

data and results on noise pollution of the environment of aquatic zoo animals were presented at the 4th International Aquarium Congress in Tokyo in June.

*Dr Harald M. Schwammer,
Curator of Research
and Construction*

Shaldon Wildlife Trust, Devon, U.K.

Shaldon has received a UFAW Zoo Animal Welfare Innovation Award [see Newquay Zoo, pp. 459-460] for its squirrel complex, which enriches the lives of captive tropical tree squirrels. Small wire-mesh tunnels have been built from the main planted enclosure and connect to a number of mesh cages throughout the trees and garden area, giving the Prévost's squirrels a run of about 120 metres on various different levels. The squirrels display a wide range of natural behaviours such as foraging (including for insects), courtship chasing, breeding, nest-material gathering for drey building and scent marking throughout the complex. This innovation, which can easily be added to, could be replicated quickly and cheaply elsewhere for a number of different small species. The complex has distinct welfare benefits for the squirrels and is a major attraction to visitors.

Tokyo Sea Life Park, Japan

Several species of tuna have been kept in a 2,200 m³ tank since the park opened in 1989. This was the first such tuna exhibit in the world. At present the tank contains bluefin tuna, yellowfin tuna, eastern little tuna and oriental bonitos. The big-

gest problem is with the fish banging into the walls and acrylic glass panels, resulting in death, or in less severe cases deformation of the head. The fish are easily alarmed by light, sound and vibrations. Even slight changes in current or temperature can cause tension to build up, resulting in some individuals making a dash out of the group. In fish that normally form schools, another cause of stress is finding themselves alone, without companions. But by eliminating all the possible causes of stress, and partly because the fish have been emboldened by becoming used to the tank, we have been able to cut down on deaths among them.

The large tank is in the form of a doughnut, but it has two narrow parts. For a long time the bluefins avoided these narrow parts, but three years after the park opening we began to observe certain individuals dashing through them on off days when there were no visitors. More recently, again on off days, even single individuals can be seen swimming slowly in these parts. Eventually they will probably do this even when visitors are present. In contrast to other kinds of fish, tuna seem to acquire new knowledge over a period of years.

In the beginning, the bluefins ate poorly, because of both their new environment and the presence of the numerous little tunas. When they did eat, they were given as much food as they could take at one time. Later, some of the little tunas died, and the number of bluefins was increased, but they still did not eat regularly. Judging that they were eating too much at one time, we decreased both the amount of food and the frequency of feeding. Now they are fed eight times a week. At present the largest bluefin is five years old, 1.5 metres long, and weighs 55 kg. Little tunas, skipjack tunas and bonitos have laid eggs in the tank, and we are hoping

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that the bluefins and yellowfins will do so too this year.

English summary of article in Japanese by Hiroshi Arai, *Animals and Zoos* Vol. 48, No. 6 (June 1996)

Western Plains Zoo, Dubbo, New South Wales, Australia

The zoo's black rhino conservation program received a huge encouragement recently with the first successful Australian birth of a rhino calf. Kalungwizi, one of the females transferred from Zimbabwe to Western Plains in February 1993, gave birth to a male calf on 25 May 1996 after a pregnancy lasting 15 months. The calf was sired by Siabuwe, a breeding-age male imported from Fossil Rim Wildlife Center, Texas, in December 1994. The zoo's program is conducted in collaboration with the International Rhinoceros Foundation, the Government of Zimbabwe and the complementary captive breeding programs in North America, and aims to establish a viable *ex situ* population of black rhinos which will eventually be released into reserves in Zimbabwe. [See further the article on rhino management at Western Plains in *I.Z.N.* 43/4, pp. 214-220 - *Ed.*]

D. Blyde in *ARAZPA Newsletter* No. 26 (June 1996)

News in Brief

Three Dutch zoos have added wart hogs to their collections. Safaripark Beekse Bergen, Burgers' Zoo, Arnhem, and Rotterdam Zoo have joined a Gambia-based project, whereby wart hogs who would otherwise have been shot are now accommodated in European zoos via a quarantine stop at

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Antwerp Zoo. A financial contribution from the zoos involved is allocated to a national park in Gambia.

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The AZA Radiated Tortoise SSP has contributed \$410 to Ivoloina Zoo, Madagascar, in an effort to relieve overcrowding among the large collection of confiscated radiated tortoises held there. The money will provide an additional tortoise corral, nesting boxes, and a wheelbarrow and rakes for maintenance of the tortoise facility. Future projects planned by the SSP include the development of medical and logistical protocols for repatriation of the confiscated tortoises.

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Amsterdam Zoo's historic aquarium, opened in 1882, has been given an interesting extension, beautifully integrated into the original classical architecture. Four giant tanks with a total of 400,000 litres of water show a flooded Amazon rainforest, a coral reef, a coral coast and an Amsterdam canal where pike-perch, bream and rudd swim amidst the usual rubbish dumped into the canals.

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Twin male Asian elephant calves were aborted on 23 June 1996 at Fort Worth Zoo, Texas. The 29-year-old mother had been confirmed pregnant in the spring of 1995. Parturition appeared imminent on 10 March, and staff watched her around the clock; after many days of fruitless observation, unsuccessful labor-inducing procedures were initiated. Finally, on 23 June the mother delivered a dead and decaying fetus, and a second one an hour and a half later.

[For a report on the subject of twin births in elephants, see *I.Z.N.* 42/2, pp. 104-105 - *Ed.*]