Science: Zoos Mean Shorter Lives for Elephants

An adult female, her adult daughter, and their calves in natural free-ranging elephant population.

[Image courtesy of C. Moss - ATE]

Researchers say that female elephants living in protected populations in Africa and Asia live longer than those in captivity in European zoos.

This finding, reported in the latest issue of *Science*, could mark the end of a long-standing debate about the physical and mental well-being of zoo elephants, and may also bring about improvements in how these animals are kept.

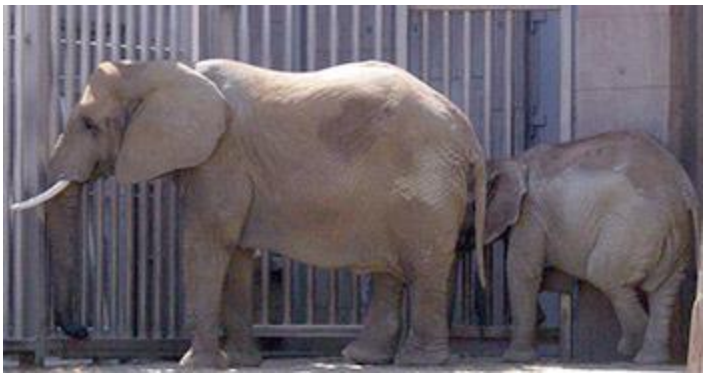
Analyzing data from more than 4500 elephants, Ros Clubb from the Royal Society for the Prevention of Cruelty to Animals (RSPCA), along with colleagues from the U.K., Kenya, and Canada, found empirical evidence that zoos can cause shortened adult lifespans in both African and Asian elephants.

In the most endangered species of elephant, the Asian, calf death rates were also elevated in zoos. For this species, the researchers found that being born into a zoo (rather than being imported from the wild), being moved between zoos, along with the possible loss of their mothers, all put the animals at particular risk.

To reach these conclusions, the researchers looked at data on female Asian and African elephants from two protected populations in Africa and Asia, Amboseli National Park in Kenya and the Myanma Timber Enterprise, and compared them to data on elephants in European zoos. Combined with the widespread health and reproductive problems already documented in zoo elephants, the findings suggest that they often suffer from both mental and physical ailments.

As a result of this study, Clubb and the team of researchers recommend screening all zoo elephants for signs of stress and obesity, in order to identify individuals that might be in trouble, and to identify types of housing condition that seem particularly good or particularly bad for elephant health. Until these animals' problems can be solved, the researchers also call for an end to the importation of elephants from their native countries, the minimizing of inter-zoo transfers, and they suggest that breeding elephants should be restricted to those zoos that exhibit no harmful effects in their captive-born animals.

These recommendations could have a dramatic impact on the approximately 2000 elephants worldwide that currently live in zoos, safari parks, sanctuaries, circuses, or with private keepers.



An African elephant and calf in a European zoo.
[Image courtesy of Born Free Foundation / Chris Draper]

A couple years ago, though, they might have been ignored.

Back in 2002, two of the same researchers who helped to put this study together wrote a report for the RSPCA on the condition of zoo elephants in Europe, but soon discovered that the issue of zoo elephant welfare was quite politically charged. Georgia Mason from the Animal Sciences Department at the University of Guelph in Canada said that, originally, she didn't expect problems. But halfway through the report, the two original sponsors fell out and parted company. Once the report was complete, an organization tried to prevent Clubb from speaking at a conference, and a couple of years after that, an elephant welfare symposium planned as part of a conference mysteriously disappeared from that conference's agenda.

"However, it wasn't all bad news," Mason said in a phone interview. "The U.K. zoos were still very interested and ended up sponsoring a study of the entire U.K. elephant population.

"One problem with our original report was that it gained a lot of media attention—more than was warranted for a non peer-reviewed publication. And we were criticized—quite rightly, I hate to admit—for being too naive with some of the preliminary data analyses in that report," Mason continued. "After these criticisms, we knew that, if we were wrong, we needed to retract our findings. But at the same time, we knew that if we were right, then people really needed to know this information. That's what really inspired us to continue working on this project."

Now, the two researchers and their team of collaborators feel much more confident that their study will be taken seriously. They even suggest some next steps for this line of research—pooling data from American zoos with the data they collected from European zoos.

Mason insists that much more can be done to learn about caring for these animals, though it will require experts from various fields of study.

"Next, researchers should conduct new, more ambitious analyses of the data zoos already have, pooling European and American studbooks," Mason said. "Together, these would document almost all the zoo elephants in the world, and definitely boost the statistical power of the study. It would also, hopefully, allow the identification of why African elephants in Europe, but not African elephants in America nor Asian elephants in either continent, have such low infant mortality rates. Looking at zoo records of birth weight and specific causes of death would also be useful, as would investigating the effects of such variables as enclosure sizes, social group sizes, and social stability."