

# Penscynor

W I L D · L I F E · P A R K



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N E A T H · W A L E S



# Welcome to Pencynor

We hope that you will enjoy your visit to Pencynor and that this guide book will enhance your encounter with the animals who live here, and provide a lasting memento of what we hope will be the first of your many visits. Please remember that the zoo is constantly changing; animals will arrive, be born, leave, die, or move to new cages during the life of this guide.

## Useful information:

Opening times: 10.00 a.m. to 6.00 p.m. or dusk, every day except Christmas Day.

Telephone: Neath (01639) 642189.

Facsimile: Neath (01639) 635152.

Feeding times: displayed in the entrance.

Party rates available on application (twenty people and over).

First Aid, lost property/children: main office, next to entrance.

Dogs are not allowed in the park.

Trodd freuddwyd yn ffordd o fyw i Mr. Idris Hale pan welodd Bencynor am y tro cyntaf. Cynigiodd y ty a'i erddi eang gyfle iddo sefydlu Parc Anifeiliaid ag Adar yn Ne Cymru fel y bryddwydiodd ers yn blentyn.

Am flynyddoedd lawer bu Mr. Hale yn teithio'r byd yn fflimio creaduriaid gwyllt yn eu cynefin naturiol a thra yr oedd yn gwneud hyn cynyddodd ei ddymuniad i ddod a'r adar lliwgar a'r anifeiliaid diddorol yn ol i Gymru.

Pan gwelodd Bencynor felly rhaid oedd ei brynu a dechreu adeiladu'r freuddwyd fawr.

Adeiladwyd Pencynor yn 1856 gan Thomas Leyson aelod o un o deuluoedd hynaf Castellnedd. Roedd un o'i gyndadau, er engraffit, yn dad-abad olaf Abatty Nedd. Saif y ty a'r gerddi ar lethrau'r mynydd sydd yn gysgod rhag wyntoedd oer y Gogledd. Rhed nant drwy'r gerddi, nant sydd yn rhedeg am bedair milltir o dan y ddaear cyn dod i'r wyneb ym Mhencynor a sydd yn syrthio yn rhaedr ddeugain troedfedd o uchder.

Amgylchynir y gerddi gan goedwig a mae yma safle arbennig o addas felly i adar a chreaduriaid o'r gwyllt.

Agorwyd Parc Creaduriaid Pencynor yn swyddogol ym 1971 gan y teledydd enwog Johnny Morris. Yma ym mhorth Cwm Nedd, cym hyfryd sydd yn llond o hanes, mae Idris Hale wedi creu paradwys i greaduriaid. Gwobr Mr. a Mrs. Hale ar ol blynyddoedd lawer o ymdrech, a thorri calon hefyd, ydyw'r pleser a gaiff ymwelwyr o bob ran o'r byd yng Ngerddi Pencynor.

Gobeithiwn y cewch chwithau hefyd fwynhad yn eich ymweliad a ni. Brysiwch yn ol yn y dyfodol. Mi fydd pob un, gan gynnwys y creaduriaid, yn hapus i'ch gweld.



Pencynor is a member of  
the national Federation of  
Zoological gardens of Great  
Britain and Ireland





# Through the years

Ever since agriculture freed him from his role as a 'hunter-gatherer', man's relationship with the natural world has included the keeping of 'exotic' animals. Motives for such collections have changed through the ages – royal prestige, sport (hunting), religious worship.

England won the World Cup	1978 1966 1835–86	883 zoos known  European and American cities competed to emulate and surpass the London example – Bristol 1835, Amsterdam 1830, Philadelphia 1859. Professional catchers offered huge numbers of animals – between 1866 and 1886 Carl Hagenbeck 'moved' 1000 lions, 400 tigers, 700 leopards, 1000+ bears, 800 hyaenas, 300 elephants, 17 Indian rhinos, 300 camels 150 giraffes, 600 antelopes, 10,000+ monkeys, 1000+ boas, pythons and crocodiles, 100,000 birds.
Origin of Species published		
World's first railway	1825	Sir Stamford Raffles, Humphry Davy and others founded London Zoo as 'a collection of living animals from every part of the globe to be applied to some useful purpose, or as objects of scientific research, not of vulgar admiration'.
Magellan reaches S America	1519	Spanish explorer Cortés discovered Montezuma's zoo, including human freaks.
Battle of Agincourt	1400	Marco Polo describes Kubla Khan's 16 miles of parkland with game-animals; and tigers, lynx and elephants used to hunt them.
First Crusade	1250	Henry I established Woodstock menagerie, including lions, leopards, lynx, camels and an elephant – all gifted by Louis IX of France. Other animals were kept in the Tower of London, including a polar bear which was taken daily, on a leash, to the Thames to catch its own food.
Vikings reach Wales	800	The St. Gall Monastery (Switzerland), a 'scientific and intellectual centre', maintained a menagerie for study.
Cleopatra died	29–14BC	Augustus kept 'an elephant herd, 420 tigers, 260 lions, panthers, cheetahs, one rhino, one hippo, seals, bears, eagles, 36 crocodiles and a snake of 25 yards'.
	340BC	Aristotle wrote the first zoology text, <i>Historia Animalium</i> , based on his observations at Alexander the Great's collection.
Greek alphabet	1100BC	Chinese Emperor Wen Wang had a 900 acre walled garden stocked with animals from conquered lands (with miniature replicas of castles and cities he'd overcome).



▲ In 1994, Idris Hale was awarded the MBE for 'services to tourism and conservation'.


Pencynor's history as a wildlife park begins in 1966, when wildlife-film-maker and builder Idris Hale bought the semi-derelict Pencynor House. The eleven acre grounds soon held a large collection of exotic parrots, a lifelong enthusiasm of Mr. Hale. Increasing numbers of people asked to see the birds, and a number of charity open-days were held. In 1971 it was decided to 'go public' and Johnny Morris, of *Animal Magic* fame, officially opened the park – by now home to several mammal species as well.

The early years saw the collection of major tourist awards, acceptance to the National Federation of Zoological Gardens and ever-increasing numbers of visitors. In the mid-70s several acres of the adjoining larch plantation were acquired and developed; the now famous chair-lift and Alpine Slide were installed, boosting attendances and providing the finances for the increasingly important wildlife conservation work being undertaken.

In the past two decades we have become acutely aware of the threats facing wildlife; today, zoos are ever more concerned to play a CONSERVATION role:

- by PRESERVING SPECIES threatened with extinction in the wild;
- by EDUCATING people about threats to wildlife and habitats;
- by RESEARCHING the natural history of all species.





A variety of habitats within Pencynor leads to a wealth of native wildlife. Grassland, oak woods, shrubbery, larch plantation and running water all attract different species. Particularly obvious are the birds: look for the long-tailed tits, nuthatches, tree creepers, green woodpeckers, grey wagtails and herons. In the summer, numerous buddleia bushes attract up to twenty-three species of butterflies. Looking up the hillside from the flower gardens, buzzards and ravens can often be seen.



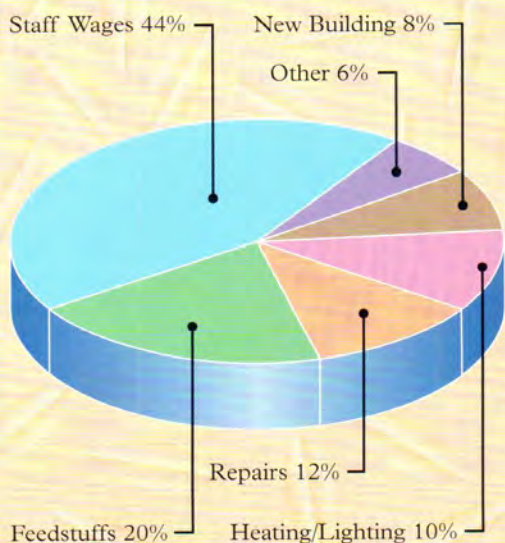
Support local conservation by joining your County Wildlife Trust, details from:  
RSNC, The Green, Witham Park, Lincoln, LN5 7JR.



# Running a zoo

The modern zoo is concerned with the conservation of the world's wildlife. It is not an alternative to habitat conservation: it is a valuable complement to field efforts. The zoo provides an insurance against extinction by managing populations of threatened species. The zoo raises awareness of wildlife issues by allowing an experience of exotic animals. The zoo increases knowledge about the natural history of the species it houses. This work is funded by paying visitors, who invest their leisure time and money in their visit.

Unlike their counterparts in western Europe and North America, British zoos receive no funds from city, state or federal government. Their income comes solely from visitors: this is why I am so badly paid. Zoo income is spent in the following way:



A zoo requires many skills: builders, gardeners, administrators and, of course, zoo keepers. The keeper needs to understand animal behaviour, nutrition, and veterinary care, as well as the aims of the zoo; he/she will also understand demographics and genetics (to help with population management), appreciate scientific methods (to assist research programmes), be well informed about conservation issues (to help identify areas where the zoo should work), and be happy to direct visitors to the lavatory/ice-cream (to make their visit a pleasant one).



**Feeding:** Animal diets are carefully formulated to meet physical and psychological needs. Every week 300kg of fresh fruit and vegetables, 60kg of specially formulated pellets, 100kg of fish, 15kg of meat, 30 packs of baby food, and quantities of insects, vitamin/mineral supplements, hay, bread, and seven sorts of seed are used. Please do not disrupt these diets by offering food except where dispensing machines offer special pellets (trout and donkeys).

**Acquiring animals:** Mammals and birds coming to Pencynor are invariably captive born in other zoos. Usually they are part of a national or international programme, and are transferred at the request of a species co-ordinator; the animals are transferred as 'loans' – fewer and fewer individuals are 'owned' as more and more zoos 'give' their animals to these programmes. From 1996, Pencynor will extend its 'no wild caught' policy to fish and invertebrates, except in the most unusual circumstances.





