

CHEZ NOUS



CHESTER ZOO NEWS

WINTER 1984



Nigel Hillier

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Chester

Editorial

Many of you will have heard of the Zoo Licensing Act. It was passed in 1981 and came into force in April of this year. Under its provisions every existing zoo had to apply to its Local Authority within six months in order to obtain a licence to continue to operate. In our case, we applied to the City of Chester Borough Council, and we will be inspected later this month (December).

The purpose of the Act is to see that the Public are properly looked after and are safe, and to see that the Animals are properly cared for. Rather surprisingly the welfare of the Staff does not fall within the Act! No zoo can get a perfect bill of health, for we are forever improving our own standards. Some parts of Chester are more in need of modernisation than others and no doubt we could always be making our public more comfortable and more secure.

Earlier this year a body called 'Zoo Check' came into being. It claimed its purpose was to improve all zoos and close some zoos. Its leading lights were Virginia McKenna and her husband Bill Travers, who has gone on record

as saying he wants to close all zoos. Most supporters of Zoo Check I have spoken to are as horrified as I am to find that this organisation is being hijacked from its course of improvement to a course of destruction. Too often we hear people saying that they would prefer to see animals in the wild than in zoos. This is an admirable thought for those who are not opening their eyes to what is happening in the wild. The pressure is on, and it is going to get worse. The wild is disappearing. Much of it has already disappeared. Where is the true 'wild' in Britain?

If we do not ensure that we have some very good zoos where animals can thrive and reproduce, our descendants will have a lot more than the handful of extinctions that we now mourn. It will not just be 'dead as a Dodo' but 'dead as a Rhinoceros', 'dead as a Tiger', 'dead as a Gorilla' and 'dead as a Duiker'.

Zoos are to be supported, improved, encouraged and helped.



Courtesy of Dave Pearson, Chester Chronicle

Puma kitten 'Noukoumis' listening to mother 'Pearl'

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Editorial Team

Penny Rudd *Editor*
Dr M R Brambell *Director*
M F Coupe *Public Relations Officer*

Front Cover:

The new Red-crowned Cranes from Rotterdam Zoo
Keith Freeburn, Mel Grundy Photographic Agency

Ostriches at Chester Zoo

The Ostrich is the largest living bird, males reaching a height of up to 2.75 metres and weighing up to 150 kilos.

The Ostrich is flightless and many of the features of the flying birds are reduced or not present, being replaced by adaptations which suit the Ostrich's terrestrial mode of life. For instance the wings are reduced in size and the feathers loosely structured. The pectoral muscles, which in other birds power flight, are poorly developed with no keel attachment. This lack of keel or carina places the Ostrich in that now rather unfashionable assemblage of birds known as the Ratites as distinct from the flying Carinates.

The Ostrich is well adapted for its terrestrial existence. Long legs allow long strides and the two-toed foot (reminiscent of the cloven hoof of the swift running antelopes?) permits very fast running powered by the extremely well developed thigh muscles. When necessary, an Ostrich can run at speeds of 60—70 Kms per hour. However, the powerful feet can also be used in attack, fighting and defence against predators. It would be a brave person indeed who entered the paddock with our male Ostrich! Indeed our present male had a history of attacking other animals and vehicles when in Knowsley Safari Park.

Ostriches, although formerly more widespread, are now exclusively African in their distribution; the Arabian Ostrich (*Struthio camelus syriacus*) becoming extinct in the late 1960's, reputedly as a result of direct persecution by man in that it was hunted for sport or pleasure.

Current opinion reduces the other described races to four, namely, *Struthio camelus camelus*, *Struthio camelus molybdophanes*, *Struthio Camelus massaicus*, and *Struthio camelus australis*. These are variously distinguished by differences in size, colour of bare parts and plumage, presence/absence of a bare patch on the crown, and structure of the eggshell. Unfortunately hybridization of various races, especially in South African Ostrich Farms, means that it is impos-

sible to assign many captive individuals to a particular race. This is presently the case with our own Ostriches at Chester. Females are extremely difficult to assign racially and our male, although described as 'Blue-necked' does not perfectly fit the description of any one race. This may in part reflect the fact that individual variation within a sub-species has been inadequately documented but equally may reflect a hybrid origin.

Ostriches in the wild are almost exclusively vegetarian but will take insects when available. Our adult birds are fed a diet of 80% greens (mainly lettuce and cabbage) supplemented with carrots, apples, hard boiled eggs, thin strips of meat, and Zoofood Diet A. It has been estimated that captive adults consume up to 3.5 kilos of food daily but in the summer our Ostriches feed largely on the grasses and clover in their paddock.

