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ULisboa



**cE3c - Centre for Ecology, Evolution and Environmental Changes**  
Research Group  
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## Soils: hotpots of biodiversity

– Cristina Cruz–



## Science is fascinating, and we live in the right time for science

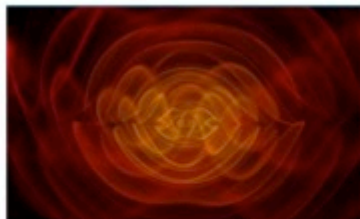
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Science is building up our minds.....

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**Toughtask** 2h ago

0 ↑

It is clear that those posting here disparaging this amazing scientific achievement are usually those who fail to understand it. Whilst some of the concepts from Einsteins Theory are hard to visualise and the maths from his Field Equations bound most ( myself included) the concept of Gravitational waves is quiet simple.

Massive objects curve the fabric of Space Time (imagine a bowling ball placed on a trampoline) this curvature is what Gravity is according to General Relativity. And the Theory has proved at least an extremely accurate and useful approximation, if not the exact final answer (since we don't have a

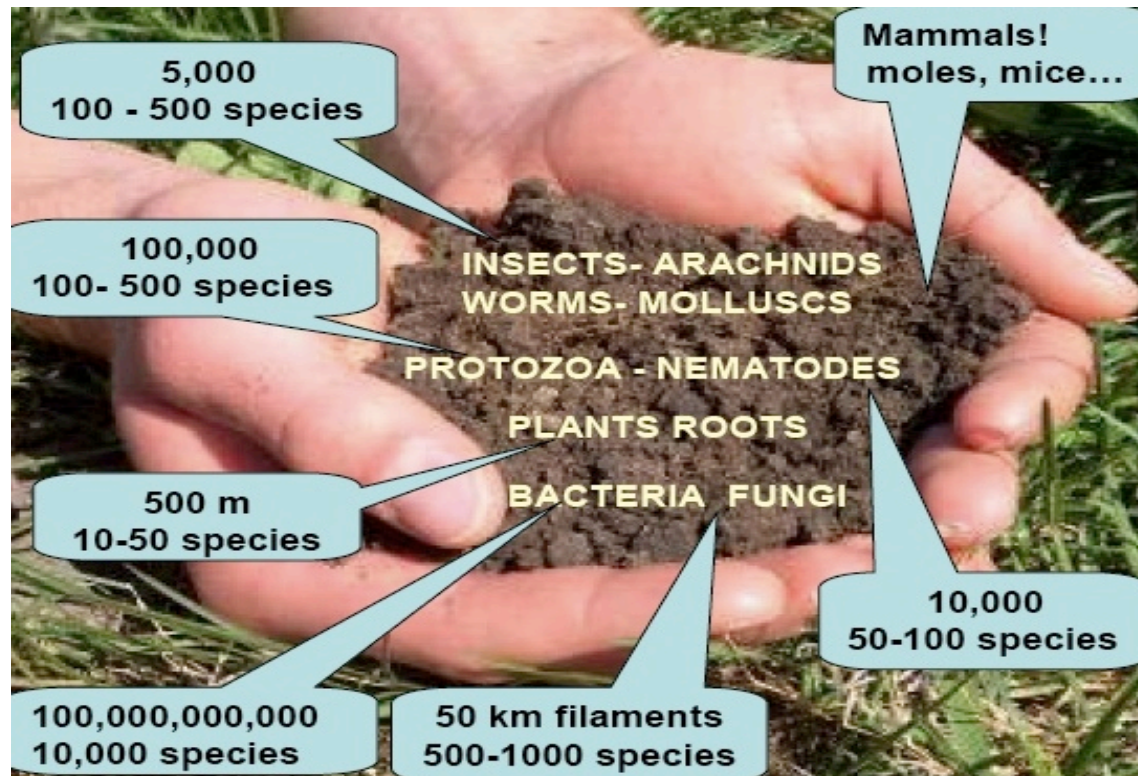
## Hotspots of biodiversity





Can a cemetery be a  
hotspots of  
biodiversity?



