

## **Towards constructing the vocal repertoire of Asian elephants**

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The vocal communication in group living mammals plays a major role in maintaining their social structure, to increase the bonding between the conspecific, enhancing their reproductive fitness, alerting others during the risky situations etc. Understanding these vocal interactions may also shed some light on the life history traits of a species. This study uses Asian elephants as the model system to understand their vocal communication. Elephants are known to have complex social structures and live in small family units; with an occasional fusion and fission with other family units (in context of Asian elephants). The vocal communication in African elephants is well studied and documented. The African elephants are known to have complex vocal networking; even their emotional status can be determined through their vocal communication. However, in contrast to African elephants, vocal communication in Asian elephants is less studied and poorly understood. In this study, we attempt to build a complete vocal repertoire of Asian elephants. In order to build the complete repertoire, elephants living in different ecological setups (captivity, semi-captivity and wild) were chosen. We hypothesise that, elephants living in different ecological set-ups may produce different calls related to their social and behavioural contexts and which may differ across different age groups. To understand this, we recorded the calls of elephants in captivity and wild. Based on the preliminary findings, we have so far broadly categorized five different call types- rumbles (a contact or distress call), trumpets, chirps, husky cry (probably a new call in Asian elephants) and roars. We also observed the combination of different call types such as trumpet-roar-trumpet, roar-trumpet etc; each produced in different social context. Our ongoing research on a larger sample size, further call recordings, behavioural observations and analysis will provide a detailed understanding about the vocal communication in Asian elephant.