

# CHESTER ZOO NEWS

15p

Zoological Gardens  
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HUMBOLDT'S PENGUIN  
*By courtesy of K. W. Green, A.R.P.S.*

# The Penguin Pool

A year ago I wrote in the "Zoo News" (July 1980) that the Zoo intended building a new Penguin Pool, and I outlined in that article the thoughts behind the decision and the objectives of the proposed new enclosure. At the same time, an appeal for funds to pay for the project was also launched.

I am pleased to report that the new pool is now complete and occupied by 12 Blackfooted Penguins (*Spheniscus demersus*) and 12 Humboldt's Penguins (*Spheniscus humboldti*) and was officially opened on 1st July 1981 by the well-known astronomer and television personality Dr. Patrick Moore.

The opening of the pool was attended by a large crowd, who heard Dr. Moore perform his specially composed work "Penguin's Parade" on the xylophone, accompanied by pupils from Upton High School. This, in addition to the splendid new enclosure, provided ample material for the media and television crews from both channels, who were in attendance and gave us very good coverage in their local news that evening.

The new exhibit covers about 1,000 square metres, with the pool occupying 350 square metres, the remainder being taken up by public viewing areas, land area for the birds, service area, filtration plant and an off-show area for the penguins. The enclosure was designed to accommodate the species of penguin from the northern part of their range and, hence, more temperate climate. In addition, the two species we have inhabit sandy beaches when ashore and breeding, rather than the more well-known rocky shores and ice-floes of the Antarctic species. For these reasons, our land area is covered in sand. This feature forms an important aspect

of the whole concept of the idea for a new enclosure, namely to recreate the natural habitat and show the birds in the sort of surroundings in which they would be seen in the wild. Such an approach is necessary if we are to fulfil our role as an educational institute, apart from the all-important factor of providing suitable accommodation for the animals. In order to maximise the effect in the penguin enclosure, the sand area has been landscaped to provide artificial dunes, complete with Marram Grass (*Ammophila arenaria*), into which tunnels have been made to provide nesting burrows. These are so orientated as to provide shade, should the air temperature become excessive, for, in the wild, our species would lie-up in their burrows during the day to avoid the hot sun. This is essential during their period of moult, when the birds cannot swim, and therefore, in the wild, not feed, and so stay ashore for periods of up to a fortnight.

As we all know, penguins are aquatic birds, having lost their power of flight in favour of using their rigid wings as flippers to provide propulsion when swimming. Their well-streamlined bodies, whilst superbly adapted for swimming, do not allow them to move very efficiently on land, and it is not until they have been seen under water that their full swimming powers can be appreciated. Bearing in mind their aquatic nature, it is essential that penguins in captivity be given as large an area of water as possible, for they do spend a lot of time at sea in the wild. This may seem an obvious statement but, in so many exhibits, one sees a comparatively small pool with large land area provided; this we have avoided, although—even with our pool—economics dictated the size.

The enclosure was designed so as to make the pool a major feature, both for the birds and for the public. It is kidney-shaped, so as to eliminate corners and facilitate easy cleaning, and an island has been built at each end,

