COURSE SYLLABUS: PRIMATE ETHOLOGY
ANTH 68624; BMS 78624
KENT STATE UNIVERSITY: SPRING, 2009

INSTRUCTOR:	Marilyn A. Norconk
IMPORTANT NUMBERS:	Office 236 Lowry Hall; phone 672-4123
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COURSE DAY/TIME	W- 4-6:45pm

The general topic for the seminar this year is **sexual selection in primates**. Since Darwin published Descent of Man, and Selection in Relation to Sex in 1871, interest in male/female behavior and morphologies related to selection of mating partners has grown exponentially to the point that we easily fill a 15-week course with related topics.

While you might think that primates (large, smart mammals with color vision) would be well represented in studies and publications on sexual selection, in fact they are not as well represented as birds or beetles. Many of the studies we will read will not relate to primates specifically, but they are studies of similarly complex organisms and we will try to build some hypotheses about how these ideas might apply to primates. I suspect that the reason primates are less well represented than other species is the difficulty of engaging in experiments and manipulating traits – as Andersson did in long-tailed widow birds–or in populations, e.g., adding or removing breeding males. Relying on long-term observations is not the best substitute for experimentation and primatologists will have to be more creative in how we set up experimental methods to test hypotheses related to male-male competition and female choice. And, we don't want to leave out modern humans and fossils. For example, the exploration of sexual dimorphism in skeletal elements has been around at least as long as the study of social behavior in baboons, and maybe longer.

Texts: We will read most of these two books. The Descent of Man is available free on line and Sexual Selection is available via Ohiolink if you don't want to purchase it. Andersson's treatment of the subject is still the most relevant and comprehensive even though it was published 15 years ago. We will fill the time gap with more current literature.

Andersson, M.B. (1994) Sexual Selection. Princeton NJ: University Press.

Darwin, Charles (1871) Descent of man, and selection in relation to sex.
http://darwin-online.org.uk

Course requirements:

- *Participation* (35%) (includes moderating one or two discussions, and participating in all of them). Moderators should use the readings scheduled for the week as the beginning of their search to explore the topic. Please add at least one paper to the list based on your perusal of the topic and send it/them to me (pdf is preferable) at least a week before your scheduled discussion.

- *Scribe* (10%) one person will be assigned to take notes and summarize the major three to five points of each meeting in which we are reading outside material. The summary

should not exceed one page (single-spaced). Send it to me within a day of the seminar (mnorconk@kent.edu) and I will circulate it via email for the next meeting. We will start the next meeting by reviewing or adding to those notes.

Two papers are required – a position paper and a research paper

- In a *position paper* (20%) of three pages maximum (single spaced) you should state clearly and concisely both/all sides of an argument and support one (See this website for more explicit treatment on how to construct a position paper http://homepages.uhwo.hawaii.edu/~writing/position.htm). We will use the Rendall and Di Fiore paper to critique this semester (see below). Paper due March 11th This paper does not deal explicitly with sexual selection – but there are sufficient connections to make it relevant to this class.
- A *research paper* (35%) should be on a topic that you feel excited enough about to explore more fully. Please make a decision about your paper topic by week 5 (last week of February) and send me an email about your topic or title. The paper is due during the last week of classes or early in final's week, but be prepared to present a draft of the paper for comments in the last 3 weeks of class. This paper should not exceed 15 pages of text (double-spaced).

Reading schedule:

Date	***Topic***	***Reading***	***Moderator***	***Scribe***
1/21	Introduction to course			
1/28	Historical background: theory and birds	Darwin, ch 8, 13-16	Marilyn	Brian
2/4	Historical background: mammals (and humans)	Darwin, ch 17-20; Rendall and Di Fiore 2007	Aidan/ Shannon	Ari
2/11	Intra-sexual selection	Andersson ch 1, ch11-12; Caillaud et al., 2008; Thorén et al., 2006; Amundsen, 2000	Orin/Jenny	Aidan
2/18	Inter-sexual selection	Andersson 8; Fisher, 1958 (reading selection); Dixson, 2002; Setchell 2005; Stumpf et al., 2008	Orin	Eric
2/25	Genetic models, indicator mechanisms, and constraints *(Paper titles due)*	Andersson 2-4, 10; Andersson and Simmons, 2006; Kokko et al., 2002; Buchanan, 2000	Aidan	Brian
3/4	Sexual selection and mating systems (and parenting)	Andersson 7; Hawkes et al., 1995; Hewison and Gaillard, 1999; Yasui, 1998; Bird, 1999;	Shannon	Jenny

3/11	Sexual selection and communication *(Position paper due)*	Andersson 13-15; Cooper and Hosey, 2003; Fernandez and Morris, 2007; Bradley and Mundy, 2008; Griffith et al. 2006;	Ari	Orin
3/18	Models and data on reproductive skew	Clutton Brock, 1998; Nunn, 1999; Johnstone, 2000; Alberts et al., 2003; Kappeler and Port, 2008;	Eric	Ari
Spring break				
4/1	Alternative reproductive tactics	Andersson 17; Gross, 1996; Fox, 2002; Badyaev and Hill, 2002; Alonzo and Warner, 2000	Jenny	Shan-non
4/8	Sexual dimorphism in humans – fossils and moderns	Plavcan, 2001; Reno et al., 2003; Lee, 2005; Apostolou, 2007; Leigh 2007	Brian	Eric
4/15	Student presentations (2)	TBA		
4/22	Student presentations (2)	TBA		
4/29	Student presentations (2)	TBA		
5/6	*no class on 5/6; extra class TBA* *Research paper due*			

References: These are pdfs. I will send them to you two weeks before they are due, but they are all available on Ohiolink.

