

ZOOLOGICAL COLLECTIONS IN PORTUGAL (Part 1)

BY OLAF PATEROK AND JONAS LIVET

The western European country of Portugal is famous for its strong winds and moderate climate. In general the climate is dry, but with a good amount of rain during some months. The warm to moderate temperatures create brilliant vegetation in many areas.

The country is quite small, covering only 92,000 km². The resident population of ten million does not provide a strong argument for opening a zoo in this country, but about 12 million tourists every year represent a large number of potential zoo visitors, making some doubts about commercial success disappear.

As a result of its rich colonial past, Portugal has a relatively long history of zoological gardens. The first royal menagerie was built by King Denis (1279–1325) and was inhabited by species from the local fauna, bears and wolves in particular. The second royal menagerie, which was supplied with many animals brought from Africa for King Alfonso V (1438–1481), was created in Cintra.

Portuguese colonization and trade were carried to their peak by Vasco da Gama at the end of the 15th century. During that period many African and Asian animals arrived in Lisbon. Particularly interesting to note is the arrival of the first rhinoceroses to reach Europe since the destruction of the Roman empire. A sketch by a Portuguese artist of an Indian rhinoceros just unloaded at Lisbon harbour later inspired Albrecht Dürer's famous drawing of 1515 (with the unusual horn on the neck). At that time a third menagerie to accommodate all these animals was built in Ribeira.

During the second half of the 16th century the Portuguese conquests and

the nation's wealth gradually decreased. But finally the menageries, which had been abandoned during the Spanish occupation (1580–1640), were restored after the revolution of 1640. The menagerie of Ribeira was quickly repopulated. Just near the gates of Lisbon, in Belem, another menagerie was created by King John V in 1726. Because of its importance and its design the Belem menagerie is sometimes regarded as the first true Portuguese zoological garden. The menagerie of Queluz was the last royal menagerie created in Portugal. The royal family had to flee due to the French invasion in 1807 and all the zoological collections were then completely abandoned.

About 50 years later some large commercial menageries were created in Lisbon and Oporto. It could have been their extent and their success which led to the idea of the creation of a true zoological garden in Lisbon. This was finally done in 1884, when a company of shareholders created the Garden of Zoology and Acclimatization of Lisbon. It was initially installed in the Parque de San Sebastiao de Pedreira and later transferred to a nearby site named Parque de Palhairs. The zoo was finally settled on its permanent site in the Parque das Laranjeiras in 1905.

Because Portugal had colonies in Africa, America, Arabia, India, China and South-east Asia, it seems certain that some private individuals must have brought exotic animals from the colonies in the 17th and 18th centuries, but the majority of Portuguese citizens did not have a chance to see wild animals until recently. Having just a single zoo in the whole of Portugal for almost a century, the Portuguese people could get in touch with exotic wildlife only through small travelling menageries or fairly big circuses which could present large mammals such as big cats, camels and elephants.

The Spanish cities in areas close to Portugal, like Vigo in the north or some cities in Andalusia, also did not have any zoos until about 20 or 30 years ago, when some small collections opened in tourist areas. But the history of Portuguese and Spanish zoos is closely related. In 1988 the Spanish Zoo Association was founded, and in 1999 the name was changed to AIZA (Asociación Ibérica de Zoológicos y Acuarios or its equivalent in Portuguese – see www.aiza.org.es), paying regard to the fact that some Portuguese zoos had joined the association. Today seven zoos in Portugal are members of AIZA, five are members of EAZA (European Association of Zoos and Aquariums) and two of WAZA (World Association of Zoos and Aquariums).

The APZA (Associação Portuguesa de Zoológicos e Aquários) was created in 2006 in response to the adoption into Portuguese law of new EU legislation relating to institutions, as well as more complex licensing processes and the reaction to epidemic diseases.

The second zoo in Portugal (Zoo da Maia) did not open until 1985, a century after Lisbon Zoo was founded in 1884. During the following years only a few collections opened, such as Zoo Lourosa close to Oporto in 1990 and Zoomarine in the Algarve in 1991. But in the last ten years more zoos have opened in Portugal, most of them with mainly commercial backgrounds, such as Badoca Safari in 1999, Zoo Lagos in 2000, Zoo Quinta S. Inácio in 2001 and Monte Selvagem in 2004. An exception was the opening of Omega Parque in the Algarve [see *IZN* 50 (2), 92–96], which housed almost exclusively rare and endangered animals on loan from other European collections. Here animals were presented in a very 'uniberian' way, with plenty of space and many ways to hide from the public – in total contrast to the small cages and more 'visitor-oriented' way of exhibiting animals typical of most Spanish and Portuguese zoos.

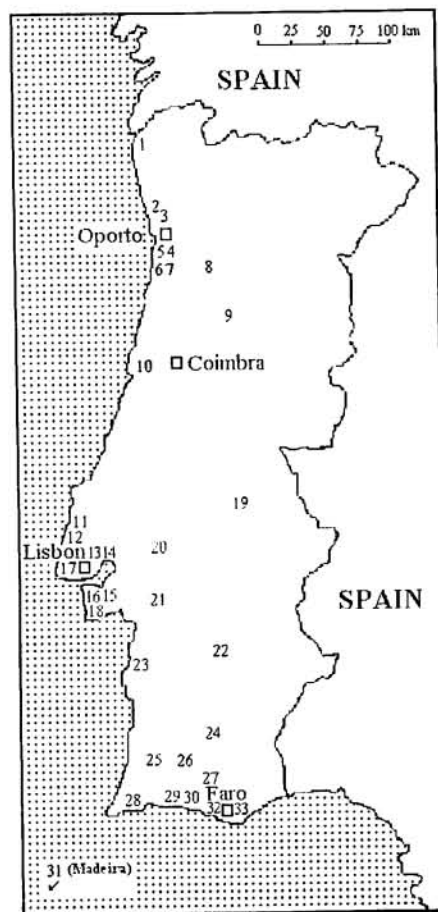


Figure 1. Sketch map of Portugal, showing the collections mentioned in this article and its continuation in the next issue.

