

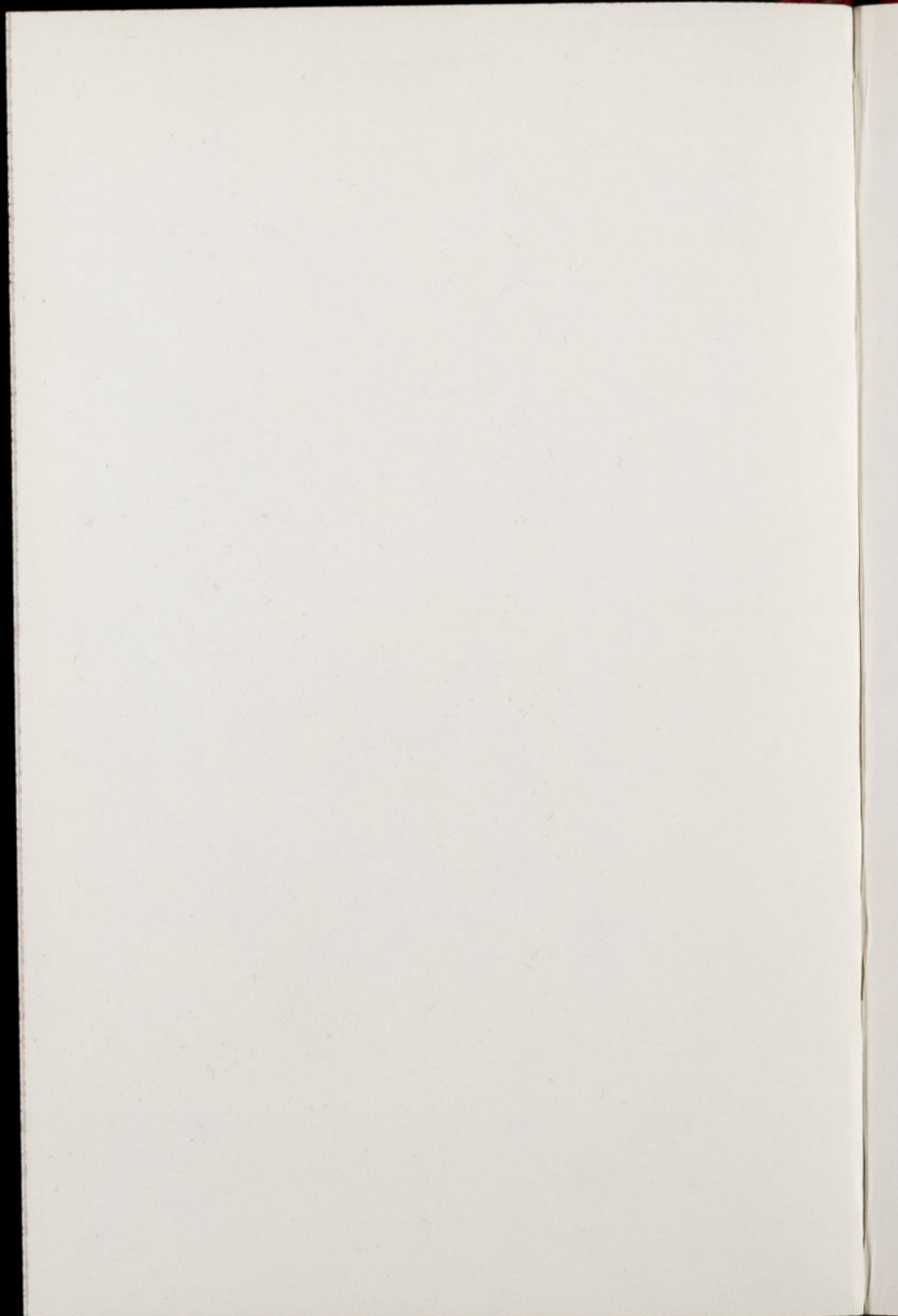


CHESTER ZOO NEWS

AND GUIDE

September 1973

Price 6p



The North of England Zoological Society

ZOOLOGICAL GARDENS, UPTON-BY-CHESTER

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By Courtesy of K. W. Green, A.R.P.S.

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ARRIVALS AND BIRTHS

During the past month the following mammal births have been recorded:

- Jaguarundis (*Felis yagouaroundi*)
- 1 Giraffe (*Giraffa camelopardalis*)
- 2 White-bearded Gnus (*Connochaetes taurinus albojubatus*)

We are delighted with the birth of the Jaguarundis, the first ever at Chester Zoo. At the time of writing it is not known how many kittens the female Jaguarundi has produced as she and her litter have not been disturbed at all. However, judging from the noises emanating from her den, it would seem that there are at least two youngsters. These have just passed the week old stage but this by no means ensures their survival and we are all keeping our fingers crossed that the mother will succeed in rearing them.

