

Anthropology 568, Spring 2009
Primate Ecology & Social Behavior:

SEXUAL CONFLICT

“Locked together by their need for partners in sexual reproduction, the sexes undergo an antagonistic dance to the music of time.”

—Chapman & Partridge (1996)

“The ‘evolutionary dance’ that has been used as a metaphor to describe the process of sexually antagonistic coadaptation may be better regarded not simply as a couple moving across a dance floor, but as a couple who leave a trail of destruction that they must negotiate as they move around.”

—Tregenza *et al.* (2006)

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<http://www.rci.rutgers.edu/~palombit/>
- Office Hours:** Monday 2:00 pm - 4:00 pm or by appointment
- Class Meeting Times:** Thursday, 2:15-5:15pm
- Recommended Texts:** Muller, M.N., & Wrangham, R.W. (editors). in press. *Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females*. Harvard University Press, Cambridge, Massachusetts
Arnqvist, G. & Rowe, L. 2005. *Sexual Conflict*, Princeton University Press, Princeton.
Strunk Jr, W., & E.B. White. 1979. *The Elements of Style*, 3rd ed. Macmillan, New York.
- Sakai Website:** 16:070:568:01 S09
- Requirements:** Participation in Seminar Discussions (30%)
(includes moderating, discussion, summarizing)
Positions Papers (each worth 10%, totaling 20%)
Presentation (15%)
Paper (35%)

GOAL OF SEMINAR

Our goal is to reach some conclusions about the current state of theory and data concerning “Sexual Conflict.” Sexual conflict has attracted rapidly increasing attention from behavioral ecologists over the last decade or so, such that studies of it have now come to outnumber investigations of the “conventional” forms of sexual selection. Indeed, although it is essentially a source of intersexual selection, sexual conflict is increasingly recognized as a “third form” of sexual selection, in addition to

those two traditional forms: intrasexual competition (usually males) and mate choice (usually females). As is true with any new and quickly growing theoretical field, there is considerable debate over the definitions, assumptions, and models of sexual conflict. Most of this research has focused on invertebrates—particularly insects—and some select vertebrates such fish, birds, and an occasional mammal. In spite of an early landmark paper, research on sexual conflict in primates has not progressed as dramatically.

We recognize two general forms of sexual conflict as sexually divergent optima for either: (1) alleles determining a specific trait—*intra*locus conflict—as in the evolution of sexual dimorphism; or (2) the outcome of male-female interactions—*inter*locus conflict. This course is mainly about interlocus conflict (the former is discussed more in the seminar *Sex Differences and Sexual Selection in Primates*).

MODERATING

Once or twice during the semester you'll moderate discussion. This means leading the discussion by offering your critical evaluations of the readings. This does not mean simply rephrasing the content of the papers. Rather, take a position on the work and present it. Foster debate by presenting opposing views on a subject.

One of your responsibilities as moderator is to do a (computer) search of the literature on the topic you're moderating and make recommendations regarding papers we should read in class. The question basically is: are there other papers of enough importance to recommend we drop the currently assigned reading (see below) and replace it? Your recommendations don't have to be necessarily based on in-depth analysis of each paper. Rather, you should be able to make a preliminary evaluation based on a quick reading of it.

So, *two weeks* before your moderating date, you should hand in to me (or email to me) a list of 3-5 papers you've run across that you think are relevant for the discussion. Then, for each one, explain *in a few sentences* why you recommend it or don't recommend it for as a reading for the seminar.

RAPPORTEUR

Each meeting will have one person who will act as rapporteur, charged with summarizing the important points of the discussion that day. This should generally be only one page (single-spaced). Rapporteurs should link ideas with the people who offered them, and should identify and highlight in their reports the following: (1) the 3 most important ideas presented (and explain why); (2) the best quote of the day (linked to the person who generated it). Email the summary to me within **24 hrs** of the meeting. After checking it, I'll then put in on the Sakai site.

POSITION PAPERS

A couple times during the semester you will write a "position paper." These are brief and cogent articulations of your position and the support for it. Position papers on a topic will be photocopied and distributed to everyone. We will read the papers and then discuss them in the next meeting. You are not graded on the position you take. What *is* required for full credit is a serious effort to state a convincing position.

