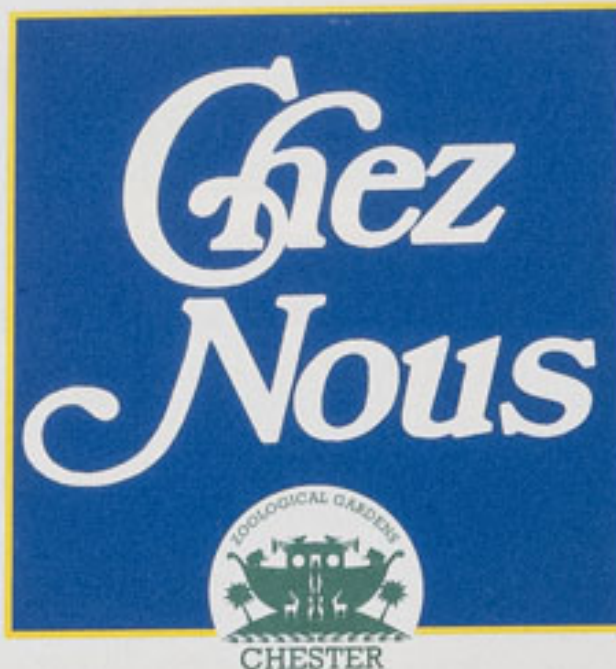




**Autumn 1997**



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 Editor: Pat Cade

**T**raditionally, good zoos apply much of their conservation efforts to the breeding of rare and endangered species.

However, establishing the exact conservational status of any one of the hundreds of different kinds of animal that we support in the zoo is, as I have discovered, no easy task. How do we know what is 'rare and endangered' in the collection and what do we mean by these terms? I well recall the 1992 Annual General Meeting of Zoo Members when Vice Chairman Hamilton Howatt (*see page 5*) shrewdly posed this particular thorny question. At that time I could not provide any very definite answers and felt distinctly uncomfortable at my lack of precise knowledge. Yes, I knew in general terms that many of our animals were threatened in the wild but exactly how many and why? After the meeting I discussed the situation with curators and keepers and trawled through the available literature for nuggets of information. Much to my surprise, I did not find that any other zoo had thoroughly reviewed their entire collection in terms of conservational status.

Hence Chester began to develop a detailed appraisal system of its own where we assessed all of our species holdings against various international codes. In doing this we found a bewildering array of different categories of endangerment, each with its own precise (or sometimes not so precise!) definition. We searched through Conservation Assessment Management Plans or 'CAMPs' available from the IUCN/SSC Conservation Breeding Specialist Group (an international body of which we are a member) and referred to information on threatened animals available through CITES, the Convention on International Trade in Endangered Species. We then adopted the twelve different formal categories which are



most widely used in the zoo and wildlife community and officially recognised by the World Conservation Union (IUCN) and Birdlife International (ICBP), i.e. Commercially Threatened (CT); Critical (C); Declining (D); Endangered (E); Extinct (Ex); Indeterminate (I); Insufficiently Known (K); Localised (L); Near Threatened (NT); Rare (R); Threatened (T) and Vulnerable (V). In this scheme, for example, 'endangered' refers to animals (and also plants) that are in immediate danger of extinction in the wild and 'critical' means they are facing a very high risk of extinction. 'Rare' species include those which have small world populations (such as a species of bat only found in one cave or an alpine plant restricted to a single rocky outcrop). While not necessarily endangered at the moment these rare species are clearly likely to become endangered if any negative factors (e.g. pollution, poaching) cause a decline in their natural population.

To complicate matters, in 1994 the World Conservation Union created a new system of categories and criteria for placing species on the IUCN Red Lists of rare and endangered species. This was developed by Dr Georgina Mace of the Institute of Zoology and Dr Russell Mittermeier of the IUCN Species Survival Commission. The amended listings which resulted were first published in 1996 and Chester has, via the Zoo Annual Reports, aimed to progressively incorporate the new system into its own assessments. Sadly, it is now thought that at least 25% of all known mammal species are threatened with extinction, as are 11% of birds, 20% of reptiles, 25% of amphibians, 34% of fishes and a high (but so far undetermined) percentage of invertebrates. One notable feature of the new system is that accurate estimates of the wild population size and the necessary level of genetic variability are now a prime consideration; together with the degree of fragmentation of a population and the rate of decline over a ten year period.

This new emphasis is particularly important for zoo breeding programmes

which - often with comparatively small groups of animals - have to be carefully managed in the long term to maintain 'genetic vigour' and avoid 'inbreeding depression'. Ultimately, we aim to develop the capability of supporting a wild population when needed or, in cases of extinction, to substitute for the lost population by reintroducing zoo bred animals when appropriate.

**From the latest Red List statistics indicated above it is clear that the role of zoos as a 'conservation backstop' will become increasingly important. We currently hold 246 conservationally sensitive species (representing all major animal groups) which represents close to 50% of our entire livestock holdings!**

Of these, 6 species are extinct in the wild, 36 are critically endangered and 46 are vulnerable. By October 1997 the World Conservation Union hopes to have completed a major review of the new Red List categories and criteria. Chester Zoo will be among the many IUCN members and partners who have made their views known.



♦ *Persian Leopards - one of the many endangered species bred at the zoo.*

♦ *Front cover: Black Rhino Pangani with her calf Kitani born in June this year. The father is Quinto, and both parents came to Chester five years ago from Zurich Zoo. Kitani is their first offspring.*

*Photograph courtesy View Finder Pictures, Chester.*

# MEMBERS' MEETINGS

## 1997/98

**Saturday 11 October 1997** - 2.30 pm in the Lecture Hall. Brian Ford - Recreating the Dawn of Zoological Microscopy.

**Saturday 8 November 1997** - 2.30 pm in the Lecture Hall. Derek Lyon - A Year in the Life of the Zoo Vet.

**Saturday 13 December 1997** - 2.30 pm in the Lecture Hall. Stephen McKeown - Mokwepa and the Lightning Lizard. Chester Zoo's Head of Education talks about education with animals.

**Saturday 10 January 1998** - 2.30 pm in the Lecture Hall. Tony Ord - Pandas and the Mountains of Sichuan

**Saturday 14 February 1998** - 2.30 pm in the Lecture Hall. Dr Roger Wilkinson - Northern India - Mainly Birds. Travel Tales from the Zoo's Curator of Birds.

**Saturday 14 March 1998** - 2.30 pm in the Lecture Hall. Nick Ellerton - Can we afford to love our animals to death? Managing for the future and why we have to move some of our favourite animals. Are we right or wrong? Questions posed by the Zoo's Curator of Mammals.

**Saturday 25 April 1998** - 2.30 pm in the Lecture Hall. Dr Gordon McGregor Reid and Zoo Staff - Zoo Review. AGM date to be confirmed.

## MEMBERSHIP SUBSCRIPTION RATES - PRICE REVIEW

The proposal for a new rate of membership subscription was agreed by members at the Annual General Meeting held on Saturday 7 June '97. The new rates, effective from 1 July this year are:

Annual	under 65 years	£35
	65 & over	£25
Joint	both under 65	£61
	one under 65 both over 65	£54
Junior	3 - 17 years	£13.50

## ADOPTER DAYS 1997

As a special 'Thank You' for your support, adopters are invited to come along to one of our Adopter Days on Sunday 19th October or Saturday 25th October. This is your opportunity to enjoy a day at the zoo and have a chat with the keepers about the animals in their care.

Your invitation is enclosed with this magazine - we look forward to seeing you!

## NEW BRANCH

The Royal Geographical Society, Cheshire and North Wales Region, will be holding their inaugural meeting on Wednesday 29 October at 7.30 in the zoo's lecture hall. The title of this first meeting is *The Rainforest Road Show. An exploration of rainforests, their wildlife and indigenous cultures.* Everyone is welcome to the meeting, and there will be a special concessionary entrance fee of £2.00 for Chester Zoo Members.

Further details from Graham Pollard, 01270 501080.

## MEMBERS' PRIVILEGE VOUCHERS

With immediate effect, new members of the Society will receive four half-price vouchers on joining. Existing members who renew their subscription on time will be issued with eight vouchers. Members allowing their membership to lapse by one month or more will be considered new members, and receive four vouchers only. The allowance of 20 pre-paid half price tickets is unaffected by this change.

## CAR PARKING FOR MEMBERS

We get many comments from members on the shortage of parking space in their designated car parking area when the zoo is busy.

The zoo can park only about 6,000 cars at best, and we now have 7,000 adult members! We simply cannot guarantee that there will always be a place for every member in the special area. Our advice is - come early!

## CHANGE OF COUNCIL MEMBERS

At the AGM in June, six Council members were elected. Nick Wilson and Pat Wisniewski were re-elected and Brian Livingstone and Brian Coles join Council again after a break. The Society welcomes two new members to Council - John Brown, who works for Shell UK and Graham Pollard, an animal consultant.

Thanks are due to retiring members Hamilton Howatt, Elizabeth Livingstone, Rennie Barnes, and Brian Moffet (who retired during the year).

◆ Top right: John Brown Below: Graham Pollard

## SOUTH AFRICAN SAFARI MAY | JUNE 1998

In response to a considerable number of requests, we are again working with Diplomatic Travel to take an accompanied photographic safari to Africa - but at a considerably lower cost than our de-luxe October '97 Tanzanian safari. At the time of going to press, details are still being finalised, but will be on the following lines:

- 11 day safari to South Africa for under £1,500, including most meals, in May/June 1998
  - Fully accompanied by a senior member of the zoo staff
  - Scheduled airline travel
  - Accommodation in international class accommodation including the world famous (especially for rhinos) Hlubluwe Umfolozi Game Reserve.
  - All of the Big Five are in the areas, as are cheetah and wild dogs
  - Ranger accompanied game drives and walks
  - Optional Indian Ocean scuba diving and river boat cruises on Lake St Lucia
  - Add-ons available to Kruger National Park, Cape Town and Victoria Falls.
- For more details, contact (office hours) Julie Whitear, Director's Assistant - Telephone 01244 380280 Ext201, or Barry & Margaret Harding, telephone 01825 740262.

