Cologne Evolution Colloquium

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The genetic basis for diversification of leaf form

A key challenge in biology is to understand how diversity in organismal form is generated. Genetic analyses in model systems have identified key regulators that sculpt the body plans of metazoa and seed plants. However, less is known about how the action of such regulators produces particular organ shapes, or how the balance of conservation versus divergence of such form regulating pathways generated the tremendous morphological diversity of multicellular eukaryotes. One impediment to answering these questions is the relative paucity of experimental platforms where genetic tools can be utilized to unambiguously study morphogenesis and its evolution in a genomewide, unbiased fashion. To circumvent this problem we developed the Arabidopsis thaliana relative Cardamine hirsuta into a versatile system for studying morphological evolution. We aim to understand the molecular mechanisms through which leaf morphology evolved in these species, resulting in simple, undivided leaves in A. thaliana and dissected leaves with distinct leaflets in C. hirsuta. This presentation will discuss our progress towards understanding the genetic pathways that specify dissected versus entire leaf shapes and that regulate the number, position and timing of leaflet production.

Wednesday, May 21, 2014, 17:00 University of Cologne, Institute for Genetics Seminar Room 0.46

Hosted by Michael Lässig