

Aula 5

Formato de filogenias

Visualização de dados

Instruções para avaliação (Como gerar um Markdown e um html/pdf)

Formatos de filogenias

- Estatísticas que descrevem formatos
 - Várias propostas
 - Principais => simetria e 'stemminess'
 - I de Colless
 - Gamma de Pybus
- Como elas podem afetar análises
 - Matriz VCV
 - Estimativa de estado ancestral

Stochastic Models and Descriptive Statistics for Phylogenetic Trees, from Yule to Today

David J. Aldous

VOLUME 72, No. 1

THE QUARTERLY REVIEW OF BIOLOGY

MARCH 1997



INFERRING EVOLUTIONARY PROCESS FROM PHYLOGENETIC TREE SHAPE

ARNE Ø. MOOERS

*Department of Zoology, University of British Columbia
6270 University Boulevard, Vancouver, V6T 1Z4 Canada*

STEPHEN B. HEARD

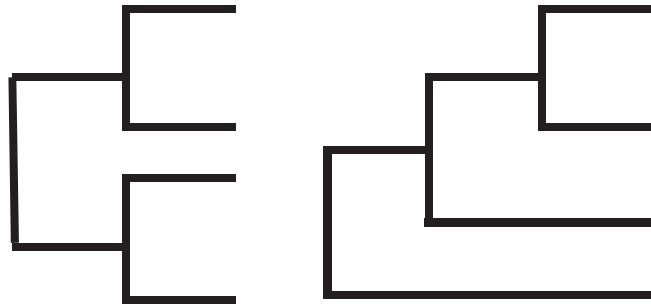
*Department of Biological Sciences, University of Iowa
138 Biology Building, Iowa City, Iowa 52242–1324 USA*

Testing macro-evolutionary models using incomplete molecular phylogenies

Oliver G. Pybus* and Paul H. Harvey

$$\gamma = \frac{\left(\frac{1}{n-2} \sum_{i=2}^{n-1} \left(\sum_{k=2}^i k g_k \right) \right) - \left(\frac{T}{2} \right)}{T \sqrt{\frac{1}{12(n-2)}}}, \quad T = \left(\sum_{j=2}^n j g_j \right)$$