The parent Jaguarundis were presented to the zoo in October of last year by Mr. and Mrs. David Herd of Ontario, Canada. The male is named Charaleta and the female Fara, and they were one of several litters produced by a pair named Toro and Piada which belonged to Mr. and Mrs. Herd. Charaleta and Fara are now nearly four years old and this is Fara's first litter.

Jaguarundis are not often seen in zoos and consequently captive births are unusual. The Jaguarundi is a small, lithe member of the cat family, with a distribution from the south western United States south to Paraguay. More often than not it would be located near water and actually Otter Cat is an alternative name for this animal. With its long body, relatively short legs and short, dense, greyish-black fur, it is not unlike an Otter in appearance. Jaguarundis may also have tawny reddish coats. The pair at the zoo are the former colour, though the male in particular displays reddish hues on his tail.

The gestation period for the Jaguarundis is from 72 to 75 days and litter size varies from one to four kittens. When Mr. and Mrs. Herd sent the cats to us, they included a few notes about their

experiences in rearing them. Mrs. Herd discovered that the kittens adapted to water quite readily. On one occasion the mother, Piada, dropped an eight week old kitten into Mrs. Herd's dishwater and it swam immediately. When subsequently Mrs. Herd offered them a pan of water, the kittens entered without prompting.

Fara and her kittens will not be permitted into their outside enclosure at the Cat House for several weeks but in the meantime visitors can still see the male Jaguarundi. As soon as possible we will take a photograph of the kittens for inclusion in the ZOO NEWS.

The birth of the Giraffe is also a very pleasing event, especially as the baby is a female. The keepers have named her Marie and she is featured in this month's cover photograph. Her mother is Debbie, a fourteen year old female which has produced a number of calves at Chester Zoo. Marie is a very sturdy little animal and when recently allowed into the outer paddock, by following her mother demurely around the enclosure, she demonstrated she was one of the best behaved baby Giraffes we have had here for some years. On their first outings most of the babies are far too frisky and dash about dangerously near to the moat. For this reason keepers always escort them out and are on hand to avoid any accidents.

The two young White-bearded Gnus, the second and third born this year, may be seen in enclosure No. 93.

Amongst the new arrivals in this section are a female Kinkajou (*Potos flavus*), which was presented to the Society, and a male Sooty Mangabey (*Cercocebus torquatus atys*), acquired with the object of forming a breeding pair with an unmatched female of this species in the Monkey House.

Two female Eland (*Taurotragus oryx*) have also been acquired and have joined the single male Eland in enclosure No. 104. This bull has been on his own since his mate died in April. The new females appear healthy specimens and it is hoped that they will breed next year.



RHEA CHICKS (*Rhea americana*)

K. W. Green, A.R.P.S.

BIRD NOTES

Since our last report the following chicks have left the nest:

- 3 Rheas (*Rhea americana*)
- 2 Diamond Doves (*Geopelia cuneata*)
- 3 Red-rumped Parakeets (*Psephotus haematonotus*)
- 1 Jerdon's Starling (*Sturnus burmanicus*)
- 1 Red-headed Bunting (*Emberiza bruniceps*)

The three Rhea chicks may be seen in the photograph on the left. Since this was taken, they have grown appreciably and we hope they will continue to thrive. In common with most of the ratites or flightless, Ostrich-like birds, it is the male of the Rhea species which is responsible for incubation of the eggs and rearing the chicks. Consequently it is the cock, and not the hen bird which attends the chicks in enclosure No. 99.

The nest fashioned by the male Rhea is a scrape in the earth lined with grass, into which the female deposits her eggs. The male then sits on the eggs until they hatch approximately forty days later. At the zoo the male Rhea scraped his nest in a small clump of bushes surrounded by long vegetation in the centre of the paddock. Even when he laid his neck flat along the ground, the normal method of concealment employed by incubating birds, he was still visible from the public pathway and so, carefully, we erected a fence around him. During most of the incubation period he was known to sit on six eggs. There were reports of more eggs but the only other one found in the enclosure was quite old. One egg from the clutch failed to hatch and of the others which were fertile, one chick was very weak and succumbed soon after hatching, and another disappeared completely the same day. The three surviving chicks and the male were ushered into a smaller area of the paddock, sectioned off from the rest, which is where they can now be seen.