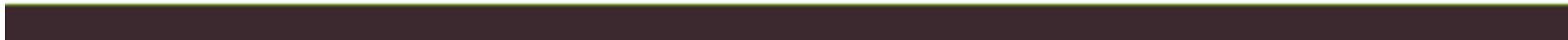
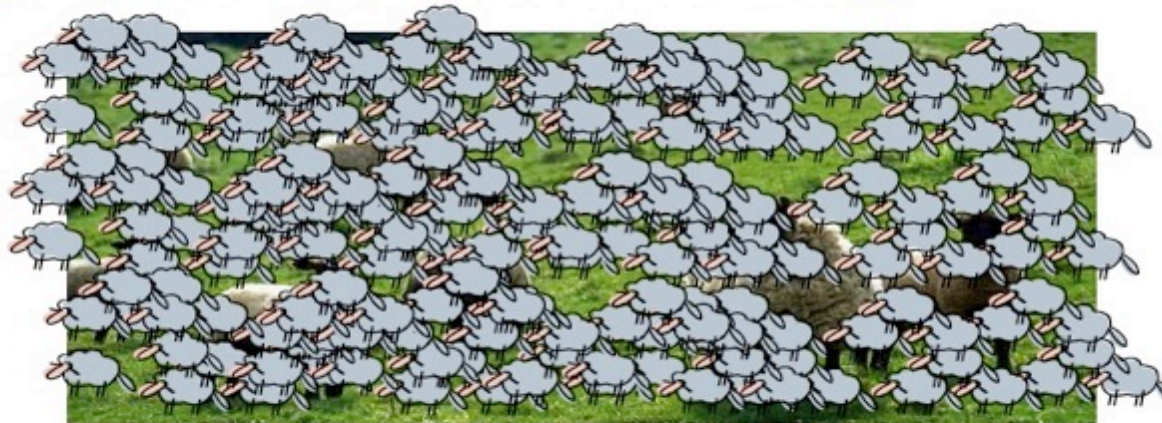


- Soil is a reservoir of **biodiversity**
- It is **multifuncional**
- It is human **heritage**

*Atlas of soil biology, 2013*



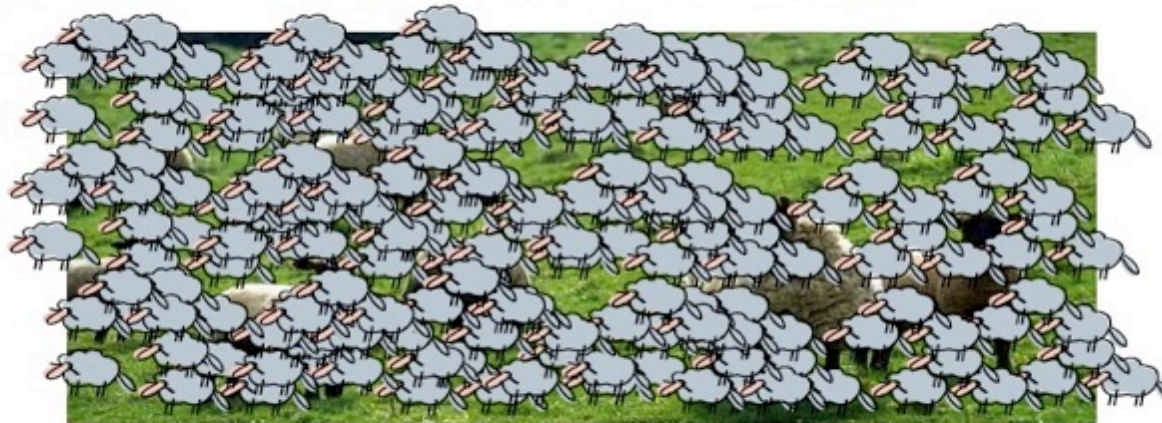
- in 1 ha of arable soil there are approximately 5 tonnes of living organisms (equivalent to 100 sheep)







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*K.Ritz*

- if we consider a grassland soil the quantity of living organisms will be equivalent to 2000 sheep!!!

