

Preparing for Adult Aggression: Do Juvenile Male Mammals Play More than Females?

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Introduction and Aims

- Rough and tumble play (RTP) refers to non-aggressive playfighting and chasing [1][2]
- Literature suggests that juvenile male mammals engage in higher rates of RTP than females to prepare for higher levels of physical competition between males in adulthood [1], but this has not been tested systematically
- We carried out a systematic review [3] to identify which species show a male bias in RTP, explore how it varies across mammalian groups, and identify factors which might lead to sex differences in RTP



- No sex difference
- Males play more
- Females play more
- Mixed evidence

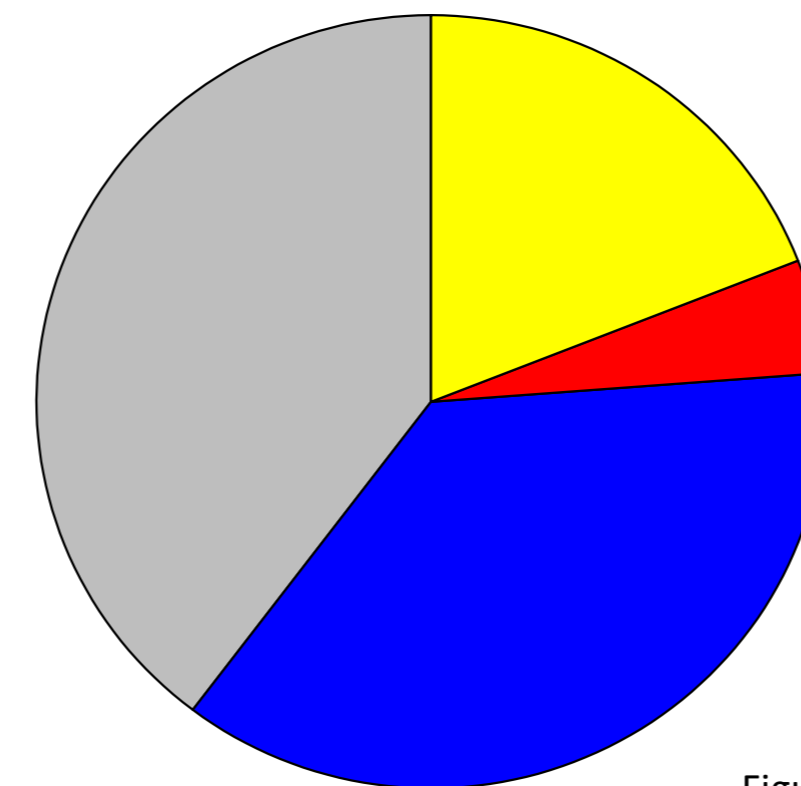
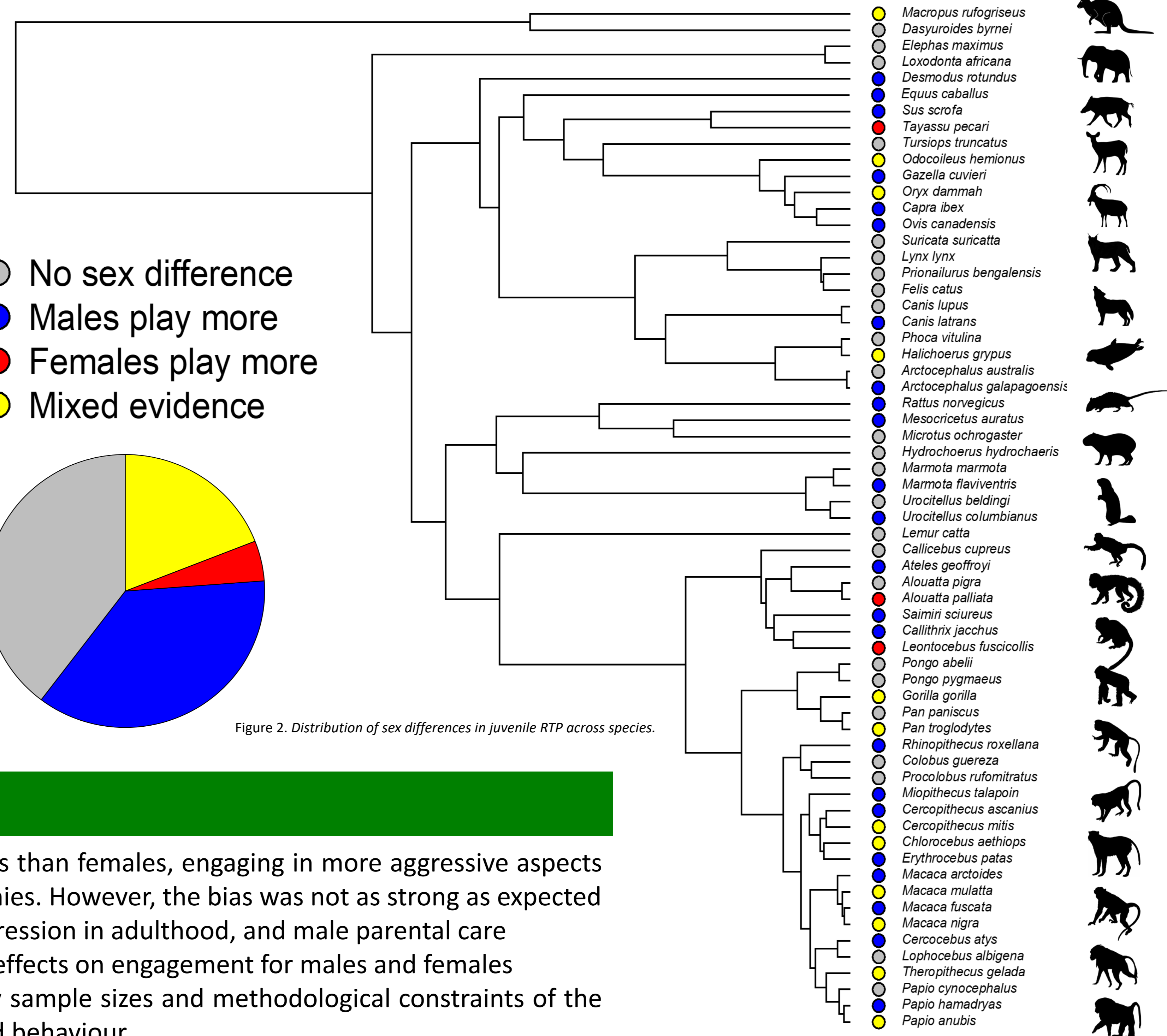


Figure 2. Distribution of sex differences in juvenile RTP across species.



Results and Conclusions

- For many species, immature males played more often and for longer durations than females, engaging in more aggressive aspects of RTP. This was associated with adult male aggression and dominance hierarchies. However, the bias was not as strong as expected
- Female bias in RTP was rare, and was associated with female dispersal and aggression in adulthood, and male parental care
- RTP seems to aid in preparation for adult social roles, which consequently has effects on engagement for males and females
- High number of studies found no sex differences, which was attributed to low sample sizes and methodological constraints of the studies found, and species with a lack of sex differences in adult body mass and behaviour
- Primates, carnivores and proboscidea (elephants) were over-represented ($p < .05$), but most other orders were under-represented

[1] Burghardt, G. (2005) *The genesis of animal play: Testing the limits*. MIT Press.

[2] Fry, D. (2005) 'Rough-and-Tumble Social Play in Humans', in *The nature of play: Great apes and humans.*, pp. 54–88.

[3] Popay, J. et al. (2006) 'Guidance on the conduct of narrative synthesis in systematic reviews', *A product from the ESRC methods programme Version*.