable areas can be identified and protected.

## Chimps at Chester

*Charlotte Bonney of Thornton Cleveleys in Lancashire, didn't travel quite so far as our other students! Her award enabled her to study the chimpanzee population at Chester Zoo over a 10 week period.*

THE aim of the study was to investigate the different interactions between mothers and their young. Studies about captive breeding may enable successful reintroduction in the wild, so the more we learn about their behaviour, the better chance we have to eventually allow reintroduction.

Chimps are born relatively helpless and maternal dependency is immediate. Throughout the early months, the infant is provided with food and protection from the environment and other animals. This close physical contact and emotional support are equally important for the juvenile's normal development.

I used focal sampling methods to investigate the mother-child relationship. As infants grow older, the amount of time and distance they spent away from mother increased. Juveniles were classed as under eight years, and seven female juveniles were studied.

I observed differences in how they spend time according to their age. Juveniles spent most of their time in play activities, whilst

adults spent it mostly in mutual grooming or resting. The females spent more time with relatives than with non-relatives – and the closer the relative, the more time they socialised together.

One chimpanzee showed noticeable difficulties in interacting with others. I compared her activities to those of another juvenile of similar age.

The one with the difficulties was more dependent on her mother than would be expected at that age. It was thought she may lack social skills or be emotionally immature. No statistical evidence could be found for a difference in the behaviour of the two mothers, *Halfpenny* and *Florin*.

Chimpanzees are our closest relatives and an endangered species. I feel this study has given an insight into the natural rearing behaviour of the mothers and the growing independence of the young. Hopefully, the results can be used to help create natural

environments for chimpanzees, and eventually help reintroduction programmes.

Thank you to Chester Zoo – and a special thank-you to the chimpanzees, whom I've loved watching and getting to know their individual characteristics. If anyone would like to read the full project, there's a copy in the Zoo library.

■ Charlotte Bonney



# MAMMOTH CHANGES!

The new bull pen accommodation is now complete, and has made a very attractive as well as practical addition to the elephant building.



As part of the ongoing development of the 'elephant experience' we are shortly to begin a large expansion of the existing elephant paddock. The new paddock extension will encompass a far greater area, providing an initial 'attention grabbing' sight as visitors first enter the zoo.

Through part foliage screening, the eye will focus on elephants on the paddock, moving over a raised and lowered contoured terrain. Visitors will experience the enormity of the elephants close-up, as they appear from behind the trees and undergrowth in what will be the most natural environment we can possibly create.

