Colloquium

Studying natural selection at the level of genotypes

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Natural selection is differential propagation of individuals; however, it affects all levels of organization. In particular, data on sequences make it possible to study esoteric properties of selection. I will describe several results of this kind. Very short internal branches in the phylogenetic trees of the lake Baikal amphipods made it possible to detect short bursts of amino acid substitutions, shedding new light on the gradualism-punctualism debate. Independent adaptation of many three-spine sticklebacks to fresh-water lakes in the basin of the White Sea revealed interesting patterns in parallel evolution. Comparison of the strengths of negative selection across many species demonstrated that the lives of a cod and of an elephants are equally tough. Rates of evolution of loss-of-function alleles of genes confirmed that these alleles are dead. Uniform distribution of deleterious alleles along genotypes may be a useful signature of narrowing epistasis. Finally, I will tell you what bdelloid rotifers do instead of sex.

Monday, December 11, 2017 04:00pm - 05:00pm
Raiffeisen Lecture Hall, Central Building

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