

Marlen Fröhlich¹, Roman M. Wittig², Simone Pika¹

¹Humboldt Research Group 'Comparative Gestural Signalling', Max Planck Institute for Ornithology, Seewiesen, GER

²Department of Primatology, Max Planck Institute for Evolutionary Anthropology, Leipzig, GER

Correspondence: mfroehlich@orn.mpg.de

'Climb aboard'! – Gestural initiation of carries in mother-infant pairs of wild chimpanzees

While the flexible and intentional usage of gestures in great apes is well established, their acquisition and ontogeny has been subject to considerable debate in recent years. To add to this debate, we investigated gestural ontogeny and complexity in two chimpanzee (*Pan troglodytes*) communities (Taï, Côte d'Ivoire, and Kanyawara, Uganda) by focusing on communicative interactions between mother-infant dyads during the context of leaving. We addressed three questions: First, which intentional signals and actions are used to initiate carries? Second, are gesture types used uniformly within and between groups? Third, which role does infant age and contextual urgency play in signal usage and development? To answer these questions, communicative interactions of thirteen mother-infant dyads were filmed during a total of 1200 hours of observation. Coding and analysis of carry initiations revealed 444 actions (e.g. *grab*, *lift*), 589 gestures (e.g. *touch*, *present back*) and 56 multimodal combinations (e.g. *raise arm* and *hoo whimper*). Within- and between-group comparisons of gestural repertoires revealed low concordance rates, with two mothers at Taï and one mother at Kanyawara employing idiosyncratic gestures. Mothers used predominantly visual gestures that were in turn mostly employed in 'urgent' situations (e.g. group travel), while infants used more frequently vocalisations and multimodal combinations. Concerning development, visual gestures were used at the expense of actions and tactile gestures over infant age. We thus (a) provide evidence for a developmental shift from tactile to visual acts in chimpanzee mother-infant communication, and (b) support the hypothesis that gestural production in great apes is due to learning mechanisms.