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INTERNATIONAL ZOO NEWS

Hamilton Zoo, New Zealand

A healthy male white rhino calf was born at the zoo on 6 January 2002. Hamilton received three southern white rhinos (two females, Caballe and Moescha, both estimated to be eight years old, and a male, Zambesi, estimated age ten) as part of a contingent of 12 rhinos from Kruger National Park, South Africa, who came to Australasian zoos in 1999 [see *I.Z.N.* 47 (1), p. 50 – *Ed.*].

Monitoring of faecal progesterone metabolites from the two females started in February 2000 and, combined with behavioural observations of oestrus and mating, indicated that the females were cycling regularly. Caballe had five cycles in 2000 with an average cycle length of 32.4 ± 1.7 days before conceiving in August 2000; her male calf was born after a 514-day gestation. Moescha continues to cycle and be mated regularly at 31.9 ± 1.3 day intervals.

There have been three white rhino births in New Zealand in the last three years, the first in the Australasian region since 1984. A male calf was born at Orana Park, Christchurch, in August 1999 to Utani, a 16-year-old first-time mother. A female calf was born at Auckland Zoo in June 2000 to Mazithi, who was pregnant when she arrived as part of the 1999 shipment, and also had an 18-month calf at foot.

Catherine Morrow in *Thylacinus* Vol. 26, No. 1 (2002)

Honolulu Zoo, Hawaii, U.S.A.

[A visitor's report by Ken Kawata]

In *I.Z.N.* 114 (July 1973) my three-page piece 'Zoos in Hawaii' appeared, based on a visit in March 1972. Early in 2002 I paid a second visit to this archipelago with my wife. Although zooing was not the main purpose of the trip, on 4 February we briefly visited two institutions in Honolulu [see also the report on Waikiki Aquarium, below (pp. 186–7)].

During the past three decades old cages had been torn down, and exhibits were upgraded. African Savanna, a $17m complex spread out in nearly 12 acres [4.8 ha], was opened between 1992 and 1994, featuring basic stock such as chimpanzees, lions, hippopotami and large ungulates. During our visit, an Asian Tropical Forest section was under construction as a part of the master plan. These exhibit complexes follow the current trend of moated enclosures, often with glass partitions and a generous use of artificial rocks by the spray cement technique known as 'gunite' in the U.S. Under the leadership of the current director, Ken Redman, the master plan focuses on tropical animals. This sounds most logical, considering the climate they are in – there would be no sense in extending their effort to include fauna of the Arctic and Antarctic regions. Also, aquatic animals are virtually excluded in the plan; a sea lion pool, which I had seen during the first visit, is no longer there. This makes sense; the well-known Waikiki Aquarium is within easy walking distance.

The zoo has a long history of successful animal breeding and the tradition continues. For instance, in an off-scene area I had the pleasure of viewing a froglet of the Surinam toad (*Pipa pipa*), the first offspring after a three-year effort to breed them. The enviable tropical climate gives an advantage to husbandry programs, including breeding. On the other hand, the geographical isolation often presents challenges unique to Hawaii. An example is animal acquisitions, which present different types of headache compared to the mainland counterparts. Expensive transportation cost is only a part of the picture. To cite an example, due to the strict state law, importation of snakes is quite difficult; the snake population of the entire zoo is represented by one male Burmese python!

Recently, a local elected official launched a big plan for a multi-million-dollar project to build a new zoo, in a location away from the population center of Honolulu. Such an ambitious plan, especially at a time of financial difficulty in the region, poses a curious question. Insiders have their doubts if the scheme has any realistic chance to materialize. Stay tuned!

John Ball Zoo, Grand Rapids, Michigan, U.S.A.

Jellyfish are, of course, not really fish, so 'jellies' is a better term for this group of invertebrates in the phylum Cnidaria. Jellies have no backbone or exoskeleton and are composed of over 95% water. They have no internal organs or blood, and a centralized mouth functions for both the uptake of food and the discharge of waste.

Jellies are transparent to help them escape predators. Sea turtles and sharks sometimes feed on them, but the transparency makes the animal harder to see and capture. Unfortunately sea turtles sometimes mistake plastic bags and balloons that are dumped into the ocean for jellies. The turtles can easily die from impaction due to eating the plastic.

There are over 2,000 species of jellies and all have tentacles that contain tiny stinging cells inside of which are harpoons tipped with toxins. When a jelly brushes up against a prey item (such as plankton, fish larvae or small invertebrates) these cells explode and the harpoon is propelled into the victim, injecting the toxin, which usually kills or immobilizes the prey. The jelly then uses the cilia on its tentacles to direct the prey to its mouth. The toxin begins to digest the prey's tissue before the jelly actually swallows the food. Most jellies move by floating in the water and can travel over half a mile [0.8 km] in a day. By moving with the ocean currents they encounter large tracts of food. Many jellies can also swim under their own power by propelling jets of water out of their belly.

Jelly reproduction is an intricate combination of fertilization, egg-laying and cloning. Males and females in the adult or 'medusa' form spawn in the ocean and the fertilized, pear-shaped embryo or 'planula' attaches itself to a rock. The planula eventually develops into a flower-shaped polyp. This polyp then clones itself over and over again and releases new polyps. In some cases these polyps can reproduce by a process called strobilization. Polyps undergoing strobilization form layers of new organisms much like a stack of papers. The layers or 'ephyra' break off into the water column and become free-swimming. Eventually these ephyra mature into medusae. The maturation process can take up to two years.

Here at the zoo we will be exhibiting moon jellies (*Aurelia aurita*). Found throughout the warmer oceans of the world, moon jellies reach an adult size of nearly 15 inches [380 mm]. Our aquarists and curators are currently working with other zoos on developing life-support systems and culturing techniques for these animals when they arrive.

We plan to show visitors how precise and careful aquarists must be when caring for moon jellies. The exhibit tank must be shaped to specific parameters so that the animals can move properly with the water flow. Square tanks with corners are harmful to jellies, as their tentacles become injured when they bump into a corner. Instead the tank must have rounded corners with the water current moving in a circular motion. This configuration is commonly called a Kriesel (German for 'carousel'). The water current needs to be fast enough to allow the jellies to move and sweep