These papers are somewhat similar to the "Open Peer Commentary" exemplified by journals such as *The Behavioral and Brain Sciences*. Each position paper should not exceed 1500 words. Due date and topic TBA later in semester. Remember: *take a position* and convince the reader of it.

EMAIL: On the due dates, please email your position paper to me at rpalombit@anthropology.rutgers.edu. ***Please do not email participants in the course directly.*** Around 5pm on the due date, I will email all position papers to everyone. Make sure yours reaches me before then!

PAPER

You will write a paper on a topic of your choosing (related to sexual conflict). There are many possible topics to write about due to the large number of debates about sexual conflict and the immense diversity of outcomes of the process of sexual conflict.

NOTE: You can write the paper either as a standard review or as a (mock) research grant proposal.

We will set aside some class periods for you to present a working version of your ideas for your paper in class. This will give you a chance to get feedback from colleagues before you hand in the paper. You'll assign some readings and then basically share your information and conclusions to date. The paper is due on at the end of the semester in time for me to grade before grade submission (date TBA).

Schedule of Meetings and Provisional Reading List

*Note: Readings are **suggested** only: they may be changed the week before meeting based on my consultations with the moderator for that session.*

Date	Topic	Readings
Jan 22	Introduction	Organizational meeting
Jan 29	Some Introductory Ideas, Frameworks	Partridge, L. & Hurst, L.D. 1998. Sex and conflict. <i>Science</i> , 281:2003-2008. <i>(Important original paper; heavier emphasis on intragenomic conflict over intergenomic, but a lot of ideas and thinking in here).</i> Holland, B. & Rice, W.R. 1998. Chase-away sexual selection: Antagonistic seduction versus resistance. <i>Evolution</i> , 52:1-7. Arnqvist, G. & Rowe, L. 2005. <i>Sexual Conflict</i> , Princeton University Press, Princeton. [Chapter 1] <i>Recommended by not required (we might not have time to discuss, but this paper is among the original treatments of the "arms race" idea underlying this entire enterprise):</i> Dawkins, R. & Krebs, J.R. 1979. Arms races between and within species. <i>Proc. Roy. Soc. Lond. B</i> , 205:489-511.
Feb. 5	Sexual coercion: theoretical issues, relation to sexual conflict	Clutton-Brock, T.H. & Parker, G.A. 1995. Sexual coercion in animal societies. <i>Anim. Behav.</i> , 49:1345-1365. Muller, M.N., Kahlenberg, S.M. & Wrangham, R.W.. in press. Male aggression and sexual coercion of females in primates. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Watson-Capps, J.J. in press. Evolution of sexual coercion with respect to sexual selection and sexual conflict theory. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. <i>Not assigned by there for reference:</i> Smuts, B.B. & Smuts, R.W. 1993. Male aggression and sexual coercion of females in nonhuman primates and other mammals: Evidence and theoretical implications. <i>Adv. Stud. Behav.</i> , 22:1-63.
Feb. 12	Forced Copulation vs Coerced Copulation	Knott, C.D.. in press. Orangutans: Sexual coercion without sexual violence. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Emery Thompson, M... in press. Human rape: Revising evolutionary perspectives. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Muller, M., Kahlenberg, S.M. & Wrangham, R.W.... in press. Male aggression against females and sexual coercion in chimpanzees. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Goetz, A.T., Shackelford, T.K., Romero, G.A., Kaighobadi, F., and Miner, E.J. 2008. Punishment, proprietariness, and paternity: Men's violence against women from an evolutionary perspective.