The oldest aquarium in this country with its strong links to sea life and fishing is the Aquário Vasco da Gama in Dafundo, Lisbon. This historic aquarium was opened in 1898 and the museum and animals still occupy the original site. Today some seven aquariums and marine mammal collections exist in Portugal, most of them opened in the last few years.

In April 2007 we took a ten-day tour to see the most important and interesting of these collections and to visit the new Omega Parque in the south of Portugal, which unfortunately has announced that it is to be closed very soon. During our tour we learned that we were lucky to see a number of other collections which are on the point of changing their appearance or closing. So it was the right time to do a survey and get an impression of the current situation of zoos, zoo design and wild animal husbandry in Portugal.

The zoological collections of Portugal (from north to south)

1. Aquarium-Museu do Rio Minho, 4920 Vila Nova de Cerveira (www.aquamuseu.org)

This small aquarium was opened in June 2005. It is located on the Spanish border approximately 100 km north of Oporto.

2. Centro de Ciência Viva de Vila do Conde, 4480 Vila do Conde (www.viladoconde.cienciviva.pt)

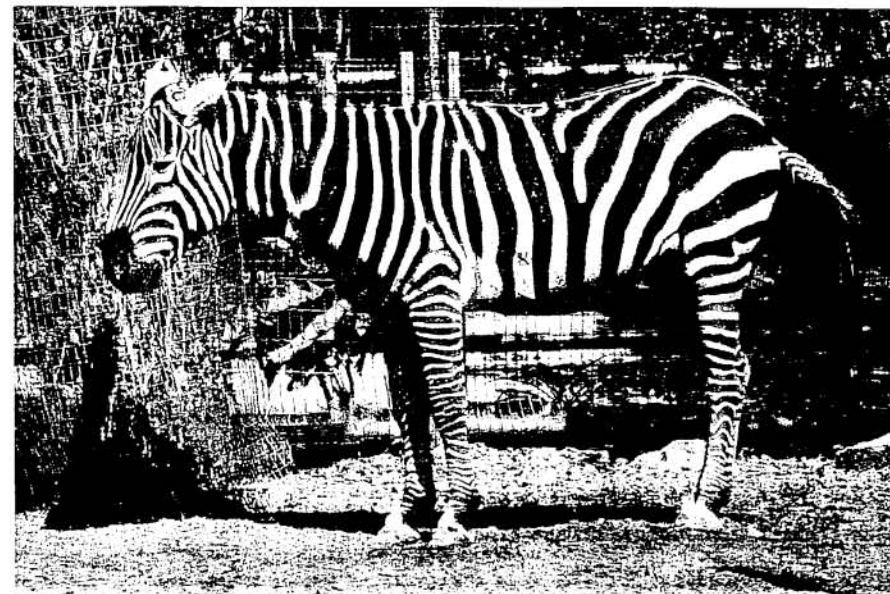
This scientific centre and science museum was opened to the public in March 2002. It is located approximately 35 km north of Oporto. The building dates from 1915 and is the former city jail (which was in use until the 1970s). In 1999 the city authorities decided to give this listed building a new function. An architectural award was given in recognition of the successful preservation of the shape and appearance of the circular building with its central yard.

Centro de Ciência Viva is a multifunctional centre for science and technology. The aim is to understand biology and technology by observation and experimentation. A 1,000-litre tank for saltwater fish from Portugal is the living exhibit in this institution. The University of Oporto is involved in the work at the centre. Visits must be pre-arranged.

3. Zoo da Maia, 4470 Maia (www.zoodamaia.com)

Even though only just over 20 years old, this is one of the oldest zoos in Portugal. The history of the collection is still visible in some parts and in the general shape of the whole park. About 10 km north of Oporto, the small (2.5-ha) zoo is located close to the airport. When entering the zoo grounds one is surprised to find that the first part is a free-entry area showing only birds. Here the exhibits and aviaries are quite new and in very good condition. The species one finds range from lesser flamingos to curassows and ostriches, as well as crowned cranes, waterfowl, turacos and parrots. We were interested in the colourful litter-sorting system (which we were to see in some other Portuguese zoos during the next few days).