There are two species of Rheas and both are indigenous to South America. The species represented here, the Common Rhea (*Rhea americana*) is the larger bird, reaching an adult height of five feet, and it is found from Brazil to Argentina. The less numerous Darwin's Rhea (*Pterocnemia pennata*) occupies a range to the west of that of the Common Rhea.

It is not often that we record the mere laying of an egg, as this can hardly be termed a successful breeding. On this occasion though, we feel the event of sufficient interest to warrant mention. Our pair of Red Birds of Paradise (*Paradisaea rubra*) has been together in one of the long planted flights, No. 54, for most of the summer. Displaying has been witnessed frequently and a short while ago a partially completed nest was observed. With considerable excitement it was also noted that the hen had laid a single egg in this nest. Unfortunately the cock removed it and both birds have gone into a heavy moult, thus ending our chances of breeding these beautiful birds this season. However with any luck, next year the birds will be successful.

WILSON'S BIRDS OF PARADISE

In last month's issue we reported the arrival of a pair of Wilson's Birds of Paradise (*Diphyllodes respublica*). These birds have settled down in their long planted flight (No. 54) but it has not been possible to photograph them, as the male in particular is rather shy.

The Wilson's is one of the smallest Birds of Paradise, reaching no more than six and a half inches long, and it is found only in the hilly interiors of the islands of Waigeo and Batanta, off the western coast of New Guinea. Its nearest relative is the Magnificent Bird of Paradise (*Diphyllodes magnificus*), a slightly larger bird, which has a far more extensive distribution in mainland New Guinea and Papua. Both species belong to the group known as the King Birds of Paradise.

Not a great deal is known about the breeding habits of the Wilson's. The cock displays on the ground, usually around a sapling, and his elaborate performance shows off his beautiful plumage to the best advantage.

Small though he is, undoubtedly the cock is one of the most colourful of birds. In fact so definitely marked and brilliant are his colours, that one is reminded of a stained glass window in a church. One curious feature of the Wilson's Bird of Paradise is a patch of bare skin on the crown of the head and neck, which is bright blue in

the male and silvery blue in the female. In both sexes this bare patch is divided into six by a single vertical strip of feathers and two roughly horizontal strips (black in the cock and dark brown in the hen). In the male, a broader band of glossy black feathers separates this bare skin from a brilliant yellow, erectile shoulder cape of feathers. His back and upper wing coverts are rich red and are divided from each other, from the yellow shoulder cape and from the tail by narrow strips of black. Both rump and tail are brown with the exception of his central tail feathers which are much elongated, coiled and violet blue. Beneath his glossy black face and throat he bears an iridescent emerald green breast which has tinges of blue near the throat. By expanding and contracting his breast, this area varies from bright emerald to almost black and it features prominently in his display. A narrow black border separates the green breast patch from the colours of his back while the lower half of his abdomen is brownish black.

Apart from the bare skin on her head, the female is very different from the male. Her back, wings and tail are mainly dark brown while her underside is buff with thin, horizontal, dark bars. She lacks the long coiled tail feathers of the male.

There was much early confusion regarding the naming of this species and a universally acceptable solution has not yet been reached. The first skin known reached Europe in 1850 and was acquired by an Englishman named Edward Wilson. He intended sending it to the Academy of Natural Sciences in Philadelphia but before he did so the skin was examined by Prince Bonaparte, nephew of Napoleon and a renowned ornithologist of his day. Recognising it as a new species and with complete disregard for professional ethics, Bonaparte named the discovery himself—as it happened, initially his generic name was incorrect but later he amended it and the scientific name for this species became *Diphyllodes respublica*. At that time the fashion was to christen new species of Birds of Paradise after royal personages and Bonaparte's choice of *respublica* was no accident.

In the meantime the skin had reached its destination in Philadelphia and, unaware that it had been named already, the American ornithologist, Cassin, dubbed the new species *wilsoni*, in honour of