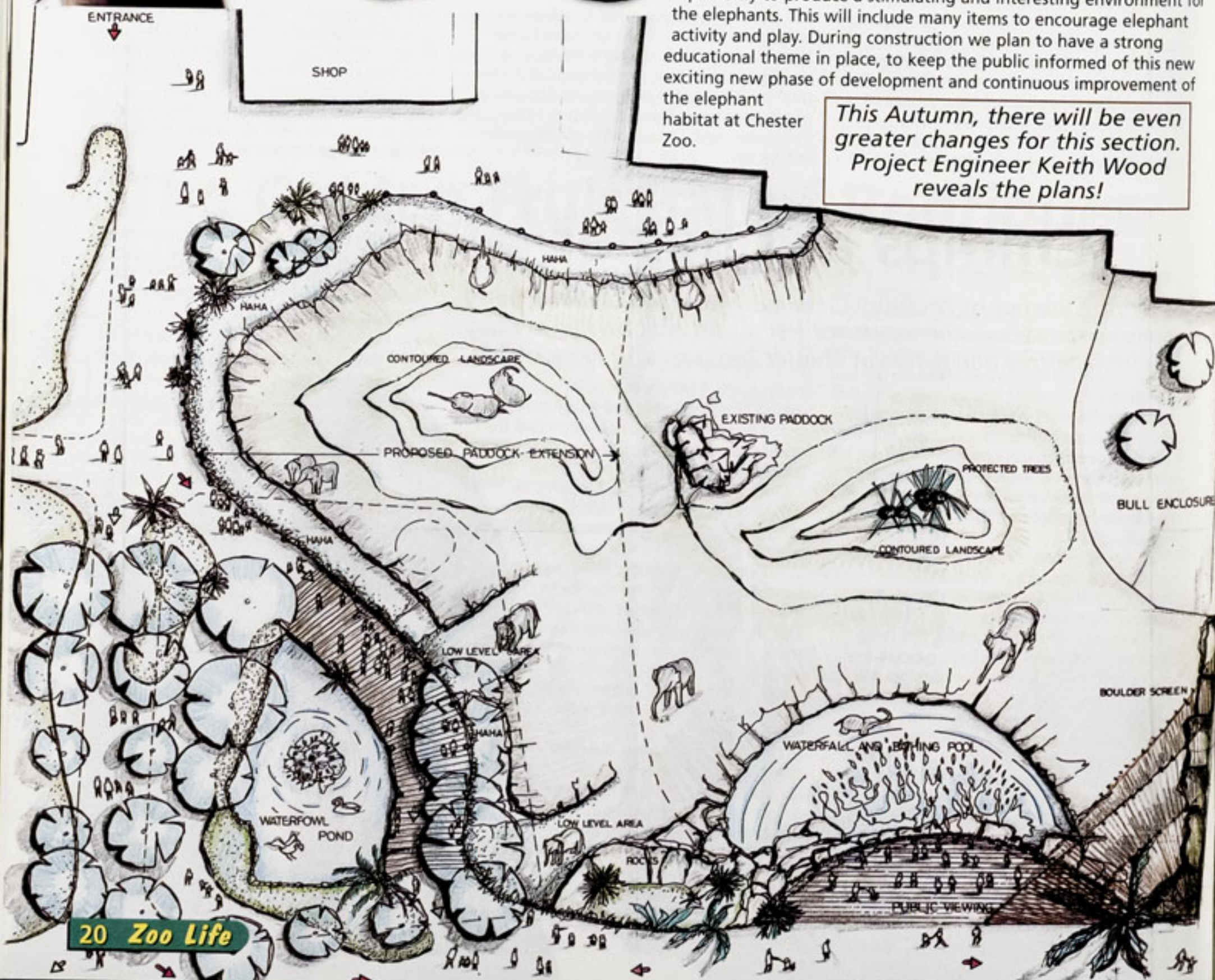
Distant views will reveal a new exciting waterfall and bathing feature for additional enrichment and pleasure for the elephants. This will be part of a new structured area to the existing bridge, containing the mechanics of the waterfall and water treatment. Public access and viewing will be possible to all parts of the existing and new paddock areas by means of a wider routing system with divided walkways. Trees, additional planted areas and seating will add to the elephant experience. With educational signage, many aspects of elephant behaviour can be observed.

As you walk towards the paddock extension and to the left, a rain shelter roof and boardwalk will direct the visitor through a tree-lined viewing perimeter to one side, with an adapted waterfowl pond sculptured to the opposite side. A stand-off area of geographically related planting (or as near as our climate will allow) will be created at the circumference to the paddock, combining colour and texture so as to extend the elephant theme as close to the public as possible.

To the far side of the paddock and near to the new external elephant bull pen, will be built a security wall constructed from reinforced concrete, profiled to appear as rockwork. This will contain high level planting with feeding browsers and scratching posts. A shelter from the prevailing winds will be positioned to keep the elephants protected.

It is important to bear in mind the aim of this project is primarily to produce a stimulating and interesting environment for the elephants. This will include many items to encourage elephant activity and play. During construction we plan to have a strong educational theme in place, to keep the public informed of this new exciting new phase of development and continuous improvement of the elephant habitat at Chester Zoo.

*This Autumn, there will be even greater changes for this section. Project Engineer Keith Wood reveals the plans!*





■ 'There came a big spider . . .' Amazon Adventure Day!

THE idea behind our Activity Days was to bring children closer to the animals at the Zoo, and to find out about them in more depth than is possible on a normal zoo visit.

Each day was a hands-on experience, with close contact, artefacts and all manner of activities!

The most popular were the 'Dinosaur Digs', which introduced children to the Jurassic World, with fossils, casts and even replica dinosaurs to dig up and investigate.

On other days, we entered the twilight 'World of Bats' and monkeyed around on the 'Monkeys, Apes and Man' day. During 'Madagascar Morning' we learned all about the animals of this mysterious island and painted our feet blue on 'Feet First' day, as we searched the zoo looking for the countless ways that animals use their feet.

This year, we decided to offer these activities all year round, repeating some old favourites and introducing some fancy new ones.

Already they have proven to be even more popular than before. So far this year we've been finding out more about dinosaurs (from *Tyrannosaurus* to *Hypsilophodon*);

## Get Active!

*Dominic Briffa from the Education Division, writes about last year's Activity Days – and reminds you about the remaining ones this year.*

taken an uncomfortably close look at some of the Zoo's poisonous beasts; investigated the oval world of eggs, and toured the Zoo in search of animal 'Record Breakers.'