Going a bit further, one comes to a second gate where an attendant asks for your ticket which you should have bought when entering the zoo grounds. The entrance fee is €4.50. The second part is much more a traditional zoo with small exhibits, as we had expected to find. First we saw European lynxes and leopard cats (*Prionailurus bengalensis*) in traditional cages, followed by some small and very old-style barred carnivore cages. It was clear that these had been heightened at some time. Here we saw a single male mandrill living together with some



A maneless zebra at Zoo da Maia.

porcupines. The following cages held pumas, a single tiger and both black and spotted leopards. In the centre some cages which housed lemurs had been modernized with glass windows replacing the bars. On an old map we saw that talapoin had been held in these cages before, so we hoped to find them later on in another part of the zoo. What we found right away were three capuchin monkeys of two species (*Cebus apella* and *C. olivaceus*) in one cage. Further on we saw three (1.2) lions in a pit enclosure and a single male hippopotamus in a small and very traditional hippo exhibit, consisting of a land area and a very shallow pool. We had not yet reached the most interesting part when we found a dreadful bear pit with 1.1 European brown bears (Portugal's only bears except those at Lisbon Zoo) and a totally inadequate chimpanzee cage for 1.3 animals. After that shock we saw small enclosures for two pairs of silvery marmosets and were approaching the next unpleasant experience, a single male orang-utan in a tiny glass-fronted room. This animal – a hybrid named Samson born at Hanover Zoo – had been housed in that extremely small den for more than five years after being sent to Maia Zoo on loan from Fuengirola Zoo, Spain. (These facts we found out later during a conversation at Rome Zoo.)

In a few central paddocks a group of zebras – including a maneless zebra (*Equus quagga borensis*) stallion – wallabies and muntjacs were displayed. On an interesting small island with access to the surrounding trees there was a group of lar gibbons. When leaving this part of the zoo we found a large cage with what seemed to be a group of vervet monkeys, but when we took a closer look at the animals we found two little guenons with large ears that seemed to be – and really were – the talapoin we had been looking for. In fact they were northern talapoin (*Miopithecus ogouensis*).

The part we had saved for last was the reptile house and sea lion show. The

entrance of the zoo is alongside a huge building which contains a large 'Exotarium'. The 'Arca de Noé' (Noah's Ark) on two levels shows some crocodiles in pits and some of the commonly displayed reptile species such as boas, pythons, green iguanas and a monitor. The small nocturnal part has sugar gliders (*Petaurus breviceps*), an African civet cat or Cape genet (*Genetta tigrina*), Egyptian fruit bats (*Rousettus egyptiacus*) and a common brushtail possum (*Trichosurus vulpecula*). A number of tanks contained fish and amphibians. In front of the building an extremely small pool for a single female South African fur seal (*Arctocephalus pusillus*) was quite disappointing, but the show with that poor animal and its trainer was quite a unique event.

When leaving the zoo a large – more than 15 metres long – statue of a lying woman caught the visitor's eye. It seemed to be for education purposes and was open to walk in. Inside the statue one could see the organs to learn the physiology of humans. Interestingly, this statue – named 'Boneca Eva' – was originally located at the children's zoo at Lisbon Zoo until they rebuilt this area for the zoo's hundredth anniversary in 1984; it was then transferred to Maia for the opening of Maia Zoo in 1985.

All in all we found quite a big collection of primates, with 15 species – black-and-white ruffed lemur, red-fronted lemur (*Eulemur rufus*), common, silvery and black-tufted marmosets (*Callithrix jacchus*, *C. argentata* and *C. penicillata*), brown and weeping capuchins (*Cebus apella* and *C. olivaceus*), mona monkey, vervet monkey (*Chlorocebus aethiops*), northern talapoin, mandrill, rhesus macaque, lar gibbon, orang-utan (hybrid) and chimpanzee. There were also seven cat species – leopard cat, European lynx, puma, tiger, lion, jaguar and leopard. The bird and reptile collection was also quite big for such a small place.

This small zoo still has a lot of its original enclosures, and even though they try to keep everything very tidy and well decorated with nice vegetation, the housing of the large animals under such conditions does not find much approval from Portuguese animal rights activists in the year 2007. As we later learned when talking to staff at other zoos, the Zoo da Maia has already been forced by the national authorities to agree to relocate all the large mammals to other collections in due course. The chimps are supposed to go to Lagos Zoo and the orang-utan to a zoo in Brazil. All the large cats and bears are to find new homes at some of the few better zoos in Portugal. These local 'zoo insiders' doubted whether Maia Zoo would be closed down, but they were all quite sure that it would have to change its stock a lot.

4. Zoo Quinta S. Inácio, 4430 Avintes (www.quintasi.pt)

Quinta S. Inácio is located in Avintes on the outskirts of Oporto. The park is well signed and thus easy to find from the main motorway (A13).

The Portuguese word *quinta* means 'farm' and that is where this young zoo is located – as in some other cases the site is a former farmland area. Only opened in 2001, the park was first managed by a person who gathered the stock of animals from various – and sometimes most dubious – sources. Some time later the owner decided to do more conservation work and joined AIZA and later EAZA as well. It is quite obvious that Quinta S. Inácio has a high reputation within the Portuguese zoo scene. In general appearance the zoo is an open area with fenced exhibits, aviaries and a bird-show lawn. They have snow leopards and pygmy hippos, and probably the most spectacular insect house one will find in a European zoo. A bird area has owls, storks and birds of prey. A highlight was the great blue turaco (*Corythaëola cristata*), a species rarely kept in zoos. Various

species of curassows were on display, which in fact was the case in many zoos in Portugal. Other carnivores we saw were a pair of African hunting dogs, and a new exhibit for cheetahs was already waiting for its new inhabitants to arrive from Omeda Parque. Later we also found a female margay of a subspecies (*Leopardus wiedii pirrensis*) unique in Europe.

