

Cologne Evolution Colloquium

Molecular Basis of
Evolutionary Innovations

SFB 680

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Adherens junctions, axis formation and segmentation in the spider *Parasteatoda*

Arthropods are one of the oldest animal phyla having bilaterally symmetric body plans. To gain insight into the evolutionary relationships between the arthropod phylum and other bilaterian phyla, we require a better understanding of the earliest conditions of the arthropod genome, cell structure and function, and development. In an effort to achieve this, we developed the common house spider *Parasteatoda tepidariorum*, a chelicerate arthropod, as a new model organism, which gives us many advantages in conducting experiments. Our RNAi-based work using this spider suggests that the mechanisms of axis formation and segmentation were subjected to drastic changes after the diversification of the chelicerate and insect lineages. Draft sequences of the *P. tepidariorum* genome are now available, allowing us to use genomic approaches to investigating ancestral traits linking the arthropods and other bilaterian phyla. We will talk about the significance of the *P. tepidariorum* genome for a better understanding of the ancestral mechanisms for adherens junction, axis formation and segmentation in Bilateria.

Thursday, September 18, 2014, 16:00
University of Cologne, Institute for Genetics
Seminar Room 0.46

Hosted by Siegfried Roth