

Primate Behavior: The Real Monkey Business

Syllabus

2008

Readings:

Selections From a Primate Textbook: Primate Behavioral Ecology, 3rd Ed., by Karen B. Strier

The textbook provides students with a thorough presentation of primate theories and field studies. Students will not be required to read the entire book (since it is a major's book), but chapters will be selected for those readings, which compliment the class lectures.

Course Description:

The world of primates provides us with a fascinating array of primate forms ranging from the prosimians with their retention of numerous traits that are deemed, "primitive" on up to the monkeys, lesser and on up to the great apes, of which humans are a member. All living primates are modern, having solved a myriad of problems that ultimately end with the passing on of ones genes to the next primate generation. Within the primate guild, there is a gradually complexity in brain size and social group dynamics as we move towards the apes. This course explores the fundamental discussion of what characteristics define a primate, how primates exploit food resources, find suitable habitats, avoid predators, and employ mating strategies that are the social buzz of their social groups. We will finish the course with a detailed discussion of E.O. Wilson's "sociobiology" and whether there is continuity with the behavior our closest living relative, the chimpanzee, and human behavior.

Exams and assignments:

1. Mid-term exam (30%)
2. Classroom Discussion (15%)
3. Scientific Paper Presentation & Critique (25%)
4. Final Exam (30%)

CLASS SCHEDULE

Science Course

Primate Behavior: The Real Monkey Business 2008

Joyce A. Powzyk

Office Location: Hall-Atwater 161 (first floor)

Phone and e-mail: x3391: jpowzyk@wesleyan.edu

Textbook: Primate Behavioral Ecology, 3rd Ed., by Karen B. Strier

Lecture 1: Course Introduction/ Historical view of Primates (Aristotle –Linnaeus- Darwin)/ Primate Characteristics/ Primate Origins-Major Trends in Primate Evolution, / Post-Orbital Bar & Fully Enclosed Sockets
Chapter 2: pages 43 –50; Chapter 3: pages 74-75.

Lecture 2: Theory of Natural Selection- Darwin/ Genetic Variation/ Primate Adaptive Radiations/ Selfish Gene/ Mendelian Genes- Alleles/ Meiosis & mutations/ gamete production/ nature vs. nurture/ Harlow Experiments/ Inclusive Fitness (direct & indirect)/ Gene Flow & Genetic Drift
Readings: Chapter 4: pages 101-114.

Lecture 3: Primates as Study Subjects/ Phylogenetic and Ontogenetic History/ Proximate & Ultimate causation/ What is Adaptive?/ Early Ethologists vs. Comparative Studies/ Advantages to Captive & Field Studies/ Biases in Primate Studies/ Behavioral Sampling/ Activity Patterns/ Main Diet Categories/ Territorial Behaviors/ Mating Systems vs. Social Systems/ Socioeconomic Sex Ratio/ Philopatry
Readings: Chapter 1

Lecture 4: Social Brain Hypothesis-Dunbar/ Neocortex/ Brain Sizes in Primates/ Resting Metabolic Rate/ Jarman-Bell Principle (Diet & Body Size/ Cladistic Analysis/ Introduction to Prosimian Primates, Anthropoidea (Platyrrhini & Catarrhini) and Hominoidea (lesser & greater apes)/ New Species
Readings: Chapter 2 pp. 37-43, pp. 50-72.

Lecture 5: Selective Pressures/ Predation/ Food/ Finding Mates/ Parasites)/ Terborgh's Optimal Group Size Theory/ Sexual Dimorphism/ Primate Speciation (Allopatric & Sympatric)/ New Theories on Chimp-Hominid Break
Readings:

Lecture 6: Primate Development/ Primary Sex Ratios & Secondary Sex Ratios/ Maternal-Parental Care/ Alloparenting & Kidnapping/ Parent Offspring Conflict- Weaning Conflict/ Sexually Maturity for Males & Females/ Primate Longevity
Readings: Chapter 9