# The Animal Kingdom

There are more than two million species of animals: there might be as many as fifty million – much depends on identifying myriads of unicellular organisms, such as bacteria. Most experts are currently happy with an estimate of around thirty million: less than one million have been described and named. To make sense of all of this, zoologists place animals in 'groups' based on shared characteristics (e.g. all 'rodents' have similar teeth) or evolutionary 'relatedness' (e.g. chimps and humans share a recent, common ancestor). The wildlife park is concerned (mostly) with one small group, usually called the 'vertebrates' (ask in the Zoo Centre to find out why; while you're there, ask about the carpet moth programme).



the CHORDATES all have a spinal column (a 'notochord'); the Sea-squirts and fish-like Lancelets form two separate groups, in which this column is not obvious. The third group is most familiar to us: the vertebrates all have bony (or gristly) brain cases and skeletons.

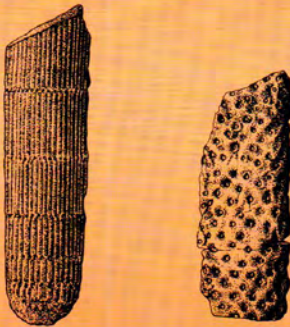


# The Evolution of Life



A Cretaceous pterosaur

The rocks that you see as you walk around Pencyrnor were laid down in the Carboniferous period - 300 million years ago. Whilst it is very unusual to find animal fossils, you will see many plant fossils from the great forests that ultimately formed the Welsh coal deposits - Calamites and Stigmaria are particularly common.



Right: Stigmaria  
Left: Calamites



Early Cambrian trilobite

Period	Epoch	Millions of years ago	
Quaternary	Holocene	0-01	<i>'Modern' Man and Civilisation</i>
	Pleistocene	2	<i>Ice Age, Woolley Mammoths</i>
Tertiary	Pliocene	7	<i>Elephants, Marsupials, First Man</i>
	Miocene	26	<i>Ungulates, Seals</i>
	Oligocene	38	<i>Old and New World Primates</i>
	Eocene	54	<i>Rodents, Antelopes, Whales</i>
	Palaeocene	65	<i>Rise of Mammals</i>
Cretaceous		135	<i>Dinosaurs extinct</i>
Jurassic		190	<i>Dinosaurs, Flying Reptiles, First Birds</i>
Triassic		225	<i>Modern Corals, First Dinosaurs and Mammals</i>
Permian		280	<i>Mammal-like Reptiles, Ichthyosaurs, Trilobites extinct</i>
Carboniferous		345	<i>Amphibians, Flying Insects and Reptiles; Graptolites extinct</i>
Devonian		395	<i>Freshwater Fish, Amphibians</i>
Silurian		440	<i>Brachiopods, Crinoids and Corals</i>
Ordovician		530	<i>Trilobites, Gastropods, Cephalopods, Echinoderms common</i>
Cambrian		570	<i>Bivalves, Echinoderms</i>
Pre-Cambrian		1850	<i>First Multi-cellular Animals - Jellyfish, Sea-pens, Worms</i>
Archaean		3500	<i>First Algal Plants</i>
Azoic		4600	<i>First Unicellular Life?</i>



# The Smallest Monkeys

Weighing between four and eight ounces, the marmosets and tamarins are the smallest of the monkeys. Over twenty species are to be found in the rain forests of South America, the majority in the vast basin of the Amazon river.

Fruit alone does not provide enough protein for any monkey; marmosets and tamarins supplement their fruit-based diets in different ways. Tamarins eat large amounts of invertebrates, and even eggs and nestlings; marmosets have teeth especially adapted to gouge holes in trees and as much as half of their food may be the sap that 'bleeds' from these holes. (Look for such gouges on branches in marmoset cages: keepers squirt eucalypt gums into cracks/holes, to stimulate gouging behaviour.)

Unlike other monkeys, marmosets and tamarins almost always give birth to twins; even more unusual, they can become pregnant immediately after giving birth, so, with a gestation period of five months, four young a year can be born. The mother copes with this by handing the two to three day old infant to father and any older children still in the family group. After this she sees them only for suckling.

Because of their naturally restricted distributions, many species of marmoset and tamarin are

threatened with extinction in the wild. For some species – e.g. cotton-topped tamarins and all of the lion-tamarins – populations are numbered in hundreds, and the captive-population is an essential element of their survival. All eight of Penscynor's species are part of international conservation programmes,

with zoos throughout the world co-operating to ensure the continuance of a genetically healthy population as an insurance against extinction in the wild.

In 1969, at the height of demand, 72,000 South American monkeys entered the USA, largely for medical research. Between 1980 and 1985, all South American countries banned such exports.

For many years it has been believed that marmosets and tamarins are strictly 'monogamous' – i.e. mum, dad and the kids = the normal social unit. However, the effort of rearing twins seems almost too much for just two adults and it is suggested that maybe 'mum, dad and another dad' is common. Two males, each mating with the same female, will believe themselves to be the father of the subsequent twins, and

each will help rear the young to maturity. This arrangement – 'polyandry' – is being tested at Penscynor, and is working well for two groups of cotton-tops.





Grooming



Tail wash



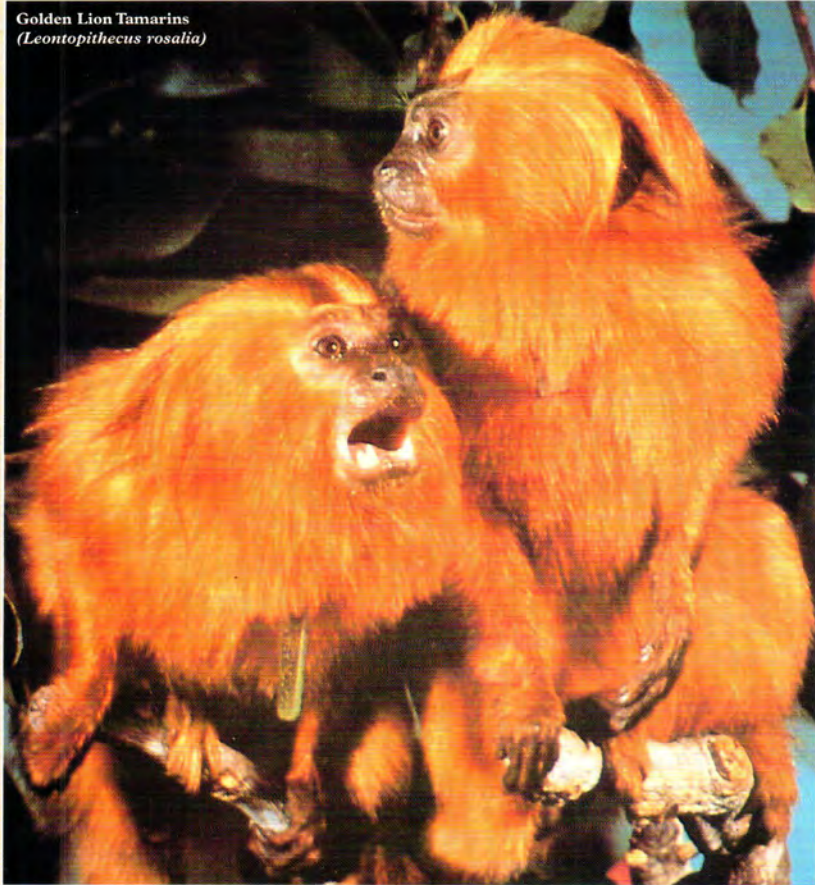
Greeting



Marmoset gouges



Golden Lion Tamarins  
(*Leontopithecus rosalia*)

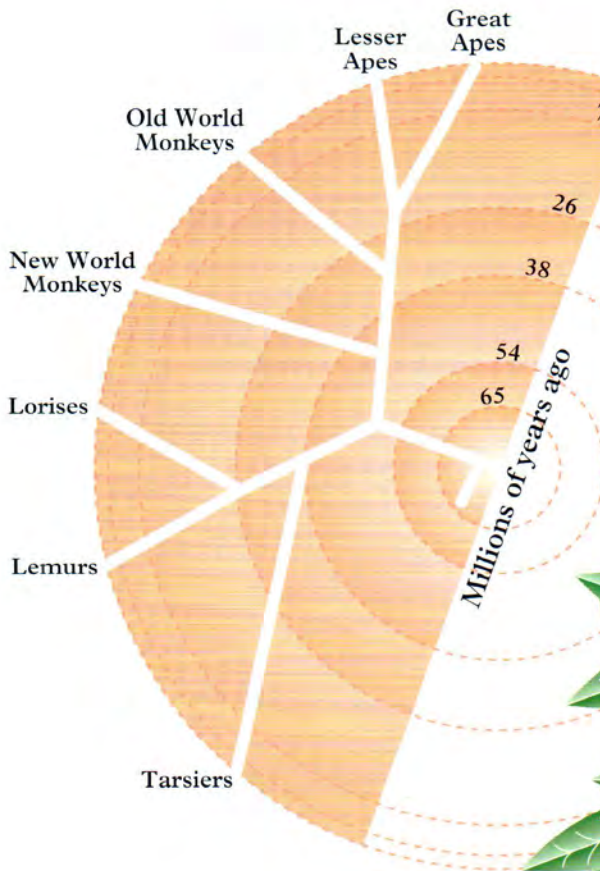


Tamarin behaviours identified and illustrated by zoologists researching at Penseynor.





# The Primates



The group of animals known as the 'primates' (lemurs, monkeys and apes) includes you and me; this explains why they are the most studied of all animal Orders, and why we find them especially interesting. Our species has spread right across the globe: most other species are found in the tropical/equatorial zones.

Most primates are tree-living (arboreal) within tropical forests. They have grasping hands and feet (can manipulate objects), forward-facing eyes (excellent vision), and large brains (intelligent, adaptable). Most are highly sociable, living in groups and having sophisticated communication systems.