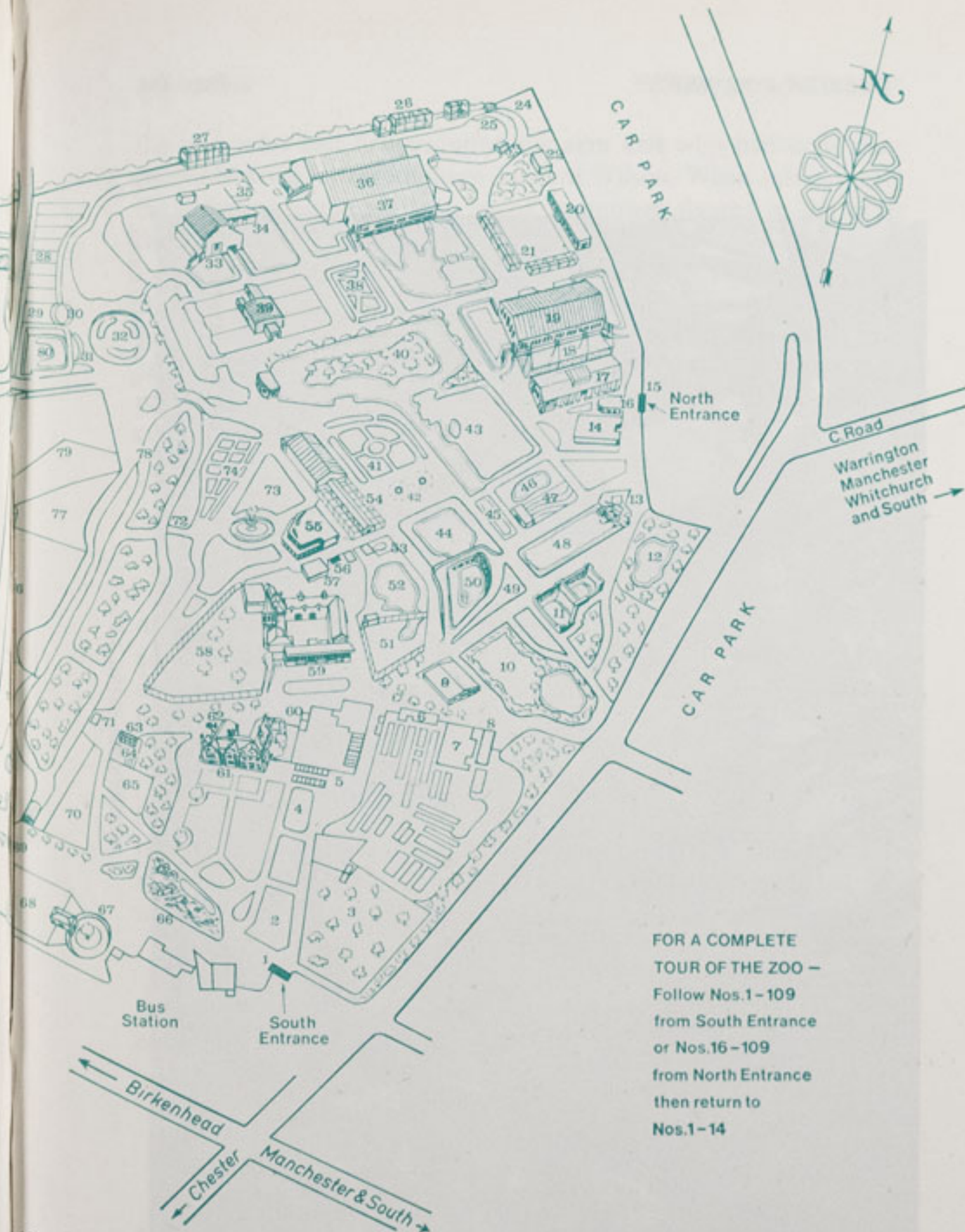
CHESTER ZOO

THE NORTH OF ENGLAND
ZOOLOGICAL SOCIETY
ZOOLOGICAL GARDENS

TO LECTURE HALL
(PRIVATE)

1. SOUTH ENTRANCE
2. Peacock Enclosure
3. Wapiti Paddock
4. Lesser Pandas
5. Aviaries
6. Milk Bar
7. CORONATION HALL
8. CLOAKROOM, FIRST AID, TOILETS, MOTHER AND BABY ROOM
9. CAFETERIA
10. Picnic Lawn
11. Bears
12. Animal Enclosure
13. Kiosk
14. AQUARIUM
15. NORTH ENTRANCE
16. PUSH CHAIRS, WHEEL CHAIRS, LOST CHILDREN
17. Parrot House
18. Free Flight Aviary
19. APE HOUSE
20. RAINBOW CAFE AND SHOP
21. Aviaries and Picnic Lawn
22. TOILETS
23. Tuatara Exhibit
24. Peccaries
25. Waterbus Halt
26. Birds of Prey Aviaries
27. Condor Aviary
28. Jackal and Hyaena Enclosures
29. Animal Enclosure
30. Porcupine Enclosure
31. Coypus
32. Beavers
33. Giraffe House
34. Camel House
35. Waterbus Halt
36. TROPICAL, NOCTURNAL AND REPTILE HOUSES
37. CHIMPANZEEES
38. Floribunda Rose Garden
39. Mammal House
40. Gibbon Island
41. H.T. Rose Garden
42. Aviaries
43. Flamingoes
44. Waterfowl Enclosure
45. Waterfowl Enclosure
46. Capybara and Waterfowl
47. Penguins
48. Sealions
49. Rock Garden
50. Polar Bears
51. Tigers
52. Waterfowl Enclosure
53. Anteaters
54. BIRD HOUSE
55. FOUNTAIN RESTAURANT
56. Ape Nursery
57. TOILETS
58. Lions
59. SOUVENIR SHOP
60. TOILETS
61. OAKFIELD RESTAURANT
62. G.P.O. Telephone
63. Gibbon Pen
64. Animal Enclosure
65. Cheetahs
66. Ornamental Rock Garden
67. Malayan Bears
68. Animal Enclosure
69. Aviary
70. Wallabies
71. WATERBUS BOOKING OFFICE AND KIOSK
72. Waterbus Halt

