

BREEDING THE LESSER FLAMINGO *Phoeniconaias minor*

by Roman Alraun and Nigel Hewston

Introduction

The Lesser Flamingo *Phoeniconaias minor* is the smallest of the six kinds of flamingo. It is the most numerous in the wild, probably outnumbering the populations of all the other five forms added together. It is fairly widely kept in captivity but seems more reluctant to breed than the larger flamingos for reasons which are not entirely clear, but may be linked to Lesser Flamingos being less hardy, or to their much larger colonies in the wild. This article describes the successful nesting of Lesser Flamingos in a private collection in Germany in 1992, which is believed to be the first breeding of this species in Europe, and summarises more recent successes in other German collections. The species is believed to have bred at least occasionally at zoos in the USA and several times eggs have been laid at the Wildfowl & Wetlands Trust, Slimbridge, UK.

The colony

Four juvenile Lesser Flamingos were obtained in April 1986. By 1992 there were 33 birds (18.15) in the group. Also in the enclosure were 2.3 Chilean Flamingos *Phoenicopterus chilensis* a variety of ducks and some Red-breasted Geese *Branta ruficollis*. The ducks and geese initially caused no problems for the flamingos, except for Canvasbacks *Aythya valisineria* damaging nests by digging at the base, but the geese eventually proved to be aggressive so the flamingos now share the enclosure only with small ducks. Most of the flamingos are full-winged, which seems to make mating easier for the males. A pinioned male Chilean Flamingo obtained late in 1992 to make the flock up to 3.3 has failed to mate successfully, while a full-winged male has fertilised two females. A pinioned female Lesser Flamingo however, which came from Tanzania in 1960, laid in 1995 and is still in excellent condition.

Housing

The birds are kept in an enclosure of approximately 800sq m (approx. 8,600sq ft), with a pond measuring about 20sq m (just under 215sq ft) and 50cm (approx. 1ft 10in) deep which is allowed to overflow to cover another 10sq m (approx. 108sq ft) in the breeding season. Part of the pen is planted with conifers. The birds stay in this enclosure all year round and have a lined house which is 80% transparent and which they use readily.

Food includes Mazuri Waterfowl Maintenance, Waterfowl Breeder and Flamingo (E), Kasper Faunafood Seaduck Diet and Floating Duck Diet,

also shrimps and sometimes algae meal. Finely grated carrot is occasionally added to the food. In the early years the Lesser Flamingos were given calf milk which they took readily, but after two years they stopped taking it so now the food is mixed with water. All the food is soaked overnight in two buckets which are half-filled with food then filled to the top with water and fed at 4.00pm the next day. The morning feed is one bucket of dry food scattered on the water.

Breeding

In mid-May 1991 it was noticed that one of the female flamingos was dirty on the back. A few days later, while turning the earth on the nest site, a pair was seen mating only 3m (about 10ft) away. Following this other copulations were observed by various pairs.

On 30th May at 9.10pm the first egg was seen on a nest mound. The female was one of the first four birds and therefore just over five years old. The egg weighed 106g and measured 86 x 55mm. The egg was incubated by both parents alternately. On 3rd June a second female laid, this egg measured 86 x 54mm and weighed 110g. This female was paired to another female and did not seem interested in the males. Neither egg was fertile.

Cold, wet weather around 10th June caused interruption and eventual abandonment of incubation. Other females which were heavy did not lay, and no longer looked heavy. Copulations ceased after 15th June. Early on the 26th, with the temperature at 26°C (68°F) and humidity at 90%, a group of males was again nest building. Males were seen mating with each other and single-sex male and female pairs were seen associating. No female pairs were seen mating, though they were tightly bonded. One female was seen attempting to mount another but no mating took place. Apparently homosexual males have been seen to chase and mount lesbian females.

In 1992 copulations were observed from the beginning of May. Around the 17th there was complete calm, with no mating or nest building. It was very hot, over 32°C (89.6°F). The birds seemed uneasy. At the end of the week the nest area, which had been dry, was flooded and nest building began again immediately. The following week mating also recommenced and the birds became more active.

On 30th May an egg was laid by the female which had laid on the same date the previous year. This egg died at about ten days. A new pair laid on 6th June and on the 7th the female which was paired to the one which laid on 3rd June 1991 also laid. The other female from this pair did not lay. This egg was found off the nest the next morning and was replaced. A single Chilean female tried to incubate it but it was knocked off again and she broke it trying to retrieve it. This was a pity as the Lesser had mated

often with a male and it would have been interesting to see whether the two females would have reared a chick. On 8th June this female was again mated but did not re-lay, though re-laying has been recorded in flamingos when an egg is lost. After 20th June all went quiet until 5th July when pairing recommenced, and one male was again chasing the female which laid on 7th June.