**Squirrel monkey**  
(*Saimiri sciurius*)

**Dooreneouli**  
(*Aotus trivirgatus*)

**Sooty mangabey**  
(*Cercocebus atys*)

**Ring tailed lemur**  
(*Lemur catta*)

**Colobus monkey**  
(*Colobus guereza*)

**Chimpanzee**  
(*Pan troglodytes*)

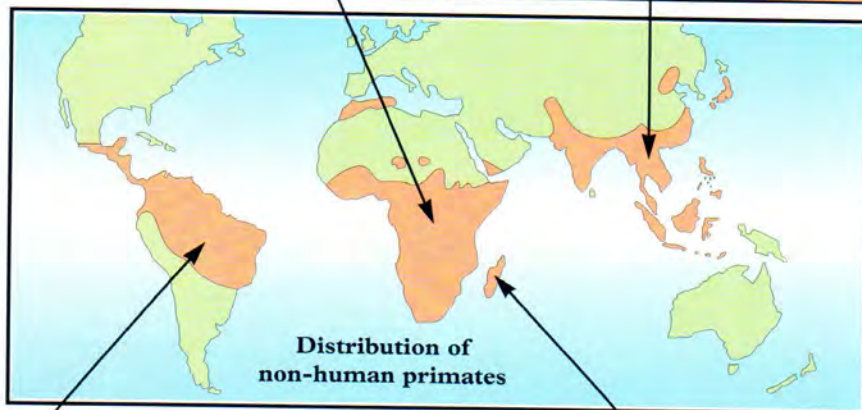
**Ruffed lemur**  
(*Varecia variegata*)

**Human**  
(*Homo sapiens*)



Apart from the Barbary macaque (the famous Gibraltar 'ape'), Africa's monkeys are found south of the Sahara desert. West African species are principally tree-livers in the rain forests but in East Africa some species have taken to a life on the ground in the grasslands of the savannas – e.g. the baboons; many experts believe that our own species made this same tree-to-plains transition, in East Africa. There are three other 'great ape' species – the gorilla, pygmy chimpanzee and common chimpanzee.

The primates of Asia are very similar, anatomically, to the African animals. Also, as in Africa, there are numerous species of small, nocturnal 'primitive' primates – e.g. the tarsiers. One Asian species, a macaque, has learned to live in the temperate climate of Japan; by using hot-springs, this species can even tolerate snow. There is one great ape, the Indonesian orang utan, and a whole family of 'lesser apes', the gibbons. Like their larger cousins, the gibbons have no tail but, unlike the other apes, these species have stayed small and are predominantly tree living.



Neotropical primates are found from the rain-forests of central America (Mexico, south), through the vast Amazon basin to the coastal forests of south-east Brazil. There are two families, the 'Cebids' (typical monkeys) and the 'Callitrichids' (marmosets and tamarins). Many Cebids have prehensile tails – i.e. their tails can be used almost as fifth limbs/hands; older readers may remember the organ-grinder's capuchin or squirrel monkeys. There are no American apes.

Madagascar, the fourth largest island in the world, has been isolated from the south-east coast of mainland Africa for 100 million years and its primates have remained little changed through time – largely because of the absence of competitors. The ring-tailed and ruffed lemurs are two such 'primitive' primates, very similar to the early monkeys whose fossils are to be found in western Europe.

There are many different **social arrangements** among primates. Not only do species differ, different populations of the same species may adopt different social systems in response to different environments:

1. Monogamy – a faithful pair, living with their offspring. This may be one or two young (e.g. gibbons) or as many as twelve (e.g. marmosets).

2. Polyandry – a single female who mates, and lives, with two or more males who help rear and care for young (e.g. tamarins).

3. Polygyny – a single male maintains a harem of several females, with whom only he is allowed to mate. Often the females are a closely related, and stable, unit; males move in and out of these groups over the years, thus avoiding inbreeding (e.g. mangabeys).

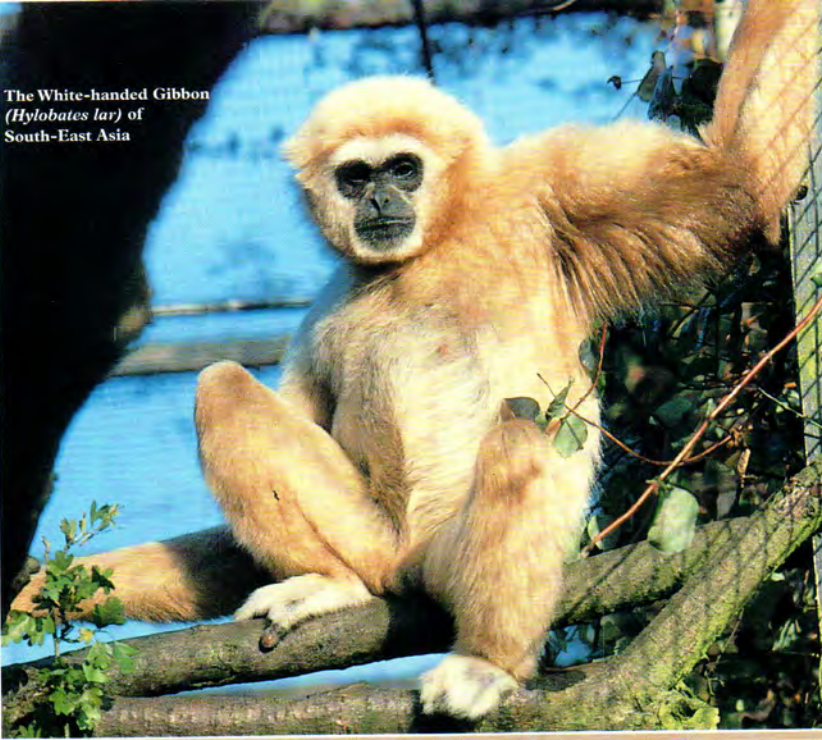
4. Polygamy – a larger group, with several males and several females, any of whom might mate with anyone else. The group provides good defence against predators, so this is a system favoured by (African) species who spend much time on the ground (e.g. baboons). There are usually well defined hierarchies within the group (e.g. chimps).

A **social life** requires good communication. Most primates have a wide range of vocal communication, ranging from the bird-like squeaks of marmosets to the roaring of ruffed lemurs. Signalling can be important, especially in forests where visibility is limited. This can be by means of spectacular markings – e.g. the flanks and tail of the colobus monkey – or by a range of expressions and postures. All species do this but it is most obvious in larger species such as chimps. The lemurs and marmosets also use scent as a communication, leaving 'messages' smeared on branches (just breathe in deeply in the Marmoset House!).

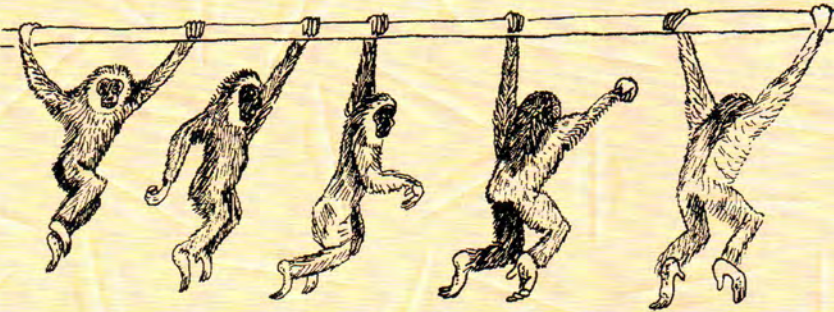
**Food:** Very generally, primates are principally fruit eaters, with smaller species eating invertebrates (see marmosets and tamarins) and larger species eating leaves (e.g. gorilla). The colobus monkey has a specially adapted stomach allowing it to feed almost exclusively on leaves (up to 80% of diet). Some chimp groups are known to hunt and kill other mammals, including colobus monkeys, to eat.



The White-handed Gibbon  
(*Hylobates lar*) of  
South-East Asia



Different ways of **moving around** allow several species to use the same habitats without direct competition. Marmosets and tamarins run along the upper surfaces of branches; ring-tailed lemurs cling to vertical branches and move by leaping; chimpanzees 'walk' on their knuckles; gibbons swing along, suspended underneath branches.



#### VITAL STATISTICS

	Chimp	Man
Weight – New Born	3.5 lbs	7.25 lbs
Adult Male	120 lbs	143 lbs
Adult Female	105 lbs	128 lbs
Height – Adult Male	3' 6"	5' 8"
Gestation Period	238 days	266 days
Female Puberty	7–8 years	14–15 years
Life Span	40 years	70 years

Fergus



Jeremy



Neusi



Twmi



Susie





# Small Carnivores

The **meerkat**, a charismatic member of the mongoose family, made famous by recent television exposure, lives in the arid grasslands and harsh deserts of South Africa. Unlike other members of the family, this species is social and dens and forages in large groups; also unlike other mongooses, meerkats are active during the day. It is likely that these two traits are connected, as 'many pairs of eyes' has an obvious advantage in avoiding predators: it is always noticeable that at least one troop member is posted on 'sentry duty' when the group is active. Alarm is sounded by a sharp bark, and all group members will flee to shelter with their tails raised in the vertical 'danger' signal. Groups are based at an underground den of interconnecting tunnels, usually excavated under boulders, on a slope giving good all-round visibility. The single breeding alpha-female usually retires to a separate den system to give birth to four or five young; after two weeks the group reunites to help rear the kits.



Meerkats  
(*Suricata suricatta*)

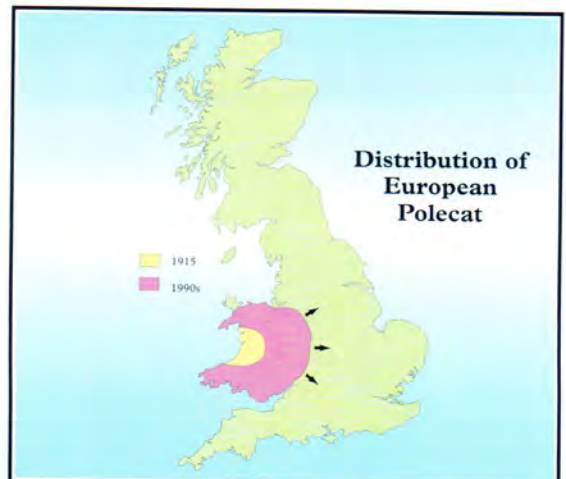


Short-clawed Otters  
(*Aonyx cinerea*)

Like all otters, the **short-clawed otter** is well adapted to life in the water. Its body is streamlined, its fur dense and water-resistant; its strong tail acts as a rudder, whilst its webbed feet provide underwater propulsion. The eyes are positioned on the top of the head, allowing good viewing whilst almost submerged. This species is, however, perhaps the least aquatic of the otters: its speciality is hunting shallow and muddy waters, principally seeking crustaceans rather than fish. Also unlike other otter species, the short-clawed otter is a social species, often being seen in groups numbering teens of animals.

