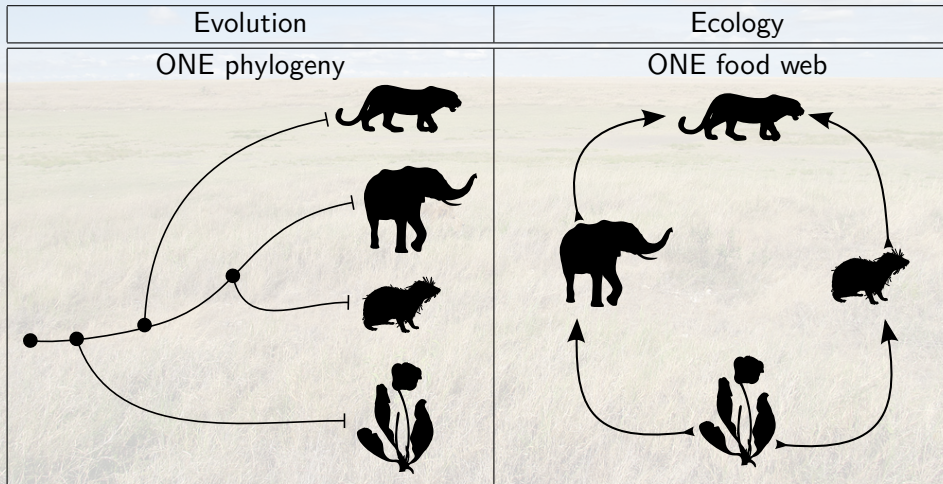


Stochasticity and Evolution in Food Webs

Giulio Dalla Riva
University of Canterbury, NZ

Granada Seminar June 16, 2015

species ARE related



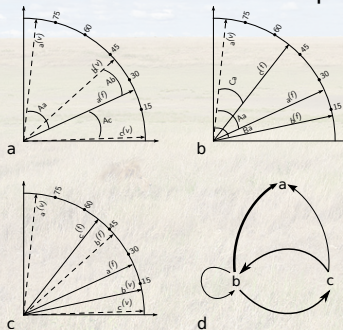
Evolution in/of Ecology

Evolution shaped the stochastic backbones of Food Webs

[Two images: Serengeti and Weddell]

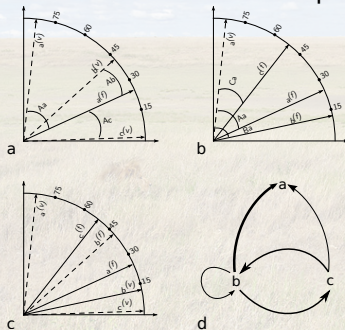
Food Webs embedded

- Random Dot Product Graphs



Food Webs embedded

- Random Dot Product Graphs



- Phylogenetic vs. Observed traits

$$vcv \left(\hat{X} \mid \text{evolutionary model} \right) \text{ vs. } vcv(X)$$

More questions (than answers)

- There is phylogenetic signal

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- Evolutionary model is inadequate

(Not a) Conclusion

- Spoiler 1: Evolutionary distinctiveness vs. Web Centrality

(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!

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; ...

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By the way, I'm looking for a postdoc.