73. Fountain Flower Gardens
74. Rose Garden
75. Red Lechwe
76. Red Lechwe
77. Deer or Antelope Enclosure
78. Waterbus Halt
79. Zebra and Deer Enclosure
80. Kamchatka Bears
81. ELEPHANTS
82. Hippos
83. Tapirs
84. Small Mammal House
85. Waterfowl Enclosure
86. Ankole Cattle
87. Gazelle Paddocks
88. Storks and Ostriches
89. Baboon Pens
90. Cat House
91. Lions and Tigers
92. Antelope Enclosure
93. Antelope Enclosure
94. Antelope Enclosure
95. Zebra Enclosure
96. MONKEY HOUSE
97. Waterfowl Enclosure
98. Wallabies and Waterfowl
99. Cranes and Waterfowl
100. Llamas and Alpacas

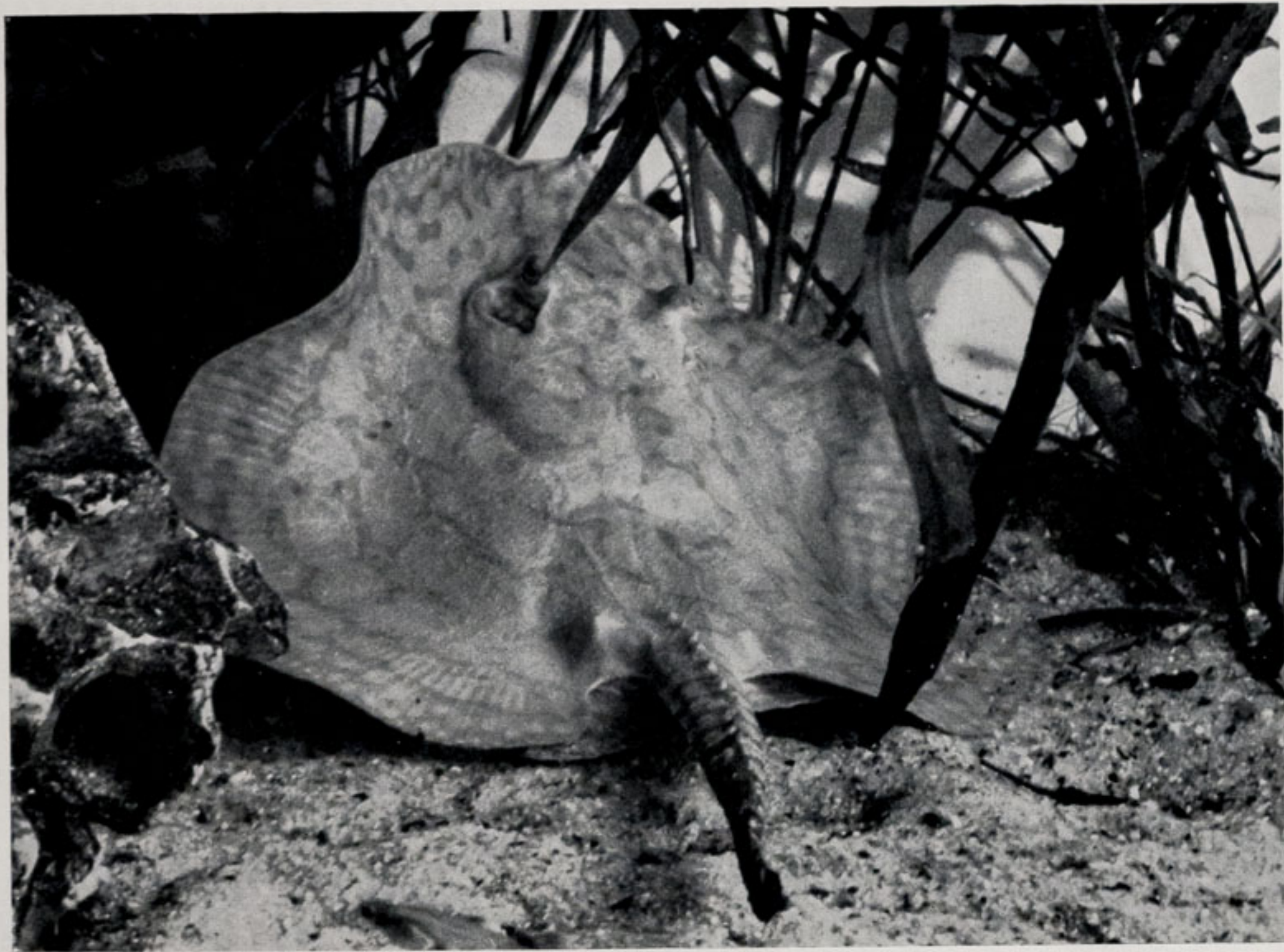


FOR A COMPLETE
TOUR OF THE ZOO -
Follow Nos.1-109
from South Entrance
or Nos.16-109
from North Entrance
then return to
Nos.1-14

ANIMAL FEEDING TIMES:

LIONS—3 pm except Fridays
BEARS—3-15 pm
POLAR BEARS—4 pm
SEA LIONS 3 times daily—
2-40 pm, 3-40 pm, 4-40 pm

Animals may be moved from
time to time



FRESHWATER STING RAY

K. W. Green, A.R.P.S.

the man who had first acquired the skin and who had done considerable work for ornithology, Edward Wilson. When subsequently the situation came to light, many prominent figures in the ornithological world were annoyed at the manner in which Bonaparte had named the bird and they continued to refer to it as Wilson's Bird of Paradise. However it is a rule of zoology that the first scientific name given to a new species must be accepted for all time and consequently we have adopted Bonaparte's name, which at present is the more widely employed, whilst retaining the popular common name.

NEW LION AND TIGER ENCLOSURE

Regular visitors to the zoo will notice some changes in the area of the Lion and Tiger enclosures, No. 91. A new large paddock with adjoining dens has now been added at the rear of the existing enclosures and in next month's issue this structure will be described in greater detail.

Our breeding pride of Lions, headed by Kim, has been transferred to this new enclosure and into the paddock these animals have vacated we have released the latest litter of Lion cubs and their mother. We reported the birth of four cubs in this litter but unhappily one of the babies died at about a week old.

