

Cultural ecosystem services of soil biota and possibilities of their use

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Cultural ecosystem services

- Cultural ecosystem services are characterized by the intangibility of their benefits and the “non-use values”, but are recognized as one of the strongest arguments for ecosystem conservation.
- Until recently, cultural ecosystem services provided by soils were understood in a rather vague way and remained practically unstudied.



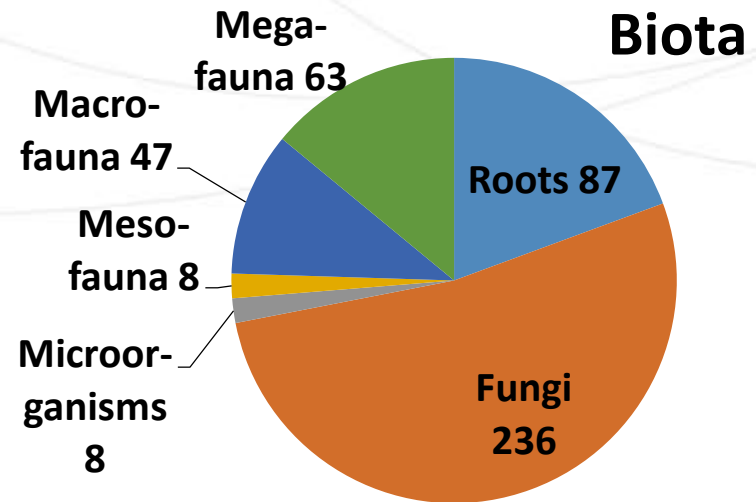
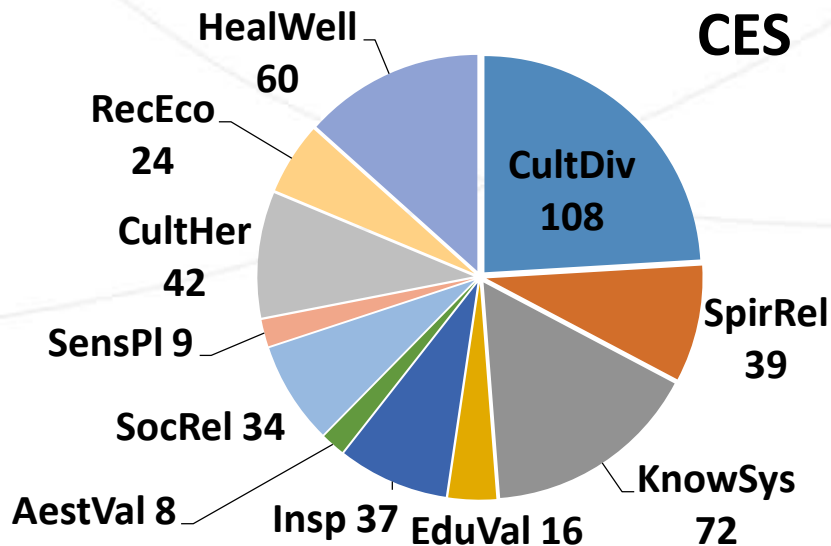
How it was done

- We selected 11 types of cultural ecosystem services (following MEA, 2005) and six groups of belowground biota (**roots, fungi, microorganisms, mesofauna, macrofauna and megafauna**).
- Created a system of keywords in 13 European languages.
- Conducted a four-level reference search.



What did we find?

- Soil organisms contributed to all CES, although their weight was different for individual CES and individual organism groups



Why so and what else?

CES are largely based on the cultural recognition of biota, which is governed by:

- 1) economical salience;
- 2) morphological/behavioural salience;
- 3) ecological/geographical salience;
- 4) size salience of different taxa.

Difficulties in assessing and understanding CES stem from:

- 1) different values and understanding by beneficiaries;
- 2) temporal and spatial fluctuations of CES and their regionality;
- 3) people generally do not associate CES with soil.



Recipes for the further use

- Create new and expand existing educational materials to show soil organisms, their interactions and connection to soil.
- Make them for all age levels and add game elements.
- Promote and support citizen science in soil biodiversity recording or in any other activities connected to soil biota.



Obstacles to overcome

Saliense factors



Size matters!

Aesthetic values



Yuck.....

Regional differences (attitudes, etc.)

Picture credits: G. Jocius; <https://www.uclan.ac.uk/>



Thanks

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To: EU COST Action FP 1305 BioLink (Linking belowground biodiversity and ecosystem function in European forests)

