## fast breaking papers - 2010

**April 2010**

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**Patrik Nosil talks with *ScienceWatch.com* and answers a few questions about this month's Fast Breaking Paper Paper in the field of Environment & Ecology.**

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**Article Title: Divergent selection and heterogeneous genomic divergence**
Authors: **Nosil, P**;Funk, DJ;Ortiz-Barrientos, D
Journal: MOL ECOL, Volume: 18, Issue: 3, Page: 375-402, Year: FEB 2009
* Inst Adv Study, Wissensch Kolleg Berlin, Wallostr 19, D-14193 Berlin, Germany.
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**SW: Why do you think your paper is highly cited?**

This article is likely highly cited because it provides both a conceptual and empirical review of a newly emerged field of study—"population genomics."

**SW: Would you summarize the significance of your paper in layman's terms?**

The article synthesizes our knowledge concerning how natural selection impacts the genome, and especially how natural selection creates differences in levels of genetic divergence across the genome.

**SW: How did you become involved in this research, and were there any problems along the way?**

This review article emerged from empirical "population genomic" studies conducted in two groups of insects. In both studies, my coauthors, Daniel Funk and Scott Egan of Vanderbilt University, and I identified genomic regions subject to natural selection. These empirical findings naturally then led into a review of the overall literature on genomic divergence.

**SW: Where do you see your research leading in the future?**

Recent advances in molecular biology ("next-generation sequencing") and computational approaches

will allow the effects of natural selection on the genome to be examined in more precise, as well as new and creative, ways.

**SW: Do you foresee any social or political implications for your research?**

Understanding how natural selection affects the genome might increase our understanding of the origin and maintenance of genetic diversity.

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KEYWORDS: WHITEFISH COREGONUS-CLUPEAFORMIS; ADAPTIVE POPULATION DIVERGENCE; QUANTITATIVE TRAIT LOCI; BEBBIANAE LEAF BEETLES; DETECT CANDIDATE LOCI; HOST-PLANT ADAPTATION; DNA-SEQUENCE DATA; GENE FLOW; NATURAL-SELECTION; REPRODUCTIVE ISOLATION.

**Additional information:**

Scott Eagan | Daniel Funk

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