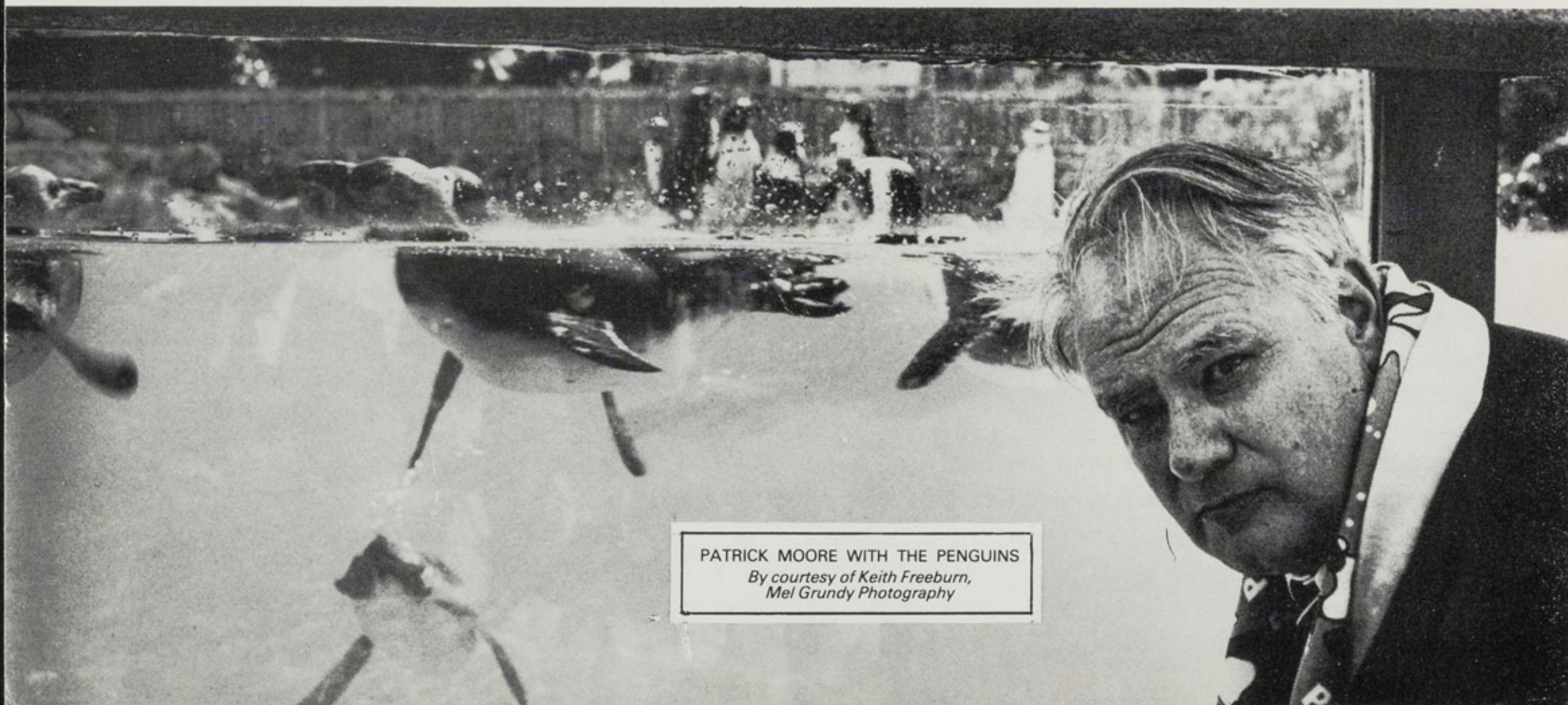
which directs the birds when swimming along circular routes, and so encourages them not to swim in straight lines, and reduces the need for them to stop at the end of the pool and turn around. By swimming along a circular route, they will have more uninterrupted swimming and can work up sufficient speed to “porpoise” out of the water. Such techniques in design reduce boredom in the birds—an all-important factor in managing captive animals. The islands and surrounds to the pool are built of natural stone, to blend in with the sandy beach effect. The pool depth varies from a maximum of 1.5 metres to 100 millimetres—the shallows providing access to and from the pool for the penguins, as our species do not hop out of the water—a habit not necessary for landing on a sandy beach!

Undoubtedly the most attractive part of the pool is the underwater viewing, provided by four metre wide windows, and it is only when viewed in such a way that the agility of penguins can be fully appreciated, as they

“fly” through the water, and perform a series of acrobatic movements.

In order to take full advantage of the windows, it is essential that we keep the water clear and, to this end, a filtration plant has been installed, through which the pool water passes once every eight hours. At the time of being filtered, the water is dosed with acid to maintain a neutral pH, and sodium hypochlorite to chlorinate it. The latter is removed by a carbon filter before the water returns to the pool. The water also passes through two gravel filters, which remove particles and so maintain clear water, enabling the birds to be viewed.

The pool is built of reinforced concrete, and the glass in the windows is one-inch thick, holding back some 400,000 litres (90,000 gallons) of water in the pool. The pool is divided by a wall, enabling one half to be kept full while the other is emptied for cleaning, thereby keeping a swimming area for the penguins. We hope the birds



PATRICK MOORE WITH THE PENGUINS  
*By courtesy of Keith Freeburn,  
Mel Grundy Photography*

will soon learn to "porpoise" over the top of the wall, which is about 100 millimetres (four inches) below the surface of the water.