## LAST CHANCE TO BOOK FOR TANZANIA

A few places remain on the October '97 Safari. Ring now for details.

## CHESTER ZOO

Winning names from recent draws:

May '97	Mr W. Bevan	£100
	Mr D. Gellvear	£50
	Mrs M. Riley	£50
	Mr G. Hilton	£50
June '97	Mrs L. Hughes	£1,000
	Dr. M. Brambell	£100
	Mrs J. Butler	£50
July '97	Mr. J. Whitby	£50
	Mr & Mrs J. Mosiewicz	£100
	Miss A. Tillman	£100
	Mrs B. Twist	£50
	Mrs S. Thomas	£50

Membership of the '100 Club' is still open - please contact Alan Sykes at the zoo for details.





## Who's Who?

Do you have difficulty identifying the individual elephants at the zoo? Then spend a few minutes studying the new identity signs and photographs along the side of the elephant island. You'll soon be able to tell your Chang from your Jangoli!

## It's Baby Blair

After a late night watching the General Election results, the keepers arrived at the giraffe section to find a new arrival. As the calf - a male - had been born on the first day of the new government, they decided to call him Blair!



## Zoo Federation Awards

At the AGM of the Federation of Zoos, held at Whipsnade this Summer, Chester Zoo picked up five awards. The overall Zoo Marketing Award came to Chester, plus two commendations in this section. Education Division won an award for their training packs and Animal Division received a certificate for husbandry and breeding of the Tadpole Shrimp.

## Out-of-School Education



Zoo Education staff and volunteers were awarded a 'Green Leaf Award' by the Agenda 21 group at this year's Cheshire Show. This was in recognition of 'contribution to the improvement of Cheshire's environmental performance.'

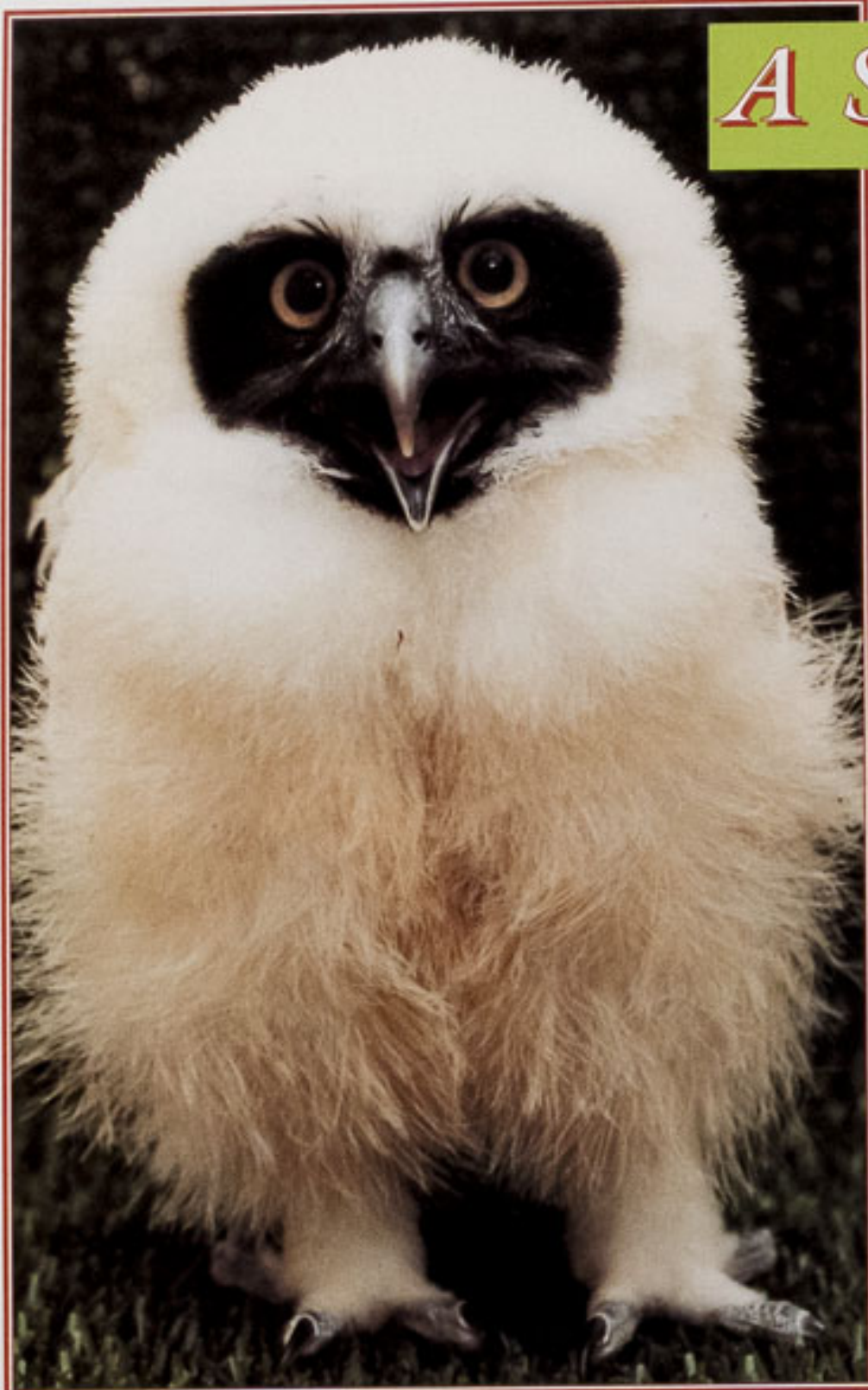
The display was based on the worldwide threat to the big cats, using text, artwork, skeletal material and other bio-artefacts.

The children and staff of Acresfield Primary School worked with the zoo's education division to mount a parallel display of artwork, creative writing, technology and mathematics with a 'Noah's Ark' theme which was impressive enough to earn them a 'Highly Commended' award from the show's judges.

The team of zoo volunteers was, as ever, on hand throughout the show to help with the setting up of the display and interaction with visitors, so spreading the message about what the zoo has to offer. The photograph shows volunteers Ivy Thompson and Peter Duxbury with the Green Leaf Award.



◆ Council Vice Chairman Hamilton Howatt retired from the post at the zoo's AGM in June. At a small farewell party following the meeting, Council Chairman Mrs Bea Jones, thanked him for his help and support, referring to him as 'My favourite Vice!' Photograph shows Hamilton Howatt, centre with Bea Jones and Director Gordon McGregor Reid



## A Spectacular Bird

This young Spectacled Owl chick has been hand reared by keeper Roger Merry. It enjoys sitting in the aviary kitchen, supervising the food preparation! Youngsters like this are 'negatives' of the adults, the fluffy white head being a clear indication of its immaturity. These beautiful birds of prey are at risk in their native South America because of deforestation.

## Silver Medalist

As reported in the Spring issue of Zoo Life, Senior Keeper Dave Brunger has won the top award in the City and Guilds Animal Management 'Medals for Excellence' scheme. Dave is pictured below (right) collecting his award from Kathleen Tattersall, Chief Executive of the Northern Examinations and Assessment Board. Also pictured is the zoo's Curator of Mammals, Nick Ellerton.



## Theme Evenings in the Oakfield Restaurant

There's still time to book for the last two of this year's theme evenings, before the restaurant is taken over by Christmas - see page 19.

**On Saturday 5 October**, there's a Chinese Banquet - great value at just £15.95. The menu includes delicacies such as grilled five-spice chicken; Shanghai spare ribs; crispy duck with kiwis and honey and sherry dressing; and exotic sounding sweets such as candied water chestnut fritters with rose-scented sugar!

**On Friday 14 November**, it's across the border to the place referred to by our Director as 'God's own country'. As poet Lils Emslie once wrote - 'One

often yearns for the land of Burns - the only snag is - the baggis!' Our chef knows there's a lot more to Scottish cuisine than the famous mixture of offal! For instance - casserole of venison with prunes and pickled walnuts. The Scottish Evening price is £14.95 for four courses plus coffee and butter shortbread.

**For table reservations  
and menu details  
contact the  
Group Sales Office  
on 01244 650209.**

## Out with the Ark



Face Painter Rebecca Jones, in the shadow of the Jodrell Bank telescope - just one of the many promotional trips made by the Chester Zoo Ark this Summer.

