The anogenital swelling of female Barbary macaques is a confusing signal to males

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Aim: Examine what males know about female swellings

Background
• Anogenital swellings may indicate timing of ovulation, so males should concentrate mating behaviour around this period
• If males cannot distinguish post-conception swellings it could be a female strategy to increase paternity confusion/reduce male monopolization
• Previous research has shown contradictory results in Barbary macaques: one study showing males concentrate mating behaviour on conception swellings while another did not; both in free-ranging populations

(Küster & Paul 1984, Small 1990, Brauch et al. 2007)

Conclusions
• Males seem to understand swellings indicate ovulation timing

But:
• Male cannot differentiate conception and post-conception swellings
• Suggests swellings evolved for confusion not concentration

Comparing hormonal and visual swelling data

• Majority of swelling days are within the fertile phase
  (Binomial x = 53, N = 72, P = 0.001)
• Swellings confuse males

Comparing swelling periods
• No difference in male behaviour between conception & post-conception swellings
  (Wilcoxon: for all behaviours P > 0.48)
• Confusion not female driven

Methods
• Data collected from two wild groups of Le Parc National D’Ifrane, Azrou, Morocco
• Behavioural data collected on 14 adult males using continuous focalis (2,188hrs) from Oct. 2009 through Apr. 2011 and 1,033 faecal samples collected from 15 females
• Female samples analysed hormonally to determine fertile phase (most likely ovulation) via enzyme-immunoassays examining progestogen metabolite concentrations

(Ziegler et al. 2000, Heistermann et al. 2008)

• Swellings also determined visually using “peri-ovulatory” period; -2 to -7 days before detumescence
• 5 day periods determined before and after fertile period and post-conception swelling
• Male behaviour (ejaculatory copulations and inspections) and female behaviour compared using Wilcoxon signed rank tests between conception and post-conception periods and peri-ovulatory and hormonal periods

References

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