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		<i>Aggression and Violent Behavior</i> . 13: 481-489.
Feb. 19	Coercion as male "display"	Rodseth, L. & Novak, S.A... in press. The political significance of gender violence. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Kitchen, D.M. et al. in press. The causes and consequences of male aggression directed at female chacmababoons. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts
Feb. 26	Postcopulatory, pre-zygotic Sexual Conflict	Stockley, P. 2002. Sperm competition risk and male genital anatomy: Comparative evidence for reduced duration of female sexual receptivity in primates with penile spines. <i>Evol. Ecol.</i> , 16:123-137. Dixon, A.F. & Anderson, M.J. 2002. Sexual selection, seminal coagulation and copulatory plug formation in primates. <i>Folia Primatol.</i> , 73:63-69. Edvardsson, M. & Canal, D. 2006. The effects of copulation duration in the bruchid beetle <i>Callosobruchus maculatus</i> . <i>Behav. Ecol.</i> , 17:430-434. Crudgington, H.S. & Siva-Jothy, M.T. 2000. Genital damage, kicking and early death. <i>Nature</i> , 407:855-856. Hosken, D.J. & Stockley, P. 2004. Sexual selection and genital evolution. <i>Trends. Ecol. Evol.</i> , 19:87-93. <i>Something on human genital modifications</i>
Mar. 5	Female Counter-Strategies	Paoli, T., in press. The absence of sexual coercion in bonobos. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Rosenfeld, D.L., in press. Sexual coercion, patriarchal violence, and law. In: <i>Sexual Coercion in Primates: An Evolutionary Perspective on Male Aggression Against Females</i> , (M.N. Muller & R.W. Wrangham, eds.), Harvard University Press, Cambridge, Massachusetts. Brereton, A.R. 1995. Coercion-defense hypothesis: The evolution of primate sociality. <i>Folia Primatol.</i> , 64:207-214. DiBattista, J.D., Feldheim, K.A., Gruber, S.H. & Hendry, A.P. 2008. Are indirect genetic benefits associated with polyandry? Testing predictions in a natural population of lemon sharks. <i>Mol. Ecol.</i> , 17:783-795.
Mar. 12	Sexual Conflict Over Parental Investment	Thomas, G.H., Székely, T. & Reynolds, J.D. 2007. Sexual conflict and the evolution of breeding systems in shorebirds. <i>Adv. Stud. Behav.</i> , 37:279-342. {PDF}. Barta, Z., Houston, A.I., McNamara, J.M. & Székely, T. 2002. Sexual conflict about parental care: The role of reserves. <i>Am. Nat.</i> , 159:687-705. {URL}. Roulin, A. & Hager, R. 2003. Indiscriminate nursing in communal breeders: A role for genomic imprinting. <i>Ecology Letters</i> , 6:165-166. Haig, D. 2000. The kinship theory of genomic imprinting. <i>Ann. Rev. Ecol. Syst.</i> , 31:9-32. Osorno, J.L. & Székely, T. 2004. Sexual conflict and parental care in magnificent frigatebirds: full compensation by deserted females. <i>Anim. Behav.</i> , 68:337-342.
Mar. 19	<i>Spring Break</i>	-
Mar. 26	Sexual Conflict: Speciation & Extinction	Le Galliard, J.-F., Fitze, P.S., Ferriere, R. & Clobert, J. 2005. Sex ratio bias, male aggression, and population collapse in lizards. 102:18231-18236. Kokko, H. & Brooks, R. 2003. Sexy to die for? Sexual selection and the risk of extinction. <i>Ann. Zoo. Fenn.</i> , 40:207-219. Kruger, O. 2008. Engines of speciation: A comparative study in birds of prey. <i>J. Evol. Biol.</i> , 21:861-872. Martin, O.Y. & Hosken, D.J. 2003. The evolution of reproductive isolation through sexual conflict. <i>Nature</i> , 423:979-982.
Apr. 2	Female coercion of males (½) Student Present (½)	Bro-Jørgensen, J. 2007. Reversed sexual conflict in a promiscuous antelope. <i>Cur. Biol.</i> , 17:1-5 Morland, H.S. 1993. Reproductive activity of ruffed lemurs (<i>Varecia variegata variegata</i>) in a Madagascar rain forest. <i>Am. J. Phys. Anthropol.</i> , 91:71-82.
Apr. 9	Student	

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	Presentations	
Apr. 16	Student Presentations	
Apr. 23	Student Presentations	
Apr. 30	OPEN	Position Papers