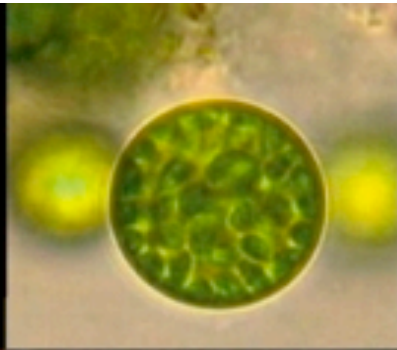
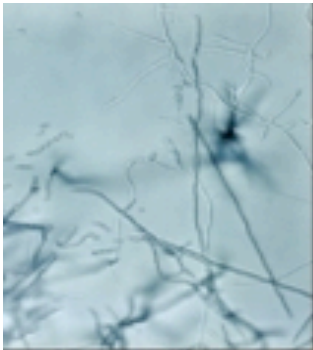


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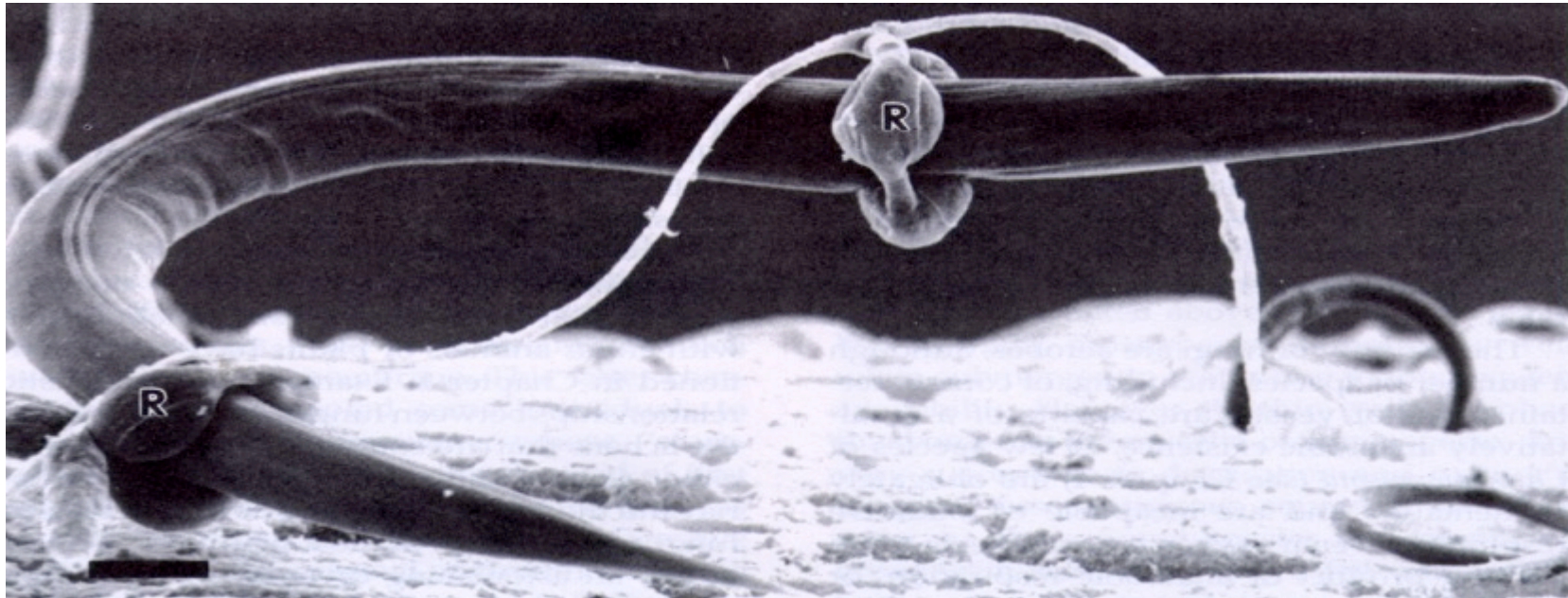
*Atlas of soil biology, 2013*