On 6th August one female was found dead on the water. She weighed 1,965g and was found on post mortem examination to have a fully developed egg yolk inside and a large active follicle on the ovary. Death was caused by a heart attack, probably stress-induced.

The egg laid on 6th June was on a nest under a tall cypress and close to a fence. It pipped on 2nd July; the chick could be heard and its beak was visible. It hatched the next day. It was possible to photograph the whole process as it was very hot and the female stood on the nest and watched as the chick hatched. After 24 hours the chick tried to stand. It ate the remaining pieces of eggshell and was fed by the parents. On the 4th both parents oiled themselves extensively; the preen glands were clearly visible. They oiled themselves thoroughly in order to transfer oil to the chick.

On 7th July at four days old the chick was jumping around on the nest mound like a goat kid. It left the nest several times for short periods, but went back to the nest straight away. The next day the chick could stand on one leg to preen. It fell over when flapping its wings as if trying to fly, but righted itself immediately. It made longer excursions from the nest and was accompanied by both parents. It was also followed and pushed around by single females, including the Chilean. The whole flock gathered behind the chick. The parents carefully guided the chick back to the nest. Because of the attacks by the other birds the chick had to go through water and mud to get back to the nest, and was shivering, so was brooded by its father on the nest. It was often brooded during the day by both parents but predominantly by the male, with the mother on the nest at night.

Later this day the pair with the chick were separated from the other birds as they all wanted to take over the chick, despite having pecked at it earlier. A pair of Chileans had attacked the parents on the nest and they had not been able to defend themselves. The chick sought out a new nest mound to roost on and was brooded by its mother.

On 10th July, at eight days old, the chick was seen to bathe for the first time, albeit in a small puddle. It shook and preened itself just like the adults. The chick took the lead in again finding a new mound to roost on, and was brooded by the male during the day and the female at night.

The chick took food (Waterfowl Maintenance) from the water for the first time at ten days old. At around 9.30pm it had already been sitting on the new mound for some time and was ready to roost. It called to its



Photo Roman Alraun

Lesser Flamingo with one day old chick

mother but she stood 2m (6ft 7in) away and slept with her head under her wing. The male stood over the chick, which called and called but with no response from the female. It moved to another mound closer to her but she still seemed unconcerned, though the male was agitated. After 11.00pm it was too dark to see any more. At 4.00am the next morning the chick was



Photo Roman Alraun

Lesser Flamingos with four day old chick on the nest, shaded under a cypress tree. The male is on the left

asleep on the same mound without its mother. At 7.00am the parents fed it and it also took some food from the water. At 8.00pm it was back on the new mound and after a lot of 'cheeping' its mother came over and sat down, brooding the chick under one wing.

The next evening the chick sat on the nest at 8.45pm and waited for its mother, who brooded it as on the previous night. At 15 days old it stood on one leg on the nest to sleep. It had not been brooded by its mother for two days.

On 21st July, at 19 days old, the chick was ringed with a 19mm ring. This was removed later as it was obviously too big. A 14mm ring is a better size for this species, and 16mm for Chileans. The chick and its parents were let out of their temporary enclosure as all the other birds seemed used to the chick by now. It was fed in the evening by its mother and then fed with its father at the bowl. It was much more often with its father than with its mother, and the male still protected it if it was harassed by other birds. In the evening the pair and chick were put back into the

small enclosure to ensure that nothing happened to the chick overnight. From 24th July it was left with the flock at night.



Photo Roman Alraun

Lesser Flamingos with chick

At 23 days old the bill was starting to grow curved and was turning pale mauve. At 32 days the chick was about 50cm (19³/₄in) tall, and had therefore grown at an average of over 15mm per day. This very rapid growth may be to enable chicks to walk long distances at an early age. At Etosha Pan in Namibia chicks have been recorded walking 80km (approx. 50ml) to water as the pan dries out.

On 13th August the young flamingo, which had been named 'Philip', was seen to bathe energetically for the first time, demonstrating his now powerful and well-grown wings. The quills of the flight feathers were visible. On the 14th he was six weeks old and his back reached his mother's breastbone. He had to bend his neck to be fed, otherwise she could no longer feed him easily. The down on his crown had been replaced by grey feathers. On 18th August 'Philip' was feeding on flamingo food from the bowl with his father, who watched over him, keeping at a distance three other flamingos which were trying to feed.

