

**Z**eke and Rufus are pasture-mates. They nibble the same grass, drink the same water, and flop down under the same trees for a roll in the dust and a shady afternoon nap. In the evening they get called into adjacent stalls where they munch identical feed and then nose through generous helpings of timothy hay.

Although they live parallel lives, Zeke the plains zebra and Rufus the southern white rhinoceros will never be close friends. It seems that Zeke can't resist sneaking up on Rufus, darting in for a quick nip or kick, and then racing away a split second before the much larger rhinoceros can react. Is it aggression or just youthful mischief?

Gary Ochsenbein, superintendent of the Virginia Zoo at Norfolk, won't hazard a guess as to Zeke's motivation. These animals share the same habitat in nature, Gary explained, and when the recently constructed eight-acre African exhibit opened last year, the decision was made to let the zoo's two zebras and three rhinos live together. So far, the arrangement seems to be working well, in spite of a few turf-war encounters.

Other zoos that exhibit zebras and rhinos together have reported the same type of interaction, according to Denise Luckey, who takes care of the striped equines on a daily basis. She has noticed that some zebra behavior is quite similar to that of domestic horses. "Their ears pin in aggression and go forward with interest," she said. "They will 'blow' at things they are unsure or afraid of, just like horses. When they are nervous, they swish their tails—the more the tail goes, the more nervous they are."

The zebra stallion and mare at Norfolk are turned out all day, and have learned to come in when they hear a keeper shaking a can of pebbles. April, the mare, is always eager for dinner and goes right into her stall. She will come when called by name, and has also responded well to target training. "April is much braver and more curious about



Catherine Bishop

# Climbing Around in the Horse's Family Tree



*Zebras at the Virginia Zoo eat grass, free-choice timothy hay, and alfalfa-based supplement pellets.*

things than Zeke," Denise commented. "She can be downright nosy, chewing on the hose and checking out the tools and the garbage can. She is afraid of tools in my hand, but anything sitting by itself is fair game." April is also easier to handle than Zeke, Denise said. "She will let me walk around her and touch both sides of her body, but we are still working on touching her legs."

The zebra stallion is not as approachable. "While Zeke won't let you touch him, he has never shown any signs of aggression," Denise said. "He will flee if you get too close, but he has never attempted to bite or kick a keeper. It might be different if he were cornered, but given space to move past you, he has been fine." She has worked with zebras that were dangerously aggressive, and speculated that three-year-old Zeke's temperament might change as he matures.

Zebras have the same strong survival instincts as other wild animals, and their actions reflect the fact that safety depends on careful attention to anything that looks, smells, or sounds different. Denise reported that both zebras are always on guard, but to different degrees. "April is still very skittish and is afraid of anything I might carry into the stall. It took a long time to go from having her target on the outside of the stall to coming to the target with me in the stall, even though without the target she would come to me and let me touch her. I tried for quite a while to get Zeke to respond to the target, but he is just too fearful."

Zeke is quite cautious, Denise said, giving an example to illustrate her point. "Once I left a puzzle feeder made out of a bleach bottle sitting right on top of his hay, so he had to deal with it. The next morning every bit of the hay was gone, but the bottle still sat upright, full of food, in the same spot. He must have pulled the hay out from under it piece by piece to avoid touching it."

The zebras and rhinoceroses have similar diets, although amounts are adjusted to fit their different weights. Zoo curator Louise Hill said that the animals are given an alfalfa-based pelleted concentrate twice a day. Free-choice

timothy hay is available in the daytime exhibit area and also when the animals are stalled at night. In addition, brush and tree branches are offered to many of the zoo's charges, including the elephants, to provide variety in their diets. Louise explained, "We cut some of the browse here on the zoo grounds, and also ask the public to bring their tree trimmings. We screen everything to make sure there is nothing toxic, and then we let the animals choose what they want to eat. Some of them spend a lot of time going through the vegetation, selecting just what appeals to them, while other individuals aren't as interested." She also said fruits and vegetables such as sweet potatoes, carrots, and apples are offered once a week.

Charlene Wright shares the responsibility of caring for the zebras and rhinos. All the zoo animals are vaccinated against rabies, she said, and the zebras are also protected against diseases such as equine encephalomyelitis and West Nile virus. The vaccinations are administered by dart gun. Moving around their habitat has kept the zebras' hooves evenly worn down, so they have not required the regular trimmings that must be scheduled for horses. Although colic and enteroliths (intestinal stones) have been reported in some captive zebras, the Virginia Zoo has never encountered problems with these conditions. "We're fortunate that our animals have stayed very healthy," she said.

When needed, medical care is provided by zoo veterinarian John Sangenario. Even routine treatment presents a significant challenge when the subject weighs several times as much as a horse and stands more than five feet high at the shoulder. Charlene explained that no one knew how Jessie, the female rhinoceros, would react to having a sore foot examined. Initial approaches went well, however, and



## Zebras and Rhinos and Tapirs—Oh My!

Zebras and rhinoceroses share more than just space in a zoo exhibit. Along with other equine species and several types of tapirs, they make up the taxonomic order Perissodactyla (odd-toed ungulates). All perissodactyls are herbivores (plant eaters), and as such they have digestive systems that are very similar to that of the domestic horse, but are distinctly different from those of ruminant (cud-chewing) herbivores such as cattle. Whether they favor grasses (grazers) or prefer to eat brush, leaves, and twigs (browsers), all perissodactyls derive nourishment from fibrous plants.