The short-clawed otter has a wide distribution, ranging from the Indian sub-continent to Indonesia and China.

The **European polecat** (*Mustela putoris*) is of special interest to Wales. In the early years of this century the animal was found only in the remote countryside of central Wales, and seemed destined to become extinct in Britain as a result of direct persecution. Changes in land-use following World War One – particularly the sharp fall in the number of gamekeepers – eased the pressure on this fierce little hunter, and over the last fifty years the species has moved north, south and east to recolonise as far as the English Midlands. The animals live solitary lives, coming together only to mate; males will hold a territory of several square kilometres which will include several smaller female ranges. Rabbits are the principal food item.





# Hoofed Animals

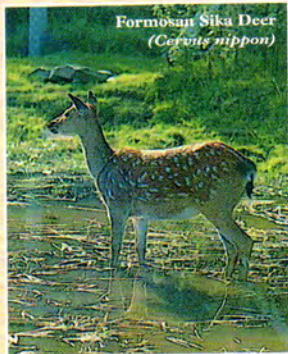


Guanaco  
(*Llama guanicoe*)

The South American **guanaco** is a close cousin of the African camel. Like the camel, it can spit regurgitated food far and accurately when threatened or annoyed. Exceptionally hardy, these animals live at a high altitude in the Andes mountains in large herds. They are commonly thought to be the wild ancestors of the domesticated llama.

The **Formosan sika deer** is now extinct on its native island of Taiwan but is quite common in zoos. Like most deer, it feeds by 'browsing' low growing leaves and branches; like most browsers, it happily 'grazes' (eats ground-growing leaves - e.g. grass).

The shy, woodland **muntjac deer** is a native of China but has lived wild in Britain since escapes from Woburn Park at the turn of the century. As well as sharp antlers, the buck has razor-sharp tusks in the upper jaw. Interestingly, this animal has been seen to eat carrion (the flesh of dead animals).



Formosan Sika Deer  
(*Cervus nippon*)



Reeves Muntjac  
(*Muntiacus reevesi*)



# Prairie Dogs



Despite their name, **Prairie Dogs** are not dogs but ground squirrels. The name 'dog' comes from their bark-like warning calls.

Before the European settlers arrived, the Great Plains of North America were home to prairie dog colonies that had to be measured in kilometres. One of these colonies was estimated to contain 400,000,000 prairie dogs. Prairie dog 'cities' of this size no longer exist, destroyed to make grazing land, but smaller colonies can still be found scattered over the prairies.

There are five species of prairie dogs, the most abundant of which are the black-tailed and the white-tailed. Penscynor has a colony of black-tailed prairie dogs. When two prairie dogs meet, they appear to kiss with bared teeth. If they recognise each other, they will go about their business, otherwise it may lead to a fight.

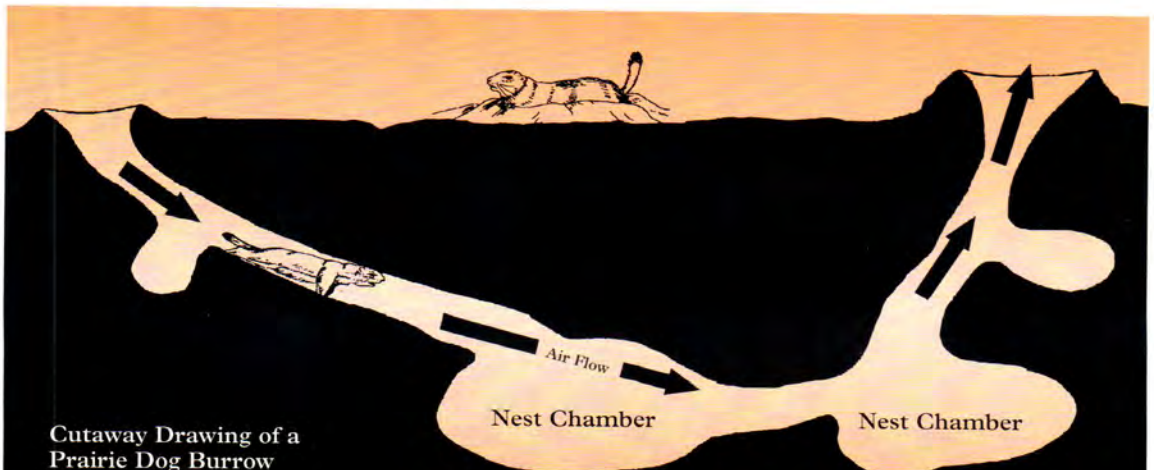
Adults can often be seen 'on guard' at the burrow entrance. They are keeping watch for predators and also other prairie dogs that may steal their burrows.

The basic unit of prairie dog society is the coterie. A coterie is a group of animals who stick together to defend their territory against invasion by other coterie. The average coterie contains one adult male, two or three adult females and their offspring. Where there are more than two males, one will be dominant over the others. Members of the coterie defend the burrow against trespassers.

The burrows are U-shaped, ten to thirty metres long and one to five metres deep.

The prairie dog burrow is not just a hole in the ground. It is thought that the raised rims of soil round the entrances act as lookout posts and also as flood defences.

The taller mound creates a lower pressure which sucks air through the burrow, keeping it ventilated.





# Parrots

Parrots are really monkeys: covered in feathers instead of hair, and with strong, bony beaks instead of teeth, they are extremely sociable animals of the rain forests. They feed on the fruits and seeds of a variety of trees, they form stable, long-term pairs, which live within a larger flock of other pairs and unattached singles. Many species are even threatened with the same fate – extinction – and for the same reasons – habitat destruction and direct persecution.



Blue & Gold Macaws



(*Ara ararauna*)



Leadbeater's Cockatoos  
(*Cucatus leadbeateri*)

Guided by this insight, Pencsnyor is experimenting with keeping parrot flocks, rather than the traditional bird-keeper's one male–one female arrangement. A mixed-species flock of South American parrots – over thirty in all – are happily sharing (and successfully breeding in) one aviary, and the ten **blue and gold macaws** have been producing chicks each year since their introduction to a single large aviary.

Most of the main parrot groups are to be seen at Pencsnyor. Indonesian **cockatoos** are usually kept in off-exhibit breeding-aviaries, as zoos strive to establish viable populations of these endangered species (exceptions are the ex-pets, donated to us, which we are trying/have tried to introduce to other birds: you can see these – often horribly feather-plucked – around the zoo). The parrot house holds various species of Australian **grass parakeet** (the familiar budgie is one of these), the fruit eating

## Parrot Fact



## Pet Polly...

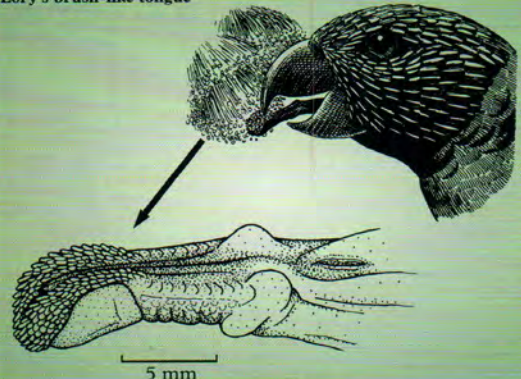
*Keeping a parrot is a lifetime commitment*

Showy, playful, talkative, long-lived – good qualities for a companion, especially for a pet. Parrots are all these things and have been popular as pets since the days of Alexander the Great. But, think before you buy:

- they can live for fifty years or more (120 is the record!)
- listen to how much noise they make
- look at how much mess they create
- they are fiercely territorial and can react violently to changes in their routine, attacking new pets and family members!
- for every bird that is imported to Britain, as many as three will have died on the way. The trade in wild birds is a trade in death

**eclectus parrot** (*Ecletus roratus*), and South American **conures**. **Lorys** have long been a Pencsnyor speciality, and you can see several species in the lory house: try to see the brush-like tongue which allows these very specialised parrots to feed almost exclusively on nectar and pollen.

