A Comparative Analysis of Tactile Communication Between Asian Elephant Dyads

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Asian elephant (Elephas maximus) groups exhibit a fission-fusion social structure, temporarily separating and reuniting multiple times throughout an elephant's life. Due to this social dynamic, they typically form smaller groups with looser associations, requiring complex behaviors necessary for identifying, assessing, and greeting others. Tactile communication has been established as a key behavior in dyadic bonds; however, to date, no studies have examined how these interactions differ in duration and frequency when occurring between two adults or between an adult and a juvenile, making it difficult to determine the strength of social bonds between members of a herd. This study aimed to determine if there are differences in the frequency and duration of various tactile communication behaviors between adult-adult dyads and adult-juvenile dyads. Video clips of wild Asian elephants in the Salakpra Wildlife Sanctuary in Thailand were coded for dyad type, behavior type, and behavior duration. The study revealed that adult-adult interactions have significantly more duration variability, and that shepherding behaviors formed the majority of adult-juvenile interactions. These results provide insight into how adult Asian elephants alter their behavior depending on with whom they are communicating, helping to establish a baseline of typical adult-adult and adult-juvenile interactions. Understanding these interactions can aid in defining healthy bonds between adults and calves, and these data may be used to better inform captive management of elephants. In addition, this work can impact conservation efforts by helping conservationists assess the health of elephant social groups living in anthropogenic landscapes.

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