## *Soil biodiversity*







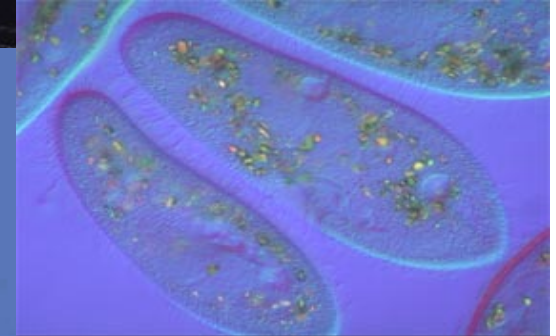
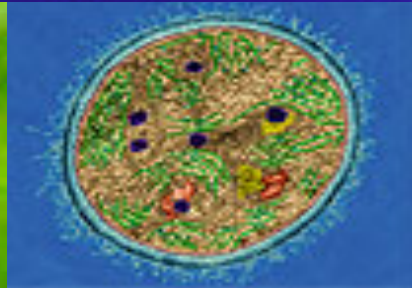
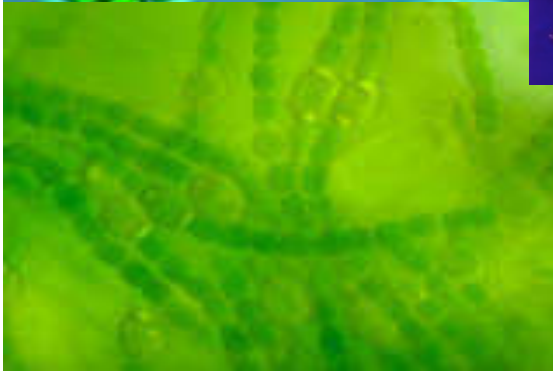
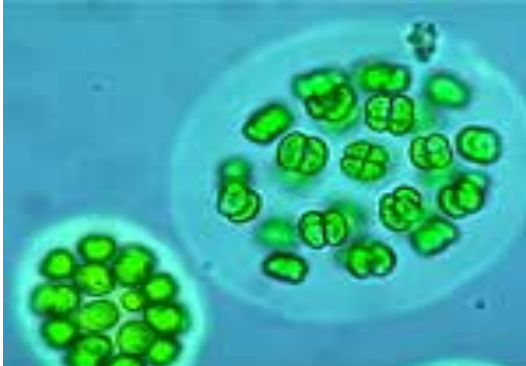
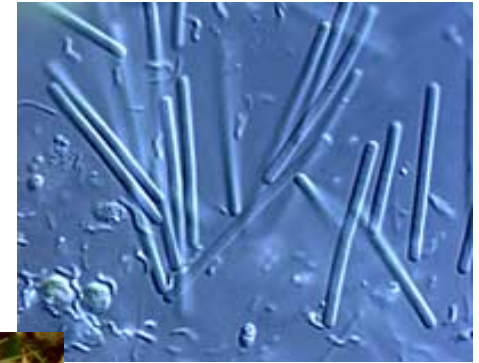
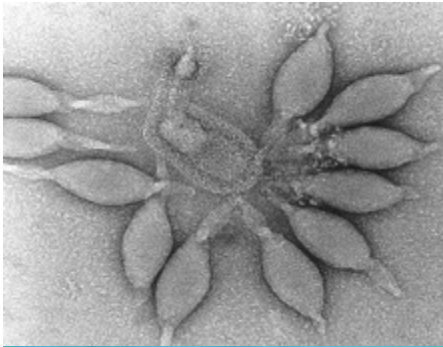