# ZOO'S THIRD GOLD MEDAL

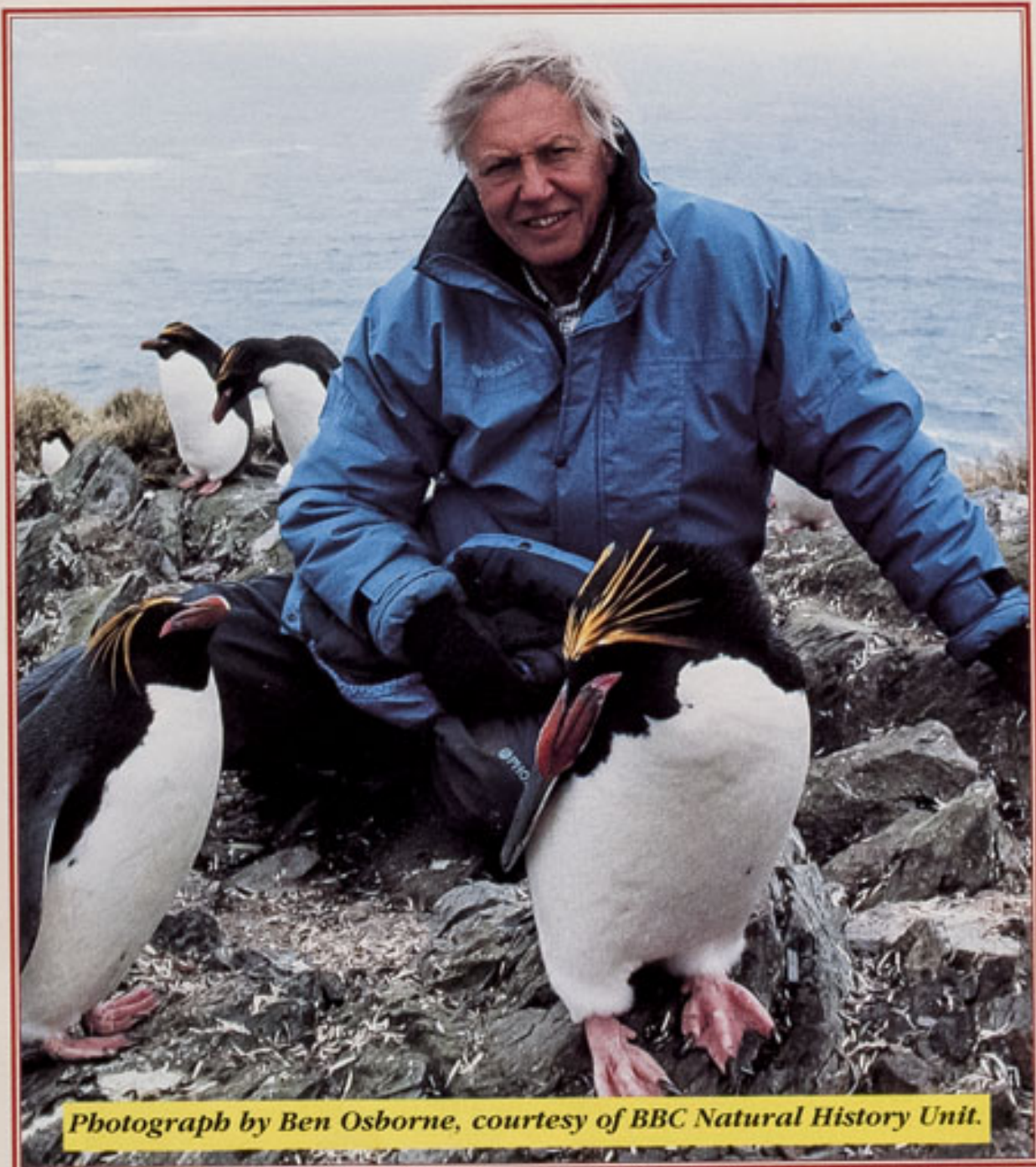
The zoo's Director and staff are delighted that **Sir David Attenborough** has agreed to accept the third Gold Medal of the North of England Zoological Society.

Sir David Attenborough, CH, CVO, CBE, FRS, describes his career as 'naturalist, traveller, broadcaster and writer.' He is, of course, most widely known for his stunning wildlife films for the BBC. These acclaimed programmes include *Zoo Quest*; *Tribal Eye*; *Life on Earth*; *The Living Planet*; *The First Eden*; *Lost Worlds, Vanished Lives*; *The Trials of Life*; *The Private Lives of Plants* and *Life in the Freezer*. The North of England Zoological Society Gold Medal will join a very prestigious collection of awards, including the Special Award of the SFTA; the Kalinga prize, UNESCO; the International Emmy Award; Encyclopaedia Britannica Award; the Founders Gold Medal RGS; Silver Medal of the Zoological Society of London and the Livingstone Medal RSGS. He is also the author of the 'Quest' series of books and many other titles linked to his television films.

The award ceremony will be held at the zoo next year, on a date to fit in with Sir David's heavy filming schedule. This date will be published in *Zoo Life* in order to give members and adopters the first opportunity to obtain tickets.

Our first Gold Medallist is Dr Jane Goodall, in recognition of her life-long work with chimpanzees. The second is Dr Michael Brambell, retired Director of Chester Zoo.

♦ *Sir David Attenborough with Macaroni penguins during the filming of 'Life in the Freezer'.*



Photograph by Ben Osborne, courtesy of BBC Natural History Unit.

## Roofing the Rhinos . . . and extending the Alligators

The rhinos are enjoying a brighter atmosphere – they now have a new roof. The old roof was single glazed, not very efficient and had become cloudy. It has been replaced with P.V.C.u. insulated glazing panels, allowing sunlight to come through. This is better for the animals, and also allows greatly improved conditions for plants to grow in the building. The increased thermal values will also result in more comfort for the animals and substantial fuel savings. (Picture below).

The long-awaited alterations to the alligator pool are now completed, doubling the previous accommodation. The rockwork provides off-show areas for the alligators, to assist the keeping staff in managing the animals. A covered pergola and waterfall has changed the environment to a softer, more tropical atmosphere, and a more naturalistic display. (Picture below).





# That's My Boy!

*Boris, the dominant male of the chimpanzee group, is one of the zoo's high profile animals. On a rainy, windswept Bank Holiday in May this year, American writer Hester Mundis came to visit the animal she regards as her 'son'.*

**H**E may be the dominant male in the Chester chimp colony, but to me he'll always be our little fluff-ball, Boris. Oh, he may look far from a fluff-ball to the thousands of visitors who've seen him hurl his impressive 14 stone body at the viewing panels in the chimp house, but that's because they don't see him the way I do - through a mother's eyes.

When I first saw him thirty

years ago, he was lying on a blanket of shredded newspaper in a kitten carrying case in a not-so-reputable New York pet shop; a helpless, frightened and unbelievably adorable orphan with dark chocolate eyes, light mocha face - soft as doe skin - with a powder-white fuzz of a beard and outrageously comic big ears. He looked like a battery operated toy. (I expected to see a 'Made in Japan' tag on his underside.) Suddenly I was holding him and he was clutching me and neither of us showed signs of letting go. Common sense didn't enter the picture. He needed a 'mum.' I was already a working mother with an 8 year old son and couldn't see what difference a chimp would make in our lives. Needless to say, it was an eye-opening difference; Boris changed our lives completely and forever.

I even wrote a book about it called, 'No, He's Not a Monkey,

*He's an Ape and He's My Son.'*

We raised him in our Manhattan apartment for nearly three years, learning the hard - though often hilarious - way that what is OK behaviour in the jungle can be a disaster in an apartment, especially where the closest things to vines are drapes, and pole lamps are easily mistaken for trees. But it wasn't until I discovered that I was expecting another baby that we realised Boris needed - and deserved - a permanent home of his own, with his own. We researched all the zoos in the world (literally!) and Chester Zoo was like an answer to our prayers.

Not only had numerous animal authorities lauded it for its excellence, especially in its treatment of apes, but Mr Mottershead himself assured us that Boris would have a home at Chester for life.

As heart-wrenching a decision as it was to part with our 'little

lad,' it has provided him with the best of all possible worlds - and given me quite a few 'grandchimps' to boast about.

It had been 15 years since my last visit to see Boris, but on 5th May this year we were reunited for the third time since his arrival at Chester in 1969. I'm thrilled to say he looked handsomer than ever! I realised that 15 years was a long time between visits and a lot had happened in both our lives, so I'd brought his favourite raisins and marshmallows from the United States to spark memories that could help him remember our connection.

At first it looked as if his only interest was in the food. But as I called out to him, using phrases he once knew, such as 'What do you think of that?' and 'Give me a kiss!' his attention became more focussed on me. He hooted several times. I used to know what every one of his grunts and hoots meant when he was a baby, but this time I wasn't sure. (Indeed his voice had grown a lot deeper.) But when he went inside the chimp house, he stared at me through the glass.

For a long moment, we held each other with our eyes - mine, of course, filling with tears - and in his gaze there was a glint of recognition, a perception of something special between us. He might not have remembered me as his 'mum' but he remembered *something* - and that meant everything to me! As we were walking away, I turned for one last look back. Now, I might have imagined it - or it might have been the tears in my eyes - but his arm was outstretched and I could have sworn he blew me a kiss goodbye.

Some of Hester's early snapshots of Baby Boris

- ◆ (Top) Hester attends to a little personal grooming
- ◆ (Centre) Boris with big 'brother' Shep.
- ◆ (Bottom) Under the table was a favourite hiding place!



# MAGNIFICENT MONKEY ISLANDS!

**F**OUR monkey species have now taken up residence in what we believe is Europe's finest accommodation for these endangered animals.

The old monkey house has been completely stripped, extended and refurbished. Three huge islands, surrounded by water, have been constructed and landscaped with plants, trees and waterfalls.

Inside, new, innovative, multi-media interpretation has been designed, giving the atmosphere and sounds of a tropical rain forest. Around the islands, there are adventure play units, inviting young visitors to 'ape' the antics of the monkeys in a safe way.

The species are Mandrills, Colombian Spider Monkeys, Lion-tailed Macaques, and Sulawesi Crested Macaques. The Mandrills - three females, one male and one infant - are new to the collection. They are found in West and Central Africa.

There are eight Colombian Spider Monkeys - five females, one male and two youngsters. The Lion-tailed Macaque



▲ Climbing trees in the summer sunshine is a wonderful activity for adolescent Sulawesi Macaques.