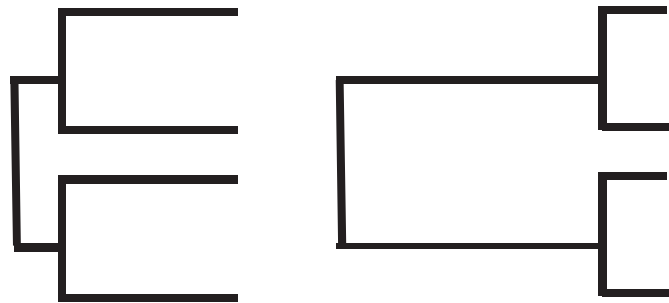
Colless' tree balance - I_c



Smaller values
More balanced

Larger values
More unbalanced

Distribution of node ages - γ



Values < 0
Ancient speciation

Values > 0
Recent speciation

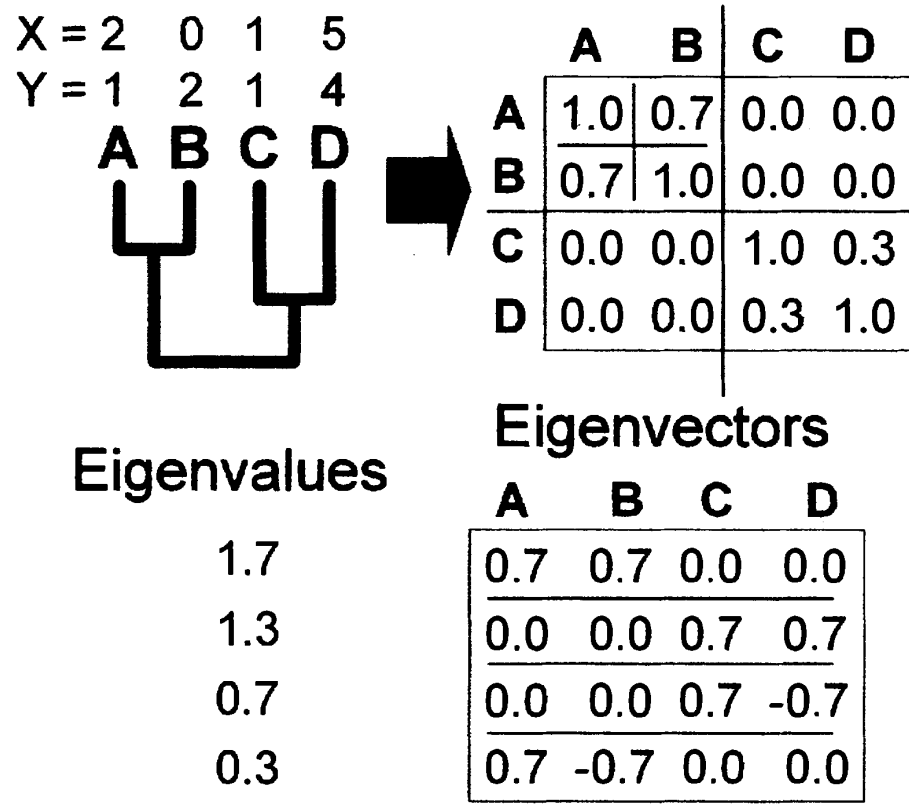


FIGURE 1. The blocklike nature of a phylogeny relationship matrix (G) and how that matrix can be described by its eigenvectors (T) and eigenvalues (λ , such that $T'\lambda T = G$). X and Y are fictitious phenotypic measures of the four taxa used for an example in the text.

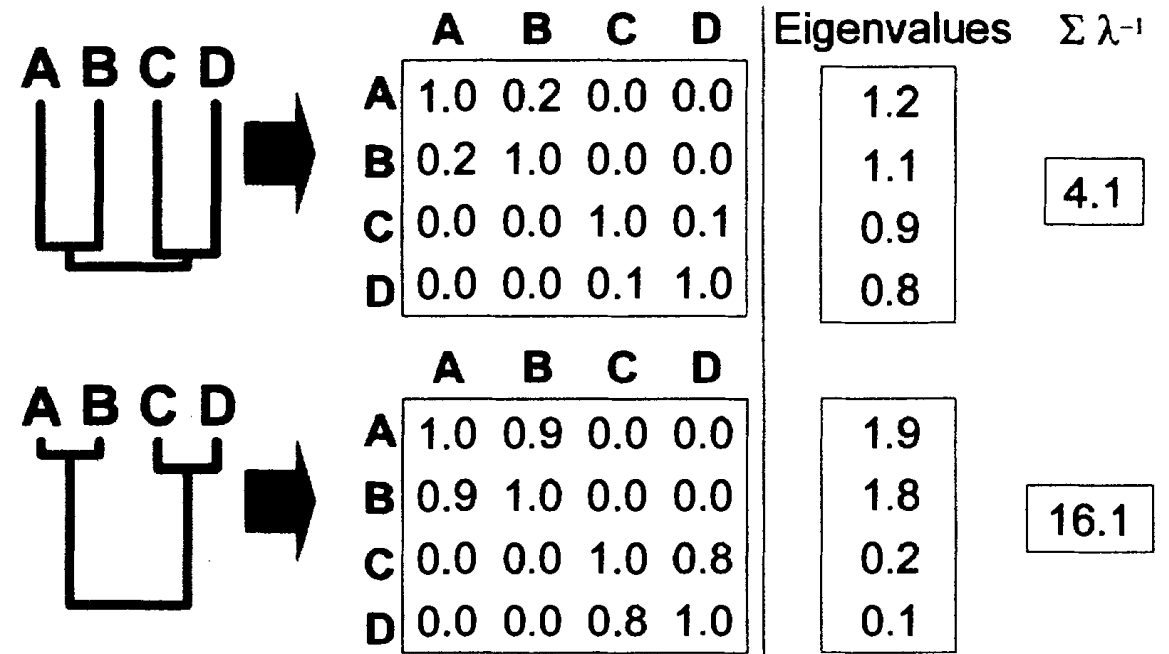


FIGURE 3. Distribution of eigenvalues obtained for two phylogenies with the same topologies but dramatically different branch lengths. The sum of the inverse eigenvalues can be used as a relative index of the expected independence of taxon phenotypes.