**MEV: nematóide aprisionado por anéis constritores produzidos pela hifa de um fungo entomopatogênico.**



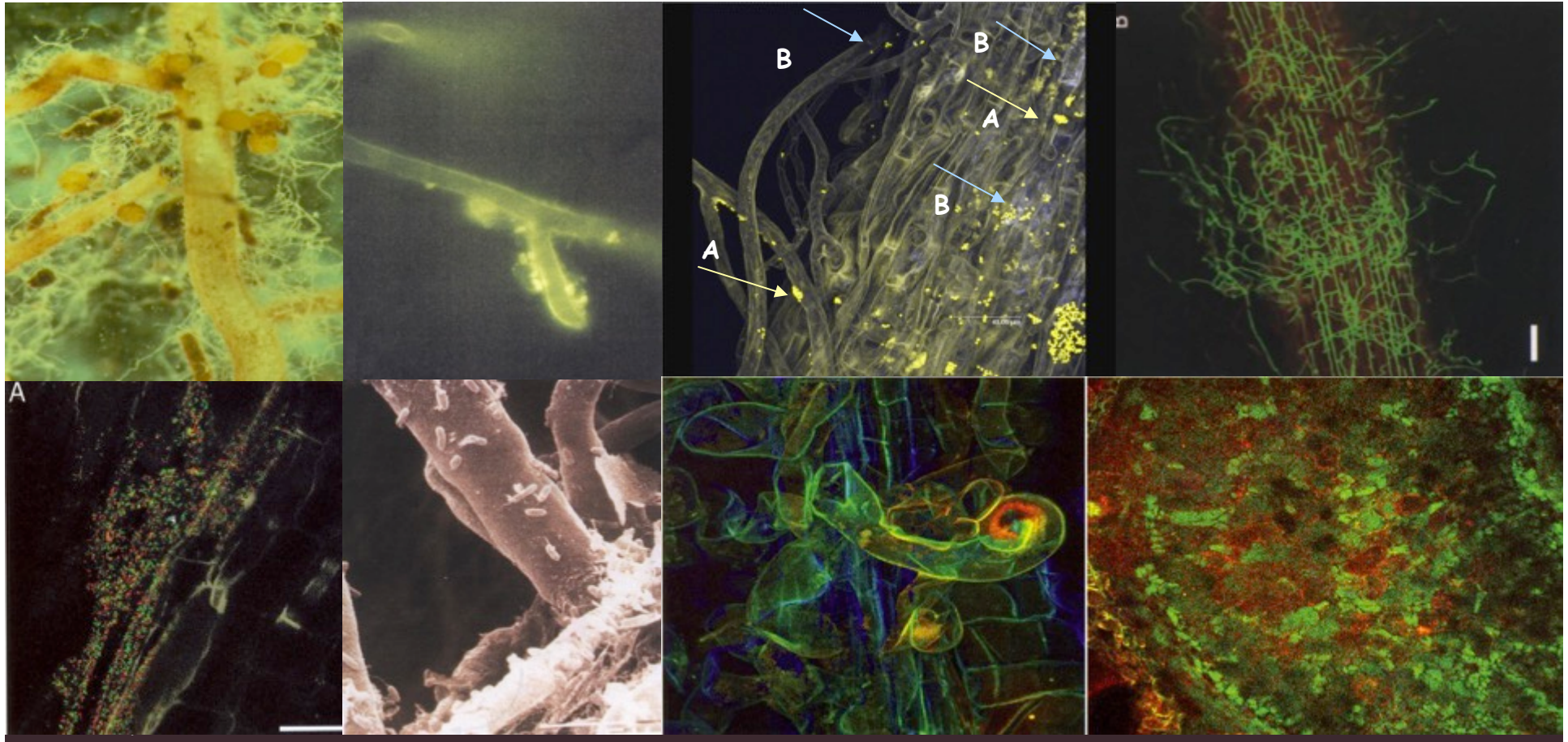