In arid habitats wild Ostriches may be forced to survive without water for months and possibly years but in captivity they drink freely and regularly.

The behaviour of wild Ostriches has recently been studied in detail, most notably by the Sauers and Dr. Brian Bertram, the latter being the Curator of Mammals at London Zoo. We know that there is a biased sex ratio with more females than males and that outside the breeding season family parties may gather to form large flocks. Young birds from different nests may then join up to form a creche (of up to several hundred) escorted by one or several adults. The male begins the nest scrape. The female chooses whether this is suitable. Most sites are in open situations. The 'major' hen lays 5-11 eggs on alternate days. If 'minor' hens are present,



Ostrich chicks at a few days old

Nigel Hillier

these may also lay in the same nest. In the wild, up to 78 eggs have been laid in a single nest of which a maximum of 25 may be incubated.

Incubation usually begins around sixteen days after the egg of the 'major' hen has been laid. Incubation is shared by the major hen and the male. The incubation period has been variously estimated from 39 to 46 days.

Sexual maturity is attained at 3 to 4 years, but parents abandon or drive off young at the offset of the next reproductive period — exceptionally this may occur when the chicks are only 3 or 4 weeks old but usually the family bond is maintained for about 12 months.

Reproductive success is very low in the wild. In the most favourable situations it is estimated that on average, the survival rate is only 0.15 young per adult per year (or 0.9 per nest assuming 4 minor hens with each bonded pair).

In 1983, 13 Ostriches were hatched in the Anderson Brown incubator but all failed to survive. *Post-mortem* examinations revealed various causes of death and despite considerable care and attention the longest surviving chick was reared to only 24 days.

In 1984 we decided to follow the lead of Marwell and the Cotswold Wildlife Park who had found greater success from allowing their Ostriches to parent rear rather than artificially rear them. At Marwell, the female Ostrich readily took to laying eggs in an artificial sandpit rather than distributing them willy-nilly throughout the paddock. We therefore decided to dig a similar sandpit on the paddock at Chester. Our female Ostrich started laying eggs in early March whilst we were waiting for drier weather before digging the sandpit. Her first eggs were laid at irregular intervals and we decided against incubating these but when her egg-laying continued into April (the paddock still being too waterlogged to dig



Nigel Hillier

Ostrich chicks at a few weeks old

Ostriches have been kept at Chester Zoo for over 20 years, certainly since before 1962 although from 1963 to 1969 we were without Ostriches. In September 1969 six youngsters were brought in which included our present breeding female. Our first hatching successes were from artificially incubated eggs. In 1974 two Ostriches were hatched but both sadly died at the age of two months. In 1975, again two chicks hatched but once more these also failed to survive. These partial successes were unfortunately terminated when the male parent died in 1977. His replacement in 1978 proved, in the end to be a large female(!) and a new male was not obtained until 1980. This male died in May 1982 to be succeeded by our present male in March 1983.

the sandpit) we decided, despite our past experience to once more try artificial rearing. Accordingly three eggs (others were laid but smashed on the hard floor of the indoor shelter) were set in the Anderson Brown incubator in March.

A spell of good weather allowed the completion of a sandpit in the last week of April. This measured 6 metres by 4.5 metres and the female took to this almost immediately, laying her first egg in the sandpit on the 1st May. She continued to lay on alternate days (or thereabouts) until she had completed her clutch of eleven eggs at some date between 22nd and 25th May. From the 7th May, the female was seen to spend periods of time covering the eggs and it was not possible to say exactly

on what day incubation commenced, rather incubation developed over a series of days with the female spending increasingly longer periods on the nest. On the 15th May (before completion of the clutch) the male was first observed incubating. From then onwards the incubation was shared with the male incubating mainly at night and the female mostly during the day.

The female permitted inspection of her clutch by Nick Manning who observed pipping of the first egg on the 28th June. Inspection was then kept to a minimum. Chipping out of artificially incubated eggs has been reported as taking 24 to 28 hours so it is possible that the first chick did not hatch until the 29th or 30th June. By the 2nd July, nine chicks had hatched and the tenth and final chick hatched on the 3rd July. Later inspection of the one egg which failed to hatch showed it to have been addled during early incubation.

