

have survived beyond a year of age. In the entire history of African elephants in North America, fewer than 25 calves have been born, with only half of them surviving to a year of age. In the last 14 years, there have been only nine confirmed pregnancies, from which no calves survived, and two pregnancies are still pending.

The recent birth of a female calf at Pittsburgh Zoo [see *I.Z.N.* 46:8, p. 509] gives hope that the zoos currently trying to breed African elephants in the U.S.A. may find further success. This pregnancy resulted from a natural mating between the cow and a resident bull. Although natural breeding is more desirable, the lack of males in North America and the expense and logistical difficulties in transporting females to these males makes the development of a successful assisted reproduction protocol vital to the survival of the species.

Indianapolis Zoo has had extraordinary success with research in the area of assisted reproduction of African elephants, with the result that two of our five females are now pregnant by artificial insemination, with calves due in the year 2000 – the first African elephants successfully impregnated by this method. In addition, there is one Asian elephant also successfully impregnated by AI [at Dickerson Park Zoo, Missouri (see *I.Z.N.* 45:6, p. 393) – *Ed.*]. The reproductive physiology of the five female African elephants in Indianapolis has been studied in depth over the last decade through a cooperative effort between the zoo and a number of other institutions. Through studies of the hormones progesterone and LH (luteinizing hormone), and following reproductive tract changes via ultrasound, the team members were able to determine the correct time to try to inseminate the females with sperm collected from among the few

reproductively viable male elephants available. Combined with the technique developed for the artificial insemination procedure [see *I.Z.N.* 45:7, pp. 450–451] and the superb training of our elephants, these developments led to the pregnancies of Kubwa (due March 2000) and Ivory (due September 2000).

Kubwa, now aged 23, was successfully impregnated by AI in May 1998. The semen for the procedure came from Dale, a 20-year-old bull at Kansas City Zoo. Ivory was impregnated the following October with semen from a 14-year-old bull at Disney's Animal Kingdom. The success of the procedure gives hope that a part of the answer to ensuring a continued captive population of African elephants is at hand.

Abridged from Debbie Olson and Judith Gagen in *AZA Communiqué* (November 1999)

Inokashira Park Zoo, Tokyo, Japan

The zoo began keeping common kingfishers (*Alcedo atthis*) in an outdoor cage in 1997. An artificial river bank 2 m wide, 1 m high and 1.3 m deep was built at the back of the cage, and three nest-boxes were placed in it.

On 11 April 1999, an egg was found in the water of the pond. It had fallen from a burrow constructed by the birds. It was then realised that the nest-boxes were a hindrance, so they were quickly removed. Unimpeded by nest-boxes, the birds began to dig new burrows on 18 April, working in five different places. In about one week a suitable burrow was ready, and about a week later it appeared that eggs had been laid. On 21 May the male began to carry fish into the burrow, and it was presumed that the eggs had hatched. Three chicks emerged from the nest, but two had

deformed feet and soon died. The remaining chick was healthy. During the nesting period, the female laid another clutch of eggs and brooded them, so that the male had to care for the first batch of hatchlings by himself. At times he would carry a fish into the nest, but instead of giving it to the chicks, he would attempt to lead them to the pond. In this way he appeared to be teaching the chicks the connection between the fish and the pond. He also demonstrated diving with the chicks looking on. Seven days after leaving the nest the healthy chick caught its first fish. From then on the male stopped caring for the chick, and after the 17th day he would drive it away when it approached. For this reason the chick was separated from the parents.

In all this year five breeding attempts were observed, including the one at the beginning of April. The third clutch of eggs was eaten by a snake, and so was the fourth batch of chicks. The fifth clutch hatched on 20 August, but the male refused to feed them, and himself began to beg food from the female. In spite of feeding attempts by the female, the chicks all died on the 18th day after hatching.

