

Bacteria give insights into randomness of evolution

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

It's a crazy world out there, and if an organism wants to survive, it had better have the right tools for the job.

From anteaters to chameleons, animals have gained some pretty useful features over time, helping them to adapt to their environments and beat out the competition. Driving all of this diversity is natural selection, or the process by which beneficial mutations in genomes are identified and promoted, enabling organisms of all stripes to live longer, mate more often or perhaps just [look weirder](#).

What's the end game in terms of evolution though? Is there a "perfect" form that all organisms are working and evolving toward? *Is* there an end game? The notion of evolutionary perfection, while enticing, is likely a myth say researchers at Michigan State University. Led by Richard Lenski, a team of scientists has been observing a long lineage of *E. coli* bacteria for almost 28 years.

The Long-Term Evolution Experiment is quite simple in design: Twelve separate populations of identical bacteria in identical growth mixtures were allowed to multiply and grow. Every day since 1988, one percent of each population has been transferred to a fresh flask of growth medium, allowing them to proliferate unabated at a rate of about 6.6 generations per day. A sample is frozen every 500 generations, or roughly every 75 days, to preserve a historical record of the bacteria. The bacteria are also periodically tested to determine how their level of fitness, measured by their rate of reproduction, has changed.

Read full, original post: [Could Evolution Ever Yield a 'Perfect' Organism?](#)