A real highlight at this place is the primate house. Designed in a half circle shape with low outdoor cages linked to the indoor enclosures, it is quite traditional, but the animals housed in it were not at all common. We saw a group of black spider monkeys which were described on the sign as *Ateles paniscus*, but we doubted whether this was correct and thought they were more probably *A. chamek* – at least some of the animals looked like this species. These monkeys were acquired during the first years of the zoo's existence by someone who did not care too much about whether some dealer's offers were legal or not. Obviously wild-born, these spider monkeys were quite a unique sight in Europe at the time of writing. Some cages further on was a single male silvery woolly monkey (*Lagothrix poeppigii*), who had also arrived at this time, and his individual history is also uncertain. Unfortunately a female *L. poeppigii* had died. The only two other animals of this species in Europe at the time of our visit were two males at Basel and Apenheul. A group of Tonkean macaques, Uganda red-tailed monkeys (*Cercopithecus ascanius schmidtii*) and white-fronted lemurs (*Eulemur fulvus albifrons*) was on display as well. Unfortunately a pair of red-mantled saddle-back tamarins (*Saguinus fuscicollis lagonotus*) had died some months before our visit, and we now found a pair of cotton-top tamarins in their exhibit, living together with at least one larger hairy armadillo (*Chaetophractus villosus*).

When turning to the exit after seeing the collection of parrots and the small tropical house, we discovered another building which turned out to be a reptile collection. Even though very spacious for the public, it shocked us by being totally dark. Many middle-sized tanks and some outdoor exhibits provided a good basis for making something reasonable out of it. The vet, whom we met by accident, explained to us that it would be the zoo's major task in the coming months to completely refurbish the tanks and improve the lighting.

This place is definitely among the top three zoos in Portugal and hopefully they will continue in the future to combine good animal housing and husbandry with some exciting species. The entrance fee was €7.50.

5. Parque Biológico de Gaia, 4430 Avintes (www.parquebiologico.pt)

We had been advised not to visit this park, as it was supposed to be uninteresting with only a few animals, but we decided to have a look anyway. This turned



A silvery woolly monkey at Zoo Quinta S. Inácio.

out to be one of our best decisions in the entire trip. We easily found the park just a few minutes' drive from Quinta S. Inácio. Beside the car park a modern entrance building made a professional impression. Though it was not the summer season the park was open to the public until eight o'clock in the evening. As it was only half past five we went in and paid the • 4.00 entrance fee. Very soon it became obvious that this was quite a good zoo. First we found an exhibit with a pool for European otters, followed by a large hall with flamingos and other marshland birds behind glass. The next exhibits were aviaries for egrets and gannets (*Sula bassana*)! The principle of animal display at this – probably the best zoo in Portugal – is to give a hidden view from behind wooden walls. The visitor looks into the aviaries or exhibits through small holes in the walls, as is common in 'hides' for watching wild birds.



Gannets make an unusual exhibit at Parque Biológico de Gaia.

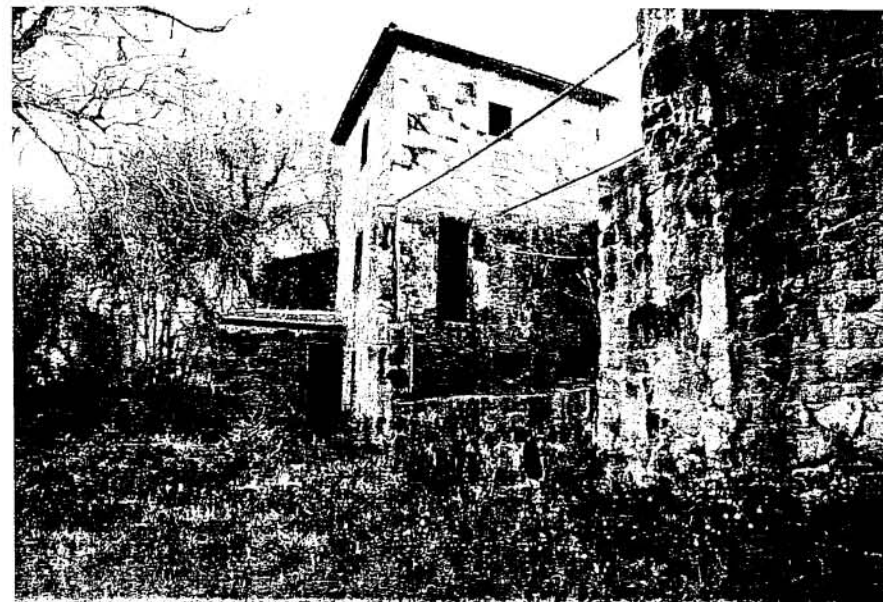
Again, this park is located on the grounds of a former farm. The area is quite large (35 ha) and to do the whole tour takes more than two hours. The idea is to exhibit Portuguese wildlife, which is done on a big scale – they had more than 100 native species on display when we visited the park in April 2007.

Aviaries for wading birds are followed by those for birds of prey – griffon vultures (*Gyps fulvus*), booted eagles (*Hieraetus pennatus*) and short-toed eagles (*Circetus gallicus*) – and small mammals like badgers, raccoons and polecats. A highlight was the ruin of a stone farmhouse which today has many exhibits for small mammals such as Egyptian mongoose and common genet as well as various species of owls. A zoo farm displays rare domestic breeds from Portugal. Further on hoofstock like European ibex, European bison and roe deer were displayed, as well as wild boar and more breeds of cattle and horses.