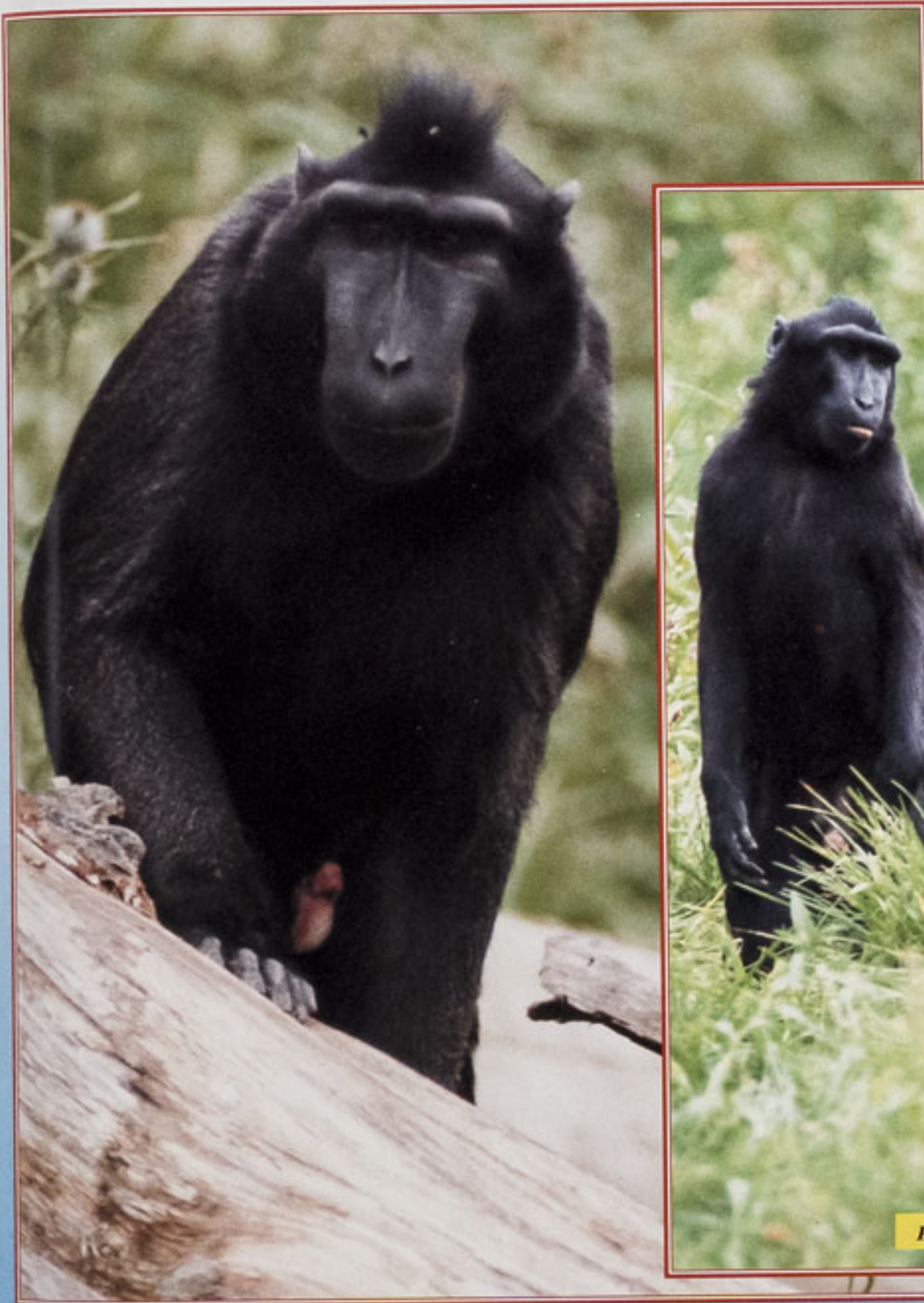
group - native to Southern India - is the smallest, with two females and one male.

The largest group is the critically endangered Sulawesi Crested Macaques, from Sulawesi Island in Indonesia. There are five males, six females and two youngsters. There has been a 70% decline in this species over the past 15 years, and we hope that we will have a successful breeding programme with the group.

◀ An aerial view shows the extent of the Monkey Islands - indoor and outdoor areas



Photograph by Van Rbijn Aerial Photography.



◀ Sulawesi Macaques make their first investigations of their new spacious outdoor home.



Photographs courtesy View Finder Pictures



▼ A corner of one of the three islands, showing the cascading waterfall.



▲ Our multi-talented ground staff needed to take to their boat to wire the island. This photograph was taken by Member Gordon Watson.



◆ *Upali, who will be three years old in November, arrived at Chester from Zurich Zoo in May. He was given a very maternal welcome from this trio of females known to the elephant staff as "The Women's Institute!" – from the left, Jangoli, Upali, Sheba and Maya. The fourth member of the Institute is Kumara – not pictured.*

*Photograph courtesy the Staffordshire Sentinel.*

***The Ladies Welcome 'Upali'***

**Zoo  
Member  
David  
Barnaby  
asks  
himself  
if he is  
guilty  
of  
ignoring  
the  
onager!**



## BLESSED WITHOUT STRIPES?

**I** READ these words in the 1996 Chester Zoo Annual Report: *"The onager herd produced one male and two female foals. This species of wild ass, though endangered, has never received the attention it deserves in management programmes. If it had been blessed with a few stripes, I am sure that everybody would show an interest in this wonderful animal!"*

The words were part of Nick Ellerton's Mammal Report.

Oh dear. Here I was, an unashamed equid enthusiast, fascinated by the varying stripe patterns in the zebra sub-species, suddenly wondering if I was guilty.

My favourite walk round the zoo begins with the zebras, goes past the Asian Plains and round the paddocks with pauses at all the hoofed animal enclosures. Was I among the many who had not given the onagers their due? Possibly.

There is truth in the quoted words. In conversation with the Curator of Mammals, the point about the onager's lack of stripes equating with its lack of limelight seems to take on more weight as the talk progresses. Note that in the quotation above, not only the general public ('everybody') is castigated, but zoos themselves in their

management programmes.

Onagers are Asiatic wild asses. They do have one stripe. The dorsal stripe continues backwards and unbroken from the mane. It is chocolate brown in colour with a narrow white band on each side. It gets wider towards the rear and runs straight into the tail. Before the moult, when the hair is longer, this remarkable stripe joins the top of the head to the tip of the tail in a distinctive woolly band.

The stripe seems even more prominent in the woolly coats of very young foals. But for some reason, dorsal stripes do not register in the human scale of attractiveness. (Zebras, too, have dorsal stripes, equally unnoticed.) The onager is perceived as a plain animal. It does not even have the single cross stripe from the African wild ass.

In spite of its delightful white and cream colouring, the onager still closely resembles the domestic ass and so rests with the more anonymous of the zoo animals. It is rarely at the top of the visitors' 'wanted' list.

We can't really blame the zebras for having attractive stripes. For generations zebras have been shot in their thousands for their coats. Certain zebra species and subspecies have been either reduced or shot to

extinction. In spite of this, Plains Zebras as a whole are not endangered. In my opinion, we take the zebra for granted because it is so obvious and perhaps we overlook the onager because it is not obvious enough. Both are undeniably beautiful animals; one suffering from over-exposure, the other from under-exposure.

The range of the Asiatic asses stretches eastwards from Syria to Tibet. Across the whole range there are expected local variations in size and colour but, on the whole, one Asiatic ass resembles another in a general way. The asses' range includes quite a geographical variety of human language communities. It is here that some of the confusion regarding the precise taxonomy of wild asses may arise.

According to where you are, an Asiatic ass may be called an onager, a kulan, a kiang, a dziggetai, a ghorakar and other names, all of which have variable English spellings. The very names might suggest distinct subspecies or even separate species. Match these varying names with local variations in size and colour and the case for separateness is strengthened. There is a parallel with the Plains Zebras here: over 20 different subspecies of Plains Zebra have been

suggested at various times. The truth is that these zebras follow a cline, which one can perhaps cut up into as many bits as one wants. Whether this is the case with the onagers and the kulans and the rest is not yet quite so clear. The imminent results of some European research may lump them all together or clarify the boundaries of separateness. It just may work out that the main differences between an onager and a kulan is that onager is a word of Greek origin and kulan is a word of Tartar origin! The word 'onager' is used in translations of the Bible to refer to the wild asses in biblical lands. The same word was one of several to describe the Southern African quagga when the Europeans first came across it.

There may be a single cline; there may be more than one cline. Asiatic asses are *Equus hemionus*; the third term, denoting subspecies, is open to investigation in more species than this one. David Day's 'Doomsday Book' tells us that Syrian onager, the subspecies *Equus hemionus bemippus*, was shot to extinction by 1930. (If onagers do indeed form a single cline, could its form be bred back?)

Of the wild asses in managed populations in 1996, there were 146 onagers and 328 kulans. Only three zoos in Britain keep onagers, and animals surplus to the herd at

Chester often have to wait quite a time before being taken up by other institutions.

In the wild, a 'surplus' animal would go off and live elsewhere, eventually in another herd, thus spreading the genes and preventing too much herd stress. In managed populations, they go to another enclosure or another zoo. A surplus zoo zebra quickly finds another home. A surplus zoo onager does not.

Chester's first onager arrived in 1964, a gift from Sir Llewellyn Bart. This Summer, there are ten onagers at Chester.

They are:

- 1 Stallion *Siren* - born at Stuttgart 1986 - arrived Chester 1987
- 2 - Mare *Sabine* - born at Stuttgart 1986 - arrived Chester 1987
- 3 - Mare *Mana* - born Obervil (Austria) 1986 - arrived Chester 1989

4 - Mare *Mabel* - born Obervil 1986 - arrived Chester 1989

5 - Mare - born to Sabine - Chester 1994

6 - Mare - born to Mahel - Chester 1994

7 - Stallion *Mobawk* - born to Mana - Chester 1996 (hand reared)

8 - Mare - born to Mahel - Chester 1996

9 - Mare - born to no. 5 above - Chester 1996

10 - Mare - born to no.6 above - Chester 1997 ( a few days old at time of writing)

Clearly, all the onagers are not known by personal names. What is



much more important is that each has a studbook number. The onager studbook is kept at Berlin.

