

Self-similarity and species-area relationships

Connor, E. F., and E. McCoy. 1979. The statistics and biology of the species-area relationship. *American Naturalist*. 113: 791-833.

Good review of ideas on species-area relationships up until the late 70s, contains important criticism of the universality of the powerlaw species-area relationship. Also contains comprehensive list of references to classical literature.

Connor, E. F., and E. McCoy. 2001. Species-area relationships. *Encyclopedia of biodiversity*. 5: 397-411.

(Assigned reading) Good overview of the topic, addresses all of the main key issues. Does not give a lot of details, but that is not the intent of this paper.

Harte, J., and A. P. Kinzig. 1997. On the implications of species-area relationships for endemism, spatial turnover, and food web patterns. *OIKOS*. 80: 417-427.

Key paper to the theory of self-similarity in species-area relationships, if you only read one paper make it this one.

Harte, J., A. Kinzig, and J. Green. 1999. Self-similarity in the distribution and abundance of species. *Science*. 284: 334-336.

This paper basically summarizes the results of the 1997 paper. It is very short which makes it somewhat hard to follow if you are not already familiar with the subject.

Harte, J., T. Blackburn, and A. Ostling. 2001. Self-similarity and the relationship between abundance and range size. *American Naturalist*. 157: 374-386.

This is an extension of the previous work by Harte and Ostling. This paper focuses on the pattern of an individual species, worth reading but not essential.

Kinzig, A. P., and J. Harte. 2000. Implications of endemics-area relationships for estimates of species extinction. *Ecology*. 81: 3305-3311.

(Assigned reading) Nice extension of the 1997 paper, shows how their theory may be useful in some practical applications.

Maddux, R. D. 2004. Self-similarity and the species-area relationship. *American Naturalist*. 163: 616-626.

Notationally challenging to read, however contains very important criticism. If you really want to understand this subject this paper is essential, but be prepared to read it at least 5 times.

Ostling, A., and J. Harte. 2003. A community-level fractal property produces power-law species-area relationships. *OIKOS*. 103: 218-224.

(Assigned reading) This paper mostly just clarifies and summarizes the previous work by the authors. Unlike the science article it is a little easier to follow and can serve as a good introduction.

Ostling, A., J. Harte, J. Green, and A. Kinzig. 2004. Self-similarity, the power law for of the species-area relationship, and a probability rule: a reply to Maddux. *American Naturalist*. 163: 627-633.

Not very enlightening, mostly just acknowledges the problems that Maddux points out.