Punctuated Equilibria Is Back, but Still Magical

Evolution News (https://evolutionnews.org/author/evolutionnews/) | *@DiscoveryCSC (https://twitter.com/@DiscoveryCSC)*

November 16, 2017, 1:26 AM

It's amazing what you can do with advanced mathematics to explain rabbits coming out of hats without magicians. Make a few assumptions, define some new terms, employ some distribution models, and presto! Adaptive evolution, all done with random processes. You can dazzle the audience with incomprehensible equations, draw stunning graphs, and use them to make outlandish claims. Is this not the case with a new paper by Michael Landis and Joshua Schraiber in the *Proceedings of the National Academy of Sciences* (http://www.pnas.org/content/early/2017/10/31/1710920114.abstract)? The paper, "Pulsed evolution shaped modern vertebrate body sizes," purports to do just that.

> "
>
> ***The diversity of forms found among animals on Earth is striking.*** *Despite* ***decades of study, it has been difficult to reconcile*** *the patterns of diversity seen between closely related species with those observed when studying single species on ecological timescales.* ***We propose a set of models, called Lévy processes, to attempt to reconcile rapid evolution between species with the relatively stable distributions of phenotypes seen within species.*** *These models, which have been successfully used to model stock market data,* ***allow for long periods of stasis followed by bursts of rapid change.***