Explorando o PVR

QUANTIFYING PHYLOGENETICALLY STRUCTURED ENVIRONMENTAL VARIATION

YVES DESDEVISES,^{1,2} PIERRE LEGENDRE,^{3,4} LAMIA AZOUZI,^{5,6} AND SERGE MORAND^{7,8}

2648

BRIEF COMMUNICATIONS

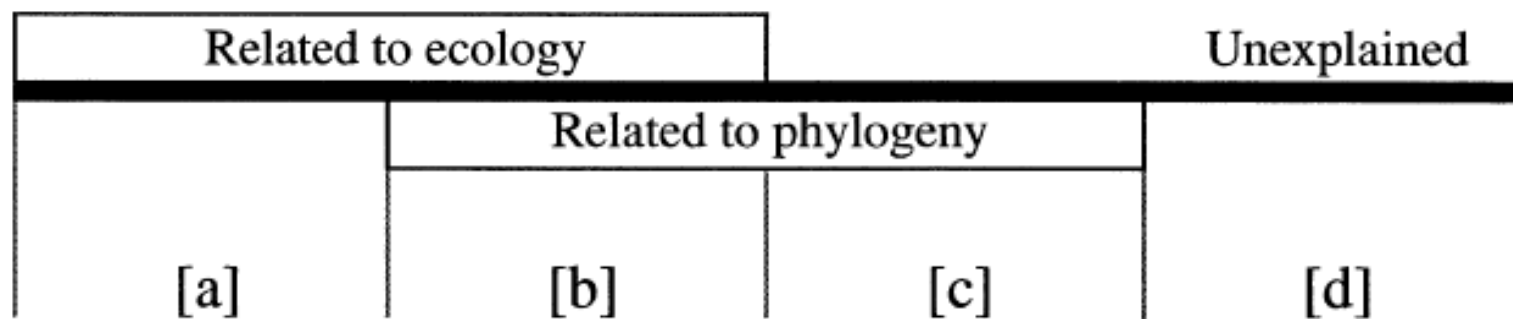


FIG. 1. Partitioning the variation of a dependent variable (thick horizontal line) among ecological and phylogenetic components.

The shared influence of phylogeny and ecology on the reproductive patterns of Myrteae (Myrtaceae)

Vanessa Grazielle Staggemeier^{1*}, José Alexandre Felizola Diniz-Filho² and Leonor Patrícia Cerdeira Morellato¹

Table 5. Adjusted coefficients of determination of regression models of Myrteae phenological responses on phylogenetic predictors [a + b], ecological predictors [b + c] and both [a + b + c]. The variability strictly attributed to phylogeny [a] and ecology [c] is also shown. Note that when the variation is not partitioned, a proportion that is shared between ecological and phylogenetic predictors [b] is present in all of the analyses

		Method without partition of variation			Method with partition of variation			
		Independent variables			Fractions individuals			
		Phylogeny	Ecology	Phylogeny and Ecology	Strictly Phylogeny	Shared	Strictly Ecology	Unexplained
Phenophases		[a + b]	[b + c]	[a + b + c]	[a]	[b]	[c]	[d]
PEAK	Bud floral	67.80	91.73	96.40	4.67	63.14	28.60	3.60
	Flower	52.10	86.02	84.55	-1.48	53.58	32.45	15.45
	Immature fruit	42.30	83.51	88.06	4.55	37.75	45.76	11.94
	Mature fruit	34.60	95.56	95.45	-0.11	34.71	60.85	4.55

