SFB 680

MOLECULAR BASIS OF
EVOLUTIONARY INNOVATIONS

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Evolution in freshwater microbes: Adaptation in Paramecium and coevolution of endosymbiotic bacteria to temperature, and evolution of antibiotic resistance in natural populations of bacteria

We have tested how the current climate warming will affect the populations of a fast reproducing organism. As an example we have tested the temperature adaptation of several Paramecium populations, which led to the conclusion that especially populations at the southern edge of Europe are endangered in the future. We could also show that the molecular mechanism of this temperature adaptation involves an increased Cyt HSP 70 transcription. In a second experiment the co-evolution of Paramecium and its bacterial host *Caedibacter taenospiralis* was tested. Surprisingly, we could show that not the growth rate but the carrying capacity of the Paramecium host is impacted by temperature effects. In the last part of the talk I will illustrate the importance of antibiotic resistance evolution in the environment and demonstrate the relevance with data of a field investigation, which demonstrate the persistence of acquired antibiotic resistant bacteria (especially E.coli) in an ukrainian river (Bug).

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Biocenter, Zülpicher Str. 47b, Lectur Hall Ground Floor

Host: Eric von Elert

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