Meanwhile, all three of the eggs which had been artificially incubated had now hatched. Following hatching, their navels were sprayed with gentian violet as a precaution against infection. The chicks were then transferred to a brooder box over which was hung an infrared lamp so that a floor temperature of 90 ° was maintained. Carpet underlay used as a substrate was changed daily and thoroughly disinfected. Water was given ad libitum from the day of hatching but no food was offered for the first 48 hours. When first offered food, the chick's pecking response was poorly co-ordinated and it was not until they were 6 to 7 days old that they were taking sufficient quantities of food. The diet offered to the artificially reared chicks and to those being parent reared was 16 parts finely chopped greens, inclu-

ding lettuce and cress, 2 parts Turkey breeder grower pellets (13% protein) and 1 part each of chopped hard boiled eggs and finely minced meat. Vionate vitamin supplement and crushed egg shells were added to this mixture and after one week old the chicks were also offered, and consumed flint grit.

At one week old the artificially reared chicks were moved from the brooder box to a large shed with adjoining outside pen. The temperature within the shed was maintained at 80 ° F and the chicks let out during the day except during bad weather. Like the parent reared youngsters, these chicks spent a great deal of time grazing on the grass and clover in their paddocks.

We feel that our success this year with both artificial and parent rearing — nine of the ten parent hatched chicks and two of the three artificially incubated chicks have been reared to independence — has been greatly helped by the dry summer weather. Wet, cold weather may well have caused problems for the incubating parents and their young on the paddocks. Certainly we would have been reluctant to let the artificially reared chicks out so early after hatching. The summer of 1984 was for us, the 'Summer of the Ostrich!'

Roger Wilkinson, (*Curator*) and Nick Manning (*Keeper*)



Nigel Hillier

Ostrich chicks at five months old, showing the dye marks on their necks used for our identification



K. W. Green

Clown Knife Fish

ARMCHAIR AQUARIUM



K. W. Green

Tiger Barbs



K. W. Green

African Knife Fish



B. Pengilly

Marbled Oscars



K. W. Green

Anemone



K. W. Green

Blue Discus



K. W. Green

Scorpion Fish



K. W. Green

Cow Fish

Paddlefish

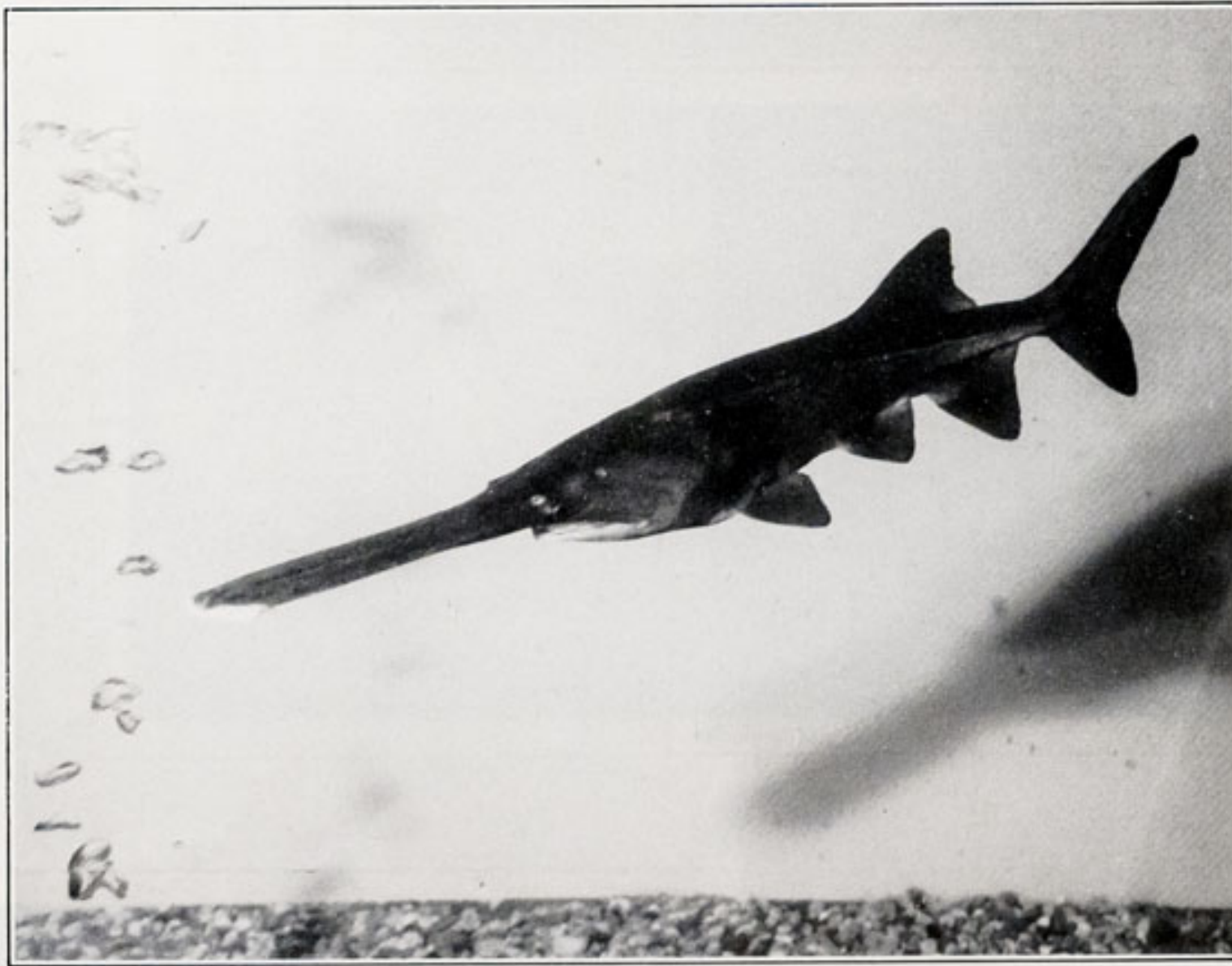
(*Polyodon spathula*)

