A pilot description and categorization of Kinda baboon vocalizations

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Introduction

Kinda baboons (*Papio kindae*) are quite distinctive among baboons in their appearance and behavior, including the nature of adult male-female relationships [Weyher & Chiou, this symposium]. Here, I present preliminary findings on the vocal repertoire of Kinda baboons, focusing on adults, in order to determine if vocalizations too set Kindas apart from other baboons.

Adult baboons make a variety of vocalizations including grunts, threat barks, screams, alarm barks, "wahoos", and copulation calls. Of these, grunts are most common. Grunts are tonal, low-amplitude, harmonically rich vocalizations and have been documented in a variety of contexts[1-3].

Like some other primates, female baboons also commonly give loud calls during and directly following copulation[4]. These calls have been hypothesized to be mechanisms for attracting male attention during copulations to increase sperm competition[5] or mechanisms for increasing paterntiy certainty, thereby promoting mate guarding and reducing sperm competition[6-8].

Methods

This project took place at Chunga, Kafue National Park, Zambia over a one-month period in June-July 2012. While conducting full-day follows, I recorded vocalizations opportunistically from 2-15 m using a Sennheiser ME-66 directional microphone and a Marantz PMD-660 digital recorder. Whenever possible, I annotated calls with *ad libitum* behavioral observations.

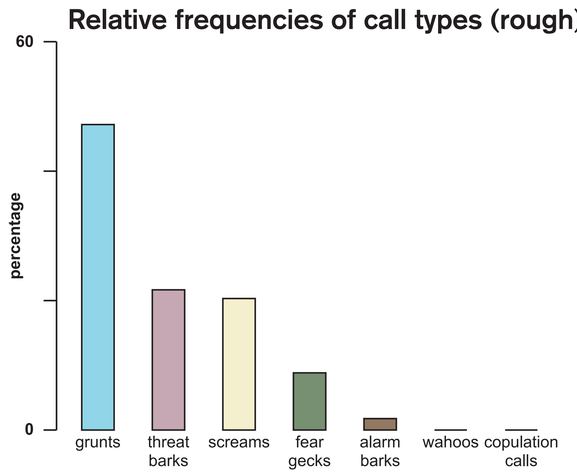
In total, I recorded 658 Kinda baboon calls or call bouts. Calls were recorded in WAV format and edited using Praat v.5.3.23.

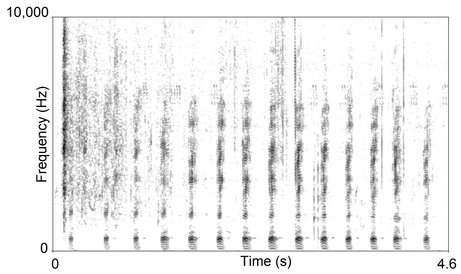
Results

Relative frequencies of call types are shown to the right. Because of the *ad libitum* sampling strategy, relative frequencies are approximate. Calls occuring in bouts were treated as one call.

Grunts were most common and were recorded in social affiliative[1], movement[2], and infant handling[2] contexts.

Wahoos were not recorded but several were observed during the study period.





Spectrogam of a typical Kinda baboon grunt sequence. This image was created using Praat with a window length of 0.03 s and a dynamic range of 40 dB.

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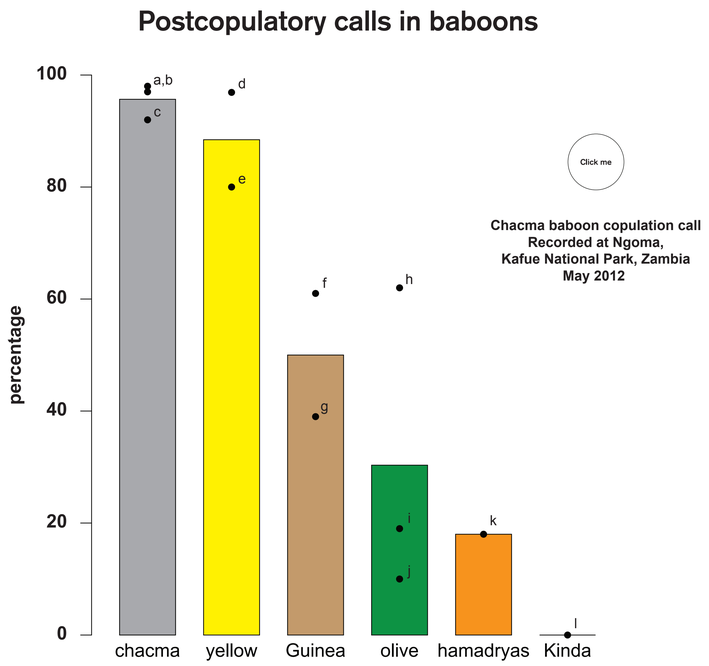
Kinda sometimes vocalized during and after copulations, but these were quiet, grunt-like, usually male calls unlike typical female baboon "copulation calls". None of 69 copulations observed in this study were followed by a copulation call *sensu* other studies (see below).



Percentage of copulations ending in a postcopulatory vocalization. For species with multiple estimates, the mean is shown.

(a) Saayman 1970 (b) O'Connell & Cowlishaw 1994 (c) Hall 1962 (d) Semple et al. 2002
(e) Collins 1981 (f) Maestripieri et al. 2005 (g) Boese 1973 (h) Bercovitch 1985
(i) Ransom 1981 (j) Hall & DeVore 1965 (k) Swedell & Saunders 2006 (l) This study

Discussion

While the nature of these preliminary observations generally precludes quantitative analysis, several interesting patterns emerge. Like other baboons[1-3], Kindas grunt most frequently and appear to do so in a variety of contexts. The acoustic properties of these grunts and their social and environmental contexts are promising areas of future study.

Particularly interesting, however, is the absence of female copulation calls, both in this study and in over two years of Kinda behavioral research at Kasanka National Park [A. Weyher, pers. comm.].

Given the phylogeny of baboons [Burrell et al., this symposium], the absence of copulation calls is best understood as a unique derived trait in Kinda baboons. The loss of copulation calls in this taxon can therefore lend valuable insights into the function of copulations calls in baboons and other primates. Copulation calls may serve to promote paternal investment in offspring[6-8]. In Kinda baboons, males appear to play an increased role in forging long-term male-female bonds [Weyher & Chiou, this symposium]. This Kinda oddity may relax the conditions under which copulation calls are expected to be beneficial for females. Combined with potential costs of copulation calls, these features may explain their absence in this taxon.

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