As we saw in the opening quotation, two female foals and one male foal were born during 1996. These three are currently kept separately from the main herd, partly because they are too closely related for interbreeding and partly because the young stallion is maturing and will not be tolerated by the existing herd stallion. The other seven, including the newest foal, live as a herd.

The main herd lives in the rhino section of the zoo - which, apart from the zebras, includes my favourite walk, as mentioned above, by the Sable antelopes, oryx, Przewalski horses, Père David's deer, gemsbok, and reindeer. (Have I marginalised yet more species by not mentioning them?) The walk round the paddocks

is a quiet activity. Visitors often pause and lean on the wall of the onager paddock. They look at the animals and simply accept their presence.

'What are those, Dad?' (I heard) 'Oh, some kind of horses.' Dad is right, of course. He would be equally right with the Przewalskis. Need there be more? The serenity of the scene may be enough.

We cannot all be zoologists. Not quite ignored, the endangered onager form a backdrop for a rest against the wall. I'll agree, they are too beautiful to be underrated. But they are. That is part of the magic and part of the problem.

The onagers gathered round in curiosity as I had a look at their accommodation. They came close enough for us to have a good look at each other, but maintained a definite flight distance.

The scene is not always one of serenity, however. Equids are not like that - they can be deceptive and they can even be killers.

For a reason not fully clear to humans, a group of wild equids will sometimes gather round a helpless member of another species, usually an unprotected calf, and kick it to death in a team effort.

Equid hoof trimming used to be a problem in zoos. The Chester onagers present no such problem. They have to cross a hard

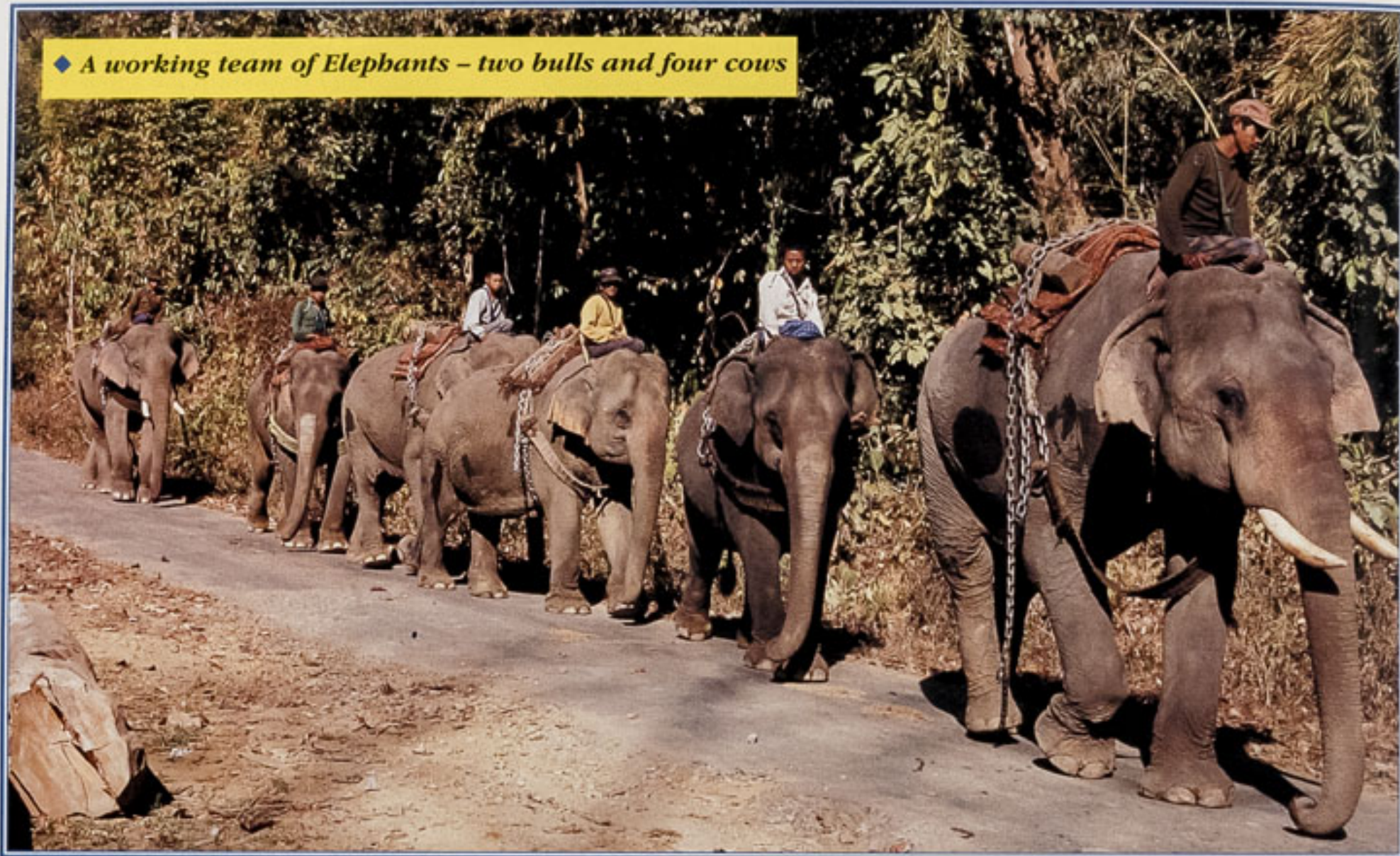
surface to go indoors. A low protein diet, as they would have in the wild, inhibits excessive hoof growth.

In anthropomorphic terms, onagers are beautiful animals: loveable in appearance; cuddly fur; big, beautiful eyes; attractive faces. The long-legged foals, cream and white like the adults, must rank among the most appealing animals that this world has to offer. Would you buy a postcard of an onager in the zoo shop?

Even the beautiful stars of show business need regular PR to keep them ahead. Politicians certainly do. Maybe onagers could use some too.

*My sincere thanks to Nick Ellerton and John Frost for their willing assistance in the preparation of this article.*

◆ A working team of Elephants – two bulls and four cows



# WORKING ELEPHANTS IN MYANMAR

**T**HE Asian Elephant Specialist Group (AESG) holds its annual meeting in one of the range countries of this species.

This year the meeting was hosted by the Ministry of Forestry in Myanmar (formerly Burma) in conjunction with the the World Conservation Union (IUCN) and the Species Survival Commission (SSC).

Of the 13 countries that constitute the range of the Asian Elephant, Myanmar supports the second largest population, making it a key player in the conservation of this wonderful animal.

Not only does Myanmar support a wild population of some 6000 + Asian Elephants but also a captive population of 5,800 animals. Of these, 2,800 are owned by the Myanmar Timber Enterprise (MTE), a subsidiary of the Ministry of Forestry.

The remaining 3,000 are in the private sector, and many of these are contracted out to the MTE for use in timber extraction.

Forest management in Myanmar started in 1856 and teak remains an important part of the economy. Myanmar

*Curator of Mammals,  
Nick Ellerton, reports on  
his trip to Myanmar to  
attend the Asian  
Elephant Specialist  
Group Meeting earlier  
this year.*

has a rural economy of 76% with a population of 43 million. Over 15,000 people are directly employed by the Forestry Department.

The use of elephants in timber extraction goes back over 100 years. Prior to the Second World War, the timber industry employed 10,000 elephants: 6,500 full grown (over 18 years old); 2,500 trained calves (5-17 years old); and 1,000 calves at heel under 5 years old.

The present captive population has a recruitment of 70-100 animals born each year. But the logging industry requires a minimum of 150 per year, if elephants are to remain sustainable in extracting timber. In the past, the additional recruitment was made up with wild caught animals.

Since 1995 the capture of elephants in Myanmar has been prohibited excepting where there is continued human/elephant conflict such as crop raiding.

It was the shortfall in elephant recruitment into the captive population, as well as habitat conservation in Myanmar, that much of this meeting concentrated upon.

The importance of continued use of elephants must not be under-estimated. Continued use will ensure that logging remains as sustainable as is possible and forest damage is kept to a minimum.

The use of elephants in timber extraction greatly reduces the need for roads into the forest. Logs are often "skidded" several miles to a road for transport to collecting stations. On the plus side this reduces much forest damage by heavy machinery; on the minus side it means that most timber is accessible.

However, in many areas of the world, clear felling has been used in order to extract timber that in the past was regarded as non-profitable due to the costs of extraction - such is the value of

hardwoods today.

To understand the low birth rate of the 5,800 captive elephants, a number of factors have to be determined: sex ratio, age class and access to bulls. Statistics for all these elephants are not available. However the MTE managed elephants are very well documented. These figures will represent a number of wild caught animals in each age class:

Total population of captive elephants at the Myanmar Timber Enterprise-

	M	F	Total
Full grown (over 17 years)	617	1025	1642
Trained calf (5 to 17 years)	470	457	927
Calf at heel (under 5 years)	114	121	235
<b>Total</b>	<b>1201</b>	<b>1603</b>	<b>2804</b>

Working elephants belonging to the MTE are subject to very strict working practices (this is often not the case with privately owned elephants). Only elephants regarded as fully grown (over 17 years) are used to drag logs and they



▲ *The small son of an oozie. Hopefully there will be elephants and forests left for him.*

are also graded into three classes. First class elephants can drag logs of 2 tons plus, second class elephants can drag logs of 1-2 tons and third class animals can drag logs of up to one ton.

Elephants in the age class of 5-17 years old are used as baggage animals and are trained to move logs during this period. Each elephant will have the same mahout or oozie for as long as either of them lives. The working season is from mid-June to mid-February, which is the wet season. It is very difficult to skid logs during the dry season.