In 1993 and 1994 the Lesser Flamingos failed to lay. In 1995 three eggs were laid, but only one was fertile. The parents did not incubate it, so the egg was hatched, and the chick reared, by another pair. Both the young birds are males. The legs change from grey to red at three years old. Factors involved in stimulating breeding appear to include freedom from disturbance, warmth, sunlight and damp, marshy ground. At temperatures above 20°C (68° F) the birds start to build on prepared nest sites whenever the ground is made moist by rain, overflow from the pond, or soaking with a hosepipe. Most of the birds build nests, including some single males and single-sex pairs of both sexes. However, they dislike rainy weather, and if it rains for more than two days at a time, pairing, mating and nest building stop completely. In 1996 and again this year the Lesser Flamingos failed to lay.

Chilean Flamingos laid infertile eggs in 1994, and in 1995 two fertile eggs were laid by females paired to different males but both fertilised by the same (full-winged) male. These both hatched but the chicks died at 11 and 31 days. In 1996 three pairs produced six eggs, and three young (2.1) were reared, all three from one male and two females. This year four eggs had been laid by the end of July, two were infertile, in one the embryo died, and another from the same pair was also fertile. Eggs are collected and put into an incubator until just before hatching, when they are put back into nests for hatching and rearing.

In 1993 Lesser Flamingos also bred at the Friedrichsfeld Zoo in Berlin. A flock of 23 birds produced 16 eggs, from which two chicks were reared. A private breeder in Schleswig-Holstein, who keeps large groups of four kinds of flamingos, has had remarkable success breeding Lesser Flamingos. His group of c.50 birds live in a house c.200 sq m (approx. 2,150sq ft) made from double-glazed panels with a sliding roof which can be opened. In 1992 one infertile egg was laid, in 1993 a large number of eggs resulted in eight young, there were no eggs in 1994, four young in 1995, one in 1996, and this year 13 young from 14 or 15 eggs. The level of success achieved in this sheltered situation seems to confirm that weather is an important factor in breeding Lesser Flamingos in northern Europe.

Roman Alraun breeds waterfowl and flamingos at Neustadt, Germany. His notes were translated and adapted for publication by Nigel Hewston, who was formerly flamingo coordinator for the Federation of Zoological Gardens of Great Britain and Ireland.

THE SOCIETY'S VISITS TO RODE AND BRISTOL ZOO

by Stewart Pyper

On Saturday 13th September a small group of members visited the Tropical Bird Gardens, Rode and were shown around on what was a lovely, warm day by Mike Curzon, a director. Mike has promised to write about the breedings and other noteworthy happenings there during 1997, so I will confine myself here to mentioning the new enclosure for ground hornbills and the fact that members saw both Edwards' and Desmarest's Fig Parrots. Rode is the only public collection in the UK exhibiting both these species.

The following day almost 30 members and their guests visited Bristol Zoo at the kind invitation of the Director, Geoffrey Greed, who is also the Hon. Secretary/Treasurer of this Society. At present the zoo is undergoing a major reconstruction programme. Regrettably it is behind schedule and as a result the striking new exhibit which will house a collection of Philippine birds was not yet ready. The aviary will feature a walk-through section which should be popular with both aviculturists and the general public. The old tropical house will provide heated indoor accommodation for the birds. (When this aviary is opened a detailed report about it will appear in the magazine.) A new lake for the colony of flamingos will replace the aviaries opened some years ago by our President. A special feature at Bristol Zoo is the large aviary with running water and plenty else to occupy the group of at least ten Keas. The European Studbook for this species is held at Bristol Zoo. Among other birds we saw were Yellow-throated Laughing Thrushes, Azure-winged Magpies, Rothschild's Grackles or Bali Starlings, Toco Toucans, Black-winged Stilts, Kookaburras and various pigeons and doves, including the Nicobar Pigeon and the chestnut-naped race of the Green Imperial Pigeon.

Behind the scenes we were shown a selection of young reptiles, including a number of young Woodland Crocodiles hatched at the zoo. As on our previous visits to Bristol Zoo, we enjoyed an excellent lunch which was arranged by Geoffrey Greed and our thanks go to him and his staff for making it such an enjoyable day.

