The transported group contained six males aged from four-and-a-half to six years. With hindsight, it seems that it was unwise to shift them in the rainy season, and due to the sudden illness of the *in situ* manager, Mark Attwater, several important measures were not fully implemented. In particular, their new enclosure was not made to look as 'friendly' as possible, with bush cover, extra shade areas, etc. The result was that their strong group solidarity was fractured, and the dominant gorillas started bullying those next to them in rank order, making them decline in health one after another. However, the Lefini animal manager at that time, who subsequently resigned, was too inexperienced to improve the situation, and in the end we lost two gorillas, the second and fourth ranking, within five weeks of the move. If Mark Attwater had been in full health, probably none of this would have happened.

The enclosure furnishing was completed early in February 1995, and after that the situation started improving. The lead male, six-year-old Kola, regained his confidence and began to fulfil his role in the group, and as a result each gorilla settled down in his position. All four showed a great appetite, especially for the wild produce – fruit, leaves, stems, branches, etc. – which we picked from the surrounding forest to put into the enclosure every day. They seemed to be able to distinguish at a glance those items which might be poisonous, and never had any trouble with their diet, suggesting that they would adapt readily when they were released into their natural habitat. More surprisingly, their food preferences have changed totally from when they were in the orphanage – they show no interest now in the artificial or cooked foods such as yogurt, bread or dried fruit which used to be their favourites. In the middle of March, sadly, we lost another gorilla, the lowest ranking, from amoebic dysentery and later a chest infection; here again, stress from the social situation seemed to contribute to his state of health, together with the fact that we had probably moved them at the wrong time of year.

The new animal manager for Lefini started work at the beginning of March, and was well settled in within a month, so in late April we decided to start taking the remaining three gorillas out. When the enclosure was opened they galloped into the forest without a moment's hesitation. After 20 minutes' initial exploration, they started playing and climbing trees. Soon after that, they fed, built nests, and only consented to return to their enclosure when the light was fading. Since that day we have progressed steadily without experiencing any setbacks. In May, we stopped leading the gorillas to spots chosen by humans and let them lead us instead. What was at first an experience to stimulate their sense of initiative and responsibility, quickly became their prerogative. Kola no longer tolerates anyone walking ahead of him – leading a group, choosing new and adequate feeding and resting places, has now become his future vocation. He has certainly proved worthy of this position, as he twice managed to lead us back from the forest when all of us – humans and younger gorillas – got lost in the darkness.

The gorillas penetrate and explore the forest as far as three kilometres away from the enclosure, and seem to assess their surroundings perfectly. In July they started to spend the whole day in the forest. Since their timetable now much more closely resembles that of a wild gorilla group, they alternate playing, foraging and resting time and show a relaxed but 'professional' behaviour. They now

obtain 90% of their food from the forest and continuously taste new plants, some of which they add to their existing feeding repertoire. The juiciest pieces of pineapple, papaya and other tropical fruit that we sometimes put into the enclosure are being ignored in favour of the large variety of leaves, stems, fruit, flowers and also bark and red ants that they consume in the forest. All three have gained weight, grown and developed a fine muscle tone. They obviously view the human presence among them as a factor of reassurance and stability. We are the 'adults'. But already the gorillas show signs of increasing independence, like staying out of sight for up to two hours or walking further away from us without checking if we follow. As soon as this independence is more or less complete, as it would be in a wild gorilla group, the time will come for us to spend the night in the forest – the last step before the final release. It is for the gorillas to determine the right moment and for us to recognise it and gradually retreat. What we are waiting for is not improved technique – it is maturity.

On 23 September a second group, consisting of two males (nine and seven years old) and one female (seven years old), was transferred to Lefini. They seem to have adapted amazingly well to the new enclosure and environment. The presence of a known gorilla group certainly reassured the newcomers. Both groups made immediate contact through the bars, playing, displaying and observing each other in mutual fascination. The second group had been kept in an enclosure in Brazzaville for nearly three years, because they had outgrown the small forest around the orphanage. Soon they will be led into the forest, and in view of their greater age and stable social structure we expected them quickly to catch up with the first group, and even to overtake them in self-sufficiency. They might be the first ones to leave us for their new domain.