- *Cistus ladanifer*
- Ectomychorriza

Microbial diversity  
in the rhizosphere

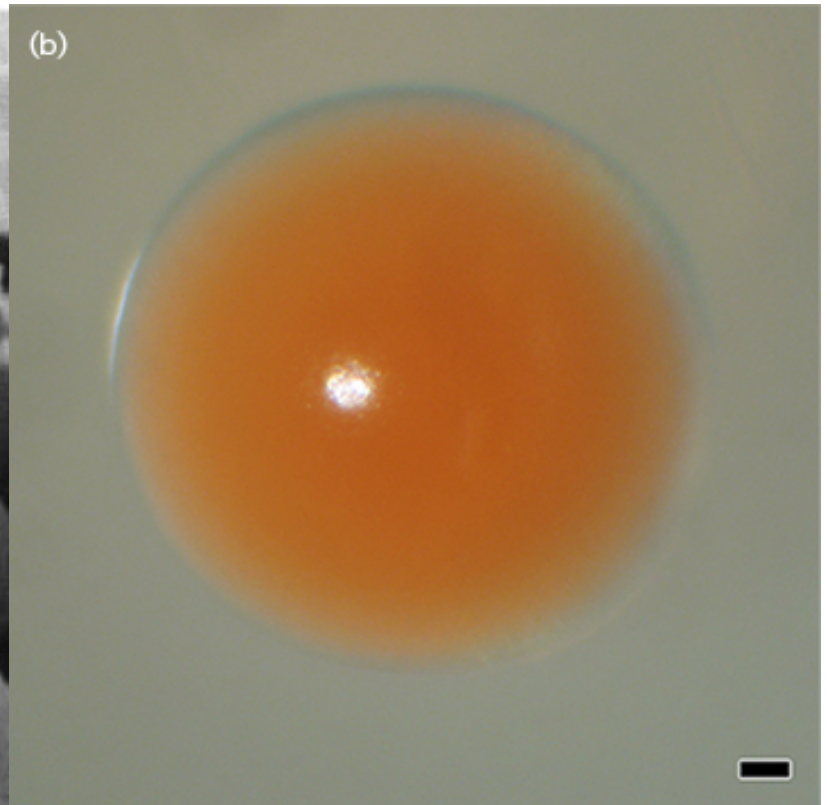
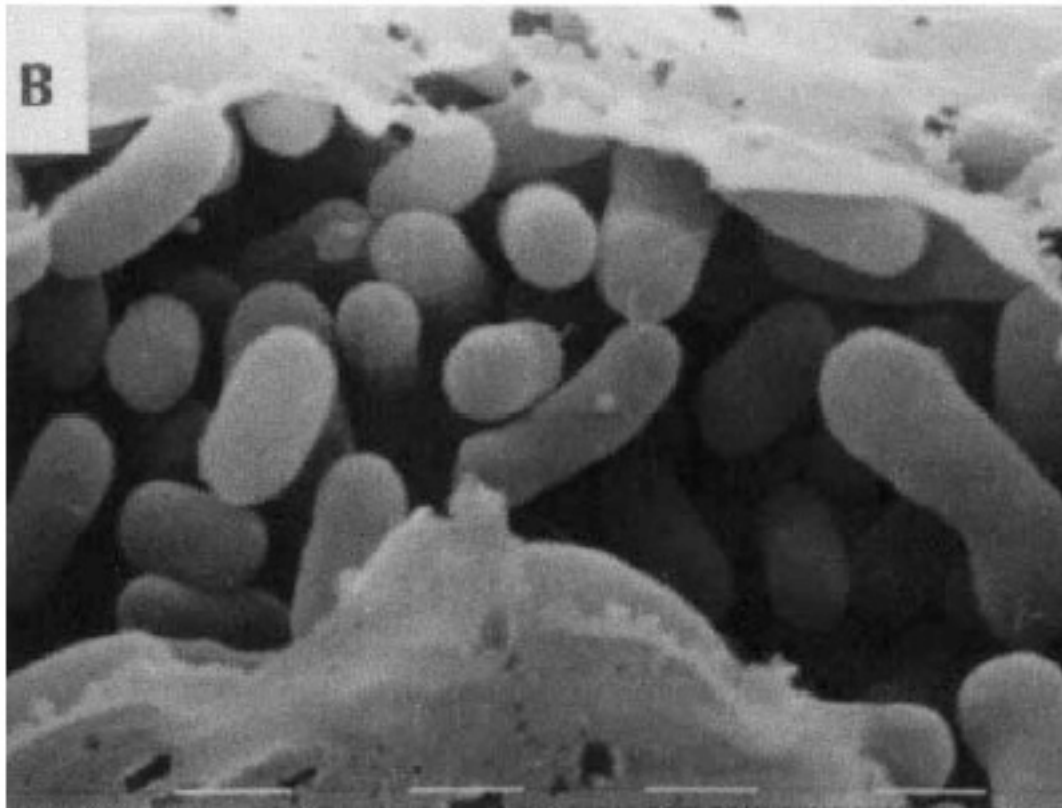




