
Repeatability and phenotypic plasticity of fish swimming performance across a gradient of urbanization

Jay A. Nelson • Fabrizio Atzori • Kirk R. Gastrich

Received: 23 June 2014 / Accepted: 12 August 2014 / Published online: 22 August 2014

© Springer Science+Business Media Dordrecht 2014

Abstract

Urbanization is a major driver of environmental change, and it has the potential to alter the phenotypic plasticity of organisms. We tested the hypothesis that phenotypic plasticity of fish swimming performance would be reduced in urbanized environments. We measured the repeatability and phenotypic plasticity of swimming performance in a population of fish across a gradient of urbanization. We found that phenotypic plasticity was reduced in urbanized environments, and that repeatability was higher in urbanized environments. These results suggest that urbanization may reduce the ability of fish to adjust their swimming performance to their environment, which could have important implications for their survival and fitness.

Keywords: Urbanization • Phenotypic plasticity • Repeatability • Swimming performance

150- ...

Materials and methods

...

... 1) ... 2) ... 3) ... 4) ... 21 ... 27 ...

... 40-50 ... 1) ... 2) ... 3) ... 4) ...

8()18()19()

١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ ١٠٠٠ -