### Still to come this year:

On 10th July, we will be visiting

the microscopic world of creepy crawlies. There's another 'Dinosaur Dig' on 18th September; World of Bats on 16th October and an Amazon Adventure on 13th November.

From 16-20 August, we will also be hosting the first of what we hope will become an annual activity week.

This year, the theme is the 'Dark Continent' of Africa, and we will be spending a week finding out all about the wildlife and the culture of this fascinating part of the world.

This will include craft activities, music and dance workshops, story telling and zoo safaris.

Details of Africa Week and the Activity Days can be found in the Winter and Spring issues of *Zoo Life*, or telephone:

The Education Division  
on 01244 650205

The education staff enjoy these activities as much as the children. We won't run an activity unless we know it's going to be fun.

Many of the children have come back again (and again!)

If you haven't been, you don't know what you're missing!

# Junior Puzzle Time



1



2



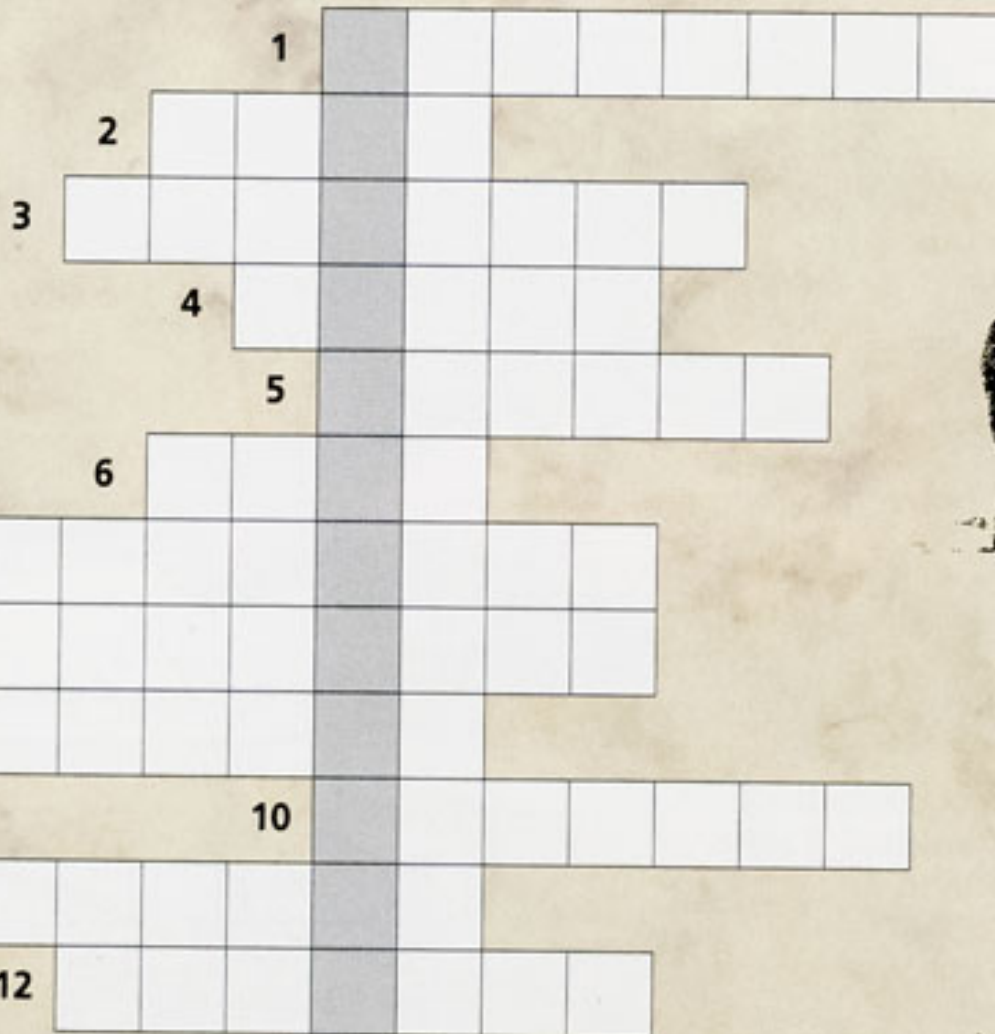
3



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7



6



8



9



10



11



12

**F**ILL in the names of the animals shown in the grid, and the dark squares will reveal the name of a highly threatened reptile coming to Chester Zoo soon!