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BOOK REVIEW

AUSTRALIAN FINCHES - a colourful guide

Arguably Australia's leading authority on its native finches in aviculture, Russell Kingston is known worldwide for his expertise. His first book, *The Complete Manual for the Keeping and Breeding of Finches* (1994), a tome of nearly 500 pages, is the standard work on the subject. His most recent book is in Australian Birdkeeper's *A Guide to...* series and covers *Australian Grassfinches*.

More than 70 pages are packed with information and colour. In his introduction the author gives some reasons for the popularity of these birds: 'their quiet songs do not disrupt sensitive neighbours. They add colour to the garden or indoor conservatory, are always lively and may be housed together in a mixed collection in a planted aviary, or equally, they may be kept in relatively small cages.'

Although written primarily for the Australian market, most of the information is equally applicable in Europe. Some of the seeds mentioned are unknown here, however. The notes on management and nutrition are followed by the section entitled Australian Grassfinches in Profile. Every species is covered under a series of headings such as Natural Breeding Season, Breeding Ages, Courtship, Nest Description, Roosting Nest, Number of Eggs, Incubation and Colour Mutations. It is concise but very informative. A distribution map for each species is included.

The photographs are not merely decorative but highly practical in many cases. For example, plumage differences or crown shape in male and female are shown for Chestnut-breasted Munias, Diamond Firetails, Bicheno Finches, Masked Grassfinches, Painted Firetails and others. Visual differences are illustrated with diagrams for some species. This is an especially useful feature of the book. Various mutations are also included, such as the lutino Blue-faced Parrot Finch and the white Masked Grassfinch. The average number of colour illustrations per page is about three, so this book should be popular, as well as useful.

This guide is available price £13.95 plus 75p postage each from The Bookshop, Southern Aviaries, Tinkers Lane, Hadlow Down, Uckfield, East Sussex TN22 4EU. Tel:01825 830283 & 830930/Fax:01825 830241. It is also available from other avicultural booksellers.

Rosemary Low

CORRESPONDENCE

Sir,

I greatly enjoyed reading the article 'Twenty-five years at Cobham' by Raymond Sawyer in issue No 2 for 1997. I am sure the article was much appreciated by members, especially those who know the collection.

I would like to comment on the photograph captioned 'Red Lory *Eos bornea*' which accompanied the article, The identity of this bird will perhaps never be established with certainty - but it is not *bornea*. As it is such an interesting bird, excellently photographed by Thomas Brosset, it would be a pity to let the caption pass unremarked. A rather lengthy explanation is necessary. Perhaps it is best to quote from my *Encyclopedia of the Lory* to be published by Hancock House in 1998. There is a long preamble before the bird is mentioned, however, which hopefully makes it clear that nobody has yet been able to define convincingly either *Eos s. squamata* or *E. s. riciniata*.

'Violet-necked Lory (*Eos squamata*) Note: the small size and variable markings (except in *obiensis*) characterise this species. It has given rise to much confusion over the years. For example, Salvadori (1891) listed three species - *wallacei*, *insularis* and *riciniata*, all of which are now considered synonymous with *squamata* (which was lacking from his catalogue). But what exactly is the nominate race? No one seems able to answer this question. I believe that the species is still evolving, with much plumage variation within each population. The sub-species *obiensis* is distinctive and easily recognised. But how does one distinguish *squamata* from *riciniata*? According to Hubers (1996b), who examined a number of museum skins, in the nominate race the crown is red, the collar is violet-blue and can be complete, absent, wide or narrow; the shoulder feathers [scapulars] are black-blue. In *riciniata* there is a wide violet-blue collar with variable grey shading. In most birds the collar extends to the middle of the head [crown]. The shoulders are red, Forshaw (1989) is uncharacteristically vague, remarking on the variable plumage coloration and the violet-blue collar around the neck which is 'broad and well-developed in some birds but almost entirely lacking in others'. He describes *riciniata* as having a 'prominent violet-grey neck collar, usually extending up to hindcrown; some birds have violet-gray crown but red nape'.'

'In his descriptions there are only two features which are different: the nominate race has a violet-blue collar and dull purple scapulars tipped with black and *riciniata* has a violet-grey collar and red scapulars. Unfortunately, not all birds fit neatly into one category or the other; some have only a few dark feathers on the scapulars. In a species which exhibits such variable coloration, is there justification for separating these two races?

