



Zurich, July 16, 2012

Dear Editor,

We are hoping to submit our paper entitled **“Temporal segregation of individual and behavioural signatures in banded mongoose close calls”** to Current Biology.

Understanding how nonhuman-animals, anatomically constrained in the number of different call types they can produce, encode information in their limited repertoire has been a focus of intense research. Recent studies suggest that through the combination of existing calls into meaningful sequences, the variety and amount of information transmitted through the vocal repertoire can be increased (Arnold and Zuberbühler 2006). Additionally, senders may exploit vocal signatures to increase the potential information encoded in calls. However, the encoding of multiple vocal signatures using the same components of vocalizations often induces a tradeoff in reliability between these signals (Briefer et al. 2011). Temporally separated vocal signatures would allow the encoding of multiple information sets within the same call, while avoiding the tradeoff (Marler 1960).

In this manuscript, we report that the frequently produced close calls of banded mongooses (*Mungos mungo*) contain temporally separate individual and behavioural signatures, encoding information on the individual's identity and of its current behavioural context as discrete units. It is the first reported evidence for the use of temporal segregation within a single call type as proposed by Peter Marler (Marler 1960). Furthermore, the integrated individual element described, represents the first example of an identity cue as a discrete element within a single call that is neutral to context. We provide evidence on the general application of these mechanisms on examples in frogs and humans, based on descriptions in the literature on call structures and ways of communicating. Given that vocal signatures predominantly encode individual cues related to the sender, we predict temporal segregation to evolve when signallers benefit from communicating multiple unambiguous information sets. We argue that temporal segregation, in addition to call combinations, provides an additional dimension to the complexity of information coding in animal vocal communication.

We believe that our findings are of interest to the readers of Current Biology, as they represent the first empirical evidence for the existence of an important mechanism in animal vocal communication and human language.

Please find the abstract of our study attached. We certify that the submission is original work and is not under review at any other journal. We would very much appreciate to know whether our manuscript is suitable for full submission to Current Biology.

Sincerely yours,

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