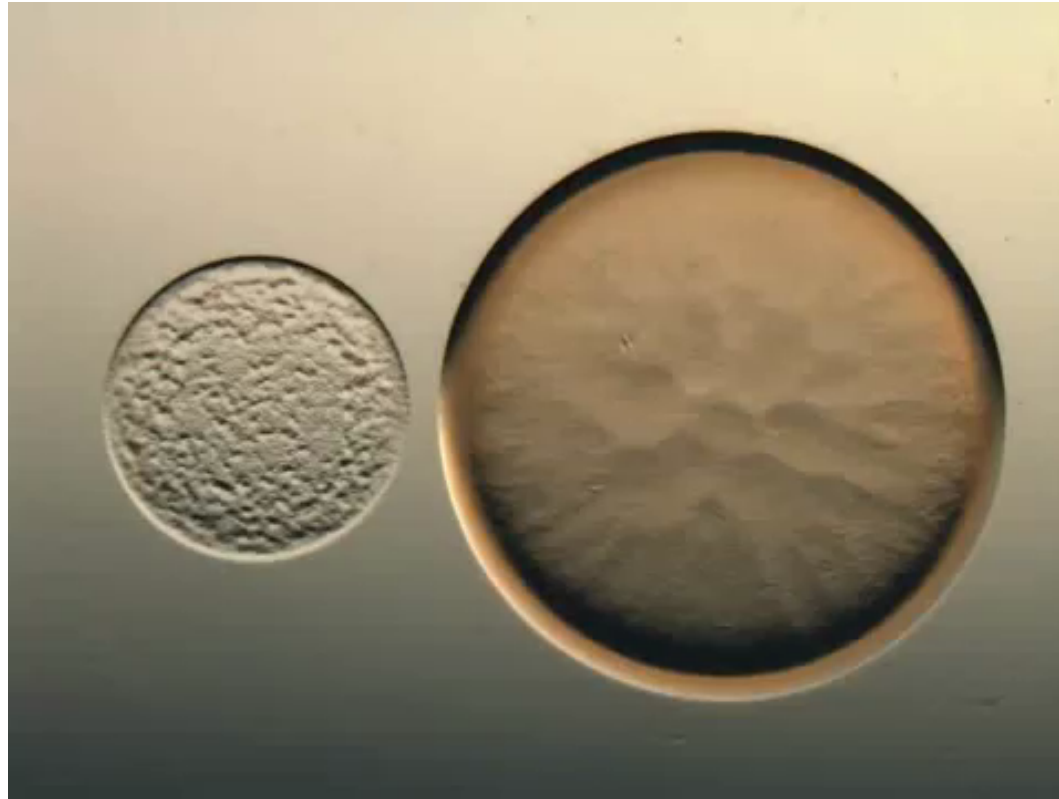
# Soil biodiversity

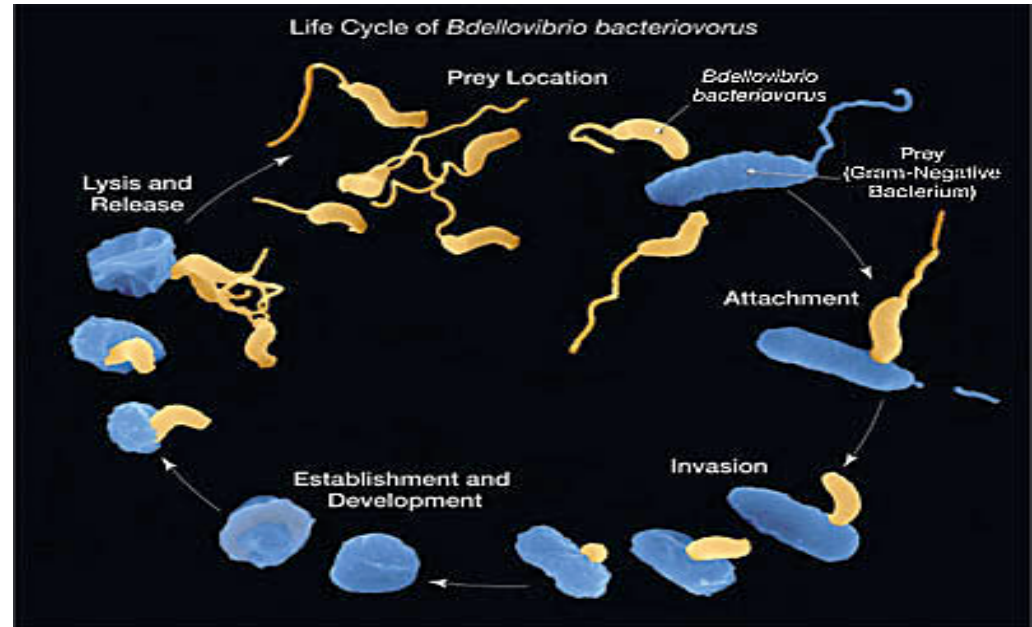
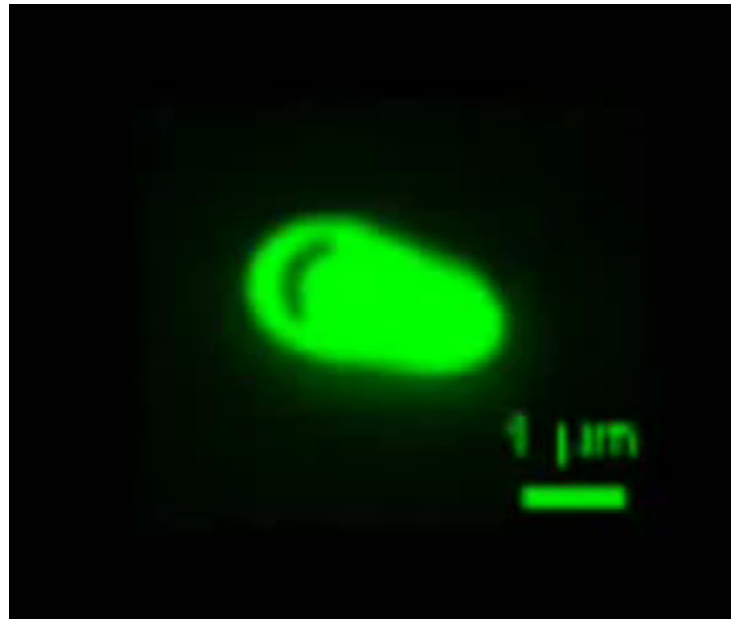


*Methylobacterium*



*Myxococcus* & *E. coli*







Biol Fertil Soils  
DOI 10.1007/s00374-012-0688-z

ORIGINAL PAPER

## *Stenotrophomonas rhizophila* DSM14405<sup>T</sup> promotes plant growth probably by altering fungal communities in the rhizosphere

Christoph Stephan Schmidt · Mohamadali Alavi ·  
Massimiliano Cardinale · Henry Müller · Gabriele Berg

Received: 24 January 2012 / Revised: 3 April 2012 / Accepted: 6 April 2012  
© Springer-Verlag 2012

**Abstract** *Stenotrophomonas rhizophila* DSM14405<sup>T</sup> is of high biotechnological interest as plant growth stimulator, especially for salinated conditions. The objective of this study was to determine the effect of plant species (cotton,

revealed that *S. rhizophila* DSM14405<sup>T</sup> strongly affected fungal, but not bacterial communities in the rhizosphere of tomato and sweet pepper. Major SSCP bands related to uncultured fungi and *Candida subhashii*, disappeared in