I suspect there could be a good case for naming two species: *obiensis* from the island of Obi and *squamata* (it was named first) from all the other islands within the range. However, here I follow current nomenclature and consider them as sub-species of *squamata*.'

'It is worth noting that Wallace's Lory (*Eos wallacei*, Finsch (1864)), from the islands of Wiageu, Gebe, Batanta and a small island near Misool, is figured in Mivart (1896). It was said to differ from *riciniata* in that the purple of the collar did not extend up the nape to the head - but then Mivart admitted that this character was not constant. It seems that nobody has been able to define the sub-species.'

'Descriptions *Eos squamata riciniata* is red on the head with violet-blue or violet-grey on lower cheeks and, in some birds, also on nape and crown; underparts violet-blue or violet-grey broken by a red band on the lower breast. Scapulars purple or red, greater wing coverts and flight feathers red, margined and tipped with black; tail purple-red above, brownish-red below; under tail coverts purple or blue. The beak is orange, the cere and skin surrounding the eye white or pale grey, feet grey and iris orange-red or yellow.'

'Length: 26cm (10in).'

'Weight: 110g.'

'Immatures are variably marked; the red of the underparts is mottled with dull blue or almost absent and there may be bluish markings on the ear coverts. There are more black feathers, than red, on the wings, in some immature birds. The beak and iris are brownish.'

'Further confusion is created by the existence of a form which lacks red on the head or breast and has only a narrow line of dark blue on the neck; it has the abdomen dark blue but differs from *obiensis* in having the upper part of the wings almost clear red, and in its larger size. In Thomas Arndt's *Lexicon of Parrots*, volume 1, what appears to be an immature bird of this form is depicted on page 6, captioned as *Eos squamata squamata*. Perhaps this is the nominate race. If so, it is either extremely rare or inhabits an island from which birds are very rarely collected. In 20 years I have seen only one bird of this form, an adult with very clear red plumage, which was in the collection of Raymond Sawyer of Surrey in the mid-1970s.'

**Rosemary Low
Mansfield, Notts.**

NEWS & VIEWS

LEADING AVICULTURE INTO THE NEXT MILLENNIUM

Bird Keeping in Australia, Vol.40, No.11, carried advance notice of Birds '99 - Leading Aviculture into the next Millennium - an International Avicultural Convention to be held the 18th - 21st June 1999, at Brisbane Convention Centre and Exhibition Centre. Further details are available from:- PO. Box 600, Nundah, Queensland 4012, Australia. There was also notice of the 7th Overseas Avicultural Tour which is planned for the June - July period of 1998 and will include visits to 13 bird parks and zoos in seven European countries. It will include visits to Walsrode Bird Park and Loro Parque and will return to Australia via Singapore, so that the participants have the opportunity to visit Jurong Bird Park.

* * *

SPECIAL INTEREST IN AFRICAN PARROTS

Dr Roger Wilkinson, Curator of Birds at Chester Zoo and an Avicultural Society Council Member, has become a Scientific Advisor to the World Parrot Trust. In addition to reviewing funding proposals and other matters, Roger will take a special interest in African parrots and liaise with Professor Mike Perrin of Natal University, South Africa.

* * *

EXCELLENT BREEDING SEASON

In spite of having moved many of its birds to new accommodation as part of its redevelopment plan, and coping with the vagaries of the British summer, Paignton Zoo reported an excellent 1997 breeding season. Among its most notable successes was the breeding of an Australian Cassowary *Casuarius casuarius* in the new woodland enclosure. In the Brook Side Aviary, Little Egrets *Egretta garzetta* bred for the first time and a young pair of Bali Starlings *Leucopsar rothschildi* raised four young from two broods. Chilean Flamingos *Phoenicopterus chilensis* in their first year on the new lagoon raised three chicks, despite the attention of the predatory local Herring Gulls *Larus argentatus*. The Abyssinian Ground Hornbills *Bucorvus abyssinicus* at last succeeded in rearing one of their own chicks, after all the previous chicks had to be hand-reared by Jo Gregson. Other species which bred successfully included Jackass Penguins *Spheniscus demersus*, Snowy Owls *Nyctea scandiaca*, Sarus Cranes *Grus antigone* and Crested Quail Doves *Geotrygon versicolor*.

