

Why some people are more attractive than others

March 28 2007

Paradox of evolutionary theory, often cited by creationists, is explained at last. Researchers believe they have solved a mystery that has puzzled evolutionary scientists for years ... if 'good' genes spread through the population, why are individuals so different?

The so-called 'lek paradox', that sexually-selecting species like humans should have much less individuality than is the case, has been seized upon by creationists as an argument that Darwin's theories are fundamentally flawed.

The problem with current evolutionary theory is that if females select the most attractive mates, the genes responsible for attractive features should spread quickly through a population, resulting in males becoming equally attractive, to the point where sexual selection could no longer take place.

However, new research by Professor Marion Petrie and Dr Gilbert Roberts at Newcastle University, England, suggests that sexual selection can in fact cause greater genetic diversity by a mechanism not previously understood.

Professor Petrie theorised that since genetic mutations can occur anywhere in the genome, some will affect the 'DNA repair kit' possessed by all cells. As a result, some individuals have less efficient repair kits, resulting in greater variation in their DNA as damage does unrepaired.

Although unrepaired DNA is generally harmful - causing tissue to

degenerate or develop cancers - it is useful in some parts of the genome, such as those parts responsible for disease defence where variation can help in the resistance to disease. It has long been known that greater variation of DNA in the disease defending regions makes it more likely that an individual can resist attacks by bacteria and viruses.

Using a computer model to map the spread of genes in a population, Professor Petrie demonstrated that the tendency towards reduction in genetic diversity caused by sexual selection is outweighed by the maintenance in greater genetic diversity generated by mutations affecting DNA repair.

The research is published today (28 March 2007) in the academic journal, *Heredity*, part of the Nature Publishing Group.

Professor Petrie, of the Evolution and Behaviour Research Group in the School of Biology at Newcastle University, said: 'We started this research ten years ago and our model has now produced a good fit with what we observe in terms of genetic variation, which leads us to believe that our theory is correct.' 'We find that sexual selection can promote genetic diversity despite expectations to the contrary.'

In 2005, Professor Petrie and colleagues demonstrated that men with greater genetic diversity in disease defence regions of the genome — and therefore better prospects of passing disease resistance to their offspring — had a number of physical features which women found attractive. The research involved testing men for genetic diversity and showing photographs of them to women, who allocated scores for attractiveness. These scores were found to correlate strongly to genetic diversity.

Source: University of Newcastle upon Tyne

Citation: Why some people are more attractive than others (2007, March 28) retrieved 23 April 2024 from <https://phys.org/news/2007-03-people.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.