

# ANNUAL REPORTS

## Denver Zoological Foundation, Colorado, USA 1982.

During the past year emphasis was placed upon obtaining new stock for many of our established herds to increase their genetic diversity. Additions included males of the following species: eland, llama, axis deer, reindeer, beisa oryx and mule deer. Additionally, females of some species were acquired through trade for the same purposes; added were two bighorn sheep, reindeer and roan antelope.

The mammal collection suffered a major setback with the death of Thomas, our male gorilla, in August. A search was immediately begun to obtain a replacement. Due to a set of fortunate circumstances (for Denver), the Topeka Zoo needed to find a temporary home for their adult male. Max arrived in Denver in late December, and was introduced to our female, Maguba, soon after arrival. Both have settled in and are adjusting to each other. As Max is a temporary breeding loan, we have arranged to obtain an additional male from the Rotterdam Zoo and he should arrive in late spring of 1983. Our female, Bibi, on loan to the Cincinnati Zoo, has been accepted into one of their breeding groups and is reportedly now pregnant.

Our breeding female giant anteater suddenly died in mid-January, followed a few days later by her last offspring, a three-month-old male. Attempts to find a suitable mate for our male proved fruitless until November when we had the opportunity to acquire two wild-caught

females. One animal was shipped to the San Antonio Zoo for pairing with our captive-reared male on loan there. The remaining female will be introduced to our male in the hope that this breeding programme can be reinstated. Based upon our lack of success in breeding cheetahs, we decided to place our trio on breeding loan to the Henry Doorly Zoo in Omaha, Nebraska. We replaced these animals with a pair of unrelated, captive-bred maned wolves. This marks the first time this species has been exhibited in the Denver Zoo. The maned wolves have adjusted well to their new home and currently occupy the old cheetah enclosure. In fulfillment of a trade account, we received a trio of cape hunting dogs from the National Zoological Gardens of South Africa. These animals were loaned to the Sedgwick County Zoo, Wichita, Kansas. This decision was based on our lack of proper facilities or space. We also purchased a pair of Brazilian tapirs to bolster our present group and, hopefully, stimulate reproduction.

Due to the growth of our young orang utans and the lack of adequate exhibit space for all forms of great apes, the trio of chimpanzees were placed on breeding loan in other institutions. The loss of our breeding female Malayan giant squirrel led to the decision to discontinue this species in the collection. This provided space for the acquisition, on breeding loan, of a trio of callimicos or Goeldi's monkeys from the Brookfield Zoo. The adult female is pregnant and should deliver early next year.

A group of gelada baboons was obtained and are gradually being intro-

duced to one another in an attempt to establish a normal family unit. A further trio of white-faced saki monkeys was purchased to bolster our population of these interesting small primates.

The Cincinnati Zoo placed adult pairs of both caracals and jaguars here on breeding loan. Our caracals have not bred in the past few years and these new additions will hopefully stimulate reproduction in our group. The jaguars are welcome additions as the male is the melanistic colour phase while the female has a normal pattern.

Both of the Przewalski's horse fillies born in 1981 were shipped to the San Diego Wild Animal Park where they will be introduced into a herd situation. A female lesser panda, on breeding loan to the Lincoln, Nebraska Children's Zoo gave birth to triplets, all of which survived. We intend to place them on breeding loan in various institutions around the country.

Notable births in 1982 included a male colobus monkey which represents a first in the collection. The snow leopards bred for the second time and success-

fully reared a pair of young, also a first successful rearing of the species in our collection. We have purchased the male offspring, and the female belongs to us as a result of the breeding loan. Subsequently, the young female was traded for another female to give us two unrelated pairs of these endangered felines. One pair of golden lion tamarins produced a female offspring. Several months later the mother died, but the male successfully reared the infant. A new female was introduced to this father/daughter group, was accepted, and has now paired with the male. The younger pair of black rhinos produced their third viable calf, a female, in mid-November. This is a full second generation birth and is the eighth black rhinoceros born in Denver. The California sea lions raised their fourth offspring in as many years and the servals reared two female cubs. One of these will be exchanged for a male to give us two unrelated pairs. Various hoofed animals continued to reproduce at an exceptional rate. Notable births included 5 reindeer, 8 pronghorn antelope, 9 spring-



A highlight of 1982 was the birth of a female black rhinoceros, the eight representative of this endangered species reproduced here.

bok, 2 reticulated giraffes, 2 Grant's zebras, 5 Dall sheep and 8 bighorn sheep.

After deliberating for over a year, the North American river otters discovered a method of escape from their enclosure. Following an initial escape, capture and return they repeated the act! Two of the animals were immediately recaptured and placed back in their moated enclosure after its water level was lowered. The third animal disappeared but was spotted outside of the park swimming in a residential pool. Efforts to capture this animal failed, however, it suddenly reappeared in its enclosure five days later.

Major acquisitions for the bird department included 6 northern eiders, 8 Indian white-eyes, a trio of ariel toucans, 2 bald eagles, 3 male inca terns, 2 male hunting cissas, a pair of citron-crested cockatoos and a female harlequin duck. Six juvenile black-footed penguins were imported from the Amsterdam Zoo and brought our colony up to a total of fourteen birds. The penguins had a very successful year, laying nine eggs of which five hatched with four chicks reared. One chick was handreared from the age of ten days. It is interesting to note that two of the newly imported, captive-reared birds were displaying strong bonding behaviour with two adults of the colony when these two individuals were only ten months old. Six Chilean flamingos were added to the present flock to encourage breeding with this species. The American flamingos laid seven eggs, but all were infertile for the second year in a row.