Lecture 7: Mating Patterns/ Female Choice vs. Male Choice/ Showy Genitals- Sexy Signals/ Secondary Sex Characteristics in Males & Females/ Female Reproductive Cycles/ Operational Sex Ratios/ Monogamy-Polygyny- Polyandry-Promiscuous/ Consortship/ Mating Seasonality/ Subtle Female Mating Strategies
Readings: Chapter 5

Lecture 8: Primate Movie : “Life of Mammals” Vol 4 (Richard Attenborough BBC)/ Class Discussion
Readings:

Lecture 9: Primate Cooperation/ Kin Selection-Kinship Theory/ Kin Recognition/ Altruism/ Reciprocal Altruism- indirect & direct/ Problem with Group selection & Altruism Gene/ Alarm Calling & Altruism/ Hamilton's Rule/ Kinship & Transmission of Novel Behaviors "Imo" & Sweet Potato Washing/ Benefits of Grooming/ Primate Currencies/

Readings: Chapter 4: pp. 121-140

Lecture 10: Evolutionary Stable Strategy/ Food and Foraging Trends/ Food Quality/ Food Distribution/ Phenology/ Primate Diets/ Gastrointestinal Tracts/ Convergent Evolution/ Chemical Deterrents in Food/ Forest Pharmacy/ Primate Food Contests/ Food Seasonality/ Color Vision

Readings: Chapter 6

Lecture 11: Female Feeding Strategies/ Matriline-Rank Inheritance/ Female Bonded Groups vs. Not Female Bonded/ Female Dominance/ Females Skewing Sex Ratios/ Male Primate Strategies/ Male-Male Competition/ Male Dispersal/ Infanticide/ Male Alliances/ Female Friends/ Bachelor Groups

Readings: Chapter 4: pp. 108-121 & Chapter 7, 8

Lecture 12: Sexual Pheromones/ Endocrine System/ Organizational Hormone/ Activation Hormone/ Fight or Flight/ Testosterone/ Estrogen/ Challenge Hypothesis/ Primate Stress Response/ Robert Sapolsky's 20 year Baboon Studies on Stress Hormones

Lecture 13: Dissertation Research on The Socio-Ecology of Two Sympatric Lemurs/ Feeding Competition in Sympatric Primates/ Energetic Minimizers- Energetic Maximizers/ Scent Marking as a Cost Effective Territorial Behavior/ Long-Calling in Primates

Lecture 14: Primate communities/ Niche Divergence- Vertical Stratification/ Polyspecific Associations/ Primate-Predator Interactions/ Primate-Plant Interactions/ Seed Predators vs. Seed Dispersers

Readings: Chapter 11

Lecture 15: Machiavellian Intelligence/ Cognition/ Primate Communication- Language/ Social Relationships & Primate Intellect Progression/ Attribution & Mirror Test/ Problem Solving/ Alliances/ Premack- Theory of Mind/ Orders of Representation/ Tool Use & Culture

Readings: Chapter 10

Lecture 16: Therapeutic Self-Medication/ Prophylactic Self-Medication/ Geophagy & kaopectate/ Euphorics/ Human Use (medicinal)/ The Role of Bitter Foods

Readings: Library reserve

Lecture 17: Student Presentations on Primary Source Literature- Followed by Group Discussion

Readings: Library reserve

Lecture 18: Sociobiology- E.O. Wilson/ Multiplier Effect/ Critics to Sociobiology/ Wilson's Reply/ Sociobiology and the Religious Right vs. Liberal Left/ Chimpanzee Behavior-Within Group Killings

Readings: Reserved papers in Science Library

Lecture 19: Primatologist & Conservationist (two hats)/ Habitat Destruction/ Bushmeat Trade/ Disease Vectors/ Pet Trade/ Primate Conservation & Captive Breeding/ Primate Reintroduction/ Using Local Taboos/ Translocation/ Wildlife Corridors/ Ecotourism/ Education/ Buy Land

Readings: Chapter 12