

Evolution Discussion Group (EDG)
PLB 802 section 2 (1 credit)
Room 52 Plant Biology

Instructor/organizer: Jeff Conner (Connerj@msu.edu)

Requirements for registered students: Regular attendance and lead/co-lead one discussion.

Meets Mondays at noon on: 1/26, 2/9, 2/23, 3/15, 3/22, 4/5, 4/26

Evo-devo references:

- Arthur, W. 2002. The emerging conceptual framework of evolutionary developmental biology. *Nature* 415:757-764.
- Beldade, P., K. Koops, and P. M. Brakefield. 2002. Developmental constraints versus flexibility in morphological evolution. *Nature* 416:844-847.
- Busch, M. A., K. Bomblies, and D. Weigel. 1999. Activation of a floral homeotic gene in *Arabidopsis*. *Science* 285:585-587.
- Carroll, R. L. 2000. Towards a new evolutionary synthesis. *TREE* 15:27-32.
- de Visser, J., J. Hermisson, G. P. Wagner, L. A. Meyers, H. Bagheri-Chaichian, J. L. Blanchard, L. Chao, J. M. Cheverud, S. F. Elena, W. Fontana, G. Gibson, T. F. Hansen, D. Krakauer, R. C. Lewontin, C. Ofria, S. H. Rice, G. von Dassow, A. Wagner, and M. C. Whitlock. 2003. Perspective: Evolution and detection of genetic robustness. *Evolution* 57:1959-1972.
- Debat, V., and P. David. 2001. Mapping phenotypes: canalization, plasticity and developmental stability. *Trends in Ecology and Evolution* 16:555-561.
- Emlen, D. J. 2000. Integrating development with evolution: A case study with beetle horns. *BioScience* 50:403-418.
- Guerrant, J., E. O. 1982. Neotenic evolution of *Delphinium nudicaule* (Ranunculaceae): A hummingbird-pollinated larkspur. *Evolution* 36:699-712.
- Guerrant, J., E.O. 1989. Early maturity, small flowers and autogamy: A developmental connection? Pp. 61-84 in J. H. Bock and Y. B. Linhart, eds. *The Evolutionary Ecology of Plants*. Westview Press, Boulder, San Francisco & London.
- Klingenberg, C. P., A. V. Badyaev, S. M. Sowry, and N. J. Beckwith. 2001. Inferring developmental modularity from morphological integration: Analysis of individual variation and asymmetry in bumblebee wings. *The American Naturalist* 157:11-23.
- Klingenberg, C. P., and H. F. Nijhout. 1999. Genetics of fluctuating asymmetry: A developmental model of developmental instability. *Evolution* 53:358-375.
- Klingenberg, C. P., and S. D. Zaklan. 2000. Morphological integration between developmental compartments in the *Drosophila* Wing. *Evolution* 54:1273-1285.
- Kramer, E. M., and V. F. Irish. 1999. Evolution of genetic mechanisms controlling petal development. *Nature* 399:144-148.

- Lawton-Rauh, A. L., E. R. Alvarez-Buylla, and M. D. Purugganan. 2000. Molecular evolution of flower development. *TREE* 15:144-149.
- McMillan, W. O., A. Monteiro, and D. D. Kaplan. 2002. Development and evolution on the wing. *Trends in Ecology and Evolution* 17:125-133.
- Meyerowitz, E. M. 2002. Plants compared to animals: the broadest comparative study of development. *Science* 295:1482-1485.
- Moller, A. P., and J. A. Shykoff. 1999. Morphological development stability in plants: Patterns and causes. *International Journal of Plant Sciences* 160:135-146.
- Nemeschkal, H. L. 1999. Morphometric correlation patterns of adult birds (Fringillidae: Passeriformes and Columbiformes) mirror the expression of developmental control genes. *Evolution* 53:899-918.
- Nijhout, H. F., and S. M. Paulsen. 1997. Developmental models and polygenic characters. *The American Naturalist* 149:394-405.
- Rolland-Lagan, A.-G., J. A. Bangham, and E. Coen. 2003. Growth dynamics underlying petal shape and asymmetry. *Nature* 422:161-163.
- Samach, A., H. Onouchi, S. E. Gold, G. S. Ditta, Z. Schwarz-Sommer, M. F. Yanofsky, and G. Coupland. 2000. Distinct roles of CONSTANS target genes in reproductive development of *Arabidopsis*. *Science* 288:1613-1616.
- Sherry, R. A., and E. M. Lord. 1996. Developmental stability in flowers of *Clarkia tembloriensis* (Onagraceae). *J. Evol. Biol.* 9:911-930.
- Stern, D. L. 2000. Perspective: Evolutionary developmental biology and the problem of variation. *Evolution* 54:1079-1091.
- Streelman, J. T., and T. D. Kocher. 2000. From phenotype to genotype. *Evolution and Development* 2:166-173.
- Tucker, S. 1999. Evolutionary lability of symmetry in early floral development. *International Journal of Plant Sciences* 160:25-39.
- Ungerer, M. C., S. S. Halldorsdottir, J. L. Modliszewski, T. F. C. Mackay, and M. D. Purugganan. 2002. Quantitative trait loci for inflorescence development in *Arabidopsis thaliana*. *Genetics* 160:1133-1151.
- Wagner, D., W. M. Sablowski, and E. M. Meyerowitz. 1999. Transcriptional activation of APETALA1 by LEAFY. *Science* 285:582-584.
- Weatherbee, S. D., H. F. Nijhout, L. W. Grunert, G. Halder, R. Galant, J. Selegue, and S. Carroll. 1999. *Ultrabithorax* function in butterfly wings and the evolution of insect wing patterns. *Current Biology* 9:109-115.
- Weinig, C., and L. F. Delph. 2001. Phenotypic plasticity early in life constrains developmental responses later. *Evolution* 55:930-936.
- Wolf, J. B., W. A. Frankino, A. F. Agrawal, E. D. I. Brodie, and A. J. Moore. 2001. Developmental interactions and the constituents of quantitative variation. *Evolution* 55:232-245.