In May this year, the Aquarium at Chester was very fortunate in obtaining four Mississippi Paddlefish (*Polyodon spathula*). The Paddlefish is a large, temperate freshwater species of fish which has existed since the Upper Cretaceous period, about 80 million years ago, which makes them a 'living fossil'.

The basic colour is a slate grey to black with the underparts a lighter grey to white. The skin is naked, that is to say it has no scales as is normal for a fish, but may have small boney platelets. One of the most interesting things about the Paddlefish is the snout, which gives it its common name. This has developed into a thin, pliable, spoon or paddle-shaped structure which can comprise of up to one third of the total body length and is two and a half to four times as long as it is wide. Adult specimens can attain a length of six feet, but most remain smaller.

close to the surface of the water where these organisms collect, and with its mouth wide open, scoops up these tiny organisms which are filtered from the water with the help of long gill spines. The flattened snout helps to channel water into the mouth.

In the aquarium they are fed daphnia, mysid shrimps, artemia, finely ground beef heart and flake food. It has been noted that when food items reach the bottom of the tank, the Paddlefish will swim in very tight circular movements and with the help of the 'paddle' and the tail, stir up the food so that it can be sieved from the water as usual. Paddlefish inhabit large rivers, lakes and stagnant waters which have a muddy sand base, so this feeding behaviour could be used to stir up the mud and release its rich zoo and phytoplankton supply.



Nigel Hillier

Paddlefish showing the 'paddle' in action

The original distribution of the Paddlefish was the entire Mississippi drainage area, from eastern Montana to Pennsylvania and New York, and south to North Carolina, Mississippi, Louisiana and Texas, and was occasionally seen in the Great Lakes region. However, today, this distribution has been much reduced. Dams, water pollution and predation have threatened populations north of the Mississippi with total extinction. The species travels great distances, generally far from shore, but migrates up current only during low water levels when strong currents are at a minimum.

Paddlefish feed throughout their lives on small crustaceans such as daphnia, cyclops, aquatic insects larvae and other small planktonic organisms. The fish swims

When we received our Paddlefish in May, they were about two to three inches long and now, six months later they are between 8 inches and 12 inches in total length and appear to be doing very well. Until this year, London Zoo Aquarium exhibited the only Paddlefish in the country, but a small number were imported by an aquatic dealer in London who kindly offered some to us. Our fish, as well as those at London Zoo, came from Auburn University in Alabama who are captive breeding Paddlefish in order to restock dwindling wild populations. If and when they have a good breeding season a small number are offered to zoos, aquaria and aquatic dealers around the world and this helps to stop any wild fish being caught for these purposes.

Snippets

New Invertebrate Display

Regular visitors to the Reptile Section of the Tropical House will have noticed that the large enclosure, previously used to display tropical tortoises and Golden Tegus has been transformed over the last few weeks (mainly owing to the enthusiasm and effort of the workers on the Youth Opportunities Scheme at the Zoo) into the Zoo's new Invertebrate Section.

When complete, this space heated area, consisting of sixteen glass tanks and one large moth enclosure, will give people the opportunity to view 'close-up' the exotically camouflaged mantids and stick insects, the much maligned tarantulas and scorpions, and also the life cycles and courtship rituals of tropical beetles. Hopefully anyone leaving the Tropical House will leave with a



Mark Boyle

Invertebrate Section

greater respect and understanding of the largest and most successful order of animals existing on this earth today.