At the end of each working day, the elephants are released into the forest to forage. Depending on the temperament of the elephant, some merely drag a chain and others are hobbled on the fore legs. The elephants are collected each morning by the oozie who may have to walk several miles to retrieve his animal. This involves waking-up at 4.00am. In



▲ *A typical logging camp*

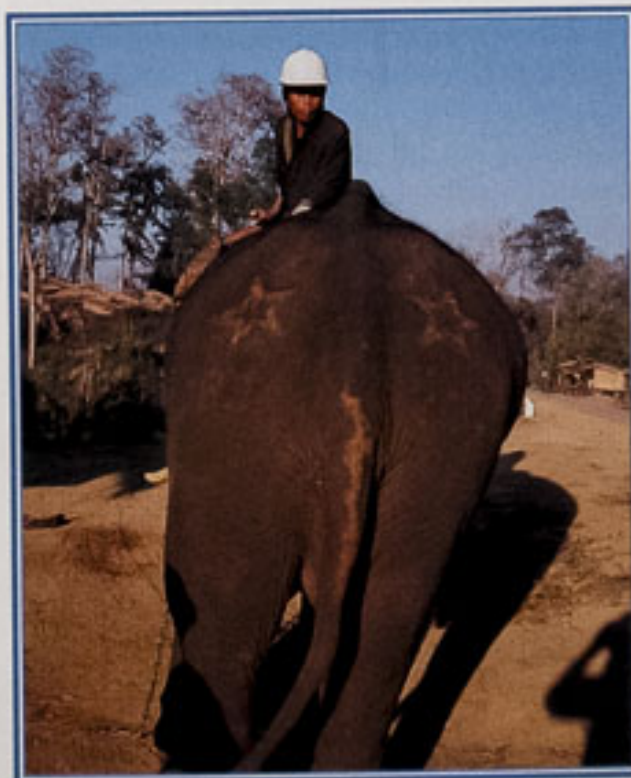
the past, when cow elephants were out foraging, they were often mated by wild bulls. Today these random matings are becoming rare events.

Poaching has reduced the number of wild bulls and a number of oozies have been killed by wild bulls when collecting their elephants. A bull elephant may well take offence if a female in oestrus is removed from him. For this reason oozies, if they know a wild bull is in the vicinity of their camp, will burn green bamboo, which lets off a loud bang, in an attempt to frighten off the bulls. Very understandable under the circumstances.

This is an obvious cause for a lower birth rate, but the captive male population is, on paper, more than sufficient to make up the short fall in wild bulls.

Why are these animals not showing the fecundity of the wild bulls? Bulls work with the cows. A typical working team consists of two bulls and four cows and the bulls are released into the forest to forage with the cows. Some factors are obvious.

Most bulls are tightly hobbled and find it difficult to mate. Bulls in musth (a period of increased sexual activity) are isolated and chained to a fixed point. There is a suggestion that the nutritional requirements after a full working day



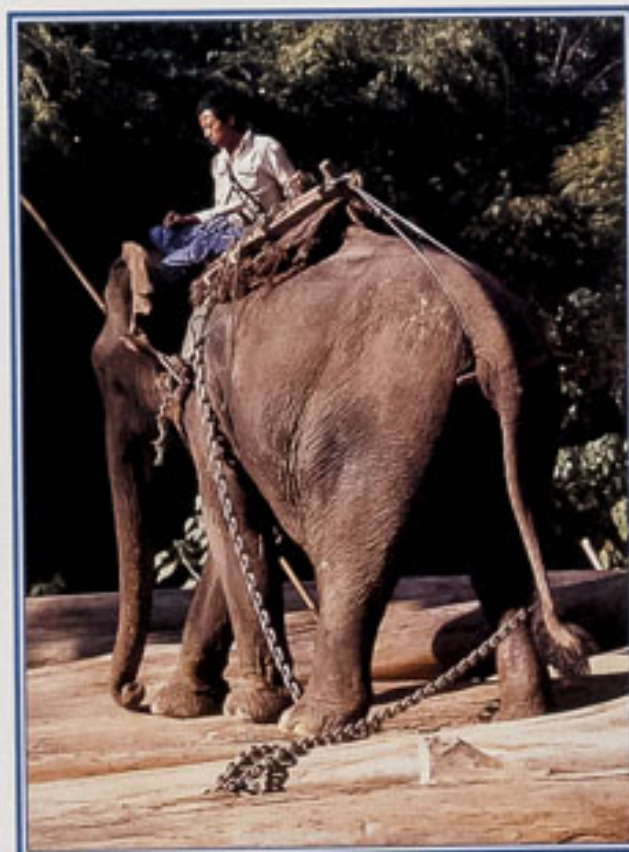
▲ *All MTE elephants carry a star and a number*

lowers the libido of the animals. Years of tight management may also reduce their libido and many captive bulls do not mate.

Both bulls and cows in private ownership are often worked extremely long hours, which must be detrimental to their overall condition. There is also still recruitment into the private sector through illegal capture of calves. This makes monitoring of the natural recruitment for this group of animals difficult to analyse.

The training of young elephants can be brutal during the early stages. These animals, in Western 'horse training' terms, are 'broken'. The physical needs of those under the care of the MTE are well catered for throughout their lives. They receive regular veterinary attention and the oozies show dedication and care to their animals.

I feel that it may well be the psychological requirements of the bull



▲ *Elephants will walk on an insecure surface. These elephants can move on substantial log piles*

elephant that need further research, if the captive bulls are to play their part in preserving the genetic viability of the working population. A research camp has been set up and the Smithsonian Institute is working with MTE vets researching artificial insemination (AI). This is a long term project with admirable goals. But somehow I feel the 'real thing' would be more productive and much better for the elephant population.

In the next issue of *Zoo Life* I will outline the problems facing the wild population of elephants in Myanmar. This was a very well organised and hopefully productive meeting with all those involved working towards the conservation of the Asian elephant both in the wild and under captive management.

I would like to thank the Ministry of Forestry and the AESG for making this meeting possible.



# A ZOO CHRISTMAS

## Christmas Journey

The Education Division are again running their delightful Christmas Journey for families. Small family groups will be taken around the zoo by one of our volunteer guides.

During the journey, you will meet both the characters and the animals involved in the Nativity Story. Father Christmas will be in the zoo with his reindeer and you will have an opportunity to visit him and receive a small gift. To complete this wonderful experience, refreshments will be served at the end of your journey.

The journeys are being run over five nights in December this year. A booking form is enclosed with this issue of Zoo Life. Places are limited and they sell out very quickly. To avoid disappointment, please return the form to Education Division as soon as you can. Please remember to indicate at least three choices on your form, in case your first and second choices are already filled.

## Christmas Shopping in the Ark

Our spacious Ark gift shop will be well stocked with a large variety of animal-themed gifts to take the stress out of your Christmas shopping! Once again, we are offering our adopters a 10% discount on all their purchases from now until Christmas Eve. (Members, of course, enjoy this perk all year round.) Just cut out the coupon on this page and present it with your purchases.

### Late night shopping

For your convenience, the shop will open between 6 - 9pm on the evenings of 5th and 12th December. None of the parking problems of shopping in city centres - just park close to the shop entrance in the main car park. Parents of Junior Zoo Members should take note that the 5th December is the night of the Juniors' party - so call in at the shop after you've delivered your youngsters to the indoor picnic area.

Present this voucher with your purchases in the ARK or FOUNTAIN gift shops in Chester Zoo for a 10% discount on all purchases in a single transaction. Valid until 24 December 1997.

*Our apologies for bringing you Christmas in September! Giving advance information a little too early is one of the problems of a quarterly magazine - our next one will be too late.*



## Christmas Meals in Oakfield Restaurant

The Oakfield Restaurant will be serving a very special Christmas lunch every day from Monday 1st - Sunday 28th December (excluding Christmas Day) and on Thursday 1st January '98. Lunch will be served between 12 noon and 3pm. As you can see, the menu includes lots of tempting alternatives for those who prefer to save the traditional turkey for Christmas Day.

A special five course Boxing Day lunch will also be available on 26th December. The cost £19.75 per person, and £11.00 for children under 11 years. New Year's Day Lunch - £15.95. Children under 11 years: £8.00.

The restaurant will also be open on several December evenings for dinner, served between 7 - 9 pm. The dates are 10th, 12th, 13th, 17th, 19th, 20th and 22nd. The menu is similar to the lunch menu, with the addition of a sorbet course, and the price is £15.95.

We welcome groups of any size from 2 - 100, and there is no charge for zoo entry for lunch or dinner guests.

Apart from the specified evening dates, we are also able to arrange a private evening party for you, catering from 40 - 70 people for a sit-down meal, or up to 100 for a buffet.

For further information and bookings, please telephone Jane or Sue on 01244 650209.

### CHRISTMAS LUNCH £12.95

Children (under 11 years) - £7.50

Mushroom Vol-au-vent  
Prawns and Smoked Salmon  
in a Marie Rose Sauce, garnished with  
Celery, Apple and Lettuce  
Winter Vegetable Soup  
topped with Fresh Cream  
Pork Satay served with Peanut Sauce and  
Salad garnish

Local Roast Turkey, with the  
traditional accompaniments  
Roast Welsh Lamb in  
Honey and Ginger Sauce  
Chef's Ocean Pie  
Vegetable Crumble

Christmas Pudding with Rum Sauce  
Chocolate and Cointreau Roulade served  
with Fresh Cream

Raspberry and Redcurrant Torte  
served with Fresh Cream  
'Capriccio Cafe' - Ice Cream Dessert with  
Caramel and Praline  
Selection of Farmhouse Cheeses

Freshly Ground Coffee  
with Chocolate Mints

# JUNIOR MEMBERS

## FRESHFIELD RED SQUIRREL RESERVE, AINSDALE Saturday 25th October 1997

We hope to be able to see the rare Red Squirrels which have made Freshfield, part of the Ainsdale Nature Reserve near Southport, their home. This should be an opportunity to get a close look at these beautiful animals and to look around the forest where they live. We will also have a chance to explore some of the sand dunes at Ainsdale so be prepared for Autumn weather and come along warmly dressed. We will leave the staff car park at 10.30 am and will be back there for 4.00 pm. Over eights are welcome to join us and everyone should bring a picnic.



