

MISCELLANY

Elephant reproduction in Europe, Israel and North America in the year 2000

The birth rate of elephants in human care is very low compared to the number of animals kept in zoos. Consequently, the aim of a self-sustaining population has not been reached so far. The high juvenile mortality rate, as well as the deaths of older calves born in zoos (a two-year-old African female in Sigean, France, and a five-year-old Asian male, born in Hamburg, in Pont Scorff, France), present further setbacks.

The increased number of births of African as well as Asian elephants may be signs of an improvement which started in 1992. The reasons for this positive development may be found in increased efforts of some zoos to improve their enclosures in order to facilitate breeding. Individual groups were enlarged and bulls were integrated. As a consequence, many female Asian elephants who had been imported from Burma between 1988 and 1990 bred regularly,

North America shows no remarkable increase in the elephant birth rate. But the pregnancies of five Asian cows in the Ringling breeding station in Polk City, Florida, hints at a positive development. It is noteworthy that a big circus announced these events. But the number of zoos breeding elephants is still insignificant. It is very pleasing, however, to see the fresh start North America is making at the moment in breeding African elephants – at least three pregnancies (by natural insemination) were announced.

The number of elephants of both species bred in Ramat Gan, Israel, is still unique worldwide. But building up of younger stock should be in the centre of interest. It is remarkable that four of the six Asian births in Europe in 2000 occurred in socialized groups (i.e., in a community

of several cows and their calves). Three of the calves are growing up in integrated groups (the fourth calf was of low viability). These calves were born without veterinary intervention or help (the mothers were not chained). This fact shows that matriarchally dominated groups of experienced mothers have been formed (for example in Emmen) in recent years, giving hope of continued breeding in these places in future. Asian calves were also born in Ramat Gan with the group, including the bull, present.

Experience proves that it takes years – sometimes even decades – to build up socially integrated groups. Various drawbacks can never be avoided. But in the long run only this type of care may lead to breeding which can fulfil the needs of animals in captivity.

Jürgen Schilfarth, European Elephant Group, in *Elephant-Journal* (magazine of the European Elephant Keepers and Managers Association) Vol. 4, No. 1&2 (2001). [See the original article for the full list of births.]

Longevity in the black rhinoceros

The maximum age hitherto recorded in a black rhinoceros in captivity was that of the female Mary, who lived at Chicago Zoological Park, Brookfield, from 26 June 1935 to 18 March 1980, a period of 44 years and 9 months. This has now been surpassed by two other animals in American zoos. Columbus Zoo, Ohio, imported a male, Clyde, in either 1953 or 1954 (unfortunately, the exact date is unknown). He died on 10 December 2000 after a period of 46 or 47 years in captivity. A new record was set by the male Rudy, who was imported by Prospect Park Zoo in New York on 12 July 1954. He was transferred to Detroit Zoo, Michigan, on 13 July 1988 and had to be

euthanised on 5 December 2001 due to arthritis and pains connected to his old age. He lived for 47 years and 4 months (17,313 days) in captivity. As most animals were imported when they were between one and two years old, the current longevity record for the black rhinoceros seems to be established as 48 or 49 years.

Kees Rookmaaker

Problems of great hornbill captive management

The EEP for the great hornbill (*Buceros bicornis*) is coordinated by Koen Brouwer, also the EAZA Hornbill TAG Chair. Koen is also director of the offices of the European Association of Zoos and Aquaria (EAZA) and of the Dutch Zoo Federation. This combination of responsibilities gives Koen a different perspective from that of other EEP coordinators. Combining these tasks is sometimes difficult, but is also in some ways easier and more efficient, as hornbill business can be taken care of during transaction of other business.

The state of the Great Hornbill EEP is sobering. There were approximately 100 birds when the EEP was initiated ten years ago. Since then 30 adults have died, and 15 chicks have hatched, of which only ten have survived. The population has remained stable, however, through recruitment, as Koen has invested much effort into bringing single birds held in small zoos or private facilities into the EEP. Only a couple of pairs have bred consistently, and they may well become over-represented in the near future. The reasons for this poor reproduction are not certainly known, but lack of suitable nest sites and incompatibility between partners are thought to be two frequent problems. Furthermore, as all hornbills are tropical or subtropical, temperatures of outdoor enclosures in northern climates are not optimal.

Field researchers have been able to provide some insights into management needs, and husbandry guidelines are

now in development using these data and zoo experiences. The TAG has much contact with hornbill field researchers and conservationists, and TAG members support a number of *in situ* projects.

The possibility of setting up great hornbill 'dating centres' has been discussed for many years, and this was finally attempted in 2001 at Burgers' Zoo, Arnhem, with pairs from four zoos (Amsterdam, Antwerp, Arnhem and Rotterdam) participating [see further below, pp. 44–45]. Some of the hornbills were re-paired at the end of the experiment, and it is hoped that these changes will be fruitful. It would be very desirable to set up such a dating centre in a southern European zoo with warmer temperatures during the winter, when these birds are generally in breeding condition, as this is possibly the best time for pair selection to take place.

Robert van Herk, Ko Veltman and Harald Schmidt in *De Harpij* Vol. 20, No. 4 (1991)

Genetic tests suggest two species of African elephant

The genetic dissimilarity between forest and savanna elephants 'is as great as between lions, tigers, jaguars and snow leopards,' says Stephen J. O'Brien, head of a genetic research laboratory at the U.S. National Cancer Institute. O'Brien is lead author of an elephant study published in the journal *Science*. He and his co-authors analyzed genetic specimens collected from 195 African and seven Asian elephants, and found clear evidence of a 'species level' genetic difference between the two African types.

The genetic samples were collected over eight years using darts fired into animals living in 21 widely separated groups in Africa. The darts were designed to punch and hold a small sample of skin from the target animals, and then drop to the ground, allowing researchers to retrieve bits of skin containing gene sam-