

Jan 26-28: Week #1 – Evolutionary thinking

- (1) Angier, N. 2007. *Evolutionary Biology – The Theory of Everybody. The Canon – A Whirligig Tour of the Beautiful Basics of Science*. Houghton Mifflin Company: Boston.
- (2) Baum, DA, S DeWitt Smith, and SSS Donovan. 2005a. The tree-thinking challenge. *Science* 310:979-980.
- (3) *Baum, DA, S DeWitt Smith, and SSS Donovan. 2005b. Basic tree-thinking assessment. Supporting online material (www.sciencemag.org/cgi/content/full/310/5750/979/DC1). (Associated with Baum et al. 2005a)
- (4) *Dobzhansky, T. 1973. Nothing in biology makes sense except in light of evolution. *The American Biology Teacher* 35:125-29.
- (5) *Pennisi, E. 2008. Evolution: Modernizing the Modern Synthesis. *Science* 321:196-7.

Feb 2-4: Week #2 – Variation & Mutation; Population genetics (no supplementary reading)**Feb 9-11: Week #3 – Natural selection**

- (6) Freeman, AS and JE Byers. 2006. Divergent induced responses to an invasive predator in marine mussel populations. *Science* 313:831-833.
- (7) Hori, M. 1993. Frequency-dependent natural selection in the handedness of scale-eating cichlid fish. *Science* 260:216-19.
- (8) Mullen LM and HE Hoekstra. 2009. Natural selection along an environmental gradient: a classic cline in mouse pigmentation. *Evolution* 62:1555-70.
- (9) *Stokstad, E. 2006. Native mussel quickly evolves fear of invasive crab. *Science* 313:745. (Associated with Freeman & Byers 2006)

Feb 16-18: Week #4 – Gene flow

- (10) Harper Jr., GR and DW Pfennig. 2008. Selection overrides gene flow to break down maladaptive mimicry. *Nature* 451:1103-1105.
- (11) Storfer, A and A Sih. 1998. Gene flow and ineffective antipredator behavior in a stream-breeding salamander. *Evolution* 52:558-565.

Feb 23-25: Week #5 – Exam 1 (no supplementary reading)**Mar 2-4: Week #6 – Genetic drift**

- (12) Bouzat, JL, HA Lewin, and KN Paige. 1998. The ghost of genetic diversity past: Historical DNA analysis of the greater prairie chicken. *The American Naturalist* 152:1-6.
- (13) Ingvarsson, PK. 2002. Lone wolf to the rescue. *Nature* 420:472.

- (14) *Vila, C, A-K Sundqvist, O Flagstad, J Seddon, S Bjornerfeldt, I Kojola, A Casulli, H Sand, P Wabakken and H Ellegren. 2003. Rescue of a severely bottlenecked wolf (*Canis lupus*) population by a single immigrant. *Proceedings of the Royal Society of London B* 270:91-7. (This article is reviewed by Ingvarsson 2002)
- (15) Miller, JS, RA Levin, and NM Feliciano. 2008. A tale of two continents: Baker's rule and the maintenance of self-incompatibility in *Lycium* (Solanaceae). *Evolution* 62:1052-65.

Mar 9-11: Week #7 – Population substructure; Non-random mating

- (16) *Schemske, DG and P Bierzychudek. 2007. Spatial differentiation for flower color in the desert annual *Linanthus parryae*: was Wright right? *Evolution* 61:2528-2543.
- (17) *Pennisi, E. 2007. Natural selection, not chance, paints the desert landscape. *Science* 318:376. (Associated with Schemske & Bierzychudek 2006)

Mar 16-18: Week #8 – Spring break (no supplementary reading)

Mar 23-25: Week #9 – Neutral theory; Molecular evolution

- (18) Dorus, S, PD Evans, GJ Wyckoff, SS Choi, and BT Lahn. 2004. Rate of molecular evolution of the seminal protein gene *SEMG2* correlates with levels of female promiscuity. *Nature Genetics* 36:1326-29.
- (19) Sharp, PM. 1997. In search of molecular Darwinism. *Nature* 385: 111-12.

Mar 30-Apr 1: Week #10 – Linkage, Quantitative traits

- (20) Schemske, DW and HD Bradshaw Jr. 1999. Pollinator preference and the evolution of floral traits in monkeyflowers (*Mimulus*). *Proceedings of the National Academy of Sciences* 96:11910-11915.
- (21) *Bradshaw Jr., HD and DW Schemske. 2003. Allele substitution at a flower colour locus produces a pollinator shift in monkeyflowers. *Nature* 426:176-178.

Apr 6-8: Week #11 – Measuring selection, Heritability

- (22) Coltman, DW, P O'Donoghue, JT Jorgenson, JT Hogg, C Strobeck, and M Festa-Bianchet. 2003. Undesirable evolutionary consequences of trophy hunting. *Nature* 426:655-658.
- (23) *Whitfield, J. 2003. Sheep horns downsized by hunters' taste for trophies. *Nature* 426:595. (Associated with Coltman et al. 2003)

Apr 13-15: Week #12 – Species, Speciation

- (24) Hoskin, CJ, M Higgie, KR McDonald, and C Moritz. 2005. Reinforcement drives rapid allopatric speciation. *Nature* 437:1353-1356.
- (25) Pennisi, E. 2006. Two rapidly evolving genes spell trouble for hybrids. *Science* 314:1238-1239.

- (26) Pryke, SR and SC Griffith. 2009. Postzygotic genetic incompatibility between sympatric color morphs. *Evolution* 63:793-98.

Apr 20-22: Week #13 – Phylogenetic inference, Phylogenetic comparative biology

- (27) Gilbert, MTP, A Rambaut, G Wlasiuk, TJ Spira, AE Pitchenik, and M Worobey. 2007. The emergence of HIV/AIDS in the Americas and beyond. *Proceedings of the National Academy of Sciences* 104:18566-18570.
- (28) Feldman, CR, ED Brodie, Jr., ED Brodie III, and ME Pfrender. 2009. The evolutionary origins of beneficial alleles during the repeated adaptation of garter snakes to deadly prey. *Proceedings of the National Academy of Sciences* 106: 13415–13420.
- (29) van Kleunen, M, JC Manning, V Pasqualetto, and SD Johnson. 2008. Phylogenetically independent associations between autonomous self-fertilization and plant invasiveness. *The American Naturalist* 171:195-201.
- (30) *Pitnick, S, KE Jones, and GS Wilkinson. 2006. Mating system and brain size in bats. *Proceedings of the Royal Society B* 273:719-724.

Apr 27-29: Week #14 – Evolution of sex, Sexual selection

- (31) Ridley, M. 1993. Chapters 2 and 3 in The Red Queen – Sex and the evolution of human nature. HarperCollins: New York.
- (32) Lively, CM and MF Dybdahl. 2000. Parasite adaptation to locally common host genotypes. *Nature* 405:679-681.
- (33) Zuk, M, JT Rotenberry, and RM Tinghitella. 2006. Silent night: adaptive disappearance of a sexual signal in a parasitized population of field crickets. *Biology Letters* 2:521-524.
- (34) Velando, A, J Eiroa and J Dominguez. 2008. Brainless but not clueless: earthworms boost their ejaculates when they detect fecund non-virgin partners. *Proceedings of the Royal Society of London B* 275:1067-72.
- (35) *Knight, J. 2002. Sexual stereotypes. *Nature* 415:254-56.
- (36) *Judson, O. 2002. Chapter 1, A sketch of the battlefield. In *Dr. Tatiana's Sex Advice to All Creation* Henry Holt and Company, New York.

*Optional readings