## THE WILDFOWL & WETLANDS TRUST - MARTIN MERE

Saturday 22nd November 1997

November at the Wildfowl & Wetlands Trust at Martin Mere is a great time to see all the migratory birds passing through, especially the large flocks of geese and swans who stop off here at this time of year. The 'hides' at Martin Mere offer excellent views of the wild birds and we will also spend some time looking at the rare birds in the collection. We will leave the staff car park at 10.30 am and will be returning 4.00 pm. Over eights are welcome to come along and don't forget to bring a picnic.



## THE CHRISTMAS PARTY Friday 5th December 1997

Our year would not be the same without the Juniors' Christmas Party when everyone has the chance to let off steam and enjoy the fun and games of the evening. We 'take-over' the Indoor Picnic Area behind the Tropical Realm for this evening and over eights are invited along to enjoy the music, games and hot-dog supper. Please bring along a pillow or cushion to sit on!

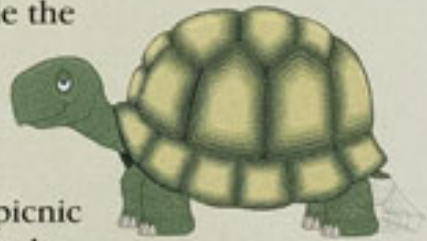


Juniors should arrive at the OLD

(Caughall Road) ENTRANCE at 7.00 pm and parents may collect from there or the party area at 10.00pm. Parents please bring a torch!

## THE CONTACT SESSION Saturday 24th January 1998

One of our most popular events during the year, when Juniors will have the chance to meet some of the Zoo's more handleable residents. Over eights should meet outside the Oakfield for 2.15 pm and we will walk to the indoor picnic area to meet the animals. These are likely to include snakes, spiders, tortoises, rats, lizards, goats, rabbits, guinea pigs, wallabies, doves, ducks, ferrets and perhaps a few surprises! Juniors will be taken back to the Oakfield for 4.00 pm to meet parents for collection.



## THE WELSH MOUNTAIN ZOO Saturday 21st February 1998

Juniors are always asking to visit other zoos, so this is your chance this year! It is a while since we have been to the collection at Colwyn Bay and there is lots to see there so over eights are welcome to join us on this visit. February can be pretty chilly up on the hill where the zoo is located so bear this in mind for our visit. The bus will leave the staff car park at 10.30 am and return there at 4.00 pm. Bring a picnic lunch.



## TRACKS & SIGNS Saturday 28th March 1998

March is usually the muddiest month of the year so this is the best time for Juniors to be let loose into some of the animal enclosures to go in search of footprints. Then starts the messy process of making plaster casts, so whilst a wonderful day is had by all, please come suitably dressed for this event in warm old clothes and wellies. We will meet outside the Oakfield at 11.00 am and will return there for collection at 4.00 pm. Bring a picnic lunch.



## WENLOCK EDGE - FOSSIL HUNTING Saturday 25th April 1998

Apart from the chance of finding some brilliant fossils in this area, the walk along the Wenlock escarpment in Shropshire, to our fossil hunting spot in the Comas Quarry, is lovely. We will be able to see the wild spring flowers coming through the grassy fields. Juniors of over eight should be ready to leave the staff car park at 9.30 am, and we will return there for 5.00 pm. Good shoes, warm clothes and a picnic will be required.

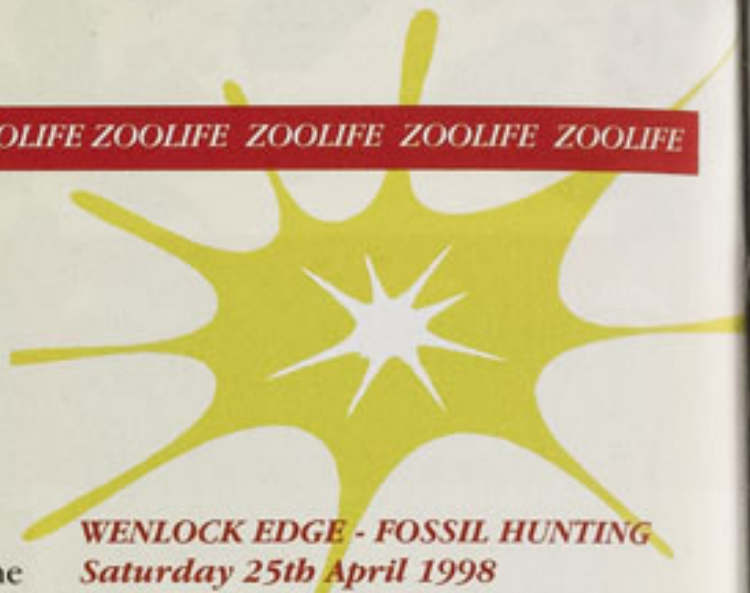
## THE WIRRAL WAY WILDLIFE WALK Saturday 23rd May 1998

This walk will follow the route of the old, now disused, railway which ran the length of the Wirral Peninsula. The 'Wirral Way' as it is now called, runs close to the Dee Estuary and we will be able to see the trees, wild flowers and butterflies which thrive here. The stretch of walk we plan to do starts at Parkgate and we will walk to Thurston Country Park where the bus will collect us. This is a walk of just over seven miles but it is not too strenuous and we have lots of time so Juniors over the age of eight who like walking are welcome to join us on what will be a very enjoyable day. Juniors should be ready (with their picnics) to leave the staff car park at 9.30 am returning at 4.30 pm.



## TREE GUARDIAN DAY Saturday 27th June 1998

A new event for Juniors, this will be an excellent opportunity for you to try out activities carried out by the Cheshire Tree Guardians. Tree Guardians are junior tree wardens, and the scheme has been set up for young people actively interested in their local trees. We will be teaming up with the Cheshire Wildlife Trust and it will be a day for us to spend in a local woodland in the Vale Royal area of the Mersey Community Forest, learning about trees and woodland habitat conservation. The emphasis will be on having fun, involving ourselves in team quizzes and tree discovery games, whilst learning more about our invaluable native woodlands. Over eights are invited to join us when the bus leaves the staff car park at 10.30 am, and we will return at 5.00pm. Please bring a picnic and wear your wellies.



# YOUR NEW PROGRAMME OF MEETINGS AND TRIPS AUTUMN 1997 - SUMMER 1998



## DAY WITH A KEEPER

Wednesday 22nd July 1998

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. The work involved is pretty strenuous, so we have to restrict this event to Juniors of twelve and over. Please come prepared for hard work, wearing wellies and with a good picnic. We will meet outside the Oakfield at 10.30 am, and the day will finish for Juniors at 4.00 pm.



## SUMMER BARBEQUE

Friday 21st August 1998

The summer barbeque is always a fun event and a great chance to be in the zoo at dusk after our visitors have all gone home. We try to vary what we do at the barbeque each year when we have a surprise event or speaker. Over eights are invited along. Juniors should arrive at the staff entrance at 7.00 pm and walk through the zoo to the Jubilee Restaurant. Parents are asked to collect Juniors from there at 9.45 pm.



## LOGGERHEADS NATURE TRAIL

Saturday 26th September 1998

This is a new event for Juniors this year, when we will be travelling into the wilds of North Wales for a visit to 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 observe the character of the geology, the river, the flora and fauna and see evidence of former lead mines. The bus will leave the staff car park at 11.00 am, returning at 4.00 pm. Over eights should aim to join us and please bring a picnic.



## MANCHESTER NATURAL HISTORY MUSEUM

Saturday 23rd October 1998

The Manchester Museum has an excellent Natural History Section (which even has quite a few live animals!) and a fascinating day will be had by all those Juniors over eight who choose to spend a winter's day in the warmth. The Museum's Curator of Zoology will talk to Juniors about how things are done there and why and this is an event not to be missed. The bus will depart from the staff car park at 10.30 am and will be returning there at 4.00 pm. You will need a picnic.

## LEIGHTON MOSS - SILVERDALE

Saturday 20th November 1998

Whilst this trip involves a fairly long journey all the way to the RSPB Reserve near Carnforth in



Lancashire, it will be a very special day. A 'must' for those of you who are interested in seeing unusual birds, especially the large numbers of those which stop off at this protected area during their long migrations in



November.

An early start for over ten year olds, when the bus will leave the staff car park at 9.00 am, returning around 5.00 pm. Very warm clothes, waterproofs and wellies must be worn for this trip, and remember your picnics.



*Bookings must be made for all events. Please ring Penny on 01244 650215, not more than two weeks before the event. It's 'first-come-first-served' and places 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 your pages each issue!*

A different kind of puzzle for you this time:

# ANIMAL DINGBATS!

Work out the answers, and send them to : Junior Puzzle, Marketing Office, Chester Zoo, Upton-by-Chester CH2 1LH. Closing date is 30th September 1997. As usual, there's a £10 gift voucher to spend in the zoo shops for the first correct entry opened.

## Summer Puzzle Answers

There was only one correct entry in the 'Match the Animals to their Footprints' competition! It was a difficult one. Nearly everyone had made the same mistake - putting the zebra's footprint onto the giraffe and vice-versa. To Corrie, Joe and Hannah from Huntington, who thought that there was no picture of a rhino print - we promise there was! Rhino prints are easy to spot, because they are like the club sign on a pack of cards. The winner is Jennifer Smith from Hoole, Chester. Well done! The answers are :

- |                   |   |                   |   |
|-------------------|---|-------------------|---|
| <i>Chimpanzee</i> | A | <i>Camel</i>      | H |
| <i>Elephant</i>   | D | <i>Cheetah</i>    | E |
| <i>Giraffe</i>    | B | <i>Zebra</i>      | F |
| <i>Lion</i>       | C | <i>Rhinoceros</i> | G |

The following dingbats and pictures all provide clues to the names of animals – for Example:

Now try these:

Panda = red panda

★ ling = emerald starling

P  
U  
Z  
Z  
L  
E  
P  
A  
G  
E

1		2	
3		4	buck
5	Fish...	6	a = i
7	ban	8	OWL
9	finch	10	ine ma r = w
11	n boa	12	Spined Spined Spined elk cits

# Snapshots from Junior Trips Earlier this Year



A touching moment at Dudley Zoo - tearless Juniors get to grips with hissing cockroaches, Giant Millipedes and leopard Geckos

Riding on the chair lift at Dudley Zoo almost made up for the rain

The trip to Liverpool Museum was a great day. This shows Juniors in the Natural History Unit.



