

[Evolution Diary](#)

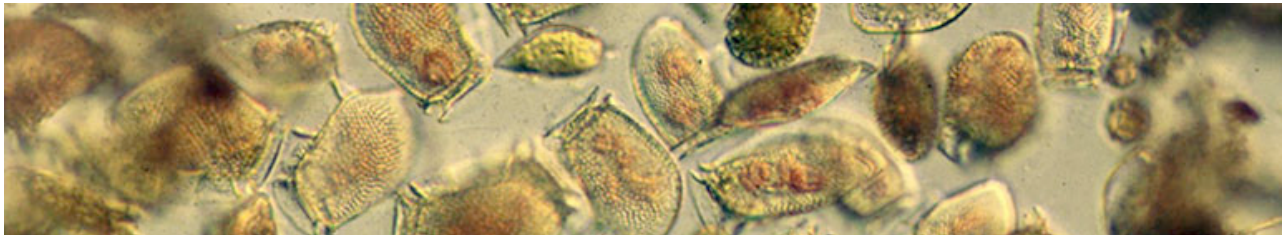
- [front page](#)
- [archives](#)
- [about](#)
- [Videos](#)
- [Downloads](#)
- [Evo in Action](#)
- [More News](#)
- [Ads by Google](#)
- [RSS](#)

[Altruism Evolution](#)

[Human Altruism](#)

[Animal Altruism](#)

[Altruism Definition](#)



← [Coral Reefs fishes smell their way home](#) [What Our Tears Are Made Of](#) →

The hitchhiker's guide to altruism — Study explains how costly traits evolve

January 20th, 2007 · [No Comments](#)

Darwin explained how beneficial traits accumulate in natural populations, but how do costly traits evolve? In the past, two theories have addressed this problem. The theory of hitchhiking suggests that genes that confer a cost to their bearer can become common in natural populations when they “hitch a ride” with fitter genes that are being favored by natural selection. Conversely, the theory of kin selection suggests that costly traits can be favored if they lead to benefits for relatives of the bearer, who also carry the gene.

“Animal traits are not always independent. For example, people with blond hair are more likely to have blue eyes,” explains Andy Gardner (Oxford University). “This is a nuisance for natural selection, which could not, for instance, favor blond hair without also indirectly favoring blue eyes, and this is the idea of genetic hitchhiking.”

Kin selection is similar, but here the genetic associations are between different individuals: “If I have a gene that makes me more altruistic, then I can also expect my relatives to carry it. So while the immediate effect of the gene is costly for me, I would benefit by receiving altruism from my relatives, and so the gene is ultimately favored,” Gardner explains.

New research carried out at the University of Edinburgh and Queen's University, Canada shows that both processes are governed by the same equations. This reveals that kin selection can be seen as a special form of genetic hitchhiking, explain Gardner and his coauthors Stuart West and Nick Barton (University of Edinburgh) in the February issue of *The American Naturalist*.

The researchers built on a general framework for modeling hitchhiking first proposed by Barton and colleagues, showing how it can be used to describe social evolution and recovering the classical results of kin selection theory. This insight raises the possibility of using the tools of hitchhiking theory to explore social problems that have so far been too complicated to analyze using traditional kin selection techniques.

[Source](#)

[Ads by Goooooogle](#)

[Advertise on this site](#)

Free Online Book

Future Human Evolution Eugenics in the 21st Century
www.whatwemaybe.org

Get a DNA Test now

Extremely accurate paternity tests. 99.9999% and higher now available.
www.DNAnow.com

Creation Or Evolution?

Is evolution just a theory? You can prove creation. Order free booklet.
www.gnmagazine.org/evolution



Tags: [Humans Evolution](#) · [Natural Selection](#) · [General](#)

0 responses so far ↓

- There are no comments yet...Kick things off by filling out the form below.

Leave a Comment

Name

Mail

Website



Security code (from image above)

- **Search this site**

- **Useful Links**

[Ads by Google](#)

Evolution Essays

Unlimited Access to Essays
On Evolution - £4.99
www.Coursework.Info

Genes Reunited.co.uk

Free to Build your Family
Tree & Search 345 million
Genes records
www.GenesReunited.co.uk

Womens Surf Clothes

Wide range of ladies surf
clothing. Sale - up to 40%
off. Free delivery
www.BigWednesdaySurf.com

Great Biology Resources

Special offers and free
delivery on educational
videos/DVDs/CD-ROMs
www.uniview.co.uk

Human Evolution Casts

Palaeoanthropology skull
casts - Special intro offer on
new models!
www.ossafreelance.co.uk

• Recent Posts

- [Distintive Rodent Discovered in Cloud-forests of Peru](#)
- [Hybrid Speciation in Butterflies in Sierra](#)
- [Rare Video of Ancient Shark - The "Frimled Shark"](#)
- [How Fishes Conquered The Ocean](#)
- [Giant Carnivorous Bird Arrived In North America Before Land Bridge](#)
- [Most Primitive Primate Skeleton Found](#)
- [The Mystery of Consciousness - by Steven Pinker](#)
- [What Our Tears Are Made Of](#)
- [The hitchhiker's guide to altruism — Study explains how costly traits evolve](#)
- [Coral Reefs fishes smell their way home](#)

• Recent Comments

- [Bradley](#) on [Modern humans moved to Europe from Africa as early as 45,000 years ago](#)
- [ambulocetus](#) on [Baiji, China's freshwater dolphin "functionally" extinct](#)
- [Solomon](#) on [New Clues To How Sex Evolves](#)
- [Evolution versus Intelligent Design \(or Creationism\) - Page 6](#) on [Dawkins on Komodo Dragon's Virgin Birth](#)
- [Dawkins on Komodo Dragon's Virgin Birth | Evolution Diary](#) on [Virgin Birth of the reptile kind - Komodo dragon reproduce without mating](#)

• Pages

- [About](#)
- [Archives](#)
- [Bookstore](#)

- [News Around the Web](#)
- [Visible Evidences on Evolution](#)

• Categories

- [Dinosaurs](#)
- [Downloads](#)
- [General](#)
- [Humans Evolution](#)
- [Natural Selection](#)
- [Science and Religion](#)
- [Uncategorized](#)
- [Videos](#)

• Archives

- [January 2007](#) (45)
- [December 2006](#) (64)
- [November 2006](#) (60)

© 2006 Evolution Diary. [Cutline](#) by [Chris Pearson](#)