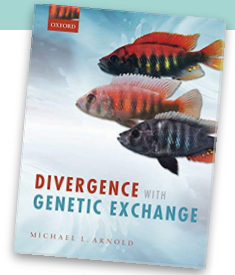


Diversification, Hybridization and the Web of Life

by Prof. Michael L. Arnold

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The goals of this one-week block course are to (i) (re-)introduce the students to some of the canonical literature concerning the process of speciation and (ii) discuss the new paradigm represented by the web-of-life metaphor. The second goal will be accomplished by using Mike's book (Arnold, M.L. 2016. *Divergence With Genetic Exchange*. Oxford University Press), as a distillation of many studies of natural hybridization, horizontal gene transfer and viral recombination.

By the end of the course, I hope that the students will have an increased awareness of both where current studies in speciation/genetic exchange fit into the history of such investigations and the ongoing shift in the paradigm used to describe the process of evolutionary diversification.

Content:

Monday, 23/09/19, 9:15-12:00* – *Species Concepts and Mode of Speciation*

1. Introduction (**Lecture**)
2. Mayr, E. 1942. *Systematics and the Origin of Species*. Ch.VII. Columbia Univ. Press. New York.
3. Via, S. 2001. *Trends in Ecology and Evolution* 16:381-390.

*from 11:15-12:00 there will be a public lecture by Prof. Michael L. Arnold as part of the 'Monday seminar' series.

Tuesday, 24/09/19, 14:15-17:00 – *Tempo of Speciation*

1. Meyer, A., T.D. Kocher, P. Basasibwaki and A.C. Wilson. 1990. *Nature* 347:550-553.
2. Hodges, S.A. and M.L. Arnold. 1994. *Proc. Natl. Acad. Sci., U.S.A.* 91: 5129-5132.
3. Rapid Evolution in Changing Environments (**Lecture**)

Wednesday, 25/09/19, 14:15-17:00 – *Phylogenetic Discordance*

1. Phylogenetic Discordance (**Lecture**)
2. Arnold, M.L. 2016. *Divergence With Genetic Exchange*. Oxford University Press. *Chapters 1-3*

Thursday, 26/09/19, 14:15-17:00 – *Hybrid Fitness*

1. Hybrid Fitness (**Lecture**)
2. Arnold, M.L. 2016. *Divergence With Genetic Exchange*. Oxford University Press. *Chapters 4-5*

Friday, 27/09/19, 14:15-17:00 – *Adaptive Genetic Exchange*

1. Arnold, M.L. and K. Kunte. 2017. Adaptive genetic exchange: A tangled history of admixture and evolutionary innovation. *Trends in Ecology and Evolution* 32:601-611.
2. Arnold, M.L. 2016. *Divergence With Genetic Exchange*. Oxford University Press. *Chapters 7-8*

Location: Vesalianum, room E0.07

Because the format of this course will be largely discussion, rather than lecture, its success will depend greatly upon student participation. The students need to have read the material before they come to class. Students will be provided access to *Divergence With Genetic Exchange* and the other readings.

The course is open to MSc and PhD students as well as to interested post-docs.

To obtain the two credit points, students will have to write a short summary on one of the topics.

For inquiries regarding the course, please contact walter.salzburger@unibas.ch