Lory's brush-like tongue









# Pencynor Wild Life Park

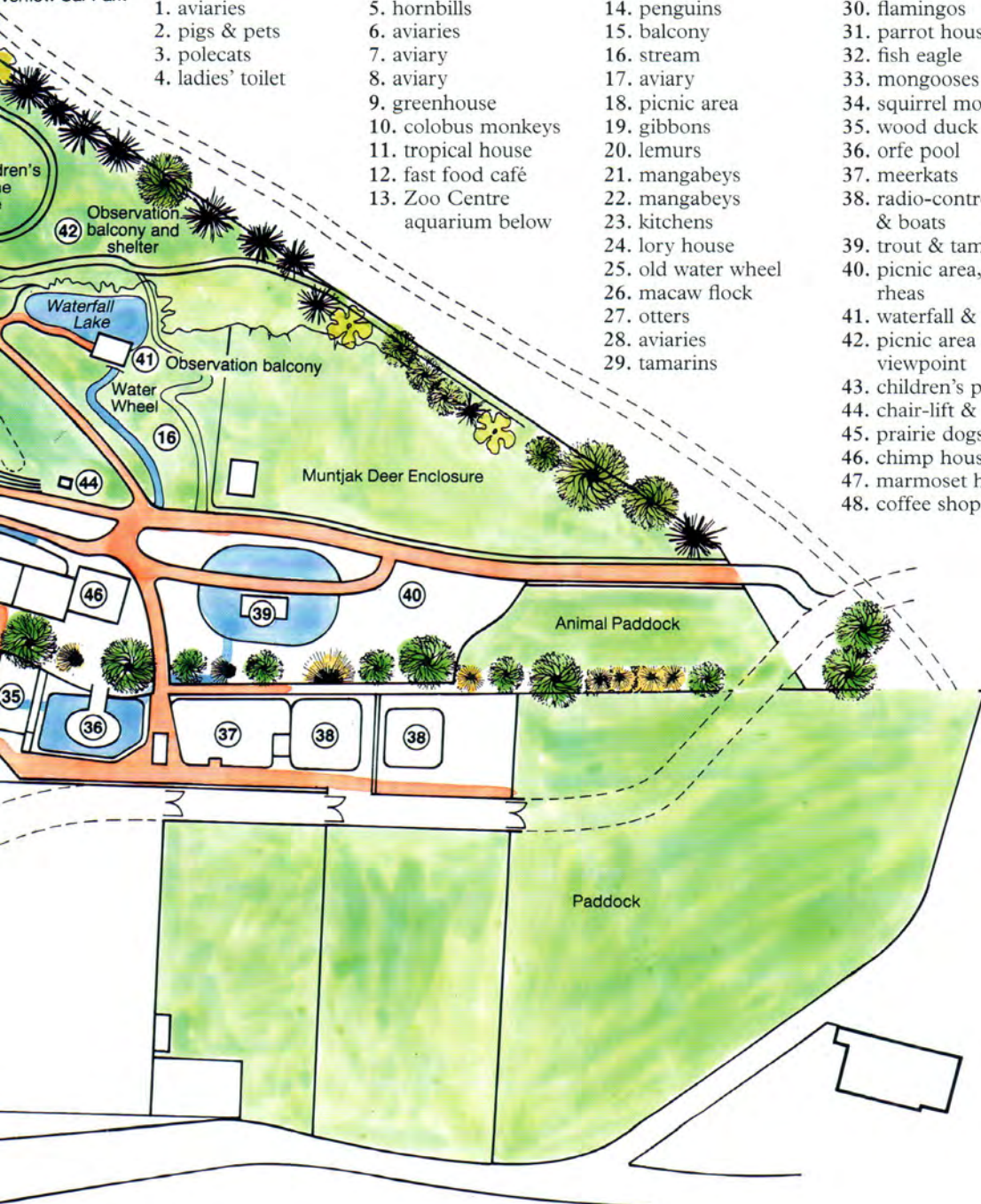
Forest Area and  
Overflow Car Park

1. aviaries
2. pigs & pets
3. polecats
4. ladies' toilet

5. hornbills
6. aviaries
7. aviary
8. aviary
9. greenhouse
10. colobus monkeys
11. tropical house
12. fast food café
13. Zoo Centre  
aquarium below

14. penguins
15. balcony
16. stream
17. aviary
18. picnic area
19. gibbons
20. lemurs
21. mangabey
22. mangabey
23. kitchens
24. lory house
25. old water wheel
26. macaw flock
27. otters
28. aviaries
29. tamarins

30. flamingos
31. parrot house
32. fish eagle
33. mongooses
34. squirrel monkeys
35. wood duck
36. orfe pool
37. meerkats
38. radio-controlled cars  
& boats
39. trout & tamarins
40. picnic area, cranes,  
rheas
41. waterfall & wheel
42. picnic area &  
viewpoint
43. children's play area
44. chair-lift & slide
45. prairie dogs
46. chimp house
47. marmoset house
48. coffee shop



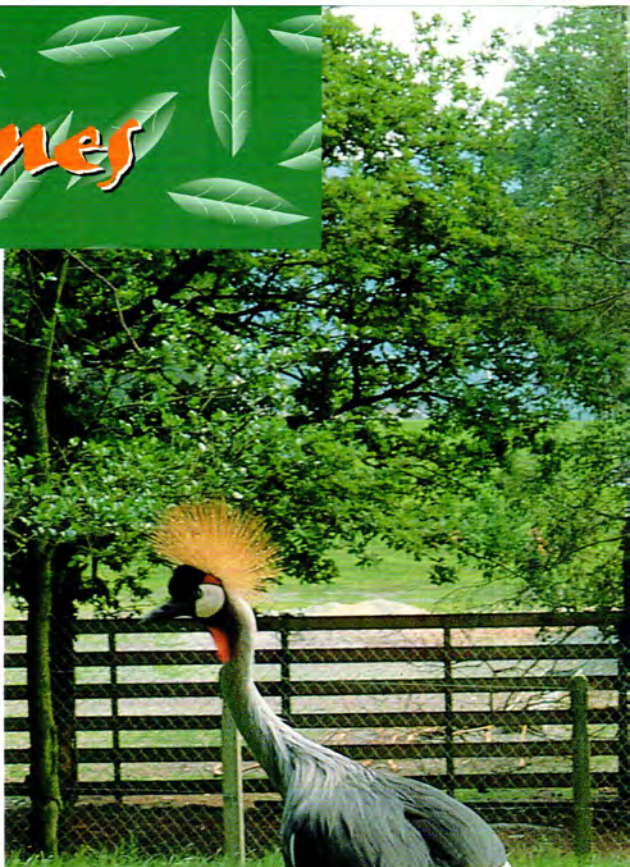


# Cranes

**Cranes** are found throughout the world, with the exceptions of South America, New Zealand, Malaysia and the Antarctic; there are fourteen species, in four genera. Many species undertake long north-south migrations, from and to their very restricted breeding grounds, via traditional 'stopover' sites. It is the vulnerability of these breeding and resting areas that threatens six species with extinction.

All of the cranes have elongated windpipes, which are used to produce extraordinarily loud trumpeting calls. During courtship, and to reinforce pair-bonds at other times, these calls are combined with elaborate male-female dances: the birds leap into the air, run around each other in circles, and repeatedly 'bow' to each other. Nests are usually on the ground, with two eggs being usual. The birds are several years old before reaching breeding-age: in captivity, individuals will live for over fifty years.

Cranes eat a wide variety of foods, found in marshy and long-grass areas. Plant material of almost any kind is eaten, along with worms, snails, insects, frogs, lizards, mice and young birds.



African Crowned Crane  
(*Baleptides pectoratus*)



Whooping Crane  
(*Ardea herodias*)



# Water Birds

A small collection of ducks lives on the Penscynor ponds, including the **European Eider**. Down from this bird, plucked by the female to line her nest, has long been valued as an insulator. The forty-plus **mallard** resident in the park are all wild birds.

European Eider Duck  
(*Somateria mollissima*)



Sacred Ibis  
(*Threskiornis aethiops*)

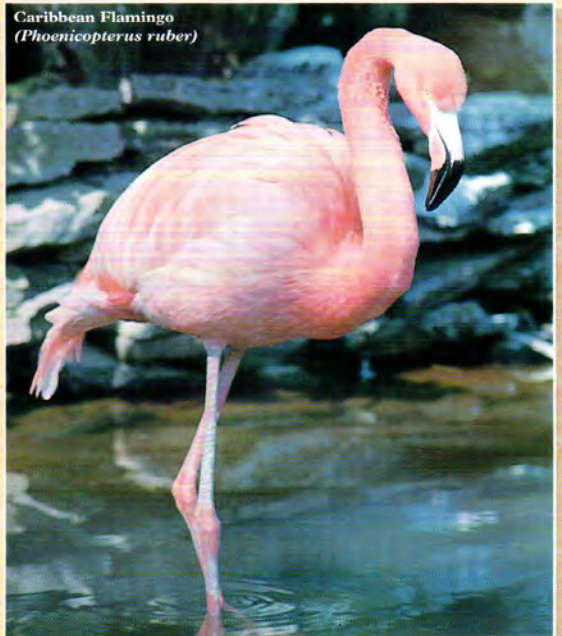


The **sacred ibis** is a wading bird found in central and southern Africa; formerly, it occurred as far north as the Mediterranean. It feeds by thrusting its long, curved beak into mud as it slowly moves along river and lake sides. Solitary for much of the year, the birds nest colonially in favoured trees and reed thickets.

The ancient Egyptians believed this bird to be Thoth, the god of wisdom, endlessly searching for new knowledge. Millions of birds were mummified, along with the pharaohs, in underground tombs.

**Flamingos** feed by wading through shallow water, with their strange beaks immersed and upside down. Water is pumped through the beak, where very fine hair-like structures sieve out small food animals such as shrimp. It is a pigment in water crustaceans that gives flamingos their distinctive colouring.

Caribbean Flamingo  
(*Phoenicopterus ruber*)





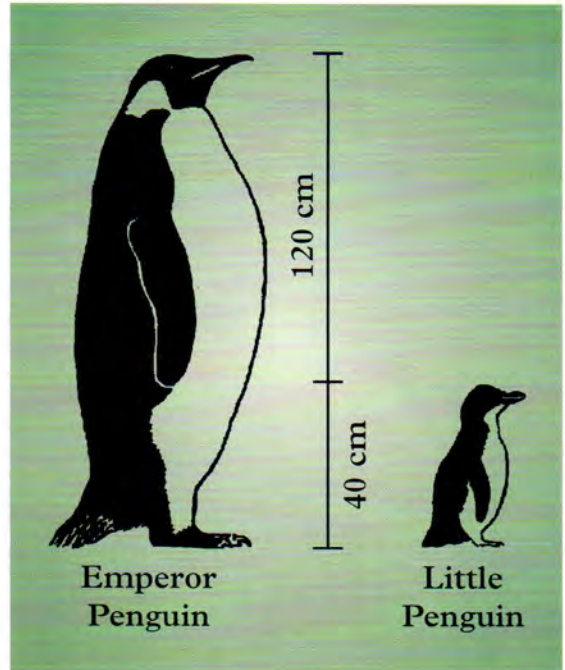
# Penguins

Penguins are flightless birds belonging to the family Spheniscidae. They are all found only in the cooler waters of the Southern Hemisphere. There are seventeen species worldwide, ranging in size from the Little Penguin, which weighs 1100 grams and is approximately 40 cm tall, to the Emperor Penguin, which can weigh over 30 kg and is approx 120 cm tall.

Only the adelic and emperor penguins are restricted to the Antarctic. The others species are all found in more northerly areas, with one species (the Galapagos penguin) being found on the equator. The greatest diversity of penguin species can be found on the mainland and islands of southern New Zealand and the Falkland Islands.

Many penguin species only return to land in the breeding season and their whereabouts during the winter is not known. When on land, penguins occupy a variety of habitats such as the snow and ice of the Antarctic, the beaches and tussock grass of the sub-antarctic islands, the temperate rainforests of New Zealand and the desert-like lava flows of the Galapagos Islands.

