

Introduction

- definition
- domains + questions

Invariants in ecological networks

- link-species scaling law
- motifs
- evo/phylogenetic structure
 - Eklöf et al. (2012) => network structure effect on evolutionary history

From structure to properties

- perturbations/extinctions
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BEF

- stability
 - Jacquet et al. (2016)

Linking interactions to ecological mechanisms

- interactions = traits + behavior + ...
- interactions => populations and biomass dynamics
- spatial and temporal variation

Other uses of networks in ecology

- epidemiology
- animal societies
- landscape connectivity

Conclusion

Eklöf, Anna, Matthew R. Helmus, M. Moore, and Stefano Allesina. 2012. “Relevance of Evolutionary History for Food Web Structure.” *Proceedings of the Royal Society of London B: Biological Sciences* 279 (1733): 1588–96. doi:10.1098/rspb.2011.2149.

Jacquet, Claire, Charlotte Moritz, Lyne Morissette, Pierre Legagneux, François Massol, Philippe Archambault, and Dominique Gravel. 2016. “No Complexity–stability Relationship in Empirical Ecosystems.” *Nature Communications* 7 (August): 12573. doi:10.1038/ncomms12573.