

Patterns and processes of genomic divergence during speciation

Compiled and edited by Patrik Nosil and Jeffrey L Feder

Published February 2012

Special offer price for print issue: £47.50 (usual price: £59.50)



The formation of new species (i.e., speciation) is a fundamental process responsible for the diversity of life on Earth. Progress has been made in understanding the genetic basis of speciation; many individual 'speciation genes' have now been identified that cause reproductive isolation. Less attention has been given to genome-wide patterns of divergence during speciation. Thus, major questions remain concerning how individual speciation genes are arrayed within the genomes of diverging taxa, and how this affects speciation.

This theme issue explores this genomic perspective of speciation. It draws upon empirical studies in plants and animals, and theoretical work, to review and further document patterns of genomic divergence. In turn, these studies begin to disentangle the role that different processes, such as natural selection, gene flow, and recombination rate, play in generating observed patterns, particularly in the context of how genomes diverge as speciation unfolds, from beginning to end. The collective results point to how experimental work is now required, in conjunction with theory and sequencing studies, to move from the field from descriptive studies of patterns of divergence towards a predictive framework that tackles the causes and consequences of genome-wide patterns.



Access online by scanning QR code or visiting: bit.ly/uyJApb

The print issue is available at the specially reduced price shown above. To place an order, send payment by cheque (made payable to Portland Customer Services) or by Visa or MasterCard (quoting ref TB 1587) to:

Portland Customer Services, Commerce Way, Colchester CO2 8HP, UK
Tel: +44 (0)1206 796351 Email: sales@portland-services.com

Patterns and processes of genomic divergence during speciation

Compiled and edited by Patrik Nosil and Jeffrey L Feder

Introduction: Genomic divergence during speciation: causes and consequences

P Nosil and JL Feder

Genomic islands of divergence in hybridizing *Heliconius* butterflies identified by large-scale targeted sequencing

NJ Nadeau, A Whibley, RT Jones, JW Davey, KK Dasmahapatra, SW Baxter, MA Quail, M Joron, RH ffrench-Constant, ML Blaxter, J Mallet and CD Jiggins

Genome-wide patterns of divergence during speciation: the lake whitefish case study

S Renaut, N Maillet, E Normandeau, C Sauvage, N Derome, SM Rogers and L Bernatchez

What can patterns of differentiation across plant genomes tell us about adaptation and speciation?

JL Strasburg, NA Sherman, KM Wright, LC Moyle, JH Willis and LH Rieseberg

No evidence for biased co-transmission of speciation islands in *Anopheles gambiae*

MW Hahn, BJ White, CD Muir and NJ Besansky

Genomics of adaptation and speciation in cichlid fishes: recent advances and analyses in African and Neotropical lineages

S Fan, KR Elmer and A Meyer

Extensive linkage disequilibrium and parallel adaptive divergence across threespine stickleback genomes

PA Hohenlohe, S Bassham, M Currey and WA Cresko

Recombination rate variation and speciation: theoretical predictions and empirical results from rabbits and mice

MW Nachman and BA Payseur

Genomic impacts of chromosomal inversions in parapatric *Drosophila* species

SE McGaugh and MAF Noor

Coalescent patterns for chromosomal inversions in divergent populations

RF Guerrero, F Rousset and M Kirkpatrick

Genomics of isolation in hybrids

Z Gompert, TL Parchman and CA Buerkle

Divergence hitchhiking and the spread of genomic isolation during ecological speciation-with-gene-flow

S Via

Establishment of new mutations under divergence and genome hitchhiking

JL Feder, R Gejji, S Yeaman and P Nosil