Constructing social identity? Potential non-nutritional functions of chimpanzee insectivory

Umaru Buba[12], Volker Sommer[13], Goncalo Jesus[13], Alejandra Pascual-Garrido[14]

[1] Gashaka Primate Project, Serti 663 001, Taraba State, Nigeria

[2] Department of Biological Sciences, Taraba State University, Jalingo PMB 1167, Nigeria

[3] Department of Anthropology, University College London, London WC1 E6BT, United Kingdom

[4] Leverhulme Trust Early Career Fellow, School of Archaeology, University of Oxford Oxford OX1 3QY, United Kingdom

Presenter's email: bumami2004@yahoo.com

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Many animals, including humans and chimpanzees (*Pan troglodytes*), eat insects, although frequencies vary greatly between populations. Insects are traditionally either seen as desired nourishment or a fallback fare compensating a shortage of preferred foods. We test these explanations against long-term data on chimpanzees at Gashaka, Nigeria. Here, chimpanzees harvest army ants much more frequently than elsewhere, while termite eating is completely absent. We report a pattern of strict seasonality in terms of rainfall and pronounced peaks in the abundance of fruit, the chimpanzees' preferred staple food. Even so, evidence based on recovered ant-dipping wands and chimpanzee faecal samples indicates that myrmecophagy does not decrease when fruit becomes more abundant. Instead, ant-eating is virtually constant year round and chimpanzees eat them every other day or so. This contradicts the fallback hypothesis and supports the hypothesis of ants as preferred food. Army ants may thus serve as a supplement or complement in terms of macro - or micronutrients to the chimpanzees. Nevertheless, it remains puzzling why termites are not eaten at Gashaka, despite apparent availability and technological skills to extract insects. We therefore propose that dietary choices are also likely to contain a social element. The non-consumption of a perfectly edible food-item may reflect a "taboo" that comes at some cost. Similarly, army ant gathering is associated with painful bites, and self-experiments suggest that the highly chitinous insects do not taste well, compared to smaller arboreal ants and termites. We speculate that, in this way, mental concepts of identity versus otherness may develop that strengthen group cohesion. We do not have sufficient data for Nigeria, but speculations about social identity based on community-dependent behavioural uniformity are open to empirical testing. The principal method would be to document natural instances of "acculturation", when female chimpanzees transfer from their natal into a neighbouring community.