

sDiv Workshop Summary

“Synthesizing phylogenetic measures for ecology and conservation – sPHY – 2nd meeting”

Following from our successful meeting in November 2013, the main goals of this meeting were to finalize our synthesis of phylogenetic diversity metrics, run simulations to test metric behaviour, and develop a simulation to quantify the circumstances in which phylogenetic information should improve conservation decisions.

We began the workshop by reviewing progress since the previous meeting, and identifying a number of conceptual issues to resolve in completing the manuscripts. These included:

- Conceptual and mathematical relationships between phylogenetic metrics, and the most effective way to communicate these to likely users of the metrics.
- Design and results of simulations of phylogenetic metric behaviour, including a presentation from Caroline Tucker on the Scape simulation platform developed at and following the first sPhy workshop
- Design for a simulation study evaluating surrogacy of phylogenetic diversity for conservation prioritization in particular circumstances.

Much of the workshop was spent working in small groups, drafting manuscripts and programming the simulations and conservation prioritization.

iDiv again proved an excellent, pleasant working environment, built on the support and organization provided by iDiv. Building on relationships formed at the first meeting, the atmosphere was friendly and highly productive, both in the formal meeting times, and with ideas flying after hours.

Video conferencing facilities enabled one member of the group to participate throughout the meeting despite not being able to travel to Leipzig.

Outcomes

The group is well advanced with a paper which describes the mathematical and conceptual relationships between phylogenetic diversity metrics, and advises users on how to choose a metric appropriate to their question.

A second paper, in progress, tests the surrogacy value of phylogenetic diversity in systematic conservation planning in relation to tree topology and the structuring of the phylogeny in environmental and geographic space.

A third paper is planned, delving further into the behaviour and correlation of phylogenetic metrics under a range of specific conditions.

Future plans

In addition to publication of the three papers, we hope to arrange a further meeting early in 2015. Ideas for funding related work were also discussed.

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