... and a King Snake proves just as friendly!

A privileged look 'behind the scenes' in the Zoology / Taxidermy department at Liverpool Museum.



# Arrivals ○ Births ○ and ○ Hatchings ○

## MAY, JUNE & JULY 1997



◆ Lion-tailed Macaque



◆ American Bison

MAMMALS				BIRDS continued			
Red-necked Wallaby	<i>Macropus rufogriseus</i>	0.0.3	Birth	*Blue-eyed Cockatoo	<i>Cacatua opbtbalmica</i>	0.0.1	Hatched
Western Grey Kangaroo	<i>Macropus fuliginosus</i>	0.1.0	Birth	*Major Mitchell's Cockatoo	<i>Cacatua leadbeateri</i>	1.1.0	Arrival
*Rodrigues Fruit Bat	<i>Pteropus rodricensis</i>	2.0.1	Birth	*Greater Vasa Parrot	<i>Coracopsis vasa</i>	0.0.1	Hatched
Black/White Ruffed Lemur	<i>Varecia variegata</i>	1.3.0	Birth	Splendid Parrakeet	<i>Neopbema splendida</i>	0.0.1	Hatched
*Buffy Headed Capuchin	<i>Cebus apella xanthosternos</i>	1.1.0	Arrival	Derbyan Parrakeet	<i>Psittacula derbiana</i>	0.0.1	Hatched
*Lion-tailed Macaque	<i>Macaca silenus</i>	1.1.0	Arrival	*Red-fronted Macaw	<i>Ara rubrogenys</i>	0.0.1	Hatched
*Mandrill	<i>Mandrillus sphinx</i>	1.3.1	Arrival	*Blue-winged Macaw	<i>Ara maracana</i>	0.0.2	Hatched
*Red Squirrel	<i>Sciurus vulgaris</i>	2.0.0	Arrival	*Blue-throated Conure	<i>Pyrrhura cruentata</i>	0.0.3	Hatched
Coati	<i>Nasua nasua</i>	0.0.2	Birth	*Cuban Amazon	<i>Amazona leucocephala</i>	0.0.4	Hatched
*Asiatic Elephant	<i>Elephas maximus</i>	1.0.0	Arrival	*Green-cheeked Amazon	<i>Amazona viridigenalis</i>	0.0.2	Hatched
*Onager	<i>Equus hemionus onager</i>	0.1.0	Birth	*Red-tailed Amazon	<i>Amazona brasiliensis</i>	0.0.2	Hatched
*Black Rhinoceros	<i>Diceros bicornis</i>	0.1.0	Birth	Red-crested Turaco	<i>Tauraco erythrolophus</i>	0.0.2	Hatched
*Guanaco	<i>Lama guanicoe</i>	0.2.0	Birth	*Schalow's Turaco	<i>Tauraco schalowi</i>	0.0.2	Hatched
*Bactrian Camel	<i>Camelus bactrianus</i>	1.0.0	Birth	Violet Plantain Eater	<i>Musophaga violacea</i>	0.0.1	Hatched
Axis Deer	<i>Cervus axis</i>	0.0.1	Birth	Barn Owl	<i>Tyto alba</i>	0.0.1	Hatched
Reindeer	<i>Rangifer tarandus</i>	2.3.0	Birth	Tawny Frogmouth	<i>Podargus strigoides</i>	0.0.2	Hatched
*Kafue Flats Red Lechwe	<i>Kobus lechwe kafuensis</i>	3.0.0	Birth	Kookaburra	<i>Dacelo novaeguineae</i>	0.0.2	Hatched
*Blackbuck	<i>Antelope cervicapra</i>	3.0.4	Birth	Grey Hornbill	<i>Tockus nasutus epirbinus</i>	0.0.1	Hatched
*Arabian Gazelle	<i>Gazella gazella arabica</i>	0.2.0	Birth	*Wrinkled Hornbill	<i>Aceros corrugatus</i>	0.0.1	Hatched
*American Bison	<i>Bison bison</i>	0.0.1	Birth	White-rumped Shama	<i>Copsychus malabaricus</i>	0.0.2	Hatched
<b>BIRDS</b>				Plumbeous Redstart	<i>Rhyacornis fuliginosus</i>	0.0.3	Hatched
*Common Rhea	<i>Rhea americana</i>	0.0.1	Hatched	Pekin Robin	<i>Leiobrix lutea</i>	0.0.4	Hatched
*Humboldt's Penguin	<i>Spheniscus humboldti</i>	0.0.3	Hatched	Silver-beaked Tanager	<i>Ramphocelus carbo</i>	0.0.1	Hatched
*Little Egret	<i>Egretta garzetta</i>	0.0.4	Hatched	Mexican House Finch	<i>Carpodacus mexicanus</i>	0.0.3	Hatched
*Waldrapp Ibis	<i>Geronticus eremita</i>	0.0.7	Hatched	Asian Glossy Starling	<i>Aplonis panayensis</i>	0.0.1	Hatched
*Black-billed Whistling Duck	<i>Dendrocygna arborea</i>	0.0.3	Hatched	Emerald Starling	<i>Lamprocolius iris</i>	0.0.2	Hatched
Common Shelduck	<i>Tadorna tadorna</i>	0.0.6	Hatched	Royal Starling	<i>Cosmopsarus regius</i>	0.0.2	Hatched
*Ruddy Shelduck	<i>Tadorna ferruginea</i>	0.0.3	Hatched	<b>REPTILES</b>			
Falcated Teal	<i>Anas falcata</i>	0.0.4	Hatched	Malayan Box Turtle	<i>Cuora amboinensis</i>	0.0.1	Hatched
*Laysan Teal	<i>Anas laysanensis</i>	0.0.2	Hatched	Tokay Gecko	<i>Gecko gecko</i>	0.0.2	Hatched
*Garganey	<i>Anas querquedula</i>	0.0.4	Hatched	Leopard Gecko	<i>Eublepbaris macularius</i>	0.0.22	Hatched
Chiloe Wigeon	<i>Anas sibilatrix</i>	0.0.4	Hatched	Madagascar Giant Day Gecko	<i>Phelsuma madagascariensis grandis</i>	0.0.2	Hatched
*Marbled Teal	<i>Marmaronetta angustirostris</i>	0.0.14	Hatched	*Philippine Sail Fin Lizard	<i>Hydrosaurus pustulatus</i>	0.0.1	Hatched
*Meller's Duck	<i>Anas melleri</i>	0.0.3	Hatched	*Boa Constrictor	<i>Constrictor constrictor</i>	0.0.29	Birth
*Red-crested Pochard	<i>Netta rufina</i>	0.0.5	Hatched	Central American Indigo Snake	<i>Drymarchon corais melanurus</i>	0.0.2	Hatched
*Mandarin Duck	<i>Aix galericulata</i>	0.0.7	Hatched	Gaboon Viper	<i>Bitis gabonica</i>	0.0.2	Arrival
*Smew	<i>Mergus albellus</i>	0.0.4	Hatched	Green Mamba	<i>Dendroaspis angusticeps</i>	0.0.3	Arrival
Ruddy Duck	<i>Oxyura jamaicensis</i>	0.0.2	Hatched	*Aruba Island Rattlesnake	<i>Crotalus durissus</i>	0.0.6	Born
Chinese Painted Quail	<i>Excalfactoria chinensis</i>	0.0.1	Hatched	<b>FISH</b>			
*Red-legged Partridge	<i>Alectoris rufa</i>	0.0.15	Hatched	Pike livebearer	<i>Belonesox belizanus</i>	0.0.46	Bred
*Satyr Tragopan	<i>Tragopan satyra</i>	0.0.3	Hatched	Pencil Fish	<i>Nannostomus barrisoni</i>	0.0.7	Arrival
*Himalayan Monal	<i>Lophoborus impeyanus</i>	0.0.3	Hatched	Halfbeak	<i>Nomorambus ebrardti</i>	0.0.46	Bred
*Golden Pheasant	<i>Cbrysolopbus pictus</i>	0.0.3	Hatched	Lake Victoria Cichlid	<i>Haplochromis argens</i>	0.0.24	Bred
*Lady Amherst's Pheasant	<i>Cbrysolopbus amherstiae</i>	0.0.2	Hatched	Lake Victoria Cichlid	<i>Haplochromis sauvagei</i>	0.0.26	Bred
*Mountain Peacock Pheasant	<i>Polyplectron inopinatum</i>	0.0.1	Hatched	Emperor Peckoltia	<i>Hypancistrus zebra</i>	0.0.4	Arrival
Common Peafowl	<i>Pavo cristatus</i>	0.0.5	Hatched	Seahorse	<i>Hippocampus sp.</i>	0.0.47	Bred
*Congo Peafowl	<i>Afropavo congensis</i>	0.0.1	Hatched	Banggai Cardinal Fish	<i>Pterapogon kauderni</i>	0.0.3	Arrival
Northern Lapwing	<i>Vanellus vanellus</i>	0.0.2	Hatched				
Crested Bronzewing Pigeon	<i>Ocyrbaps lophotes</i>	0.0.2	Hatched				

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

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