
THE ROLE OF STRUCTURAL GENOMIC VARIANTS IN THE EVOLUTION OF BIODIVERSITY

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Résumé

A significant fraction of genetic diversity lies in structural genomic variation (SV), e.g. chromosomal rearrangements or copy-number variants. Recent technologies provide unprecedented access to SVs, showing their prevalence and their implication in adaptation or diversification. This is opening new prospects in the study of genetic variation and transforming our understanding of the genetic basis of evolutionary changes.

Here, we will reflect on the role of SVs in the evolution of biodiversity with examples from the literature and suggest a roadmap to consider more systematically the role and function of SVs in adaptation genomics. We will support these ideas with empirical studies addressing the role of inversions in adaptation and speciation, as well as explore the level of structural genetic diversity across species.

The combined evidence presented in this talk underscores that a broadening of our views is needed to better integrate genetic variation beyond SNPs into studies about adaptive divergence and speciation, thus paving the way for a more systematic exploration of causal genomic structural variation in evolution.

Mots-Clés: Adaptation, Inversions, Supergene, Structural variants, genomics, evolution

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