

Thousands of microscopic samples can be preserved from a single two-millimeter slice of tissue or organ. Each sample may hold a clue that will ultimately further our understanding of these animals, leading to advancements in their care in zoos and their conservation in the wild.

Samples collected from National Zoo necropsies support research and conservation projects around the world. 'That's a whole research project,' says Walsh, pointing at a container that holds the heart of a deceased male gorilla. Heart problems are not humans' alone; in fact, they are the leading health problem with male gorillas in captivity and a key focus for chief veterinarian Suzan Murray. No one yet knows why. But studying preserved hearts may eventually help a researcher discover the cause for heart problems in male gorillas. Knowing the cause is the first step to developing a treatment.

'Any researcher can ask for samples,' explains Walsh. For example, the zoo recently shipped several primate samples to a researcher who is investigating the prevalence of alcoholism – once thought to afflict only humans – in various primates that eat fermented berries. The results might help treat addiction in primates. Over the years, the zoo's pathology department has contributed directly to several important discoveries. For example, when Kumari the elephant died in 1995, the pathology department diagnosed herpesvirus as the cause of death. This was the first documented case of elephant herpes, and it led to the discovery that herpes is a leading killer of elephants, both in zoos and in the wild. Today, the National Zoo is the leader in a worldwide effort to understand the cause and treatment of elephant herpes.

Additional discoveries supported by the zoo's pathologists include callitrichid hepatitis (a fatal disease transmitted by mice) in golden lion tamarins and chytrid fungus in frogs and toads. These discoveries guide animal-care practices around the world. They also provide es-

sential insight for conserving wild populations of animals in their native habitat. If zoo pathologists are able to develop a successful treatment for elephant herpes by working with captive animals, their findings may eventually contribute to decisions and actions relating to wild elephant conservation. Likewise, by studying chytrid fungus in zoo amphibians, pathologists advance our knowledge of the condition, and may ultimately help reverse the downward trend of most amphibian populations around the world.

Abridged from Cristina Santiestevan in *Smithsonian Zoogoer* (November/December 2010)

South Lakes Wild Animal Park, Dalton-in-Furness, Cumbria, U.K.

South Lakes Wild Animal Park has been offering free admission since November 2010 (until February 2011), and has recorded its best-ever year. So far almost 60,000 people have taken advantage of the free offer.

'It has staggered me how well it has gone,' says zoo boss David Gill. 'The snow and ice have slightly ruined it for us, but on days when the road leading to the park was completely blocked by snow, we still had hundreds of visitors. Lots of people got to see the zoo deep in snow.'

Mr Gill said the overwhelming success of the free entry scheme had come as a surprise. 'I was confident of its success, but not on this level. As a business it has been a huge success. Just after Christmas, we've had days that have been busier than August summer days. We're having now to look at extending our facilities to cope with the extra demand during the off-peak season. The whole plan was to increase visitation off-peak, which is exactly what we've done.'

As for continuing the scheme next winter, Mr Gill said, 'We need two million pounds a year just to pay the bills for the zoo. And if we don't get huge visitation at full entrance rates during the summer,

there is no way we can be doing things like this again. We have to make our money during summer.'

Taipei Zoo, Taiwan

The zoo's programme to keep and breed pangolins, animals notoriously difficult to maintain in captivity, has scored another success, as a pangolin born recently there is doing well. The baby, the fourth to be bred at the zoo, was born on 9 December 2010 and by 3 January weighed 260 grams, compared with 105 g at birth, said zoo director Jason Yeh in a statement.

Yeh said that much of the zoo's success can be attributed to its special formula of feeds, consisting of apples, egg yolks, mealworms and bee pupae, developed after one of the four pangolins born at the zoo died in 2004 after having trouble adjusting from milk to solid food. In the wild, pangolins use their long, sticky tongues to forage for ants and termites, but reproducing this natural diet in captivity has been problematic.

Keepers found the baby in December when they were trying to move its mother to a heated room during a cold spell. Pangolins are vulnerable to the cold, Yeh said. When temperatures fall below 25°C they tend to shiver and develop runny noses.

CNA English News, 5 February 2011

Whipsnade Zoo, U.K.

An Indian rhino calf born at the zoo on 16 November 2010 has been named Karamat, which means 'miracle' in Nepalese, after keepers hand-reared her to save her life.

Karamat was born by a breech presentation and as a result was traumatised and unable to suckle properly. Despite attempts by keepers and vets to entice the calf to latch on, things were looking bleak when after 24 hours she still had not taken any of her mother Beluki's

milk. Staff, who were camped out in sleeping bags in the next-door hay barn, took the rare step of intervening and fed the youngster by bottle, including the vital colostrum she needed, sourced from local cows. Over the next few days and nights keepers and vets worked relentlessly to keep the youngster alive. Finally, after three long days and two overnight vigils the calf responded to their efforts and started feeding by herself from Beluki.

The team's hard work has paid off. The calf, the fourth of this endangered species to be born at the zoo in recent years, is doing well and it is hoped she will soon be outside and playing in the winter sunshine.

ZSL press release, 14 December 2010

World of Birds, Hout Bay, South Africa

The report from Walsrode World Bird Park [*IZN* 57 (4), 244–5] confirms our experiences with the double-wattled cassowary – 'Managing these huge and potentially dangerous birds is not without risk. We have had enough tricky and hair-raising experiences with our cassowaries over the years. The female lays the eggs and leaves it to the male to incubate and care for the young. When the first (obviously infertile) egg was laid on the first of August, we knew our time had come to risk life and limb again – for the male's introduction, and our efforts to make it work.

After the second egg was laid we opened the gate between the two cassowary camps. The female walked down towards the male and stood next to him, while he raised his hairy feathers to look almost as huge as the much larger female. Then she gave him a hell of a kick, and then there was instant pandemonium. They chased and kicked each other violently, and at one stage the male tripped, stumbled, and rolled on the ground. We stood helpless, unable to