English summary of article in Japanese by Takashi Kimura, published in *Animals and Zoos* Vol. 51, No. 11 (November 1999)

'La Torbiera' Zoological Park, Agrate Conturbia, Italy

Highlights of 1999 at 'La Torbiera' were the successful rearing of eight European mink and the birth of our first Philippine spotted deer (*Cervus alfredi*), both firsts for Italy. Both species are closely linked to *in situ* conservation projects supported by 'La Torbiera' Zoological Society.

Last year also marked the return of

tigers to the park after some years of absence. The young Siberian male Xiper was received from Prague in September, and a female is expected during 2000. In November two snow leopards born in April and their mother Thay were integrated with the father, Timor, without any problem. In December a female Pallas's cat arrived from Vienna. An exhibit for European mink was completed in December to house three young born in 1998. At the end of 1999 'La Torbiera' held 70 species of bird and 28 of mammal.

Spartaco Gippoliti

Orana Wildlife Park, Christchurch, New Zealand

Nearly 15 years of work came to fruition with the birth of a male white rhinoceros calf at the park in August 1999. As both the mother, Utani, and the father, Cyrano, are captive-born and only 8% of captive-born animals breed, park staff are very excited about the birth. Utani gave birth in the paddock just as one of the worst storms of the winter was about to hit Christchurch. The birth was very quick, with the calf on the ground by the time staff reached her, after they realised labour was under way. Utani's maternal instincts proved good and she had nudged the calf to its feet within the hour. Because of the imminent storm, keepers intervened to take the calf into the shelter of the prepared boma. The mother required no encouragement to follow the truck carrying him and they were reunited inside.

Utani proved to be a capable mother in all respects, and staff adopted a policy of leaving her to get on with it. The calf gained weight at an estimated rate of 4.5 kg per day. The pair were kept in the boma for a fortnight, checked at regular intervals and shielded from too much attention, to

allow them to bond. At two weeks, the calf was introduced to the media and the pair coped with such aplomb that it was decided that mother and son could go on display the following week. Orana Park has 4.2 white rhinos, and it is hoped that having a calf in the herd will stimulate the other female to breed.

Shirley Diver in *ARAZPA Newsletter* No. 44 (November 1999)

Riverbanks Zoological Park, Columbia, South Carolina, U.S.A.

The following births and hatchings took place during the period October to December 1999: 3 toco toucan, 22 Henkel's leaf-tailed gecko, 4 giant leaf-tailed gecko, 1 crocodile skink, 7 yellow-banded poison-arrow frog.

The following were acquired: 2.0.1 hellbender, 1 Abyssinian ground hornbill, 1.0 pink-backed pelican, 3.0 golden-breasted starling, 2.1 Fea's white-headed viper, 1.1 Indochinese box turtle, 1.1 Pan's box turtle, 1 Everglades pygmy sunfish, 30 yellowtail snapper, 2 painted greenling, 2 China rock fish, 1 harlequin tuskfish, 1 lionfish, 1 Picasso trigger, 1.1 clownfish, 1 emerald serpent star, 10 lookdown, 1 summer flounder.

Alan H. Shoemaker,
Collection Manager

St Louis Zoo, Missouri, U.S.A.

Termite mounds rise from the ground in River's Edge, the zoo's newest attraction. The mounds have been naturalistically created and are actually in two separate exhibits, one housing cheetahs and the other, nearest to the walkway, a pack of dwarf mongooses (*Helogale parvula*). This nearer mound is more than a display enhancement – it actually provides shelter for the mongooses.

The dwarf mongoose is the smallest of the mongoose family and the most social. Unlike most small carnivores, it lives in cohesive groups. Among larger social carnivores, hunting is probably the main reason for communal living. By hunting in packs, they kill more frequently, take bigger prey, and are able to keep other predators from stealing their kills more effectively than can a single individual. Yet the dwarf mongoose exhibits little teamwork in finding and killing its prey. Rather, its colonial behavior has the important benefit of defense against predators. Pack members take turns scanning the habitat's environs for danger from elevated areas such as the tops of termite mounds that house the colony. While not on sentry duty, a mongoose can forage or rest in relative security. The sentry sounds a loud call if an eagle or jackal is spied, resulting in a scramble for cover by the other mongooses. Bonds between pack members are strong, and sick and dying members are fed and cared for.