Our birds were obtained from Amsterdam Zoo and Whipsnade Zoo, the former having to serve five weeks quarantine on arrival in this country before their introduction to their new home. We were very fortunate in being able to fly the birds direct from Amsterdam to Liverpool Airport, through the generosity of Vern Air, the private airline operating from Speke. This enabled us to reduce the travelling time of the birds from their pen in Holland to our quarantine quarters in Birkenhead to four hours. The value of an off-show area was quickly appreciated when the birds finally arrived at the Zoo, particularly for the Blackfooted Penguins, which had been in quarantine. It allowed the birds to become accustomed to the noises of the Zoo and to new keepers, without the added stress of being on view to the public. After four days, they were released into the main enclosure and immediately took to the water, as we expected they would.

With such an exhibit, we are setting a standard for Chester Zoo to maintain. We are providing a facility which will not only give the public a new impression of these birds, and so encourage them to support their conservation, but we shall also be able to observe, record and learn more about the husbandry of penguins.

The completion of this project was a culmination of much hard work over the previous six months, both in the designing and construction of the pool and in raising funds to finance the £58,000 project. We are greatly indebted to all who assisted, and I hope they all agree that it was well worth the effort, for we now have one of the finest penguin exhibits in Europe.

P. M. C. Stevens  
*Curator of Birds*

## Penguin Pool Plants

A border runs in front of the main viewing area of the Penguin Enclosure. For 1981 this has been planted with summer bedding plants, including eight half-standard *Fuchsia lena*, dot plants of *Chlorophytum capense*, and *Cineraria silver dust*. The main plant to fill the border is *Heliotrope marine* and yellow and bronze French Marigolds. An edging of *Chrysanthemum poterifolia* runs along. At one end of the border is a group of *Lavatera silver cup*.

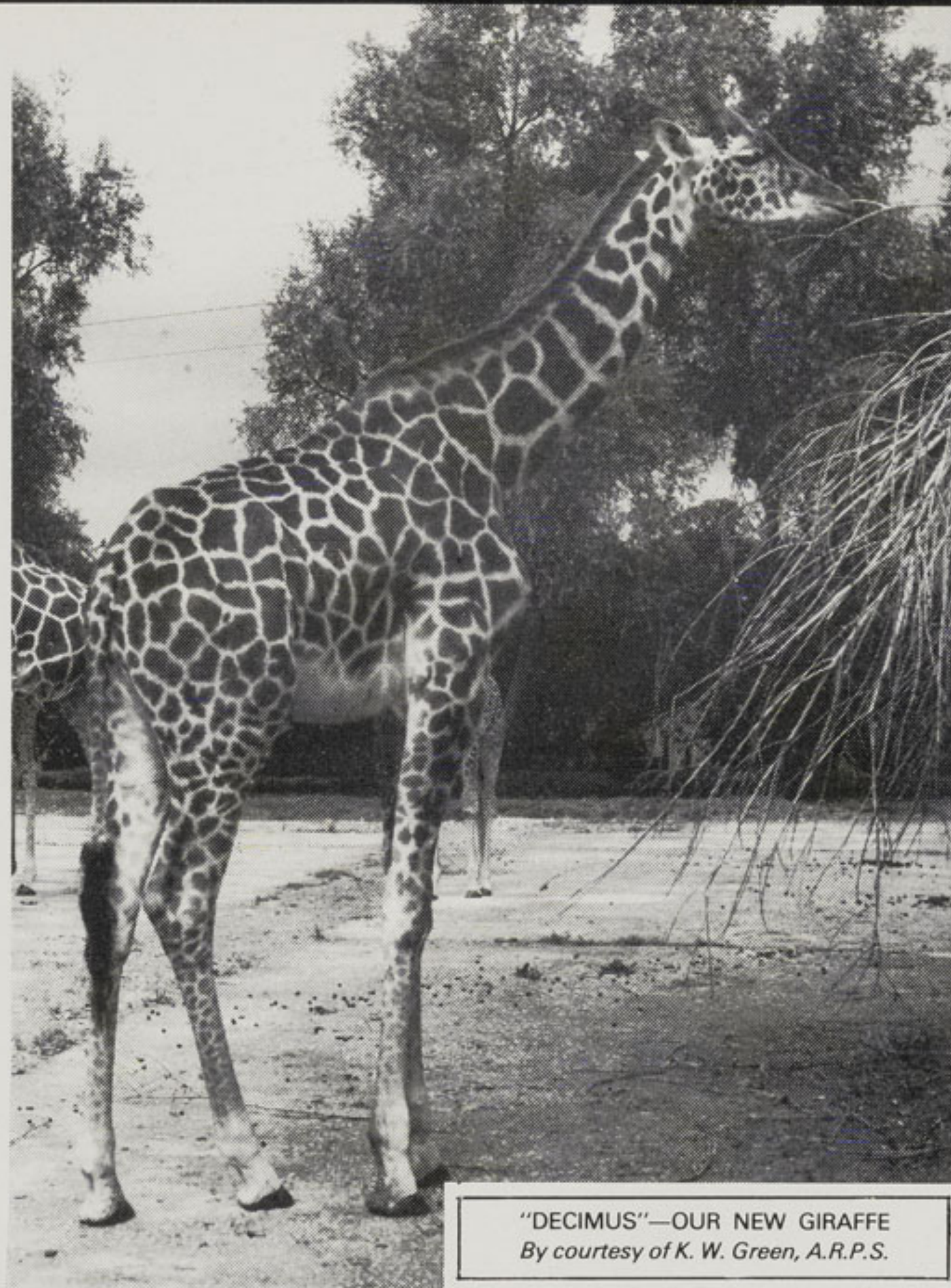
It is intended to plant this border with a permanent shrub of *Berberis wilsoni*, to prevent visitors crossing to the pool. This shrub will be kept clipped to a height of two feet.

