Spatial divergences and local adaptation of a freshwater crustacean

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A key insight of Charles Darwin was that phenotypic variation is the key to understand how evolution works. He developed the principle of divergence to explain how populations adapt to local conditions. Today, understanding local adaptation has become a hallmark of modern evolutionary biology. The genomics wave allows us now to ask questions regarding the nature and mechanism of local adaptation, that was not possible before. I present three cases studies of local adaptation to environmental factors that are related to human impact on the environment, namely temperature, water salinity and habitat stability. I use the planktonic, freshwater crustacean Daphnia magna as a model system to bridge the gap between genes and phenotypes and how natural selection shapes their interplay.

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