Write the name of this animal on a postcard and send it to:

Zoo Life Competition  
Chester Zoo  
Upton-by-Chester  
CH2 1LH

Closing date is August 15th, 1999.

Prize is a £10 voucher for the zoo shops.

## Answers to Spring Competition

**L**OTS of entries this time, particularly from some of the younger juniors. The answer was a prairie marmot, and the official answer to how many paddocks they occupy is two. Those of you who said it was three, probably saw some illegal immigrants into other paddocks!

First correct answer opened was from Bruce Risk of Northwich, who wins the £10 zoo gift voucher.

# JUNIOR MEMBERS

## PROGRAMME OF EVENTS

**SATURDAY 26th JUNE, 1999**  
**THE ISLAND OF ANGLESEY**

WE will hope for good weather to enjoy our day on Anglesey, when we will make various trips to places on the island. These are likely to include the Pili Palace (butterfly farm), the Stone Science Museum, bird watching or the Sea Zoo. This is likely to be a long day out, so please come prepared for everything (including wet and cold weather).

Over eights are invited to join us and the bus will leave the staff car park at 9.00am, returning at 5.30pm. Don't forget your picnic and snacks.

**WEDNESDAY 28th JULY, 1999**  
**DAY WITH A KEEPER**

ALWAYS the most popular day of the Juniors' calendar, this is when Juniors are given the opportunity to spend a day working alongside a keeper in the zoo. It is because the work involved can be pretty strenuous that we have to restrict this event to Juniors of twelve and over. We do try to accommodate Juniors' areas of special interest, but obviously places are limited so this cannot be guaranteed. Please come prepared for hard work, wearing wellies and with a good picnic.

We will meet outside the Oakfield at 10.30am, and the day will finish for Juniors at 4.00pm.

**FRIDAY 20th AUGUST, 1999**  
**SUMMER BARBECUE**

THIS is another of our regular events when we meet for an informal summer social evening. It is always fun to see the zoo at night after all our visitors have left. We try to

vary what we do at the barbecue each year when we have a surprise event or speaker.

Over eights are invited to come and join the fun, and Juniors should arrive through the staff entrance at 7.00pm and walk through the zoo to the Jubilee restaurant. Parents are requested to collect Juniors from there at 9.45pm.

**SATURDAY 25th SEPTEMBER, 1999**  
**LOGGERHEADS NATURE TRAIL**

THIS will be a new event for Juniors – postponed from last years' programme! We will be going into the wilds of North Wales to do some walking in the Loggerheads Country Park. Starting at Pentre Water Mill we will follow the River Alyn before following the trail up through the wooded hillside to the Loggerheads rocks some 200 feet above the Mill. Walkers will be able to notice the geology of the area as well as the river life, the fauna and flora, and see evidence of former lead mines.

**BOOKINGS** must be made for all events. Please ring Penny 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.

A small charge will be made to cover costs for events involving transport, materials or food. This list is provisional, and in exceptional circumstances we may have to alter dates and venues.

These changes will be printed in Zoo Life – not by individual letters – so keep up to date by reading the Junior pages in each issue!

The bus will leave the staff car park at 11.30am, returning at 4.00pm. Over eights should aim to join us and please bring a picnic and warm clothes.

**SATURDAY 23rd OCTOBER, 1999**  
**THE DEER RUT AT TATTON PARK**

OCTOBER is a special time of year for any park which farms deer, as this is the time for the 'rut' when males battle over possession of females. Tatton Park, is home to both Red deer and Fallow deer and Juniors will be accompanied around areas of the Deer Park by one of Tatton's wardens. This will be a fine time to see nature 'in the raw' and in lovely surroundings. We also hope to call in to see the animals at Tatton's Home Farm whilst we are there. Over tens should come prepared for the wind and cold and will need a picnic as we will leave the staff car park at 10.30am, returning there at 4.00pm.

**SATURDAY 20th NOVEMBER, 1999**  
**LIVERPOOL MUSEUM**

WE always have a great day when we visit the Liverpool Museum as they have a really good Natural History Section there. Museum staff will also take Juniors behind the scenes to see how things are used by researchers and how natural history items are stored when they are not on show. There is a taxidermy section within the museum and Juniors can see how animals are prepared for exhibition. One not to be missed by youngsters who want to see what cannot be seen on a 'normal' visit to a museum!