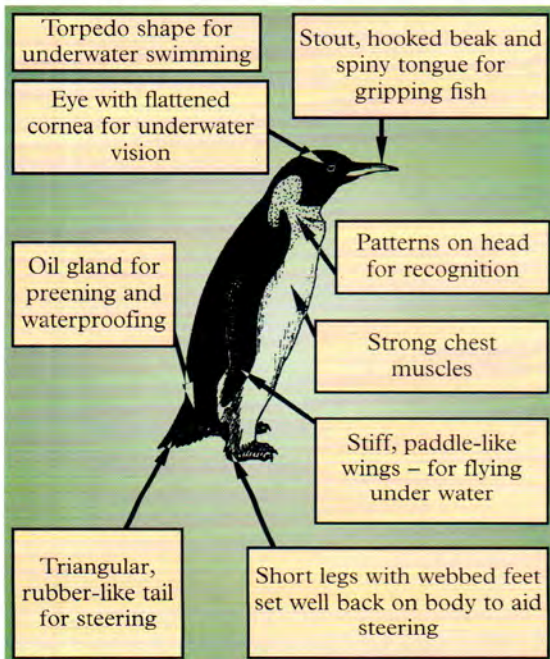
Penguins feed on crustaceans, fish and squid which they catch by diving. Emperor penguins can reach depths of over 500 metres during dives that last up to eighteen minutes and the smaller Gentoo penguin can reach depths of 160 metres making over 450 successive dives in fifteen hours. Long periods



underwater are achieved in some penguin species by slowing the heartbeat which helps to conserve the oxygen supply in the blood.

Despite being mainly aquatic, penguins have to return to land (or ice) to breed. They breed on islands throughout the southern oceans, and on the mainlands of Africa, South America, Australia, New Zealand and Antarctica. All penguin species except the Yellow-eyed and Fiordland penguins breed colonially. The size and density of these colonies varies with species. Gentoo penguin colonies contain less than 100 pairs whereas those of the Chinstrap penguin can contain 100,000 pairs. Large numbers reduce the dangers of predation and provide protection from the cold wind. Birds at the centre of a colony can be up to 11°C warmer than those on the edges.

Penguins are usually monogamous, mating with the same partner every year. Nests vary between species. Adelic penguins build pebble nests, Magellanic and Humboldt penguins build nests of sticks, stones and moss, often in burrows. The King and Emperor penguins do not build nests and incubate eggs and brood chicks on their feet. Most species lay two eggs approximately four days apart (except the King and Emperor penguins) but often only one chick is reared. Incubation is usually by both parents (except in the Emperor penguin) and lasts from thirty-three to sixty-four days depending on the species.





# Humboldt Penguins

Humboldt Penguin  
(*Spheniscus humboldtii*)



Penscynor has a colony of Humboldt penguins which originally come from the areas of the South American coast that are influenced by the nutrient rich Humboldt Current. They can be found breeding on the mainland and offshore islands between 5°S and 33°S with a small colony also found at 42°S. They prefer to breed on rocky coasts, in sea caves, among boulders, in burrows and occasionally on the surface. They feed mainly on small, schooling fish which they catch in shallow dives during the day by pursuit diving. Humboldt penguins are usually monogamous and lay two eggs between three and four days apart. Incubation is undertaken by males and females and lasts about forty days. In the wild the main predators of eggs and chicks are the desert fox, the Peruvian gull and the kelp gull. The Humboldt penguin is the most endangered of all the penguin species in the wild. This is mainly due to the excessive harvesting of guano (droppings) for fertilizer, lack of food due to overfishing, freak atmospheric conditions and egg collecting. Zoos such as Penscynor are now working to combat these population declines with captive breeding programmes and fund-raising for conservation projects.



Most of Penscynor's penguin chicks are hand-reared indoors because Britain's damp climate increases the risk of chicks getting lung infections.



Juvenile penguins can be distinguished from adults by slightly greyer plumage and the lack of the black upside-down U shape on the chest which develops in their second year.



Penguins must maintain their feathers every day to make sure they stay waterproof. This involves a great deal of preening on land and in the water.



Before mating male and female penguins court each other and renew their bond by calling together. This sounds a lot like a donkey braying.



Humboldt penguins are capable of mating after about two years. Around the time that they mate they also select a nest site which is usually in a burrow in which they build a crude nest out of sticks and leaves.



The pair take it in turn to incubate the two eggs and will defend the burrow against predators. Head rolling and sideways looks are a warning to trespassers to keep away.





# Pengwin Humboldt

Pig bachog, cryf  
a thafod garw i  
ddal pysgod.

Patrwn unigryw  
ar gyfer  
adnabyddiaeth.

Cyhyrau mawr  
yn y frest ar  
gyfer nofio.

Adenydd stiff  
fel pedyll ar  
gyfer nofio'n  
gyflym.

Coesau byr a  
thraed gweog i  
hwyluso llywio.

Siap torpedo ar  
gyfer hedfan  
dan ddŵr.

Llygaid gyda  
chornbilen  
gwastad i weld  
dan y dŵr.

Chwaren Olew  
ar gyfer glendid  
personol ac i  
alluogir plu i  
wrthsefyll dŵr.

Cynffon  
trianglog ar  
gyfer llywio.



Maent yn byw ar hyd arfordir y Cefnfor Tawel ag ynysoedd De America. Mae'r Pengwin Humboldt yn un o'r pengwiniad mwyaf prin yn y byd, ac mae'r rhai sy'n deor ym Mhenscynor yn cael eu danfon i sw a pharciau bywyd gwyllt ledled Prydain i greu trefedigaethau newydd fel rhan o raglen fagu Prydeinig.

Fel nifer o adar arfordirol y Cefnfor Tawel mae'r Pengwin Humboldt yn cael eu bygwth gan; Dyn yn gor-bysgota'r 'anchofi', sef un o brif fwydydd y pengwin (ynghyd cril â scwid), eu mannau nythu yn cael eu dinistrio ar gyfer y 'guano' sy'n cael ei werthu fel gwrtaith a hefyd oherwydd mae 'El Nino', llif o ddŵr twym o California, yn 'sgubo i'r de ag yn danfon y dŵr oer, sy'n cynnwys eu bwyd, i ddyfnder na allant gyrraedd.



# Other Birds at Pensacolor

The **mynah bird** is a member of the starling family, and is found throughout the Indian sub-continent. It is a familiar pet in western Europe, where it is valued for its excellent ability as a mimic.

The mynah moves through forests in large flocks, feeding mostly on fruit but also taking any small animals that are available. Like our own starling, the species also nests in a colony; only the nest-hole is defended as a territory.

Hill Mynah (*Gracula religiosa*)



There are some thirty species of pheasant, all found in the forests of Asia. One species, the red jungle fowl, has been domesticated to give us the domestic chicken; another species – the **ring-necked pheasant** – has been introduced to many countries by people who like to shoot them.

In all species, the male is brightly coloured, and often has an extravagantly long tail; this finery is used to impress females at courting time. In contrast, the hen is a sombre variation on a theme of brown: this is an obvious advantage when she is incubating eggs, invariably in a nest on the ground.

Common Rhea (*Rhea americana*)



The **great Indian hornbill** (*Buceros bicornis*) is found in the coastal forests of western India and in the rain forests of north-east India and Burma. It uses its astonishingly large beak to reach tree fruit, the bulk of its diet; the beak is surprisingly light, being largely hollow.

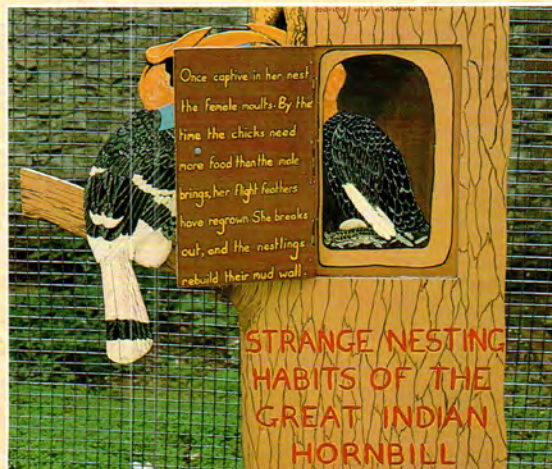
Hornbill breeding behaviour is unusual: the incubating female is 'walled' into her nest – in a hollow tree trunk – by the male, who uses mud and clay to close the entrance. A narrow slit is left, through which the male feeds his mate; three to four months later, the female and one or two fledged chicks break themselves out.

Golden Pheasant (*Chrysolophus pictus*)



The **common rhea**, or 'pampas ostrich', is a flightless bird of the South American grasslands. It is a member of the same order of birds (the 'Ratites') as the African ostrich, the Australian emu and the New Zealand kiwi; all these species have long since lost the ability to fly.

The birds live in groups, with a single male controlling a harem of hens: each hen lays ten to fifteen eggs, outside the nest. The cock bird gathers the eggs together in a single nest, incubates them and is solely responsible for the care of the young when they hatch.





There are around 330 species of parrot in the world. Most of them live in the Southern Hemisphere.



## Parrot Facts 1



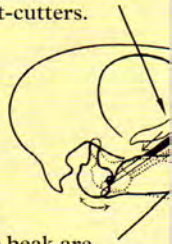
★34°N Farthest north – the slaty-headed parakeet from west Afghanistan.  
★55°S Farthest south – the austral conure from Tierra del Fuego.

Although fossil parrots have been found in both Europe and the USA there haven't been any native parrots here since the last ice age 15,000 years ago.

The upper and lower parts of a parrot's beak have separate hinges so that when the beak muscles tense the beak closes like a pair of bolt-cutters.

The lower beak is able to move from side to side as well as up and down.

The tongue and lower part of the beak are used together to hold food in the mouth and help break it up.



Parrots, a bit like the ones we see today have been flying around for about 30 million years. During that time they have become adapted to fit their surroundings and take advantage of the available food.

## Parrot Facts 2



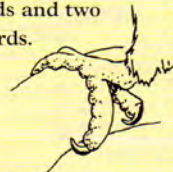
The largest parrot in the world, the hyacinth macaw of South America, is over a metre long.

The smallest, the pygmy parrots of south Asia, could easily fit in the palm of your hand.



