Richness and Evenness

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When measuring diversity it is good to remember that what we are trying to describe is the relationship of individuals of varying categories within a community. These categories can be species, genera, families, or any other categories deemed important. There are some underlying assumptions that all the measures have in common.

1. The categories are knowable and well known. This assumption may be difficult if the classification system in in flux or if several classes are debated to be classes.
2. All categories are equally different. Categories are equally different from each other category. This is not always true two species from the same genera are treated the same as two species from different families.
3. A measure of species importance is needed. Usual chooses include:
   - Number of individuals,
   - Percent coverage,
   - Relative density, or
   - Biomass.
4. The community is definable. The relative importance of an individual category will vary greatly depending on the definition of the extent and makeup of the community.

There are numerous ways to describe these relationships and several are described here.

Richness

The simplest of all the measures of species diversity in that is a simple count of the number of species or categories found in a community.

Also See:
Chapter 10 - Species Diversity Measures pages 328-339 in:

Krebs, C. J. 1989. Ecological Methodology. Harper and Row, Publishers. New York. 654 pp.

Evenness

Evenness is the concept that compares the observed community to a hypothetical community. The hypothetical community is made of the same number of species or categories but equally abundant.

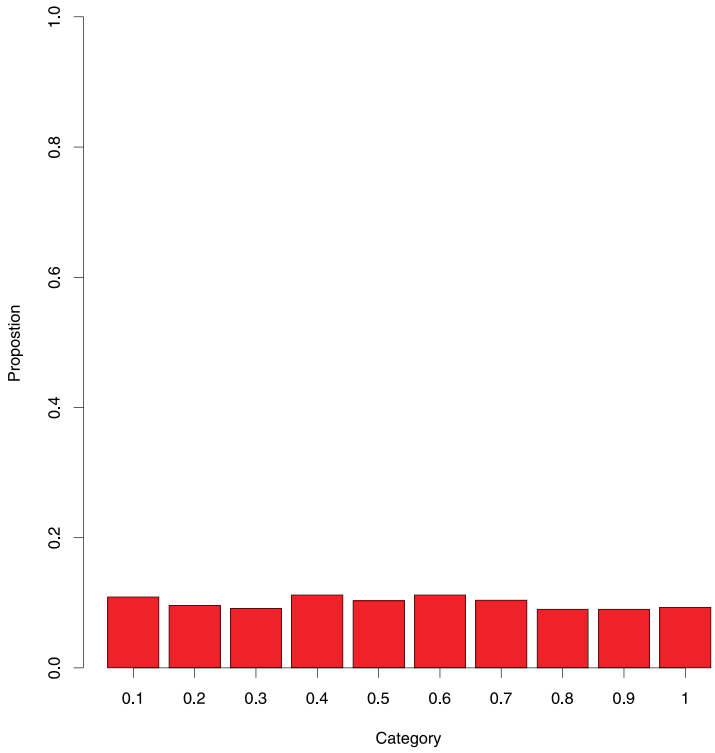

Figure 1. Example of a high evenness in a community of 10 categories.

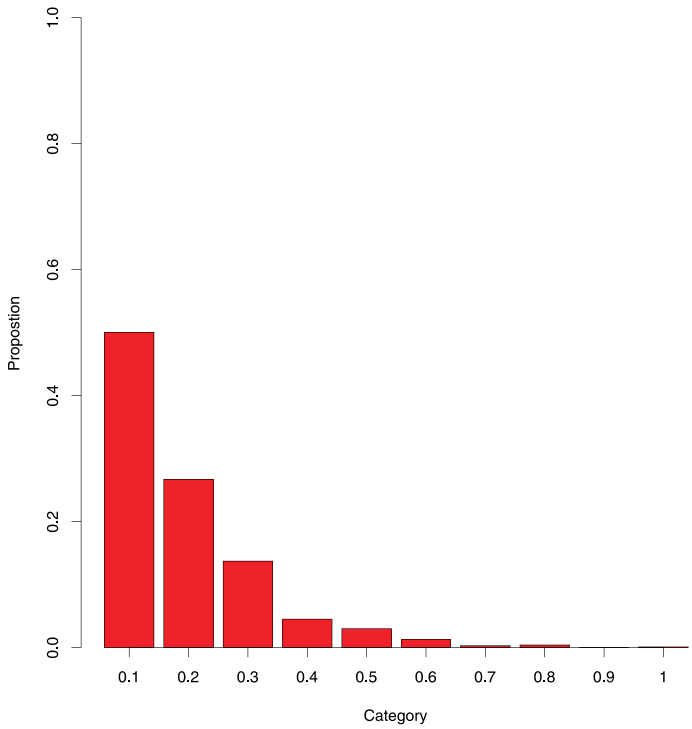

Figure2. Example of a low evenness in a community of 10 categories.

Also See:

Chapter 10 - Species Diversity Measures pages 330-339 in:

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