Alberts, S.C., Watts, H.E., Altmann, J. 2003. Queuing and queue-jumping: long-term patterns of reproductive skew in male savannah baboons, *Papio cynocephalus.* Anim Behav 65:821-840.

Amundsen, T. 2000. Why are female birds ornamented? Trends Ecol Evol 15: 149.

Andersson, M., Simmons, L.W. 2006. Sexual selection and mate choice. Trends Ecol Evol 21:

Apostolou, M. 2007. Sexual selection under parental choice: the role of parents in the evolution of human mating. Evol Human Behav 28:403-409.

Badyaev, A.V., Hill, G.E. 2002. Paternal care as a conditional strategy: distinct reproductive tactics associated with elaboration of plumage ornamentation in the house finch. Behav Ecol 13:591-597.

Bird, R. 1999. Cooperation and conflict: the behavioral ecology of the sexual division of labor. Evol. Anth. 8:65-75.

Bradley, B.J., Mundy, N.I. 2008. The primate palette: the evolution of primate coloration. Evol. Anth. 17:97-111.

Buchanan, K.L. 2000. Stress and the evolution of condition-dependent signals. Trends Ecol Evol 15:156

Caillaud, D., Levréro, F., Gatti, S., Ménard, N., Raymond, M. 2008. Influence of male morphology on male mating status and behavior during interunit encounters in western lowland gorillas. Am J Phys Anth 135:379-388.

Clutton-Brock, T.H. 1998. Reproductive skew, concessions and limited control. Trends Ecol Evol 13:288

Cooper, V.J., Hosey, G.R. 2003. Sexual dichromatism and female preference in *Eulemur fulvus* subspecies. Int J. Primatol. 24:1177-1188.

Fernandez, A.A., Morris, M.R. 2007. Sexual selection and trichromatic color vision in primates: statistical support for the preexisting bias hypothesis. The American Naturalist 170:10-20.

Fox, E.A. 2002. Female tactics to reduce sexual harassment in the Sumatran orangutan (Pongo pygmaeus abelii). Behav Ecol Sociobiol 52:93-101.

Griffith, S.C., Parker, T.H., Olson, V.A. 2006. Melanin- versus carotenoid-based sexual signals: is the difference really so black and red? Anim Behav 71:749-763.

Gross, M.R. 1996. Alternative reproductive strategies and tactics: diversity within sexes. Trends Ecol Evol 11:92-98.

Hawkes, K., Rogers, A.R., Charnov, E.L. 1995. The male's dilemma: increased offspring production is more paternity to steal. Evol Ecol 9:662-677.

Hewison, A.J.M., Gaillard, J-M. 1999. Successful sons or advantaged daughters? The Trivers-Willard model and sex-biased maternal investment in ungulates. Trends Ecol Evol 14:229.

Johnstone, R.A. 2000. Models of reproductive skew: a review and synthesis (invited article). Ethology 106:5-26.

Kappeler, P.M., Port, M. 2008. Mutual tolerance or reproductive competition? Patterns of reproductive skew among male redfronted lemurs (*Eulemur fulvus rufus*). Behav Ecol Sociobiol 62:1477-1488.

Kokko, H., Brooks, R., McNamara, J.M., Houston, A.I. 2002. The sexual selection continuum. Proc R Soc Lond B 269:1331-1340.

Lee, S.-H. 2005. Patterns of size sexual dimorphism in *Australopithecus afarensis*: Another look. J Comp Human Biol 56:219-232.

Leigh, S.R. 2007. Homoplasy and the evolution of ontogeny in papionin primates. J Hum Evol 52:536-558.

Nunn, C.L. 1999. The number of males in primate social groups: a comparative test of the socioecological model. Behav Ecol Sociobiol 46:1-13.

Plavcan, J.M. 2001. Sexual dimorphism in primate evolution. Yearbook of Phys Anth 44:25-53.

Rendall, D., Di Fiore A. 2007. Homoplasy, homology, and the perceived species status of behavior in evolution. J Hum Evol 52:504-521.

Reno, P.L., Meindl, R.S., McCollum, M.A., Lovejoy, C.O. 2003. Sexual dimorphism in *Australopithecus afarensis* was similar to that of modern humans. PNAS 100:9404-9409.

Stumpf, R.M., Boesch, C. 2006. The efficacy of female choice in chimpanzees of the Taï forest, Côte d'Ivoire. Behav Ecol Sociobiol 60:749-765.

Thorén, S., Lindenfors, P., Kappeler, P.M. 2006. Phylogenetic analyses of dimorphism in primates: evidence for stronger selection on canine size than on body size. Am J Phys Anth 130:50-59.

Yasui, Y. 1998. The 'genetic benefits' of female multiple mating reconsidered. Trends Ecol Evol 13:246.