A short distance away in the Cat House, the second litter of two Leopard cubs and the mother have been coming into their outer enclosures on fine days.

AQUARIUM NEWS

One of the latest arrivals in the Aquarium is causing immense public interest. It is a young freshwater Sting Ray, a native of South America, which is illustrated in the photograph on the left. The present dimensions of the ray are eight inches across by twelve inches long, the latter measurement including the tail, but when adult it could attain an impressive body width of two feet. The upper surface of the flat, disc-shaped body is pale orange with light

greyish-blue mottling, while the underside is creamy white. The long, narrow tail is whitish with greyish-black bands and bears a single long spine. Smaller spines are present nearer the base of the tail. In some parts of its native range, the freshwater Sting Ray is reported more feared than the ferocious Piranha because of the severe pain inflicted upon anyone unfortunate enough to tread on one of these long spines. The Sting Ray's eyes are positioned in raised sockets on the upper side of its body and these are visible in the photograph. As the ray swims up against the glass, visitors will be able to observe its mouth quite clearly on the lower surface. Its diet in the Aquarium comprises worms and meat. When first released into a tank, it was offered a few worms which were snapped up within minutes. It is an extremely active specimen and shows every indication of thriving.

Two Reed-fishes (*Calamoichthys calabaricus*) have been introduced into a tank containing a single Reed-fish and a Birchir, to which the former species is closely related. Reed-fishes have long eel-like bodies which may grow to well over two feet in the natural state. The body is green generally, being olive on the back and shading to yellowish green on the ventral surface. Reed-fishes live in the quieter parts of rivers and in flood plains of the Niger Delta and the Cameroons in West Africa.

