Measuring intraspecific diversity: a critical assessment of methods

Olusoji O. D.[1,2], Spaak J.[1], Neyens T.[2], Fontana S.[3],
Aerts M.[2], De Laender F.[1]

Environmental and Evolutionary Biology (URBE), Univeriste De Namur, Belgium[1],
Center for Statistics, Universiteit Hasselt, Belgium[2],
Swiss Federal Institute for Forest, Snow and Landscape Research, Birmensdorf, Switzerland[3]

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Intraspecific Diversity, what is it?
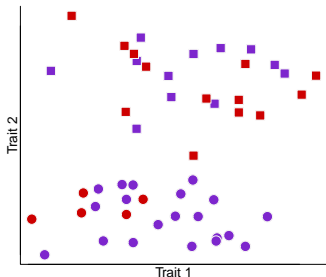
ITD Definition

○ − Species one, □ − Species two
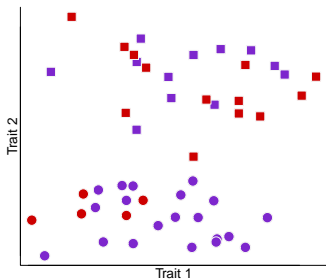
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Facets of Intraspecific Diversity

- Richness(what amount of the trait space is occupied by individuals of the same species?)
- Evenness(how is the trait space filled up by these individuals?)
- Divergence(any form of trait differentiation across these individuals?)

How is Intraspecific Diversity Measured?

- Via indices!
- We concentrate on multi-trait indices

Trait Richness

- FRic (Villeger et al., 2008)
- TOP (Fontana et al., 2016)

Trait Evenness

- FEve (Villeger et al., 2008)
- TED (Fontana et al., 2016)

Trait Divergence

- Rao (Rao, 1982)
- FDis (Lalibert & Legendre, 2010)

Something New?

Modified TED (TEDM)   Modified TOP (TOPM)

What to Expect from ITD Indices?

Simone's criteria and our proposed additional criteria

Simulation Framework

Results

Conclusion