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Pointing and pantomime in *Pan paniscus*: evidence of language precursors in wild female bonobos at Luikotale

The use of referential gestures by nonhuman primates is of special interest for understanding the evolution of symbolic communication and human language. Flexibility in production and control of manual and body gestures suggests that human language may have emerged from manual gestures. Enculturated primates use gestures intentionally in captivity; however, very few studies have documented the usage of referential gestures by wild primates to conspecifics. Here we describe two types of referential gestures—pointing and pantomime—used by wild female bonobos to solicit socio-sexual interactions with other females. Between January 2011 and June 2014, we collected focal-animal and all occurrence data from fourteen female members of a habituated community of wild bonobos at the Luikotale field site, DRC. We analysed n=138 independent gesture bouts performed by eleven mature females to evaluate whether these gestures meet the criteria for intentionality and referentiality. The majority of gestures were directed at a female recipient within close proximity (81.9%), were adjusted to the attentional state of the recipient (94.2%), and were goal-directed, with 83.3% of referential gestures leading to genito-genital rubbing between the signaller and the recipient. When the gestures did not lead to genito-genital rubbing, females demonstrated communicative persistence in 79% of gestural bouts by repeating or elaborating on their initial gesture. We provide evidence that pointing and pantomime, once believed to be uniquely human forms of communication, are part of the communicative repertoire of wild female bonobos, and discuss conditions that may have facilitated the emergence of these gestures in wild bonobos.