Since both species are at home in brackish water, the new young specimens of Malayan Angelfish and Tiger Scats have been accommodated in the same tank. The Malayan Angelfish (*Monodactylus argenteus*), known also as the Fingerfish, has an extensive distribution along the coastal regions of the Indian Ocean from East Africa eastwards to Malaysia. This fish can survive in either fresh or brackish waters and in fact two representatives of a closely related species of Fingerfish from West Africa (*Monodactylus sebae*) are currently on exhibition in the tropical marine section of the Aquarium. The average adult length of the Malayan Angelfish is eight inches and it has a silvery body with two black stripes, one running through the eye and the other, a little distance behind the eye. Its dorsal and anal fins are rich orange with black tips.

The Tiger Scat (*Scatophagus argus*) grows to ten inches and lives in the Indo-Pacific area, again being able to thrive in fresh and brackish waters. There are several colour variations of this species

and most have been named individually. Basically the fish has a metallic bronze-green body covered with dark spots. The variety named Tiger Scat bears areas of red on its head and first dorsal fin. This species is particularly popular amongst aquarists, as it is a sociable fish which in time becomes fairly tame and often will take food from the fingers.

Other new arrivals, most of which are young specimens, are Copper Tetra (*Hemigrammus nanus*), Striped Anostomus (*Anostomus anostomus*), Harlequins (*Rasbora heteromorpha*), Golden Barbs (*Barbus schuberti*), Indian Glassfish (*Chanda ranga*), Firemouth Cichlids (*Cichlasoma meeki*) and African Knife Fish (*Xenomystus nigri*).

Several new exhibits have been added to the local marine tanks including a number of small Green Wrasse and some tiny Hermit Crabs. Our growing Anemone exhibit has been enhanced by the introduction of a specimen each of Snakelock and Dahlia Anemones. Approximately two dozen Salt Water Sticklebacks can also be seen now in this local section.

TREATMENT AND CONTROL OF PARASITES

Occasionally mention is made in the ZOO NEWS of the methods employed in controlling parasites in the zoo stock but probably many readers are scarcely, if at all, acquainted with the nature of the parasites or the various ways in which they affect the animals. A part of the "behind the scenes" activity at Chester Zoo involves a veterinary laboratory which is staffed by a veterinary officer and a laboratory technician. One of the main procedures carried out in the laboratory is a programme of preventive medicine and one aspect of this, which is highly stressed, is the regular checking of zoo animals to ensure that parasitic burdens are kept as low as possible.

The keeping staff and the laboratory staff adopt a system whereby every effort is made to ensure that all the animals in the collection are examined at least three times a year so that any sudden increase in parasitic burdens can be detected quickly and treated. This involves submitting faecal samples for microscopic

examination to detect the presence of parasitic worm eggs and parasitic protozoa. In conjunction with these examinations, tests are made for intestinal pathogenic organisms which can be as equally harmful to the host as are parasites. All new arrivals to the collection are examined for parasitic and infectious disease which, if left untreated, may affect those animals which they are joining when placed on permanent exhibition.

It is important to consider that the constant screening of zoo animals for parasitic burdens is motivated by three basic reasons:

- 1) animal health aspects;
- 2) staff health aspects;
- 3) economic aspects.

1) **Animal Health Aspects**

The main groups of parasites concerned are the roundworms, the flatworms (tapeworms and flukes) and the protozoa. However, the tapeworms and flukes normally require an intermediate host such as a snail or arthropod and good management ensures that the intermediate life cycle is not available. As an example, the Liver Fluke (*Fasciola hepatica*) requires a snail (*Lymnia truncata*) as an intermediate host. At the zoo every effort is made to eliminate damp, muddy conditions, especially around water troughs and wallows, thus denying the proper conditions to colonies of snails.

It is also policy at Chester Zoo that all carnivorous animals are fed meat from a known source. This ensures that meat and offal infected with the bladder-worm stages of certain tapeworms are not given to carnivores. It should also be mentioned that certain tapeworm parasites of some mammalian and avian species utilise arthropods as intermediate hosts. As these intermediate hosts may be beetles, earthworms or forage mites which are cosmopolitan in distribution, complete life cycles can exist in a zoological garden. Due to the system of management in the gardens however, tapeworms do not present any major problems in the majority of species exhibited.

The parasites which pose the major problem in zoo stock are those with a direct life cycle. Most important of these are the in-

testinal roundworms where normally the eggs pass to the outside via the faeces and, after a short period of development, infective larvae emerge which are ingested by the new host, In normal circumstances the development of the egg to infective larvae is controlled by the nature of the ground, moisture and climatic conditions. Obviously there is a greater degree of dessication on concrete than on grass. Although a few paddocks at the zoo are concrete, grass predominates and in order to maintain low levels of larval populations, the paddocks are well drained, the grass kept short and faecal debris removed daily where possible.

