Variation Within and Between Hierarchical Levels

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Abstract

Variation may be adaptive, neutral, or non-adaptive, and may occur both within and between hierarchical levels, in other words, both within and among groups. For those who are interested in multi-level selection, all group properties are of interest, not just their fitness. Therefore we must consider variants arising from interactions that instigate cohesion as a group, if only temporarily. How does adaptive variation arise before it is maintained more permanently by natural selection? Does it arise in similar ways at different levels? Can it arise at new hierarchical levels, before these levels evolve more permanent status themselves? I address these and related questions drawing on examples across the tree of life, including human groups.

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