The whole park is based in a wonderful setting of forest and farmland, with

various animal exhibits all along the way. New projects like a large pool for waterfowl and a small house for educational purposes gave an impression of an ongoing development.

Leaving the zoo in darkness at close to eight we had a look at the exhibition hall in the basement of the entrance building, where a large model of the park explains about the whole site. One should have a look at this when visiting the park. The large and modern entrance building also contains a shop, laboratories and some meeting rooms. It was officially inaugurated in 1998.



Parque Biológico de Gaia makes good use of its picturesque old farm buildings.

6. Estação Litoral da Aguda, 4410 Arcozelo (www.fundacao-ela.pt)

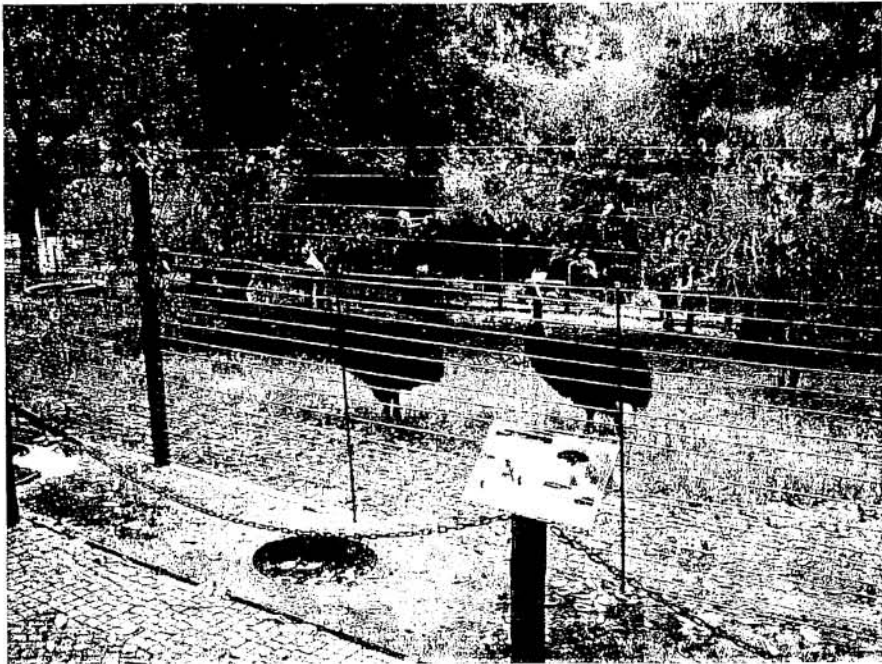
ELA is a museum with a small aquarium located just a short drive south of Oporto. The purpose of this institution is to give a survey about the history of man and the sea in this part of Portugal. The fish exhibited are native species from the Portuguese Atlantic coast. The highlight is a special exhibition of art works in terracotta depicting aspects of man's relationship with the sea – fishing, whaling, boats amid high waves, scenes from the Portuguese coast, and many more. This new museum-aquarium was opened on 1 July 1999 and the site is right on the beach in Arcozelo. A visit costs €2.00.

7. Zoo Lourosa, 4535 Lourosa (www.zoolourosa.com)

This park was opened in 1990 mainly as a bird collection, though some mammals such as gibbons were also displayed during the first ten years. Some years ago, however, the city authorities took over the park and developed a new philosophy under which the small (only two-hectare) park was to be used exclusively for exhibiting birds. The first step was to create a very professional website and new signs in the zoo. It was very similar to what we saw some days

before at Maia Zoo – new visitor barriers, new fences and very neat vegetation all along the walkways and exhibits.

Visiting the park today gives a good impression about how it looked ten years ago – nothing has changed for the animals. All the numerous birds live in small cages and some middle-sized aviaries. The highlight is a row of five glass-fronted aviaries for hornbills and pheasants. Some paddocks in the middle of the park are used for keeping large birds like ostriches, rheas and cassowaries.



Cassowaries at Zoo Lourosa.

Around a small lake some flamingo and waterfowl exhibits are sited, as well as a row of really old cages for owls. These cages in particular look very much like former primate or carnivore cages. Due to a good climate and high humidity very nice vegetation with a lot of bamboo has become established.

From the aquarium in Arcozelo it is a 20-minute drive to Lourosa, which is about 15 km south of Oporto. The bird park is well signed and the entrance fee is €2.50. On the sign giving the opening times we found a rarity in zoos – something we had never seen before. The sign said that 800 visitors would be the maximum number of people allowed to enter the park.

Among the interesting species we saw at the park were two pairs of western capercaillie (*Tetrao urogallus*), blue-throated piping guan (*Pipile c. cumanensis*), great argus (*Argusianus argus*), and several different species of curassows including northern helmeted curassow (*Pauxi p. pauxi*). Many more beautiful species were on display.

8. Parque Biológico da Serra das Meadas, 5100 Lamego (www.cm-lamego.pt/parquebio)

This 50-ha park, exclusively for native species, is located approximately 100 km east of Oporto. From the entrance the walkway leading around the park passes 15 enclosures for deer, mouflon sheep, wild boar and waterfowl. The interesting vegetation with many species of trees is regarded as a highlight in this park.

9. Parque Zoológico de Gouveia, 6290 Gouveia

The Zoo de Gouveia is a small zoo located between Oporto and Coimbra but much further inland. At the park they exhibit different species of deer, interesting native rare breeds of dogs and donkeys and some small mammals like civet cats.

