

# Review of: "A Quantitative Analysis of Co-occurrence Matrices in Ecological Systems: Measuring Connectance and Entropy"

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I appreciated Prof. Feoli's paper and the challenge of reinterpreting and re-presenting co-occurrence matrices related to the concept of entropy and neg-entropy. The elegant formalization of the paper is one of the elements we can notice, as well as a genuine interest in the theoretical discussion and organization of the sample used to test the hypothesis. What I found particularly interesting is the passion for a research question and a rediscovery of the roots of the analysis of ecological systems. In essence, a re-stating of the importance of system theory. Something that today, in a various and wide set of disciplines, we consider acquired but without focusing too much on its roots. A curiosity and interest-driven paper like this is particularly important in reminding older and younger scholars about the need to go to the roots - also using some traditional tools and taking sample data from... movie shots!

I feel particularly privileged, together with my students and colleagues, when I had the opportunity and privilege to attend Prof. Feoli's presentations of his results and considerations on the topics, some time before this paper was presented on Qeios.

Key points:

- novel review of traditional instruments and metrics;
- demonstration of the applicability of co-occurrence matrices to several case studies where a graph theory-based system structure can be devised;
- integration with other similarity/diversity indexes;
- replicability with different sets of tools.

Possible ameliorations:

- Clarity. Prof. Feoli is strongly dominating the topic, so some connections among the different parts can be missed when reading the paper.
- Results and discussion would benefit from a bullet point of some of the major findings and points in favor of the research carried on.