SFB 680

Molecular Basis of Evolutionary Innovations

Molekulare Grundlagen evolutionärer Innovationen

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"The evolution of developmental mechanisms governing wing patterning in insects"

Wing patterning in insects offers a phenomenal system for studying the evolution of pattern formation and the molecular mechanisms that regulate size and shape. Wings evolved once in the insect lineage, and thus presumably share a common underlying developmental mechanism. Nevertheless, insect wings are remarkably diverse in size, shape, and pattern, and thus, the underlying developmental mechanism must have been altered over the course of evolution to give rise to the different wing forms. Phylogenetic studies, based simply on morphology, have generated a number of theoretical models to account for the diversity of insect wings, and genetic studies on the Drosophila wing have provided a developmental mechanism for wing patterning in the fruit fly - elements of which are conserved in other species. These contrasting views were the premise for re-examining the relationships between pattern elements in insect wings in the context of the developmental mechanism that is operating in Drosophila. These studies reveal a number of major transitions in wing patterning and a progressive shift from self-organizing patterning mechanisms in the ancestral orders to invariant mechanisms in the derived orders.

November 22, 2010

17:00 c.t.

Entwicklungsbiologie, Zülpicher Str. 47b, seminar room, 3rd floor

Hosts: Kristen Panfilio and Siegfried Roth

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