10. Europaradise, 3140 Montemor o Velho (www.europaradise-park.com)

Europaradise is a medium-sized park (c. 15–20 ha) in a natural setting opened on 8 August 1998. The site is about 30 km west of Coimbra in the direction of the sea. The entrance fee in 2007 was €10.00. Unfortunately Europaradise is anything but a paradise. The dilapidated entrance with a sign 'We are open' already gave us a suspicious feeling about the quality of this collection. In fact we were probably the only visitors on that day. The cages for primates and birds are made of the cheapest materials and look very run-down, but the most disgusting thing was the fact that many of the mammal species and some birds as well are kept as single specimens.

The first small cage we saw was inhabited by a single very poor little squirrel monkey with shabby fur. He was followed by a single male eclectus parrot. Visiting the zoo in the afternoon at about two o'clock we were surprised by the number of large rats running around in all the cages – no wonder, in view of the poor housing for the animals. No cage has any heating, let alone an artificial floor. Providing a warm, wind-proof shelter and a dry and clean floor for the animals doesn't seem to be an important issue for the people running this zoo. One should not forget that there are months of cold weather in Portugal, especially in an area that close to the sea.

The principle of Europaradise is a walk in the forest with small wooden huts for the display of animals being sited in the bushes right and left of the main walk. There is only one circular route around the park which leads to all the exhibits. In the first part the primates are exhibited in two rows of cages. Rarities like white-cheeked gibbon (*Nomascus l. leucogenys*), Müller's gibbon (*Hylobates muelleri*), grey-cheeked mangabey (*Lophocebus albigena*), moustached guenon (*Cercopithecus cephus*), another guenon that was probably a Sykes's monkey (*C. albogularis*), and a vervet monkey (*Chlorocebus aethiops*) of a subspecies we could not identify (named on a sign as 'blue-testicled monkey') were on display, but as usual in this park only single specimens – mostly males. (We later learned from zoo personnel that the white-cheeked gibbon was obtained from Zoo Lourosa some years ago.) The next exhibit was the *Paraiso dos Tigres* ('Tiger Paradise'), a simple rectangular high-fenced enclosure with one hybrid tiger. A row of parrot cages and a typical roundhouse for pheasants came after that. Examining this roundhouse a bit more closely, we found that there were no indoor cages – the central hut only had small doors to all the enclosures.

Having come halfway, we reached a small lake where we realized that this south end of the zoo was sited right by the motorway. All kinds of waterfowl were living on this lake. Right in front of the water were four small islands for red and black-and-white ruffed lemurs as well as some capuchins (*Cebus apella*).



A misspelt and uninformative sign at Europaradise.

The second half of the zoo was completely different. Some paddocks gave the impression that here we would find hoofstock. A strange high wooden barn caught our eyes, and we asked someone feeding the goats about the purpose of this building. The explanation was as we had expected – they were waiting for giraffes which were supposed to arrive soon. We thought it was most likely that they would get a single giraffe, not more. A single Grant's zebra, a single eland, a single scimitar-horned oryx, a single pelican, a single capybara, Walliser or Valais goats and red deer were the inhabitants of this part of the zoo. The red deer were very interesting, as they were of the Iberian subspecies *Cervus elaphus hispanicus*. A pair of single-wattled cassowaries were very active and followed us along the fence to get some attention.

Whereas the first part of this collection was sited right in a dense and green forest of old oak trees and bushes, the second part consisted of pine trees and was much less dense – two very different habitats, as it seemed. When we counted from our notes the number of species visible to the public, we came to 13 species of primate, c. 50–55 species of bird, one species of tortoise and about 20 species of mammal other than primates.

Another issue concerning us was the fact that many species were wrongly labelled. A so-called *Macaca irus* was really a *Cercopithecus mitis*, a *Hylobates hoolock* was a *H. muelleri*, *Cercocebus fuliginosus* was really *Lophoceros albigena*, and the highlight was a *Taurotragus oryx derbianus* which was nothing but a normal female eland.

To say some conclusive words about this animal collection is not very difficult.

In view of the dreadful housing and the state of many animals' health, with injuries, bad fur and running noses, one would like to ask the Portuguese authorities to take a closer look at this zoo. Although they are not members of any national or international zoo association, these people have a lot of animals on their site which have come from other Portuguese or European collections. And this might lead to a discussion about the responsibility of zoos and their 'tradition' of using animal dealers, with the implication that they do not care about the future destiny of the animals they dispose of.

11. Zoo-Oeste, 2565 Ramalhal (www.zooocste.com)

Zoo-Oeste is the small zoo of an animal dealer. Again the collection is located on a *quinta* – an ex-farmland area. The dealer provides a small café for the people visiting the zoo. Large hoofstock from sitatunga to giraffe are kept in simple fenced paddocks. There is a pond for waterfowl with some geese, ducks and swans. Established in 1994, the site is only for dealing and thus for commercial purposes. One can find it about 50 km north of Lisbon.



A solitary white-cheeked gibbon at Europaradise.

12. Centro de Recuperação do Lobo Ibérico, 2669 Malveira (www.lobo.fc.ul.pt)

The Iberian Wolf Recovery Centre was founded in 1987 to help rescue this subspecies (*Canis lupus signatus*). The people running the sanctuary insist on the fact that the IWRC is not a zoo. The seven-ha site is located 30 km north of Lisbon in an isolated valley with dense forest vegetation. Several packs of the wolves live in different enclosures. Information about each individual is provided for interested visitors. To visit the park is possible only with an appointment, which can be made by phone or mail. The entrance fee is €2.50.