One end of the border slopes down to windows to view the penguins under water. This slope has been made into a rockery and will be planted with a variety of Alpines during next winter. For 1981 it is planted with the colourful *Mesembryanthemum criniflorum*, common name Livingstone Daisy, *Cazania*, *Violas* and *Echeveria*. Also three dwarf shrubs of *Spiraea gold flame*. A group of 30 *Hydrangea hortensis* is planted where the rockery joins the flower border.

Walter Worth  
*Head Gardener*

# Latest Births and Arrivals

2 Guanaco ( <i>Llama guanicoe</i> )	Birth
1 Onager ( <i>Asinus hemionus</i> )	Birth
1 Talapoin Monkey ( <i>Cercopithecus talapoin</i> )	Birth
1 Blackbuck ( <i>Antelope cervicapra</i> )	Birth
2 Puma ( <i>Felis concolor</i> ) (Being reared by the Curator)	Birth
31 Leopard Geckoes ( <i>Eublepharius macularius</i> )	Hatched
1 Male Giraffe ( <i>Giraffe camelopardalis</i> )	On Loan
1 Male Black Rhino ( <i>Diceros bicornis</i> )	On Loan
8 Red-fronted Macaws ( <i>Ara rubrogenys</i> )	Arrivals
31 Tinamous ( <i>Nothoprocta perdicaria</i> )	Hatched