Parrots spend more time walking and climbing than they do flying.

Their feet have two toes facing forwards and two facing backwards. This gives them a vice-like grip.



Their short legs keep their centre of gravity low which helps them to balance.

You can always spot a parrot by its hooked beak. Parrots use their beaks for both feeding and climbing.



## Parrot Facts 3



The beak grows throughout the parrot's life. It must be constantly worn down and sharpened by gnawing on branches. They are delicate enough to handle soft fruit but strong enough to crack the toughest nuts.

A large macaw can exert a force of around 300lb/sq inch with the tip of its beak – that's like being stamped on by a twenty stone woman wearing stiletto heels. They can easily crunch normal cage wire and fingers!

**Q.** What makes Polly pretty?  
**A.** Part pigment and part trickery! Many parrots aren't brightly coloured at all, it's just a trick of the light. The secret? They have special feathers with millions of tiny air bubbles inside them. When light hits them it is scattered. Mainly blue light is reflected back so they appear shiny and blue to our eyes. If there is a yellow pigment in them as well they appear green.  
**Macaws have especially long 'rudder' feathers for braking and turning.**



## Parrot Facts 4



Ridges on the inside of the upper beak work like a file.

Many parrots have a broad lower beak to prevent food falling out of the mouth.

## Q. Why is Polly pretty?

If you think that parrots are brightly coloured to stand out from the crowd you could be wrong! Some scientists think that the splashes of colour don't help a parrot attract a mate, as we used to think, but instead help it hide from its enemies by breaking up its outline. Who knows?

## Parrot Facts 7



To keep their flight feathers in working order parrots need to preen and 'knot' them back together. Preening also removes flakes of scale, parasites (bugs) and dirt.



## Parrot Facts 5



They use their feet when feeding to either clamp the food to their perch or to take it to their beaks.

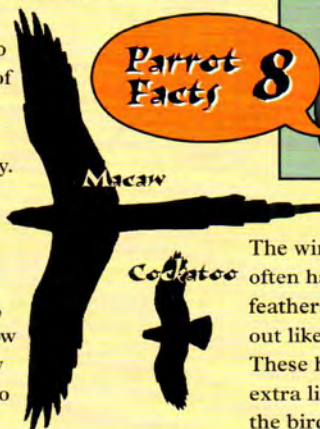
$\frac{1}{2}$  of all conures are left footed  
 $\frac{3}{4}$  of all cockatoos are left footed  
 $\frac{1}{20}$  of all people are left handed  
Just thought you might like to know!

Parrots need to take off and gain height quickly to escape danger but most of them don't need to fly long distances as there's usually a safe tree near by.

## Parrot Facts 8



Lorikeet



Macaw

Cockatoo

Most parrots have broad, rounded wings. These allow a quick take off and allow the bird to turn quickly so it doesn't hit any trees!

The wing tips often have feathers sticking out like fingers. These help create extra lift when the bird takes off.

## Parrot Facts 6



Cockatoos have 'crest' feathers which they stick up like a punk haircut when they are displaying.

Birds have three main types of feathers:

Primary, or

Contour feathers for streamlining

Down feathers for keeping warm

flight feathers

## Birds of a feather . . .

Forest parrots usually live in small groups and fly together from their roosting (sleeping) trees to their feeding areas every morning.



Those that live in more open areas often come together in huge flocks which can number hundreds of birds.

## Parrot Facts 9



Parrots are real copy-cats. There's safety in numbers, but only if everyone acts together. If they stand out, they could become the main course for a hungry eagle, monkey, snake, lizard . . .

. . . Flock together.



# Zoo Education



The Education Department was formed in 1976 to assist Penscynor's vital conservation work. Its aim is to promote an understanding of, and concern and respect for, animals and the natural world. The first full time Education Officer was appointed in 1987 and in 1989 the 'Zoo Centre' was opened. The Zoo Centre is a purpose-built lecture theatre, classroom and exhibition centre. At present there is a full time Education Officer, a seasonal Education Assistant and an army of volunteers.

The Education Department helps to teach groups or individuals of any age a variety of topics based around the natural world. School groups use the park as a valuable resource to teach children anything from science to art. Education sessions for schools are tailor made by the Education Officer in conjunction with teachers. A small, carefully chosen selection of handling animals is kept in the Zoo Centre to aid teaching. With close supervision the children get a chance to get close to some of the animals they have been learning about, and along with the larger animals around the park, this helps to reinforce topics and makes learning fun and exciting.



Zoo education is not just about school children. The Education Department also teaches college and university students and, just as important, the general public. The general public are encouraged to learn in the same way as school children, although less



formally. At weekends, holidays and on busy days there are informal talks, tours and demonstrations at various points during the day. These range from feeding-time talks for the penguins and the chimps to snake shows, which allow anyone who is interested to learn about and get close to an animal that is much maligned. The Zoo Centre is usually open to the public with a range of displays and exhibits, and staff on hand to answer questions.

The Education Department is also responsible for the design, production and up-dating of the signs and displays on all the animal enclosures. These are designed to answer the most commonly asked questions about each animal as well as illustrating interesting features about their biology and ecology.





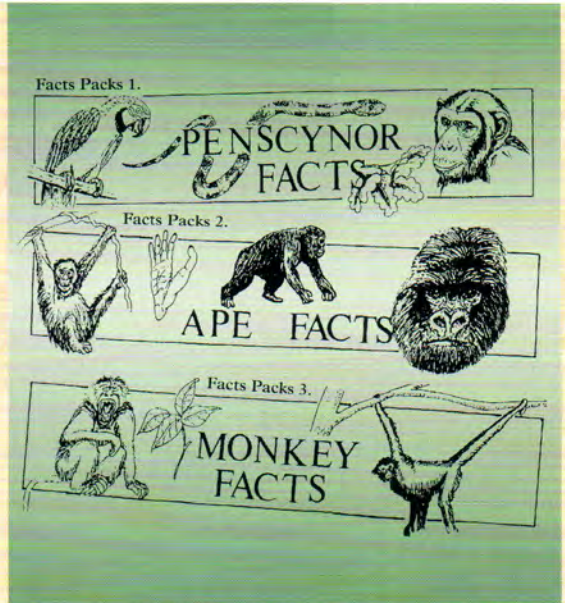
The Education Department produces a range of information material for use by teachers or anyone who is interested. We also stock a range of material produced by other organisations which teachers are welcome to consult.



▲ Raising money for wildlife projects and charities. People are encouraged to part with donations in the Zoo Centre by having their faces painted to look like the animal of their choice.



Zoo education is not just about teaching, it is also about learning. Studying animals in the wild is sometimes difficult and often impossible. Zoos provide an important, and what is often a unique, opportunity to study live animals. The more we learn about an animal, the more we can do to help it. It is not just exotic animals that are studied, Pencsycnor staff also use their experience to help local conservation projects both in the park and outside of it (see page 29). The Zoo Centre is used as a meeting place for clubs, societies and charities who have an interest in wildlife issues.



**Volunteers:** The Education Department always has a great deal of work to do. Whether it is talking to school groups, making displays, looking after or studying animals, it would not be possible without the help of volunteers. We are always on the lookout for new volunteers to help with the varied jobs that we do inside and outside the park. If you have a keen interest in wildlife and its conservation and you have some spare time on your hands (be it two hours or even two days a week) why not become a volunteer at Pencsycnor? You will have the opportunity to work with a range of animals and at the same time help with their conservation (see also page 29). If you are interested you should phone the Education Officer on (01639) 642189.



▲ Raising awareness and promoting conservation by way of displays, talks and activities.

▼ A display of confiscated wildlife products on loan from HM Customs & Excise.





# Back to Brazil

Golden lion tamarins are small, brilliantly coloured monkeys who live in the coastal forests of south-east Brazil. Less than twenty years ago they faced certain extinction as these forests disappeared to make way for the growth of the Rio-São Paulo conurbations, and the agriculture needed to support this most densely populated area of Brazil. Led by the National Zoo, Washington, conservationists launched an international co-operative effort to secure the future of the captive population (around forty animals, scattered around the world) and, at the same time, began efforts to create a reserve to protect the remaining wild animals.

This project has been so successful that some zoo-bred animals have been returned to the Poço das Antas reserve, under the supervision of Brazilian and north American scientists. These include a family of five Pencyrator animals, flown to Brazil in 1988.



Golden lion tamarin (*Leontopithecus rosalia*)

Rain Forest



A family group

Nearly 100 zoo-led reintroductions have taken place, across the world, despite the enormous problems of habitat loss. It is predicted that the human population of the world will have stabilised, or even have begun to fall slightly, in 200 years' time: a key zoo objective is to maintain populations until this time, when, hopefully, habitat can be made available for reintroductions.



# Penscynor Conservation

Penscynor Conservation is the branch of the wildlife park that aims to make direct contributions to wildlife conservation. By raising **funds** – largely through Zoo Centre activities – and harnessing the expertise of various **personnel** – zoo workers, associates and volunteers – PenCon aids a range of research and field projects.

**Research** is undertaken in the zoo, by Penscynor staff and visiting students, to better understand the natural history of all species and to better address the needs of animals in the zoo. Insight gained from such studies is of direct relevance to the welfare of captive animals, is important to the successful maintenance of threatened populations, and may be significant to an understanding of the requirements of wild populations. Each year, four to ten such projects are undertaken by students visiting from various universities. Animal-keepers have their own, ongoing projects – e.g. the social organisation of Callitrichids (see 'marmosets and tamarins', pages 6/7); parental investment in infant tamarins; the biometrics of parrots; moult and egg-laying shifts in southern hemisphere species. Additionally, staff contribute data about their animals to numerous investigations being pursued by outside researchers.