13. Jardim Zoológico de Lisboa, 1549 Lisboa (www.zoo.pt)

The old and historic Lisbon Zoo is currently having a facelift. Though many buildings and some exhibits are listed, a number of buildings have been demolished, such as the well-known carnivore house, the polar bear pit and the gorilla house. The children's zoo has been moved to the entrance of the cable lift and a new pool behind the Dolphinarium has been built in the last two years. A medium-sized area above the elephants was transformed into a paddock for 2.0 okapis who arrived in 2005 from Cologne and Antwerp.

The ancient elephant house is listed and has therefore been retained, with a new part added which preserves the Moorish appearance of the building. The group of 1.3 African elephants with two calves will also get some space added to their current outdoor enclosure, for which the old polar bear rock has been demolished. A modern bull stable and protected contact facilities are being installed.

This is not the only new addition to the zoo. The carnivore house and the veterinary clinic, which had been sited one behind the other, were pulled down and a large new ape house was built on the same site. Unfortunately the – now very common – artificial rock-style exhibits do not at all match the general appearance of the historic zoo architecture from different centuries. The splendid group of chimpanzees has been split up – one half was sent to Brazil and the others were brought to the new house. Two (1.1) Sumatran orang-utans from Zürich and Ramat Gan came into the collection and the 1.2 gorillas left their old house for the new quarters as well. The old gorilla house – one part of it dated from the 1930s! – has already been demolished to make way for a new rhino or hippo exhibit. We can only recommend every person interested in zoo history to ask the staff at Lisbon for permission to look into the historic *Palacio dos Chimpanzes* – the chimpanzee house – before it is demolished. They will be impressed by the size of it. Back in the 1960s and 1970s it was a regular ape house with a large row of cages on each side of it – and open to the public.

Some years ago a large part of the zoo was transformed into an amusement quarter with its own Zoo McDonalds, rides and the historic gardens. This part is freely open to the public. Surprisingly, it is here that one will find the best animal exhibit at Lisbon Zoo. In total contrast with the management's general policy of making animals easily visible to the public, this island for squirrel monkeys gives the animals many ways to move and hide from the public.

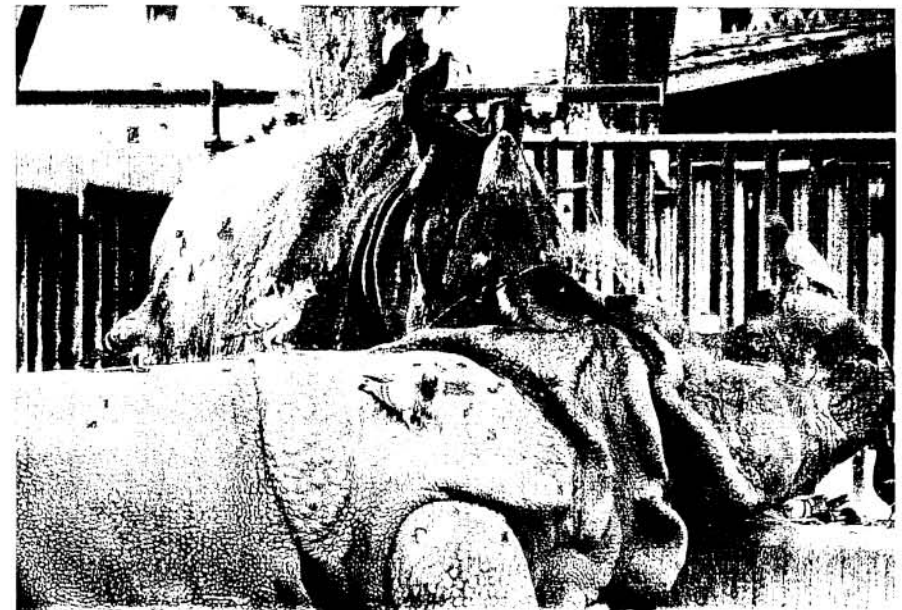
Entering the zoo by the new entrance, one's eye is caught by a large construction site a few hundred metres inside the zoo grounds. A former paddock for hoofstock and a pelican enclosure have been replaced by two new tiger enclosures. These two exhibits for Sumatran and Siberian tigers will be of the same style, with a steel-netting cover, as the new roofed enclosure for two white tigers close to the hippo exhibit. Right behind the new ape house, a brand-new row of six enclosures for large cats takes the visitor's attention. Jaguar, leopard, snow leopard, serval, ocelot and European lynx were on display, but we found no reference to any subspecies on the signs. We were surprised by the very large aperture size of the steel mesh covering the enclosures – a paw of a jaguar, let alone any smaller cat, would fit through one of the holes. Moreover, the extremely small distance from the net to the visitor barrier worried us a lot. Jaguars in particular are well known for trying to grab people. The public cable car passes directly over the exhibits. While doing the lift tour and coming across the cat area we detected a single clouded leopard 'behind the scenes' in one of the shut-off rooms.



A pleasant enclosure for Bolivian squirrel monkeys at Lisbon Zoo.

Behind the ten-year-old dolphinarium we found a new pool with a really strange sight. A single almost fully grown pilot whale (*Globicephala melas*) was swimming in the shallow pool while two animal trainers tried to encourage it to do something. We assume that this animal had been washed ashore or was found sick.