Boa Bonus

On the 13th November we received a number of snakes which had been seized by Customs officials at Newcastle Airport. They were part of a shipment of reptiles which arrived from Guyana, South America.

We were informed that they were Boa Constrictors (*Constrictor constrictor*) but when they arrived at the Zoo it was found that only two of the snakes were Boa Constrictors and they were of a much sought after Red-

tailed variety. The remaining snakes were 17 Cookes or Golden Tree Boas (*Boa enhydris*), one female Brazilian Rainbow Boa (*Epicrates cenchris*) and a female Emerald Tree Boa (*Boa canina*).

The afternoon was spent checking all the snakes for physical damage, removing some very large ticks and probing to determine sex before finally wiping them down with antiseptic solution. We had 11 male and six female Cookes Tree Boas and have deposited 2 at Twycross Zoo and in return they have kindly let us have a Brazilian Rainbow Boa on breeding loan. We have also been able to purchase a male Emerald Tree Boa to pair up with the female, and the Red-tailed Boa Constrictors proved to be a pair!



Cliff Brett, Mel Grundy Photographic Agency

Rainbow Boa

Senior Membership News 1985

All Senior Members Meetings will be held in the Russell Allen Lecture Hall and will begin at 2.30 p.m. Members are reminded that Lunch is available in the Oakfield Restaurant before Meetings, if required.

Saturday, 12th January

Victor Manton, Curator, Whipsnade Zoo
"Breeding of Cheetahs in Captivity"

Saturday, 16th February

Peter Wait, Chester Zoo, Senior Curator
"Animals in the Zoo"

Saturday, 16th March

Ray Heaton, Member of Chester Zoo Council
"Personal View of Endangered Species"

Saturday, 27th April

Dr. M. R. Brambell, Director
Chester Zoo — A Review — 2.30 p.m.
Buffet Lunch in Oakfield Restaurant — 12.30 p.m.

**All Members of the Society are reminded
that subscriptions for 1985
are due on 1st January next:—**

Junior Members	£2.50
Associate Members	£5.00
Annual Members	£10.00

**Life Members will receive their 1985 Membership
Cards at the beginning of the year**

Junior Members' Field Trips and Meetings, 1985

The following list is the programme of events arranged for the Junior Members for the forthcoming year:—

Contact Session, Saturday, 19th January, 1985

Constant contact requests by Juniors to see some of our animals at closer quarters will be answered at this meeting. Zoo staff will be on hand with some of our friendlier residents, the most likely being Snakes, Tarantulas And Kinkajous.

Junior Members' Conference, Saturday, 23rd February, 1985.

The Conference will be held in the Lecture Hall, and will be an opportunity for Junior Members to have a say in the running of the Club, such as suggesting places they would like to visit. It will also be a chance for you to ask as many questions as possible about the running of the Zoo and to catch up on the news regarding your favourite residents. The morning will be spent on a tree-planting session in various locations in the Zoo. Allan Guy will be on hand with many rare trees for

planting. Following a picnic lunch, there will be quizzes and question-and-answer sessions in the Lecture Hall. Displays of your photographs taken in the Zoo (and of wildlife seen in the UK) will be on show. Please ring me if you would like some photos displayed.

Meet outside the *Oakfield* at 10 am.

Tracks and Signs, 23rd March, 1985

The aim of this day is to find and take plaster casts of various footprints left by animals, both native wildlife and exotic residents. Then there will be an identifying session. Brian D'Arcy will lead the event.

Meet outside the *Oakfield* at 10 am.

Fossil Hunting Expedition, Saturday, 20th April

We will be setting off to a quarry near Ludlow in Shropshire, in search of fossils. Ray Heaton and Nick Ellerton will be on hand to identify your findings and answer questions.

The bus will leave the *Staff Car Park* at 10 a.m., returning around 5.00 pm.

Cleaning Out the Sealion Pool and Other Enclosures, Saturday, 25th May, 1985.

Peter Wait, the Curator of Mammals, will be in charge of any over 12s who would like to be involved with the hard work of a Keeper's job. The Sealion Pool will be one of the areas cleaned and groups will also be sent to other sections in the Zoo to 'help out' for the afternoon. Old clothes and 'wellies' will be essential.

Please meet at the *Oakfield* at 2.00 p.m.

Junior Members' Bazaar, Saturday, 29th June, 1985.

Full details of this important event will be circulated later (look out in the '*Chez Nous*'), but the main aim will be as a fund-raising event. This Bazaar will be discussed at the Junior Members' Conference in February, so remember to keep this date free.

