

A Captive African Elephant Calf Exhibits Precocious Social Relationships

June 24, 2014

African elephants (*Loxodonta africana*) in their native habitats live in groups of 2 to 50 elephants called family units, usually containing genetically related adult females and calves and juveniles of both sexes. A calf spends most of its time near its mother. Older calves increase the time they spend with other members of the family unit. “Allomothers,” usually young female relatives, assist in rearing a calf by providing comfort and safety. The dominant animal in the group (the “matriarch”) plays a critical role in group dynamics and survival.

The Indianapolis Zoo houses an African elephant group with the demographics and group size recommended to promote the health of captive elephants: four adult females, two juveniles, and two calves. We recorded the interactions between Nyah (female calf, under 1 year old) and her mother (Ivory, 30 years old), her older sister (Zahara, 6 years old), and the dominant elephant (Sophi, 44 years old) in a large exhibit, determining how much time she spent with each of the other elephants. For each dyad, we calculated the Hinde Index, indicating whether Nyah more often initiated or terminated contact with the other elephant, and the Brown Index, indicating which animal was more responsible for maintaining proximity.

Nyah had different social relationships with each of the other elephants, being more likely to approach than leave Sophi, more likely to leave than approach Ivory, and equally likely to approach or leave Zahara. Nyah was responsible for most of the changes in proximity with Sophi and Ivory, but Nyah and Zahara were about equally responsible for maintaining proximity. Nyah spent relatively little time alone, and more time near Zahara and Sophi than near her mother.

This proximity pattern seemed precocious: African elephant calves usually spend most of their time next to their mothers. As they get older, they increasingly spend more time with other elephants, particularly with allomothers. Nyah seems to be making this transition at a relatively young age. However, there is considerable variability among calves in the wild, so Nyah’s behavior pattern may be in the “normal” range for that group — we would need consistent data for several captive calves before we could draw a strong conclusion. We suggest that the zoo’s enriched environment — in particular, less time spent searching for food and more time interacting socially — was likely to have promoted Nyah’s rapid social development.

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