* * *

SUCCESS WITH PARROTS AND CRANES

Paradise Park, Hayle, had what was described as a reasonable breeding season for a collection of its size and type. Among the parrots bred there were Hyacinth *Anodorhynchus hyacinthinus*, Buffon's *Ara ambigua*, Military *A. militaris*, Illiger's *A. maracana* and Hahn's Macaws *A. nobilis*, Keas *Nestor notabilis*, Leadbeater's *Cacatua leadbeateri*, Triton *C. galerita triton*, Lesser Sulphur-crested *C. sulphurea* and Roseate Cockatoos *Eolophus roseicapillus*. The Hyacinth Macaw chick, which was hand-reared, was born with a crooked bill which required corrective surgery by vet Andrew Greenwood. Two trios of Red-faced Lovebirds *Agapornis pullaris* excavated nests in blocks of cork and each laid two clutches, but this was as far as they got. Cranes did well, with Wattled *Bugeranus carunculatus*, Stanley *Anthropoides paradisea*, Sarus *Grus antigone* and Crowned Cranes *Balearica regulorum* all producing young. Village Weavers *Ploceus cucullatus*, Yellow-fronted Woodpeckers *Melanerpes flavifrons* and Hoopoes *Upupa epops* were also successful and keeper Dale Jackson hand-reared a Chough *Pyrrhocorax pyrrhocorax*, which is a small step forward in the plan to use aviary-bred birds to reintroduce this species back to the coast of Cornwall.

* * *

GROUSE SEES RED

A jogger making his regular moorland run alongside Derwent Reservoir in the Peak District was attacked by a male Red Grouse *Lagopus lagopus scoticus* and needed medical treatment for a cut and bruising on his left buttock. The attack was put down to the fact that the jogger was wearing a red T-shirt.

* * *

LESSON TO BE LEARNT

Robert Callaghan has sent another cutting from the *Staffordshire Sentinel*, this time about a pair of Citron-crested Cockatoos *Cacatua sulphurea citrinocristata* which belong to Barbara Poole, the science teacher at Trentham High School. After five years during which each year the pair killed their chicks or they died for other reasons, this year Mrs Poole stepped in and hand-reared the two chicks, one of which she took to school to give her pupils an insight into the rearing of young birds.

* * *

NEW MANAGING DIRECTOR

Tony Richardson is the new Managing Director of the Wildfowl and Wetland Trust. His predecessor, Dr Myrfin Owen, will act as a consultant.

JOHN G. WILLIAMS

John G. Williams died 28th December, aged 84. He was for 20 years Curator of Birds at what is now the National Museum of Kenya, and is probably best known for *A Field Guide to the Birds of East Africa*. Williams's Lark *Mirafra williamsi*, endemic to the deserts of northern Kenya, bears his name.

* * *

BISHOPS ON THE LOOSE

An increasing list of escaped or released exotic birds are becoming established in Portugal according to Helder Costa, Conçalo Lobo Elias and João Carlos Farinha writing in *British Birds*, Vol. 90, No.12:562-568. It has been estimated that there may now be 20,000 to 200,000 Common Waxbills *Estrilda astrild* living free there. The numbers of Red Avadavats *A. amandava*, Yellow-crowned Bishops *Euplectes afer* and Village Weavers *Ploceus cucullatus* are also on the increase, as is the number of Ring-necked Parrakeets *Psittacula krameri*. The Village Weaver, Common Waxbill, Red Avadavat, Zebra Finch *Taeniopygia guttata*, Black-headed and White-headed Munias *Lonchura malacca* and *L. maja* have all been found breeding there. Others, among them the Black-rumped Waxbill *E. troglodytes*, African Silverbill *L. cantans*, Cut-throat Finch *Amadina fasciata*, Red Bishop *E. orix* and Ring-necked Parrakeet, are probably also breeding in Portugal.

* * *

THE FIRST FOR TWENTY-SIX YEARS

More details have emerged about the kiwi chick hatched at Taronga Zoo, Sydney, Australia, the first to be hatched there for 26 years. It is a North Island Brown Kiwi *Apteryx australis* and was hand-reared by Bird Division keeper, Chris Hibbard, appropriately enough a New Zealander. He changed the breeding pair's diet and this is thought to have been an important factor in the successful hatching and rearing. The new diet consists of tofu (a soya product), ox heart, frozen peas and corn, diced banana, sultanas, wheat germ flakes, yeast flakes and a special kiwi vitamin supplement.

During the first four weeks, the chick lived a diurnal existence, but by the time it was four to six weeks old its 'nocturnal clock' seemed to be activated and it began to shun the daylight. Each morning though there was plenty of evidence that it had been very active during the night.

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