A group of nine upland plovers were acquired on temporary breeding loan. These birds are part of a reintroduction study being conducted on behalf of the State of Colorado. During the breeding season detailed behavioural studies will be conducted. It is hoped that these studies will confirm the field observations of this species' interesting and unusual courtship and breeding behaviour. During the year, the staff assisted in the development of a suitable radio tracking device to be utilized on Flammulated owls. This diminutive owl, a native of Colorado, has been little studied in the field. The successful

testing of the tracking device on our captive individuals enabled the field researchers to identify numerous paired birds and to study their movements. Further reproductive studies in the Zoo are planned, again to correlate and substantiate what is known from field studies.

After a total lack of egg laying for over five years, our pair of sunbitterns produced six eggs, four of which were fertile. Unfortunately, the birds broke all fertile eggs or crushed the embryos prior to hatching. This sudden resurgence in reproductive behaviour can be attributed to a change in their environment. An attempt to grow Spanish moss dictated the installation of a misting apparatus in the enclosure. Shortly after beginning a scheduled misting routine the sunbitterns began courting, nest building and egg laying.

Both scarlet and white ibises nested; four nests were constructed in two Ficus trees and a total of sixteen infertile eggs were laid. As both species have produced fertile eggs in the past the lack of fertility this year is perplexing. In the same vein our two breeding fairy bluebirds produced three chicks and lost them due to stuffing the chicks with a variety of undigestible material. This is particularly distressing as copious amounts of suitable food were available. A female black-headed gonolek was acquired on breeding loan from the Pittsburgh Conservatory and Aviary. Upon being introduced to one of our males, the pair was moved to the Propagation Building. Within a month of transfer, the pair began nest building and produced two eggs, one of which was fertile and hatched. Unfortunately, the chick disappeared the second day post-hatching. The pair has been observed breeding and nest building has resumed. It is anticipated that they will successfully nest again.

Three species, hooded vulture, black-collared barbet and the double-wattled cassowaries provided the highlights to a successful avian year. After numerous attempts over the past seven years, both by the parents and artificially, the hooded vultures successfully hatched and reared a chick. This was the result of cooperation between the birds and

human influence! The vulture egg was removed (due to adverse weather conditions) replaced with a dummy egg and the real egg placed in an incubator. On the 47th day of incubation the egg was removed from the incubator and replaced under the parents. Four days later, the egg hatched and the parents reared the chick without any obvious difficulty. As far as we have been able to determine, this represents a world's first captive hatching for the species. The black-collared barbets, after being laparoscoped as two males and an undetermined, were placed in a potential breeding enclosure. Within weeks a nesting tunnel was begun in a rotting log. Young were periodically heard vocalizing, but due to the inaccessibility of the nest, never observed. Approximately 5 weeks post-hatching the first chick appeared at the nest hole. A total of three young were produced from this breeding. Within three weeks of the first clutch fledging, the parents began re-nesting in a different tree and produced two additional young. We believe this represents a first North American hatching and rearing of the species. Our breeding pair of double-wattled cassowaries continued their successful reproduction. This year saw the successful hatching and rearing of thirteen cassowaries. A total of twenty-one eggs were laid by the female; of these nineteen were fertile and fifteen hatched. This makes a total of thirty-two cassowaries successfully reared over the past five years at the Denver Zoo.

Other successful bird rearings included: 4 snowy owls, 5 Bali mynahs, 8 lilac-breasted rollers, 1 blue-crowned motmot, 1 Victoria crowned pigeon, 2 green wood hoopoes, 1 Stanley crane, 2 roul-rouls, 6 white eared pheasants, 8 coscoroba swans, 10 Abyssinian blue-winged geese and 9 black-eared golden tanagers. The tanagers resulted from a breeding programme utilizing the Bird Propagation Building. Once the young are fledged, they are removed from the parents and introduced to adult unpaired birds in Bird World. The parents are then encouraged to rebreed. One young so handled, was paired with an adult wild-

caught male and successfully produced fertile eggs at eight months of age.

An attempt to reduce the amount of labour needed to reproduce various commoner species of waterfowl and pheasants was adopted. The plan was to leave the eggs of select species with the parents for incubation and rearing, thus reducing the personnel time necessary when attempting to artificially rear the birds. Various occurrences led to a decline in our overall success in the rearing of the selective species. One major factor was the harassment and actual robbery of nests and young by the resident flock of Black-crowned night herons. This philosophy will be re-examined next year.

Due to an intermittent but nagging problem with vandalism and theft, a decision was reached to discontinue the reptiles exhibit in the Children's Zoo. It is anticipated that reptiles will be properly displayed in the new Aquarium. The former reptile display area will now be utilized as an arthropod exhibit.

## Chicago Zoological Society in 1982

### Amphibians and Reptiles

The loss of Wiley, our huge alligator snapping turtle, was the most significant change in the collection. He had come to the Zoo with Grace Olive Wiley, the first reptile curator, and had previously been in her collection at the University of Minnesota. He weighed 100 pounds when she acquired him in 1928 and 252 pounds at death. The immediate cause of death was kidney failure, but there were various other signs of degeneration due to ageing.

On the positive side, the staff has succeeded in establishing a breeding colony of the giant Cuban anole lizard—15 were hatched during the year. There were other notable achievements with turtles: hatchings of eggs from Macquarrie's side-necked terrapin, Siebenrock's terrapin, and two species of hinge-backed tortoises. A 16-foot reticulated python was acquired to