Demonstração dos plots de pacotes phytools
e phylosignal

Como gerar um documento dinâmico Markdown no RStudio

R Markdown

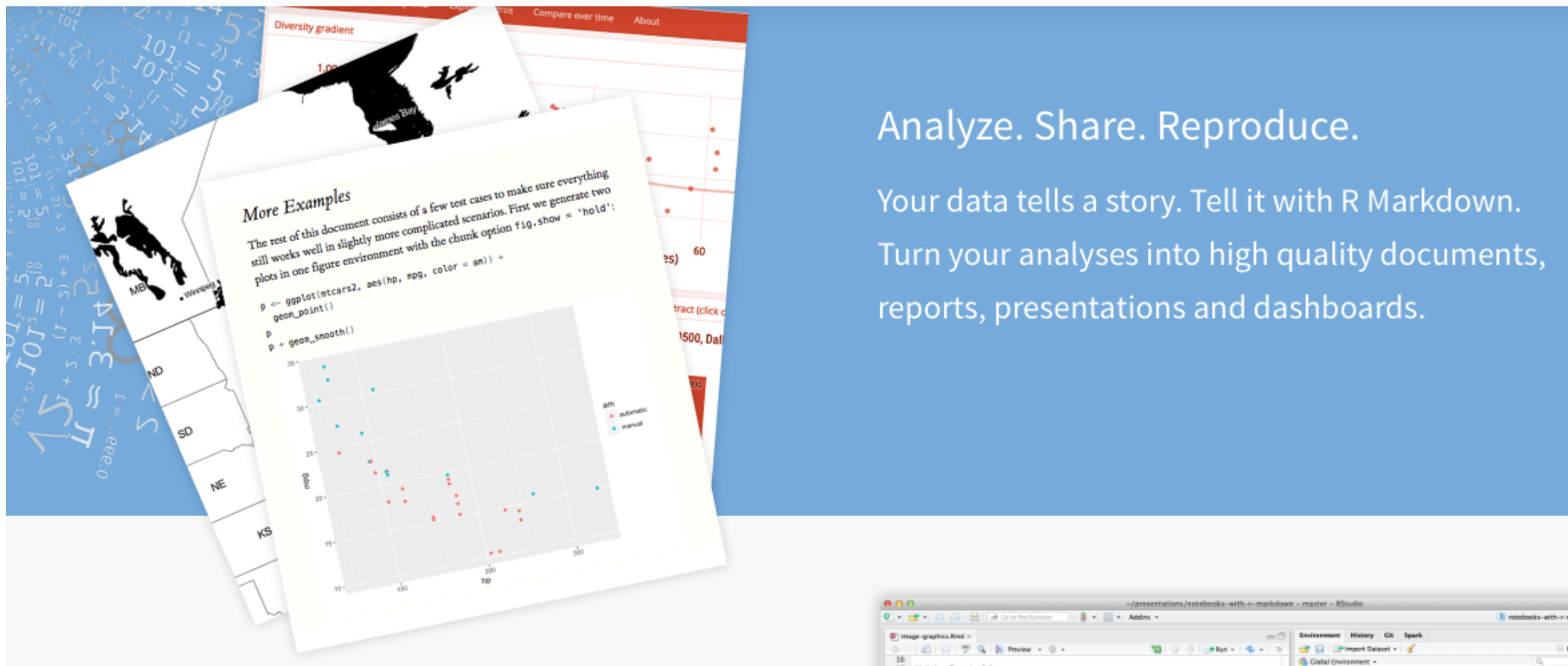
from  Studio

[Get Started](#)

[Gallery](#)

[Formats](#)

[Articles](#)



Analyze. Share. Reproduce.

Your data tells a story. Tell it with R Markdown.

Turn your analyses into high quality documents, reports, presentations and dashboards.

<http://rmarkdown.rstudio.com/lesson-1.html>

Avaliação

- Documento dinâmico (R Markdown) com 4 itens:
 - 1) pergunta;
 - 2) análise;
 - 3) Resultados;
 - 4) breve discussão (= 5 linhas máx) baseada em teoria