



By Stephen Fraser

ROGUE RAGE

Why are so many wild elephants becoming violent?

Flora, an African elephant, was once the main attraction of Circus Flora. But even though she was the star, she was discontented. After each show, she would rush back to her trailer and slam the door behind her like a Broadway diva.

Today, Flora lives at the Elephant Sanctuary near Hohenwald, Tenn., where she is getting special care. The sanctuary is home to 18 female elephants, all retirees from circuses and zoos. Some, like Flora, are recuperating from emotional traumas.

Underneath their thick skin, elephants are complex, vulnerable creatures. Lately, in response to stresses in their environment, more and more elephants have been exhibiting disturbing and aggressive behavior.

FLORA'S STORY

Flora was born 22 years ago in the wilds of Zimbabwe. When she was 2 years old, her family was killed in a *culling*, the systematic killing of animals to control population, says Carol Buckley, the founder of the Elephant Sanctuary. The young elephant was tied to her mother's dead body as butchers chopped it into meat.

The circus owner who brought Flora to the United States did not spot the early signs of her disturbed behavior. He eventually realized that she needed a better life, and she was retired to the Elephant Sanctuary. There, she was diagnosed with *post-traumatic stress disorder*, a psychological reaction resulting from a distressing experience, such as physical injury or exposure to violence.



Orphaned elephants are raised at the David Sheldrick Wildlife Trust sanctuary in Kenya. Lenana, a calf, was airlifted to the sanctuary (left) and bottle-fed there (right) last year.

You've probably heard that elephants never forget. Well, research suggests that's true. MRI scans conducted last year at the University of California, Los Angeles have revealed that elephants have a large *hippocampus*, an area of the brain that governs learning and memory.

"The communications between the infant and older elephants—touch, smell, vocalizations, and eye contact—shape how the young elephant brain develops. And that affects how the young elephant behaves," Gay Bradshaw, a psychologist at Oregon State University, told *Current Science*. "If the infant elephant experiences trauma—such as witnessing the death of the mother—the brain is affected. Trauma is etched into the brain."

SOCIAL UPHEAVAL

Flora's story is not unique. Researchers have documented more and more cases of abnormal elephant behavior in the wilds of Asia and Africa. In several South African game reserves, young male elephants have been killing rhinoceroses. In one park, three young male elephants were shot after they'd killed 63 rhinos.

Attacks on humans are increasing too. In Assam, a state in northeastern India, elephants have killed 239 people in the last five years. Elephants are even assaulting one another. In Addo Elephant National Park in South Africa, almost nine out of 10 male elephant deaths are now caused by other male elephants.

Why have elephants become so violent? In many instances, the answer is human encroachment. Justin Huggler, a reporter for *The (London) Independent*, recently described an incident in India in which a herd of elephants demolished a rural village. The pachyderms, Huggler wrote, were retaliating against the villagers, who had built a road that blocked the herd's habitual migration route.

Bradshaw and other researchers contend, however, that many examples of aberrant behavior have stemmed from a breakdown in elephant society. Elephants are highly social creatures. They live in large *matriarchies*—groups in which females (mothers, aunts, and grandmothers) dominate. For the first eight years of its life, a young elephant stays within 15 feet of its mother.

When an elephant dies, its relatives mourn. The family members cover the body with branches and soil and watch over it for a week. For years afterward, they revisit the grave site and caress the bones with their trunks.

Decades of habitat loss, culling, and *poaching* (illegal hunting) have torn the fabric of elephant society, says Bradshaw. The number of older matriarchs and *bulls* (males) is falling. Some herds have no older females at all or are loose assemblages of mostly unrelated animals. As a consequence, many young elephants are no longer growing up in stable, intact herds. In the absence of strong family ties, elephants that witness violence at a young age are particularly vulnerable to being traumatized. Studies of the male elephants that have killed rhinos in South Africa have found that the elephants all saw their families culled when they were youngsters.

RECOVERY ROUTE

Can traumatized elephants be rehabilitated? Yes. In South Africa, introducing elder bulls to certain herds has helped curb the aggressive behavior of the young males. In one sanctuary in Kenya, human caregivers are acting as *allomothers* to orphaned and troubled elephants. An allomother is a female who provides care to another female's infant. The human allomothers stay with young elephants day and night in elephant sanctuaries.

But elephants need more than therapy, says Bradshaw. They need places to live that are safe, with ample food and the freedom to raise families without violence and the fear of humans.

"It's not a cry for help; it's a scream for help," says Bradshaw, speaking about the rising violence among elephants worldwide. "The elephants are like messengers, telling us that we humans need to change—to learn how to live with other animals without violence. In this way the elephants are our teachers. We need to listen to what the animals are saying so they will want to come and live with us." **CS**

Flora takes a nature walk at the Elephant Sanctuary. When she was a calf, Flora saw her mother slaughtered.