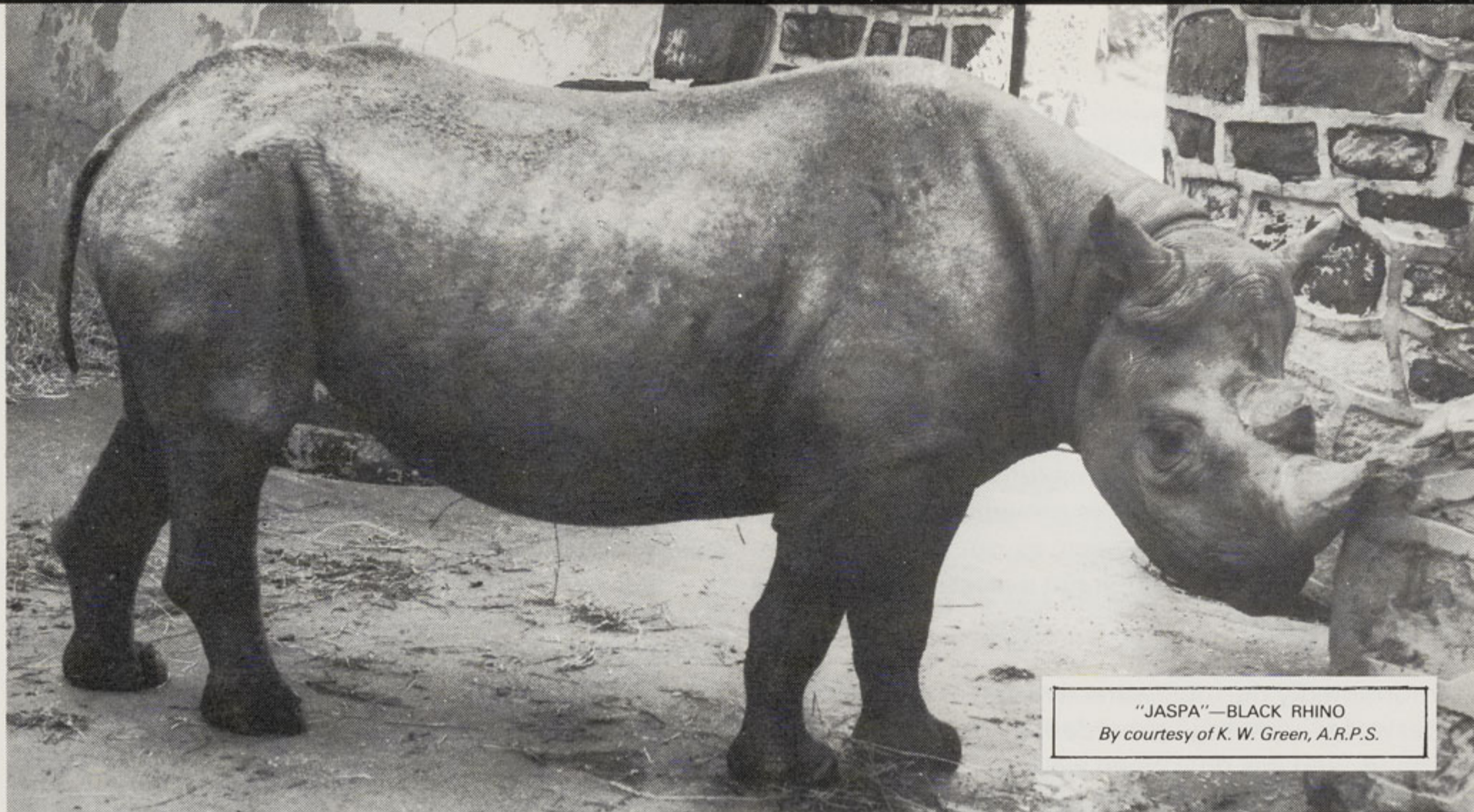
"DECIMUS"—OUR NEW GIRAFFE  
By courtesy of K. W. Green, A.R.P.S.

## Giraffe News

Readers will remember that, in the No. 1 Issue, 1981, we reported the sad death of our breeding male giraffe, "Richie". Fortunately, there was a happier side to this sad event when, last month, a female giraffe calf was born which had been sired by "Richie". Giraffes have a gestation period of 15 months, so offspring can be expected long after the demise of a breeding male. We are also able to announce that, owing to the co-operation of Bristol Zoo, we have received an 18-month-old male giraffe which was bred at Bristol Zoo. Although we will have to wait until he matures, at about five years of age, we are looking forward to once again having a self-perpetuating group of giraffes.



PUMA CUBS  
By courtesy of K. W. Green, A.R.P.S.



"JASPA"—BLACK RHINO  
By courtesy of K. W. Green, A.R.P.S.

"JASPA"—AT SIX WEEKS OLD  
Born at Chester, February 1971  
By courtesy of K. W. Green, A.R.P.S.



## Zoo Co-operation

Another piece of Zoo co-operation concerns our Black Rhinos. In February 1971, a male baby rhino named "Jaspa" was born at the Zoo and was subsequently sold to Paignton Zoo in Devon. During the intervening years, our stock of Black Rhinos declined and our last animal died of old age during 1980.

In order to provide animals with the best chance of breeding success, Paignton Zoo have returned "Jaspa" to Chester, under the joint management of animals scheme, and we are eagerly awaiting the arrival of a mate for him from Bristol Zoo.

## Subscriptions

CHESTER ZOO NEWS is at present being produced every month and readers who would like to receive the magazine regularly can obtain subscription forms at the Souvenir Shops or the Office. The current charge for 12 issues, including postage, is £3.00 per year.

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