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Is Antler Size Driving Evolutionary Success in Cervids?

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The hypothesis of aesthetic evolution offers a compelling alternative to traditional view of natural selection by suggesting that trait evaluation can occur independently of immediate survival or reproductive fitness factors. While often viewed as arbitrary or even as detrimental at the individual or population level, aesthetic preferences may function as significant determinants of fitness at the species or clade level.

In this study, we investigate the palaeontological record of Cervid species. Research suggests that their antlers serve a dual role as both armaments for male-male competition and ornaments for female choice. The evolution of these traits appears to be driven by a complex interplay between male-male competition and female choice, eventually decoupling from purely functional demands. We utilize Bayesian models of Cervid evolutionary histories, allometric data and phylogenetic path analysis in order to investigate possible causal links between antler size, evolutionary success and phylogenetic patterns.
Our preliminary results aim to clarify the link between antler size and the evolutionary success of specific lineages, offering a foundation for future research into the biotic drivers that shape macroevolutionary patterns.

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