SPECIES SURVIVAL COMMITTEE OF JAPAN

An Update on the 8th Annual Conference, 1995, by Ken Kawata

Shirahama, a resort town geared for Japanese domestic tourists, is about a two-and-a-half hour train ride from the bustling metropolis of Osaka. Nestling on a scenic bay, it is near the southern tip of Honshu Island. The Adventure World, a private animal park, hosted the 8th annual conference of the SSCJ on 6–7 November 1995. Dr Ulie Seal and I, representing the CBSG, were the only attendees from the outside world. (For further information on SSCJ, please refer to my piece in *I.Z.N.* 38/1, pp. 6–8.)

About 170 delegates from 105 institutions attended the conference. Among the familiar faces was an England-educated biologist, H.I.H. Prince Akishino, the second son of the Emperor and President of the Japanese Association of Zoological Gardens and Aquariums (JAZGA). Discussions took place during taxonomic group sessions. These groups include (1) marsupials and other small mammals, (2) primates, (3) carnivores, (4) marine mammals, (5) ungulates (including pachyderms), (6) raptors, (7) penguins, (8) storks and cranes, (9) small birds, (10) amphibians, (11) fish and (12) others. Notes follow on some highlights of the conference.

Primates

Western lowland gorilla. These are still mostly in single or pair situations. Tokyo's Ueno Zoo has made an unprecedented effort to form a group, and now maintains 3.5 animals. The

SSCJ goal is to give all females an opportunity to breed by 1998; however, the gap between SSP and EEP programs and the Far Eastern region has been widening. In 1990, there were 49 animals in 25 Japanese facilities; as of September 1995, the number was down by seven animals – 42 (22.20) in 17 facilities. Captive-born animal ratio is 9%, as opposed to 57% world-wide. There has been no birth since 1986.

Orang-utan. Population as of 31 December 1994 consisted of 68 (32.36) animals, of which 19.22 were captive-born, in 28 collections. These included 41 (20.21) Borneans, 19 (9.10) Sumatrans, six (2.4) subspecific hybrids, and two (1.1) of unknown geographical origin. The subspecies of 17 animals (11 Borneans and six Sumatrans) were identified by chromosomal examinations. Future tasks include promotion of chromosomal exams for subspecies determination, avoidance of keeping two subspecies in the same institution, active 'matchmaking', and cooperation with other regional programs.

Carnivores

Polar bear. Data showed there were 65 (30.35) in 32 collections, including 28 (43.1%) captive-born, as of 31 December 1994. The low captive-born ratio is due largely to the lack of adequate maternity facilities. Cub survival rates also remained low, at 12.2%. There are only four reliable breeding pairs, and an additional four potential pairs, in the population. Hence, recruitment of new animals depends on importation. Recruitment of space, upgrading denning facilities, discontinuation of single-animal housing and establishment of the husbandry manual are among the tasks for the management group.

Red panda. As of 31 December 1993, there were 8.7.2 *Ailurus f. fulgens* and 83.83 *A. f. styani*, a total of 183 (91.90.2), in 39 collections. The number in the program has been increasing satisfactorily. Subspecies *styani* is preferred for the SSCJ program. The goal is to reach 200 animals in 50 collections, which may be achievable during 1997.

Cheetah. Another success story can be seen in the cheetah program. There were 80 (41.39), including 60 (34.26) captive-born, in eight collections as of 31 December 1994. The captive-born animals formed 75% of the population, which is close to the international studbook data of 72%. This is mainly due to the high reproductive rate of two safari parks, including the host of this conference. To avoid inbreeding amongst animals from these two parks, loans between collections have taken place. Goals of the program include increase of animals to 100 in five years, and raising the captive-born ratio to 80%.