In dwarf mongoose society the successful breeders are the alpha pair that dominate all other group members. They are usually the oldest members of the pack. Besides the breeding pair, a pack typically includes subordinate adults, yearlings and juveniles. Most groups number between six and 12 individuals, but some have been documented with populations of more than 20. The tenure of an alpha pair may last for many years. The female leads the pack, while the male is the most alert for danger and intrusions by predators or rival packs. The other members feed, play with and care for the offspring, freeing the mother for the extra feeding time she needs to keep producing milk.

Abridged from Maryann Weiss in *Zudus* Vol. 14, No. 1 (January/February 2000)

Sea World, Surfers Paradise, Queensland, Australia

The male dugong rescued last November [see *I.Z.N.* 46:3, p. 181] has reached 101.5 kg and is set to be moved to his third pool since arriving at Sea World for rehabilitation. This pool was kindly donated by Clark Rubber and holds 55,000 litres of salt water. The animal's future was the subject of discussion during a meeting involving the Great Barrier Reef Marine Park Authority, Queensland Parks and Wildlife Service, dugong experts from the University of Queensland and James Cook University, the Humane Society International, and representatives from the zoological and aquarium industries. His future eventually involves, if feasible, release back into Queensland waters. This would only occur after a time in a sea pen in the shallow waters of Moreton Bay, where he will experience tides and currents, and learn how to feed for himself. The beginning of this process is at least 12 months away and further discussions will be held to determine the exact process.

Marnie Horton in *ARAZPA Newsletter* No. 44 (November 1999)

Sedgwick County Zoo, Wichita, Kansas, U.S.A.

Two thousand Puerto Rican crested toads (*Peltophryne lemur*) were hatched at the zoo in spring 1999 and 5,000 more in the fall. This year's successes are a first for Sedgwick County, which is only the fourth zoo to have bred the species. Twenty animals are being maintained at the zoo as additions to the captive component of this animal's SSP. All the other tadpoles were shipped to Puerto Rico for release. In fall of 1998, senior zookeeper Eli Bryant-Cavazos participated in the construction of a

satellite pond in Guanica State Forest, Puerto Rico, in which our tadpoles were released. The adult toads had been cycled through a cool season, introduced to rain chambers, and injected with luteinizing hormone releasing hormone (LHRH). The spring tadpoles – one large clutch and a second, much smaller one – resulted from two successful pairings. The fall tadpoles also resulted from two successful pairings.

The zoo is also proud to announce the successful hatching of a Russian cobra (*Naja oxiana*). This is the first recorded hatching of this species in a North American zoo. One fertile egg and nine 'slugs' were laid on 8 June 1999. This was the first reproductive event for both parents. Tail wrapping had not been observed since 3 June 1998. The male was separated from the two females for one week each month. A rainy season was provided from October through March, resulting in a slight cooling of ambient temperature. Basking temperature was set at approximately 95°F (35°C). The egg weighed 16 g and was incubated at 82°F (28°C) in a 1:1 vermiculite:water medium. Incubation time was 55 days.

AZA Communiqué (December, 1999)

Tallinn Zoo, Estonia

In 1999 the most important occasion for the zoo was the opening of the new tropical house. As its construction had taken five years, it was a long-expected event. This new facility is not in fact a separate building. For ten years after the Moscow Olympic Games, when Estonia was still part of the Soviet Union, it was not permitted in our republic to start any sports or cultural construction. At the zoo, the former military storehouses temporarily adapted for animal keeping were rapidly decaying, and our plan