While there are varying reasons for describing zoo animals as "exotic," it should be borne in mind that, in common with domestic livestock, the majority of animals that comprise zoo stock are equally liable to infection with the parasites commonly found in this country, e.g. the Whipworm *Trichuris* readily infects sheep, deer, gazelle and giraffe. In certain instances in the exotic animal, especially specimens which have been imported recently, *Trichuris* may give rise to a severe gastro-enteritis due to lack of immunity to this parasite in the host animal. At Chester, *Trichuris* has been a major problem in Giraffes and in an effort to control this particular helminth the Giraffes are now kept on concrete indoors and outdoors, which has resulted in a marked reduction of the problem.

2) Staff Health Aspects

At Chester Zoo there are certain situations where, through necessity, the staff have direct or physical contact with the exhibits and, although the parasites of man and, for example, primates have diverged, nevertheless certain groups of animals are hosts to parasites which are equally infective to man. Notable in this group are the intestinal protozoa, such as the ciliate *Balantidium coli* which causes Balantidiasis in pigs, primates and man, and the protozoan *Entamoeba histolytica* which is often present in old world primates as a harmless commensal but causes amoebic dysentery in man. Another parasite worthy of mention is the nematode *Enterobius*, common in new world primates, which causes pinworm disease in man and monkey. Strict precautions must therefore be taken to ensure that these parasites are not transferred to the keeping staff and it can be appreciated that staff involved with the primate collection in particular maintain very high standards of cleanliness from the points of view of both man and animal.

3) Economic Aspect

With regard to the economic aspect, it is obvious that zoo animals are of considerable financial value. In many instances they are maintained in herds or groups in permanent enclosures, especially in the case of ruminants, where parasitic burdens tend to be greater. As an alternative to rotational grazing, which is not a practicable proposition, a policy of strategic anthelmintic treatment is adopted.

It must be emphasised that it is important to maintain the parasitic burdens at low level because:

- 1) loss of stock due to parasitic infection imposes a direct financial loss, and
- 2) parasites may cause clinical disease which may lead eventually to impaired breeding, an undesirable situation from the conservation aspect.

Outlined above are some of the more important parasitic problems encountered when animals are kept in captivity. Finally, it should be remembered that the fight to control parasites is aided tremendously by the application of certain fundamental principles. Correct diet is vital, as an animal which is well fed has a greater degree of resistance to parasitic infection than one which is undernourished. In addition, a good system of management, temporary isolation of new arrivals, correct animal housing, paddock hygiene and strict veterinary controls with the use of safe, efficient drugs are all essential factors in combating successfully the problem of parasites in zoo animals.

"CHESTER ZOO NEWS" SUBSCRIPTION INCREASE

Owing to the additional postal charges and mounting costs of printing, it is regretted that as from 10th September 1973 (the date of introduction of the new postal rates), the annual subscription to the CHESTER ZOO NEWS will be increased to £1.05. Naturally all existing subscriptions will be honoured until they expire.

The following notice is displayed on several boards in the grounds

Please comply with it at all times.

FEEDING OF ANIMALS AND BIRDS

IT IS AN OFFENCE for any member of the public to offer food of any description to any Animal or Bird in Chester Zoo.

This regulation is made for the sake of the health of the Animals and Birds. Since the NO FEEDING rule was introduced, the number of deaths has dropped appreciably and sickness, due to wrong feeding has been virtually eliminated.

What you may be offering to an animal may only be a sweet or an inoffensive piece of bread, but it can mean a death sentence for the animal. For example, a cough drop, which may relieve your cough, can cause instant death to many Animals and Birds in the Zoo.

You must not lose sight of the fact that you are only one of over a million visitors who visit the Zoo annually. If for instance an elephant had one bun from only one tenth of a day's visitors during the summer, it would eat between three and four thousand. You can guess the result.

We realise what a temptation it is for visitors, particularly children, to feed our Animals and Birds and this is why we invite members of the public to be present at the official feeding times.

This is a polite warning to you, asking you not to feed the animals. If you ignore it, the Keepers are authorised to ask you to leave the Gardens.

If you really love Animals and Birds, you will appreciate the wisdom of the ruling — No Feeding by members of the public.

PLEASE HELP US TO KEEP OUR COLLECTION OF ANIMALS NOT ONLY ALIVE BUT IN FIRST CLASS CONDITION.

Printed in England by
G. R. Griffith Ltd.
Castle Printing Works
Chester