During our tour around the zoo grounds we missed the mandrills and colobus monkeys which we had seen on a previous visit. The Japanese macaques who lived on the polar bear rock before it was demolished were moved to the old monkey pit with a lot of funny miniature houses in it. This pit – with the houses in it – is another listed building. The group of olive baboons (*Papio anubis*) that was previously housed in the pit had been transferred to the large *gymnasio* – the historic hamadryas baboon cage. We were surprised to realize that both species had simply been put together in this cage. Obviously a lack of space has caused some problems for the zoo authorities in properly managing their large stock of primates. An almost unbelievable total of 35 primate species (as some exhibits were closed, we imagine the real number may be as many as 40) should surely force the management to send some species out of the collection. The housing for many of the primates does not meet current standards and the minimum size for exhibits that FAZA demands its members to provide for their animals. Readers will imagine our surprise when we learned that, far from sending animals away, Lisbon Zoo is taking new species in, as they are doing for example by obtaining part of the group of Javan langurs from Omega Parque.



Indian rhinos relaxing at Lisbon Zoo.

Komodo dragons, Indian rhinos, dolphins and koalas are only some of the crowd-pleasers attracting more than a million people every year. Dozens of parrots and hornbills, a children's farm and a beautiful group of Angolan giraffes

are appreciated as well. But when one asks if there is any highlight that would encourage people to come back and again pay the entrance fee of €14.50, one comes to the inevitable conclusion – giant pandas.

The 26-ha Lisbon Zoo does not provide a lot of space for such a high number of more than 330 species, and especially for so many large mammals. We would love the zoo authorities to send at least the white rhinos away. Their housing in a tiny enclosure is just as miserable as the old bear enclosure, and two rhino species in a small zoo like Lisbon is really not necessary. (Unfortunately the zoo is currently waiting for a young female white rhino from South Africa.) To improve this will be the next project for the zoo in modernizing its animal housing. On the other hand, many new enclosures and some enlargements of existing exhibits show a general attempt to take a step into the modern zoo world and meet international standards. If the policy of displaying just everything rare and attractive can finally change to one of building up a carefully selected collection, the process of transformation into a modern zoo will be successful.

14. Quinta Pedagógica dos Olivais, 1800 Lisboa (www.cm-lisboa.pt)

This farm dealing with animal and agricultural matters was created for educational purposes. Here school groups especially, but also some tourists and private families, can learn about life on a farm and enjoy the contact with live domestic animals. Traditional handicrafts are shown to interested visitors. After being reopened in January 2005, the farm is open all day during the week. An appointment is only necessary for groups.

[The concluding part of this article will be published in the next issue of IZN.]

N.B. Readers who understand French may be interested to visit Jonas Livet's website at www.leszoosdanslemonde.com.

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DEVELOPMENT OF A RHINO ENCOUNTER AT AUDUBON ZOO

BY COURTNEY EPARVIER AND BILL SMITH

The Audubon Zoo (New Orleans, Louisiana, U.S.A.) currently houses four (2.2) southern white rhinos (*Ceratotherium simum simum*). The herd consists of a 14-year-old male named Saba, a 43-year-old female (Macite), a 15-year-old female (Yvonne), and the male calf of Saba and Yvonne, named Nane. Yvonne and Saba were brought to Audubon in 1993. They formed a friendship bond instead of a breeding bond. In 1998, Macite was brought in to teach the pair how to breed. After a few years of unsuccessful attempts by Saba, Macite finally taught him the correct way. After watching Macite and Saba, Yvonne understood what she needed to do. The pair successfully bred in 2002, and in September 2003 Yvonne gave birth to her first calf. The zoo had never had a rhino calf before, so his birth was very exciting. The zoo promoted Nane by having several tours available to staff and VIP guests. In the course of all these tours and constant attention being showered on the youngster, he became very 'people friendly'. At the same time Yvonne was very comfortable with large groups of guests coming by and meeting her calf and paying him lots of attention. Our Curator of Mammals at the time came up with an innovative idea that no other zoo had taken on, to allow our guests to actually touch a rhino as part of their visitor experience. He convinced the director and general curator to go ahead with this very exciting idea. The zoo was very committed to giving our guests a unique experience with the rhino encounter.

In March 2004 the construction of the contact area began on a site directly adjacent to the rhino exhibit. The hoofstock staff constructed a temporary fence made of bollards so that the rhinos could still be on exhibit while construction was ongoing. The actual construction only took seven weeks. Toward the end of the construction process, the hoofstock staff began working with Nane by rewarding him any time he came up near the area with tactile contact and some alfalfa. This process only went on for a week. By the time the construction was fully complete, he was very comfortable coming into this area. We began by opening one of the gates and luring him in with alfalfa. This method was successful the first time we tried. The process was repeated every day for a month, always leaving the gate open so he could go back on exhibit any time he chose. The gates of the area had removable metal bars on the tops so that he could come in, but not the adult females he shared the exhibit with.

After a month of the 'open gate' method, the decision was made to close the gate behind him. This was a tricky task considering he had never been separated from his mother before – at least, not by a large metal gate. The first three times we tried closing the gate behind him we were forced to immediately open it because he and his mother would use considerable force on it when it was closed. The hoofstock staff decided to concentrate on the two females on exhibit. Nane was comfortable with the gate being closed until he heard his mother calling for him at the gate. We began feeding the two females large amounts of alfalfa in