PLEASE NOTE THAT THIS IS A CHANGE OF
DATE FROM THAT LISTED IN THE LAST
'*CHEZ NOUZ*'

Risley Moss Nature Reserve, Saturday, 20th July, 1985

This visit to the extensive Nature Reserve near Runcorn should be popular with keen amateur naturalists. The Warden of the Reserve will show us around. Brian D'Arcy and Lorna Jenner will lead this trip.

The bus will leave the *Staff Car Park* at 10.00 am, returning around 5 pm.

IMPORTANT NOTE

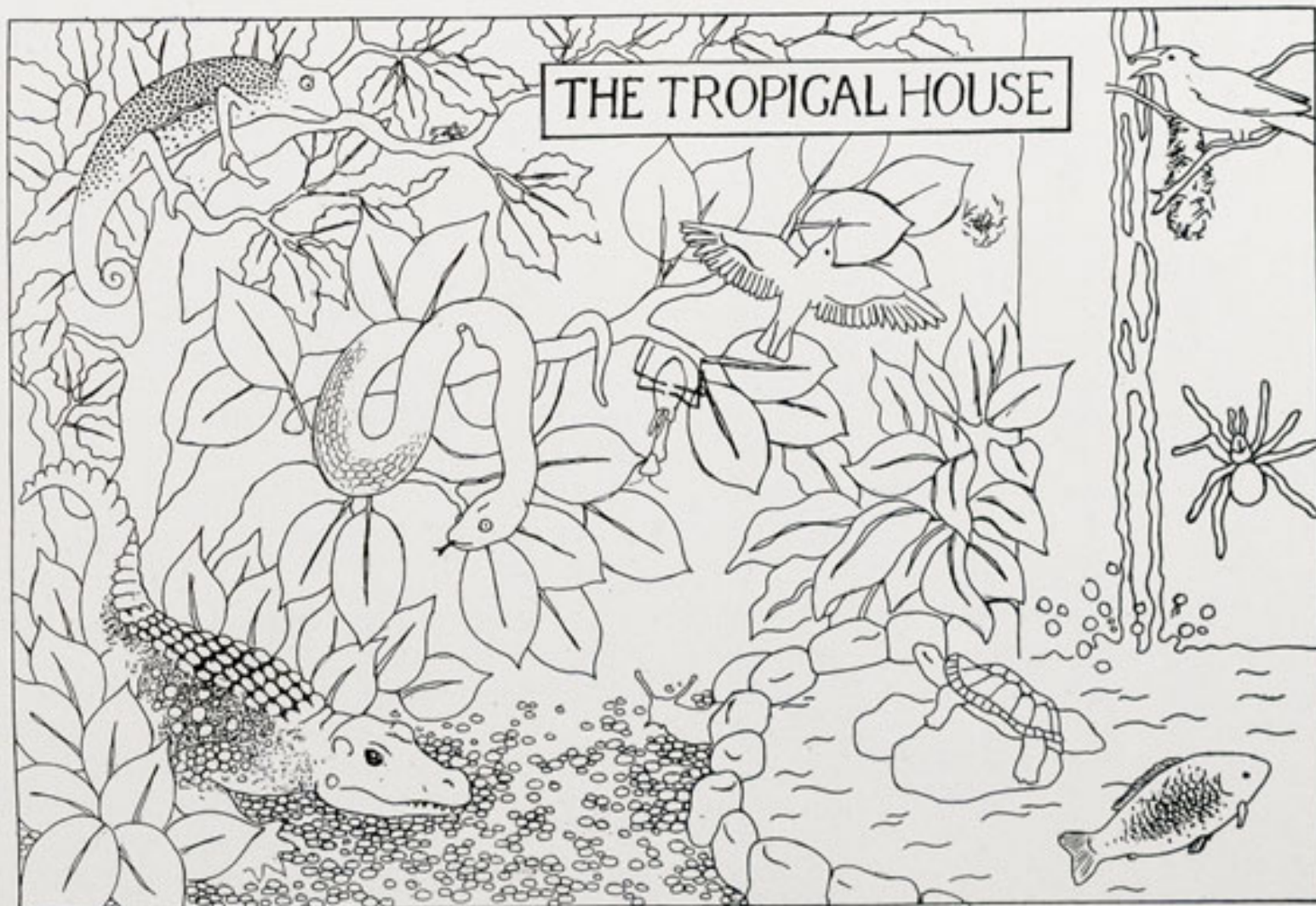
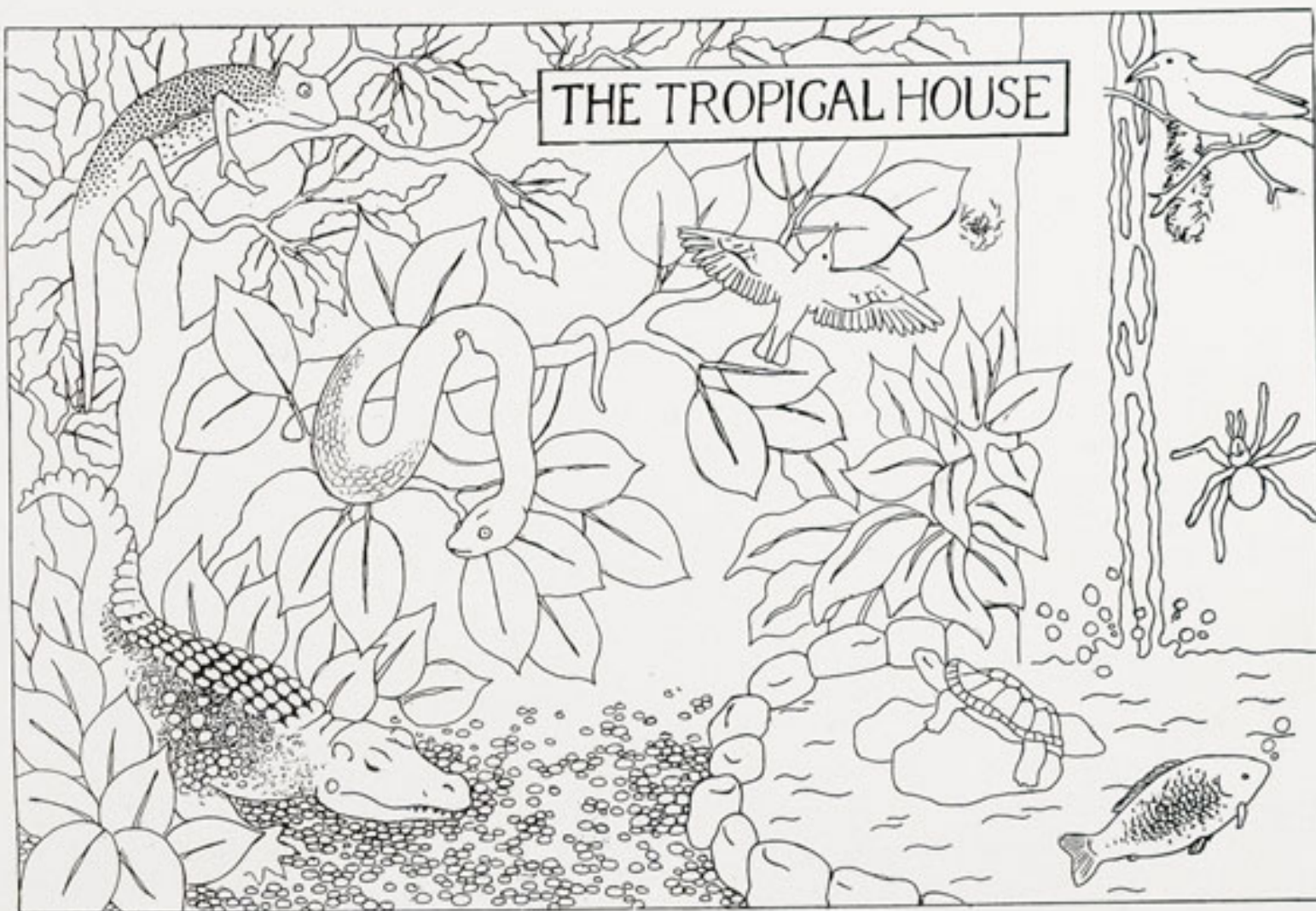
For those trips which involve the use of a bus, a charge will be made in order for us to cover the basic costs. This will be collected on the day of the trip, and will vary according to the distance travelled. There will be a small charge for events when food is arranged for you.

Juniors are asked to ring me (Penny Rudd) not more than two weeks before a meeting they would like to attend. Places are allocated on a first come, first served basis.

JUNENews



In this issue we venture into the Tropical House to 'Spot-the-Difference' between the two pictures below. There should be at least 12 differences, so happy hunting!



