Stochasticity and Evolution in Food Webs

Giulio Dalla Riva
University of Canterbury, NZ

Granada Seminar June 16, 2015

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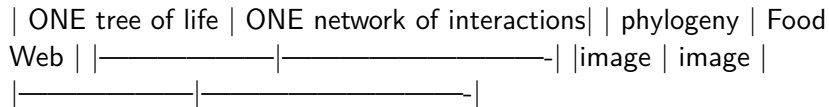
Giulio Dalla Riva
http://gvdr.github.io

Joint work with
Daniel B. Stouffer (University of Canterbury)

Many thanks to
Mike Steel; Carey Priebe; A. Mooers', D.B. Stouffer's & J. Tylianakis's labs; . . .

species ARE related

| ONE tree of life | ONE network of interactions| | phylogeny | Food Web | |—————————|———————————————-| |image | image | |—————————|———————————————-|

Evolution in/of Ecology

Evolution shaped the stochastic backbones of Food Webs

image

Food Webs embedded

Random Dot Product Graphs

image

Phylogenetic vs. Observed traits

vcv(X_e|evolutionary model) ~ vcv(X)

More questions (than answers)

. There actually is phylogenetic signal . It is (quite) weak . It saturates with dimensionality . Fine wirings may be deceiving . Null model is inadequate

(Not a) Conclusion

Spoiler 1: Evolutionary distinctiveness vs. Web Centrality

Spoiler 2: An ecological informed model of species evolution maybe it's (almost) there.

Thanks!

P.S. I am looking for a research team where to develop further this picture. Contact me if interested: gvd16@uclive.ac.nz