



CSRS SCIENTIFIC SEMINAR N°5

Thursday, 23 September 2010 (Norbert Behi Lecture Hall, CSRS, Km17 Adiopodoumé) 01:00 pm

Theme: Monkey talk: what can we learn from monkeys on vocal behaviour

Authors and affiliations: Karim OUATTARA^{1,2}, Alban LEMASSON³, Klaus ZUBERBUHLER⁴

¹Laboratory of zoology and animal biology, University of Cocody-Abidjan, 10 BP770, Abidjan 10, Côte d'Ivoire

²Swiss Center of Scientific Researchs in Côte d'Ivoire (CSRS)

³Laboratory EthoS "Animal and Human Ethology", U.M.R. 6552-C.N.R.S., University of Rennes, France;

⁴School of Psychology, University of St Andrews, KY16 9JP, University of Saint Andrews, Scotland (UK)

Abstract:

Recent advances of research in wild and captive forest guenons have significantly thinned the border between human speech and nonhuman primate communication properties, suggesting that the evolutionary origin of language can be reliably assessed through the study of animal vocal communication. Thus, the debate about the existence of precursors of language in animal vocal communication is still open. For 10 years; the studies on guenons have increased because their social system and their visually-closed habitat make them proper models for such a comparison. We have conducted the first series of long-term ethological observations and playback field experiments on wild Campbell's monkey (*Cercopithecus c. campbelli*) in Taï Forest (Côte d'Ivoire), aiming at describing their social organization and their vocal repertoire. Predation appearing as a determinant factor in social life of animal, we found that the predator size, its hunting technique and the modality of detection influence the behavioural response of the harem's females and male. Moreover, females produce 5 different alarm calls and males combine different loud calls into sequences. These sequences, contextually determined, have been identified differing in the call composition, order and rhythm of call succession. It emerged a repertoire adapted to referential communication with a potential encoding of several messages about the type or eminency of the danger, the type of predator and the emitter's activity. This study confirmed the association of two loud call sequences with the predator class (eagle vs leopard) and could contribute to confirm the using of proto-syntax in monkey communication. Otherwise, this level of differentiation of call unit or sequences could be use as tools for biomonitoring. Thus, studying vocal behavior, supposed as social behavior, could contribute to understand the origin and evolution of Human language but also may allow the identification of a species.

Key-words: Syntax - Loud calls – Alarm calls – semantic -Nonhuman primates



University of St Andrews