Ungulates

Black rhinoceros. The first black rhino in Japan arrived with Hagenbeck in 1933, but this animal did not stay. The first zoo specimen arrived at Ueno Zoo in 1952. The number increased to ten by 1959, and the first birth took place in November 1963 in Kobe's Oji Zoo. In 1972, and again in 1981, the number reached a peak with 17 animals by births and imports; but by 1988 it had decreased to 11. In that year JAZGA established the SSCJ, and the program to manage the species began in 1989. At the time of this conference, there were 11.16 animals in five collections. The six calves born since 1990 have all been females. The task for the program is to increase both animals and participating zoos.

Penguins

Seventy member institutions had a total of 1,032 (298.279.455) Humboldt penguins, including 881 (221.231.429) captive-hatched, as of 31 December 1994. Annual increase by breeding was 15.17%, compared to the mortality of 10.22%; thus, nationally the population is on the rise. However, a large gap exists between institutions with bigger flocks and a high reproductive rate, and those with smaller flocks and poor reproductive rates. It was noted that, by and large, the breeding rate does increase in a flock with a minimum of ten birds; results have been poor in flocks of four to five birds each.

The SSCJ's penguin program mainly focuses on *Spheniscus* spp., which will be managed as a whole. One of the issues brought up was hybridization within this genus as the result of mixed species exhibits. To make a point, there were 186 black-footed penguins in 17 institutions as of 3 October 1995. Of these, 13 exhibited them in mixed species groups; five with Humboldts, three with Magellanics and five with both Humboldts and Magellanics. The Committee made a strong recommendation to ban mixed species exhibits; however, this is where the animal ownership issue comes into the picture. One management group member stated that eggs should be destroyed, should nesting between species ever take place.

Storks and Cranes

Judging from the tendencies in the last ten years, it appears that the carrying capacity for cranes by JAZGA member institutions is about 700 birds. These include birds in mixed species exhibits as 'ornamental'. There are great variations in number between species. For instance, as of 31 August 1995 there were 12 hooded cranes in six collections; breeding rate is poor. Meanwhile, there were 153 (65.69.19) red-crowned cranes, including 116 (46.49.21) captive-hatched, in 32 collections. (Six non-member institutions had 48, including 37 captive-hatched; thus the total in captivity revealed in this survey was 201 birds in 38 locations.)

Based on the total of 700, 150 will be allocated to the red-crowned. In addition, non-member holders are estimated to have a carrying capacity of 90, making the goal for the national captive population of this species 240 birds. Considering all aspects, in actuality the JAZGA member institutions have already reached the carrying capacity for cranes. There could be other crane species with higher conservation priority than the red-crowned, such as the Siberian white. For this reason, there will be no active space recruitment for the red-crowned.

Including birds in non-JAZGA member institutions, there were 91 (42.38.11) oriental white storks (61 of which were captive-hatched) in 13 collections as of 28 October 1995. In this population, there were ten breeding pairs in four collections. The captive population has been steadily increasing. A reintroduction program is currently under way in Hyogo Prefecture [see *I.Z.N.* 42/5, p. 311 – *Ed.*]. Future tasks for the SSCJ program include active recruitment for member participation in breeding, calculation of number of breeding pairs necessary for the program, publication of a husbandry manual and cooperation with the reintroduction program.

At a sub-group discussion on storks, and again during his special presentation, CBSG chairman Dr Seal emphasized the importance of the oriental white stork reintroduction program. Specifically, he stressed the need for a comprehensive plan, and stated that a PHVA meeting, to be held in Japan, appeared immensely appropriate for this taxon.

Whoopie ti-yi-yay, get along, li'l rhino

Since last March, four African black rhinoceroses have been grazing contentedly on two ranches in Texas. They are the nucleus of a project to develop a population of 200 over the next 20 years and save the endangered black rhinoceros of east, south, and central Africa from extinction.