We will leave the staff car park, with picnics at 11.00am, returning at 4.00pm. Over eights.

## Summer Field Trip

THERE are just a few places still available on the Junior Members' exciting trip to Northern Ireland in July. This week long visit, from 23rd – 30th July, will include trips to Belfast Zoo, the Wildlife and Wetland's Trust's base on Strangford Lough, the Portaferry Aquarium, the Ulster Folk Museum, and exploration of the spectacular coastline.

Accommodation will be at the attractive campus of the University of Ulster on the border of Lough Neagh.

Total cost, inclusive of travel, accommodation, meals and entrance tickets, is £230.

Contact Penny Rudd on 01244 650215. (Over 12's only, please).

## Junior Members had an underwater experience at the Blackpool Sealife Centre in February!



# Arrivals ● Births ● and ● Hatchings ●

FEBRUARY, MARCH and APRIL 1999



■ Mount Apo Lorikeet



■ Baby Anoa 'Asterix' makes his first TV appearance

## MAMMALS

Seba's Short-tailed Bat	<i>Carollia perspicillata</i>	0.0.2	Birth
*Ring-tailed Lemur	<i>Lemur catta</i>	0.0.5	Birth
*Cotton Top Tamarin	<i>Saguinus oedipus</i>	0.0.1	Birth
*Maned Wolf	<i>Chrysocyon brachyurus</i>	2.2.0	Birth
Meerkat	<i>Suricata suricatta</i>	0.0.5	Birth
*Persian Onager	<i>Equus hemionus onager</i>	1.0.0	Birth
*Père David's Deer	<i>Elaphurus davidianus</i>	0.1.1	Birth
Giraffe	<i>Giraffa camelopardalis</i>	1.0.0	Birth
*Lowland Anoa	<i>Bubalus depressicornis</i>	1.0.0	Birth
Congo Buffalo	<i>Syncerus caffer nanus</i>	1.0.0	Birth
*American Bison	<i>Bison bison</i>	0.1.0	Birth
*Bongo	<i>Tragelaphus eurycerus</i>	1.0.0	Arrival
*Scimitar-horned Oryx	<i>Oryx dammah</i>	0.1.0	Birth
Gemsbok	<i>Oryx gazella gazella</i>	1.0.0	Birth

## BIRDS

*Malayan Crestless Fireback	<i>Lophura e. erythroptalma</i>	0.0.1	Hatched
Rock Dove	<i>Columba livia</i>	0.0.2	Hatched
*Pink Pigeon	<i>Nesoenas mayeri</i>	1.1.0	Arrival
Diamond Dove	<i>Geopelia cuneata</i>	0.0.1	Hatched
*Mountain Witch Dove	<i>Geotrygon versicolor</i>	0.0.1	Hatched

## BIRDS—continued

*Golden Heart Pigeon	<i>Gallicolumba rufigula</i>	0.0.2	Arrival
*Mount Apo Lorikeet	<i>Trichoglossus johnstoniae</i>	0.0.1	Hatched
*Splendid Parakeet	<i>Neophema splendida</i>	0.0.2	Hatched
Black-cheeked Lovebird	<i>Agapornis nigrigensis</i>	2.2.0	Arrival
*Spectacled Owl	<i>Pulsatrix perspicillata</i>	0.0.2	Hatched
*Tawny Frogmouth	<i>Podargus strigoides</i>	0.0.1	Hatched
African Pied Starling	<i>Spreo bicolor</i>	0.0.3	Hatched

## REPTILES

*Yellow-footed Tortoise	<i>Geochelone denticulata</i>	1.1.0	Arrival
Bearded Dragon	<i>Pagona barbatus</i>	0.0.17	Hatched
Thailand Water Dragon	<i>Physignathus cocincinus</i>	0.0.3	Hatched

## AMPHIBIANS

*Yellow Striped Poison Arrow Frog	<i>Dendrobates leucomelas</i>	0.0.5	Metamorphosed
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## FISH

*Red-tailed Catfish	<i>Phractocephalus hemiliopterus</i>	0.0.2	Arrival
*Tiger Shovel-nosed Catfish	<i>Pseudoplatystoma fasciatum</i>	0.0.1	Arrival
*Fox Face	<i>Lo vulpinus</i>	0.0.1	Arrival

Key: Col. 1=Male. Col. 2=Female. Col. 3=Young or unknown \*Rare/Endangered