Arrivals and Births

- 0.0.3 Patagonian Conure (*Cyanoliseus patagonus*) Fledged
- 2.0 Hawaiian Geese (*Branta sandvicensis*)
- 2.1 Barnacle Geese (*Branta leucopsis*)
- 1.1 Ross's Snow Geese (*Anser rossii*)
- 0.3 Mandarin Duck (*Aix galericulata*)
- 2.0 Carolina Duck (*Aix sponsa*)
- 0.0.2 Common Marmosets (*Callithrix jacchus*) Births
- 0.0.1 Splendid Parrakeet (*Neophema splendida*) Fledged
- 0.0.2 Superb Spree Starlings (*Spreo superbus*) Fledged
- 0.0.1 Gnu (*Connachaetes taurinus*) Birth
- 0.0.3 Fulvous Tree Duck (*Dendrocygna bicolor*) Hatched
- 0.0.1 Swainson's Lorikeet (*Trichoglossus haematodus moluccanus*) Fledged
- 0.0.1 Lama (*Lama glama*) Birth
- 0.0.1 Hamadryas Baboon (*Papio hamadryas*) Birth
- 1.2 Domestic Donkey (*Equus asinus*) Presented
- 0.0.8 Chilean Tinamou (*Nothoprocta perdicaria*) Hatched
- 0.0.1 Zebra Dove (*Columba striata*) Presented
- 0.0.2 Common Mynah (*Acridotheres tristis*) Fledged
- 1.0 Ectectus Parrot (*Ectectus roratus goodsoni*) Fledged
- 0.0.2 Palawan Peacock Pheasant (*Polyplectron emphanum*) Hatched
- 0.0.1 Puma (*Felix concolor*) Birth
- 0.0.3 Red Lechwe (*Kobus leche*) Births
- 1.0. Lion (*Panthera leo*) Arrival
- 0.0.1 Senegal Parrot (*Poicephalus senegalus*) Donated
- 1.1 Congo Buffalo (*Synceros caffer*) On loan from Whipsnade Zoo



Congo Buffalo

Keith Freeburn, Mel Grundy Photographic Agency



Great Indian Hornbill

Cliff Brett — Mel Grundy Photographic Agency

- 1.0 Cheetah (*Acinonyx jubatus*) Presented by Knowsley Safari Park
- 0.0.1 Axis Deer (*Cervus axis*) Birth
- 1.1. Polar Bear (*Thalarctos maritimus*) From Whipsnade
- 2.2 Red-breasted Geese (*Branta ruficollis*) Purchased
- 2.2 White-faced Whistling Ducks (*Dendrocygna viduata*) Purchased
- 0.0.4 Red-billed Choughs (*Pyrrhocorax pyrrhocorax*) From Bridgemere Wildlife Park
- 0.0.1 Rhea (*Rhea americana*) Hatched
- 0.0.1 Peafowl (*Pava cristatus*) Presented
- 0.0.1 Yellow-faced Parrotlet (*Forpus xanthops*) Fledged
- 0.0.2 Caracal Lynx (*Felis caracal*) Births
- 0.0.2 American Bison (*Bison bison*) Births
- 0.0.1 White-crested Jay Thrush (*Garrulax leucolophus*) Presented
- 0.0.12 Cuban Flamingos (*Phoenicopterus ruber ruber*) Purchased
- 0.0.1 Rothschild's Mynah (*Leucopsar rothschildi*) From Mole Hall
- 1.1 Roul roul (*Rollulus roulroul*) Exchange with Harewood
- 3.3 Chinese Water Deer (*Hydropotes inermis*) From Whipsnade
- 1.0 Guanaco (*Lama guanicoe*) Birth
- 1.1 Channel-billed Touracos (*Ramphastos vitellinus*) Purchased
- 1.0 Emerald Tree Boa (*Boa canina*) Purchased
- 1.0 Giant Indian Hornbill (*Buceros bicornis*) On loan from Twycross
- 0.0.1 Boa Constrictor (*Constrictor constrictor*) Presented
- 1.1 Rufous-beaked Snake (*Ramphiophis oxyrhyncus*) Purchased
- 0.0.1 Red Ratsnake (*Elaphe a rossaleni*) Purchased
- 0.0.1 Tockay Gecko (*Gekko gekko*) Hatched
- 0.0.2 Reticulated Pythons (*Python reticulatus*) Presented
- 0.1 * Emerald Tree Boa (*Boa canina*)
- 0.0.17* Cookes Tree Boa (*Boa enhydris cooki*)
- 0.0.2 *Red-tailed Boas (*Constrictor constrictor*)
- 0.0.1 *Rainbow Boa (*Epicrates cenchrus*)

* Confiscated by the Department of the Environment and Deposited at Chester