The rhinos were brought to Texas by Game Conservation International (GAMECOIN), with the backing of the American Association of Zoological Parks and Aquariums (AAZPA) and other conservation groups. The driving force behind GAMECOIN is its founder and director, Harry Tennison, an oilman, cattle rancher, and financier. His 19-year-old San Antonio-based group of hunters, fishermen, and conservationists has 2,500 members in 42 countries.

Tennison, a long-time hunter of African and Indian game, began keeping track of the black rhinos 18 years ago when a game warden on a Zululand preserve predicted that the animals would eventually become an endangered species. Poachers are now rapidly pushing African rhinos toward oblivion, killing off one or two animals a day. For a couple of years during the mid-1970s, deaths rose to a staggering 4,000 to 5,000 a year, and Tennison estimates that of roughly 25,000 in the population 10 years ago, 2,500 still survive. Because the animals can't reproduce as fast as they're being killed, their numbers continue to plummet.

For years, poachers have killed rhinos for their hide and feet as well as their horns, which are ground up for African and Asian medicinal and aphrodisiac potions. But more recently, rhinos have become indirect casualties of the international petroleum trade. "The killing increased dramatically about 10 years ago when oil money started flowing into Yemen [in the Middle East]," says Tennison. "In Yemen, when a boy becomes a man he is given a dagger. Well, the ultra thing became giving a Yemeni boy a dagger with the handle and scabbard made of rhino horn. With plenty of oil money coming in and thousands of youngsters coming of age a year, the demand grew." The Yemeni now pay between $900 and $13,000 for a dagger with a rhino scabbard and handle.

About two years ago in an attempt to save the rhinos, Tennison convinced the Natal Parks Board of South Africa to hand over a few to GAMECOIN. Now Texas has two breeding pairs of rhinos, one set on a 2,000-acre ranch in Glen Rose, the other on a 2,500-acre ranch near McAllen. GAMECOIN members have raised $250,000 so far, paying for the rhinos' capture and transport and for $180,000 worth of rhino-proof corrals and barns in Texas.

GAMECOIN plans to bring over as many more game preserve rhinos as possible while simultaneously breeding the Texas herd, eventually establishing about 200 animals on 20,000 acres, each in its own rhino-fenced domain. Right now each animal is enclosed in a one-acre paddock. As the rhinos acclimate, their romping grounds will be expanded to 10 acres and ultimately to 100 acres. Rhinos, which live to be about 65 years old, breed slowly. After a pregnancy of 17 to 18 months a mother rhino keeps her new calf for a year; under ideal conditions she can be bred about once every three years. At that rate, with an unknown number of additional rhinos from Africa, it could take up to 20 years to gather a breeding herd of 200 rhinos. "Of course by that point," Tennison notes, "you'd be shipping them off to zoos at regular intervals.

"We're looking at a 20-year program whether the rhinos are reintroduced to Africa or not," he adds. "I doubt that the poaching problem will ever be solved. Whatever happens over there, our herd will insure that there are always black rhinos for people to see."

Ecologically, there is little doubt that the rhinos will thrive in Texas. "Texas is perfect," he explains. "It's the same latitude north of the equator as the rhinos' habitat is south. It has the same vegetation, the same climatic conditions, and even the rhino food, the huisache of the acacia tree family, is the same here. It grows wild all over."

Unlike cattle, which are ruminants, rhinos are browsers like their relatives the zebra and horse. "They fit in very well in Texas," says Elvie Turner of the AAZPA. "The rhino's biology and feeding habits make it ideal for this kind of ranching program."

In case this starts to sound too easy, just ask how you move a rhino against his will, say to get him into a chute so the vet can look him over. "You use a tranquilizer gun," cattleman Tennison says with a chuckle. "Have to. Can't throw a lasso around one unless it's made of two-inch steel. I wouldn't want to do it."

—Daniel Kagan