**Funding** is provided by PenCon for a variety of field-conservation projects, often with further money



Penscynor  
Conservation

## PROYECTO TITI

PROGRAMA DE EDUCACION CONSERVADORA EN COLOMBIA

El caso, el destino y el compromiso con el desarrollo y los recursos.  
"Trabaja responsablemente en el desarrollo y el cuidado del medio ambiente."  
Reserva Natural de los Andes, Colombia. Proyecto Titi y sus aliados.



from the wildlife park's operating budget. As a small fund, PenCon concentrates on work where a 'little goes a long way', as well as contributing to larger initiatives in conjunction with other bodies; money is targeted, particularly, at projects of direct relevance to the species with which Penscynor works most closely. In 1995/96, grants of between £300 and £1000 were made to:

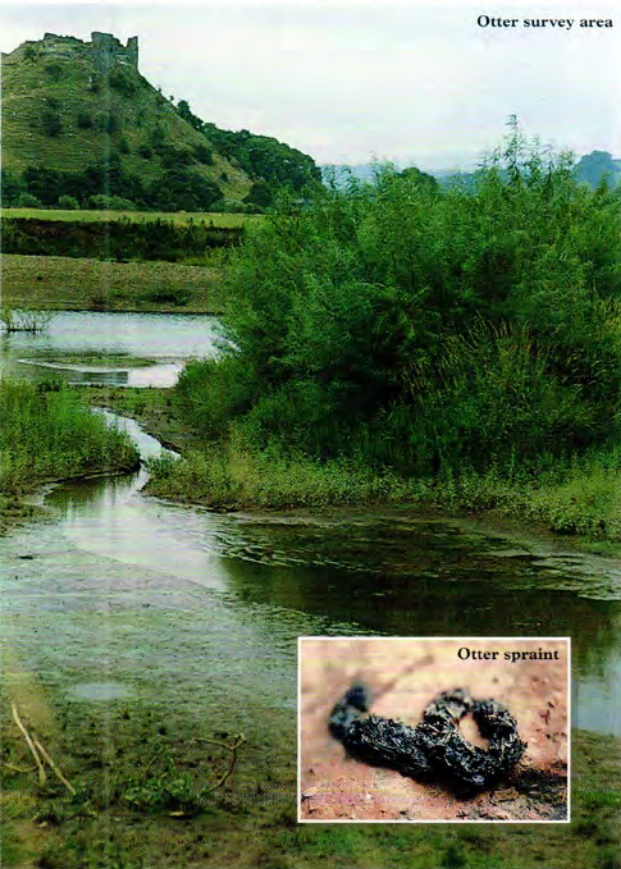
- the Threatened Birds of Cuba Project (population counts, distribution maps, educational materials)
- International Lion Tamarin Recovery Programme (co-ordinating wild conservation and captive populations)
- Falklands Conservation (conservation surveys)
- Hebridean Whale and Dolphin Trust (education packs)
- Proyecto Titi (rainforest conservation education in Colombia)
- *Neotropical Primates* (a free journal, keeping field-workers in touch)

In 1994 4,500 posters, produced by PenCon and Blackpool College of Art, were distributed throughout northern Colombia, as part of a continuing commitment to the Proyecto Titi project; in 1995, funds provided field equipment for the use of field-work trainees.



Pencynor Conservation is also active in support of local **field-work**, directing in-house expertise and volunteer enthusiasm into a variety of wildlife projects. Some of these projects are 'one off' exercises – e.g. clearing Broad Pool (on the Gower peninsula) of silt and fringed water lilies; other involvements are part of national research

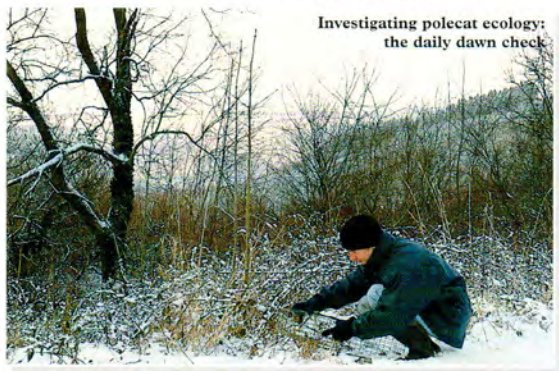
Otter survey area



Otter spraint

programmes – e.g. the national badger survey, 1994–96. Some projects, initiated by Pencynor staff, are longer term: these include monthly cetacean watches from the Gower coast, and monthly seabird and cetacean survey trips into the southern Irish Sea. Future plans include otter surveys of local rivers and the investigation of local butterfly colonies.

Investigating polecat ecology:  
the daily dawn check



Bottle nose dolphin and common  
dolphin in the Irish sea



If you're interested in any helping with any of these efforts, see 'volunteers', pages 26/27.



Repairing storm damage at Cwm Ivy Wood  
Nature Reserve





# Other Attractions



Bobsleigh chute

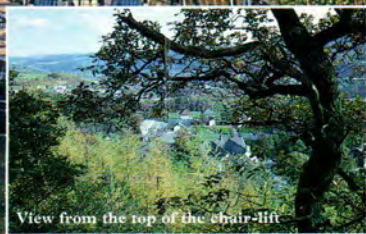


Picnics

Recognising that not every member of the family is a wildlife enthusiast, at least not all of the time, Penscynor offers several other attractions. Most popular is the chair-lift ride up the hill, and the thrilling descent of the 'bobsleigh chute' on a wheeled toboggan; other attractions include radio-controlled cars and boats, bumper cars and a children's playground (some seasonal/by arrangement).

Many visitors stay all day, and there are many quiet corners in which to enjoy a picnic; additionally, a covered picnic area seats over forty. Alternatively, the Coffee Shop is always open for drinks and snacks; during the season, there is also the fast-food café.

Pencynor is open every day (except Christmas Day), whatever the weather. The grounds look their best in spring and autumn.



View from the top of the chair-lift



Father Christmas visits throughout December





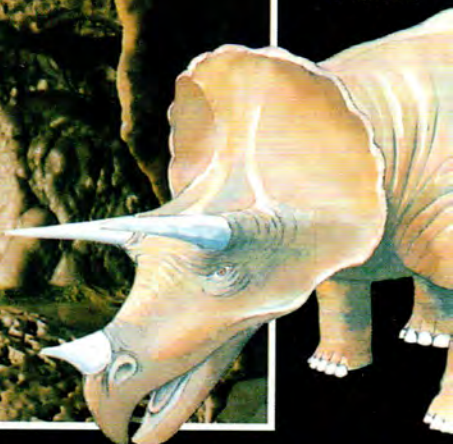
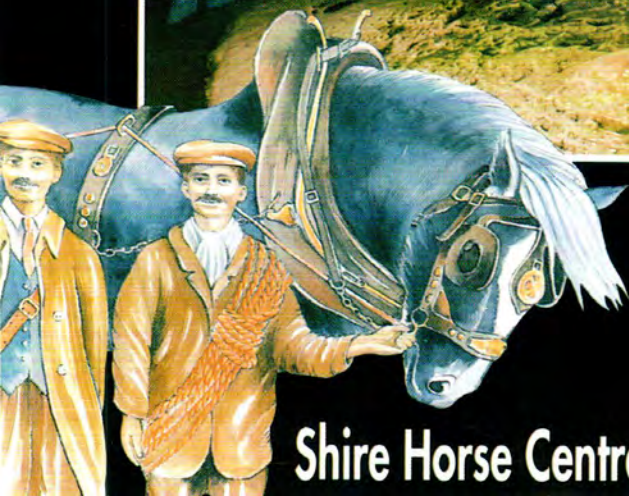


# DISCOVER **Dan-yr-Ogof** Showcaves SECRETS

Iron  
Age  
Farm

Three  
Magnificent  
Showcaves

Dinosaur  
Park



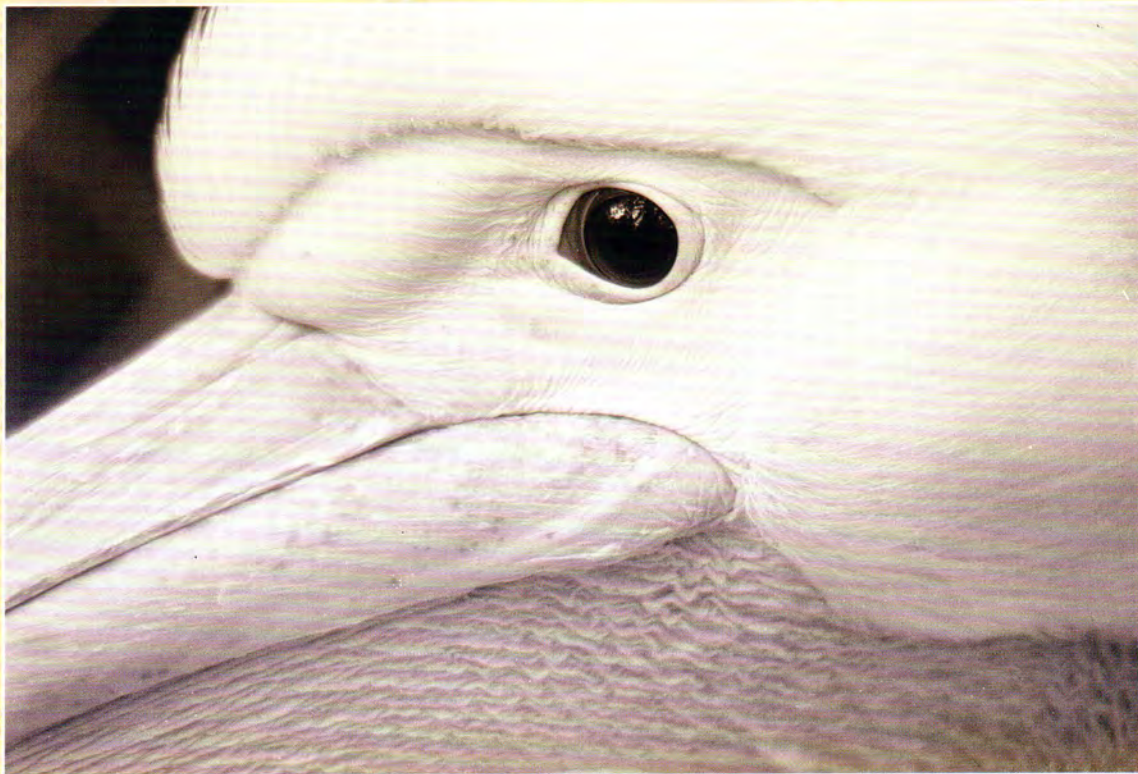
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