There are only three families of perissodactyls on earth today, comprising about 17 species. Domestic horses and Przewalski's horses share the equine group with wild asses and several types of zebras. Three species of rhinoceroses and four of tapirs round out the classification.

Among these animals, tapirs are probably the least familiar to most people. The Baird's tapir is found in Central America where it lives in isolated pockets of dense jungle. Dining on fruit, seeds, and foliage, this agile but shy animal stands three to four feet high at the shoulder and may grow to over six feet long. The barrel-shaped body is supported on short, stocky legs, and the head has an elongated, flexible upper lip. Young animals have reddish hair spotted and striped with white, while adults have dark bristly hair with paler cheeks, throat, and ear tips. Baird's tapirs usually feed at night near forest borders, retreating to streams or pools if disturbed. Their endangered status results from a low reproductive rate as well as habitat pressure from hunting and other human activities.



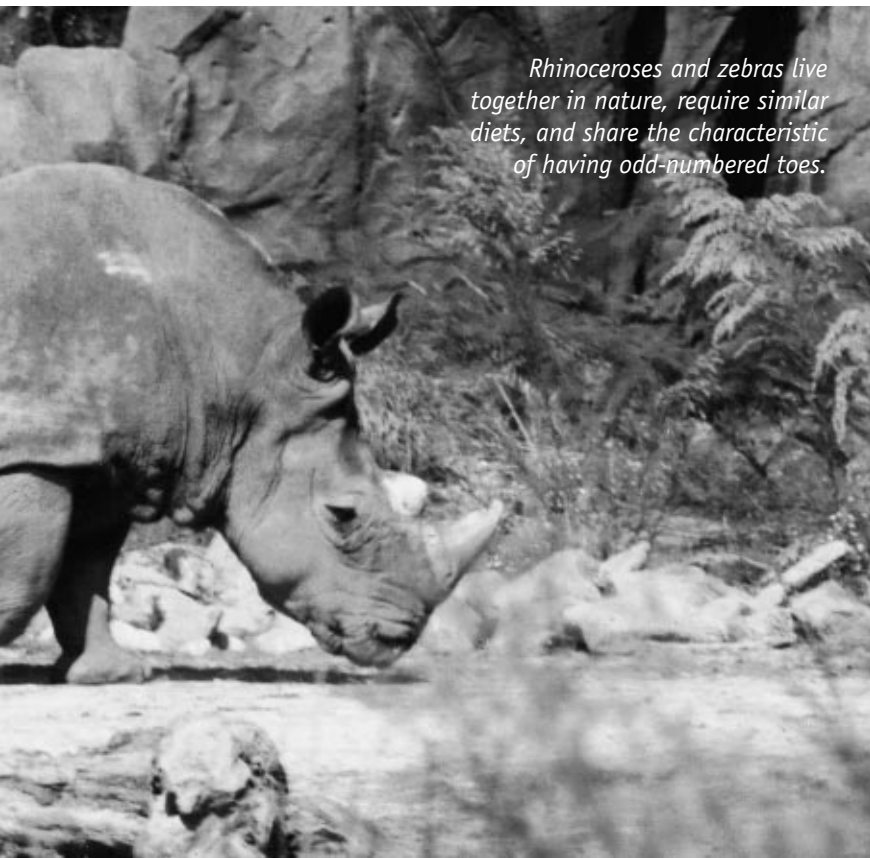
the rhino allowed her foot to be x-rayed and then to be soaked in an Epsom salts solution. Because rhinos don't naturally raise their feet very high, it took some ingenuity to accomplish these seemingly simple tasks.

Zoos across the country, and indeed around the world, have developed a strong network to share information, cooperate in conservation efforts, and brainstorm about every aspect of animal care. For instance, when they needed some input

on Jessie's x-rays, the Norfolk zookeepers sent the images to a vet at The Wilds, an Ohio conservation center that collaborates with the International Rhino Foundation. The Virginia Zoo also participates in Species Survival Plans (SSPs) for many of its animals. Each SSP is a comprehensive outline that allows a number of zoos and aquariums to work together on breeding plans that would not be possible for each independent facility.

The Virginia Zoo owns two critically endangered Baird's tapirs, but does not exhibit them because the animals are on long-term loan for one such breeding effort. Pressure from development has led to shrinking natural habitats for many wild animals, and all but a few varieties of zebra, tapir, and rhinoceros are presently on international lists of threatened or endangered species. In addition to keeping their animals healthy and contented today, zoos play a critical role in preserving biologic diversity for tomorrow's visitors. ☺☺

*Rhinoceroses and zebras live together in nature, require similar diets, and share the characteristic of having odd-numbered toes.*





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