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Genomic Encyclopedia of Fungi

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Author

Grigoriev, Igor

Publication Date

2012-08-14

Genomic Encyclopedia of Fungi

Igor V. Grigoriev
US DOE Joint Genome Institute, Walnut Creek, CA 94589

August 2012

The work conducted by the U.S. Department of Energy Joint Genome Institute is supported by the Office of Science of the U.S. Department of Energy under Contract No. DE-AC02-05CH11231

DISCLAIMER

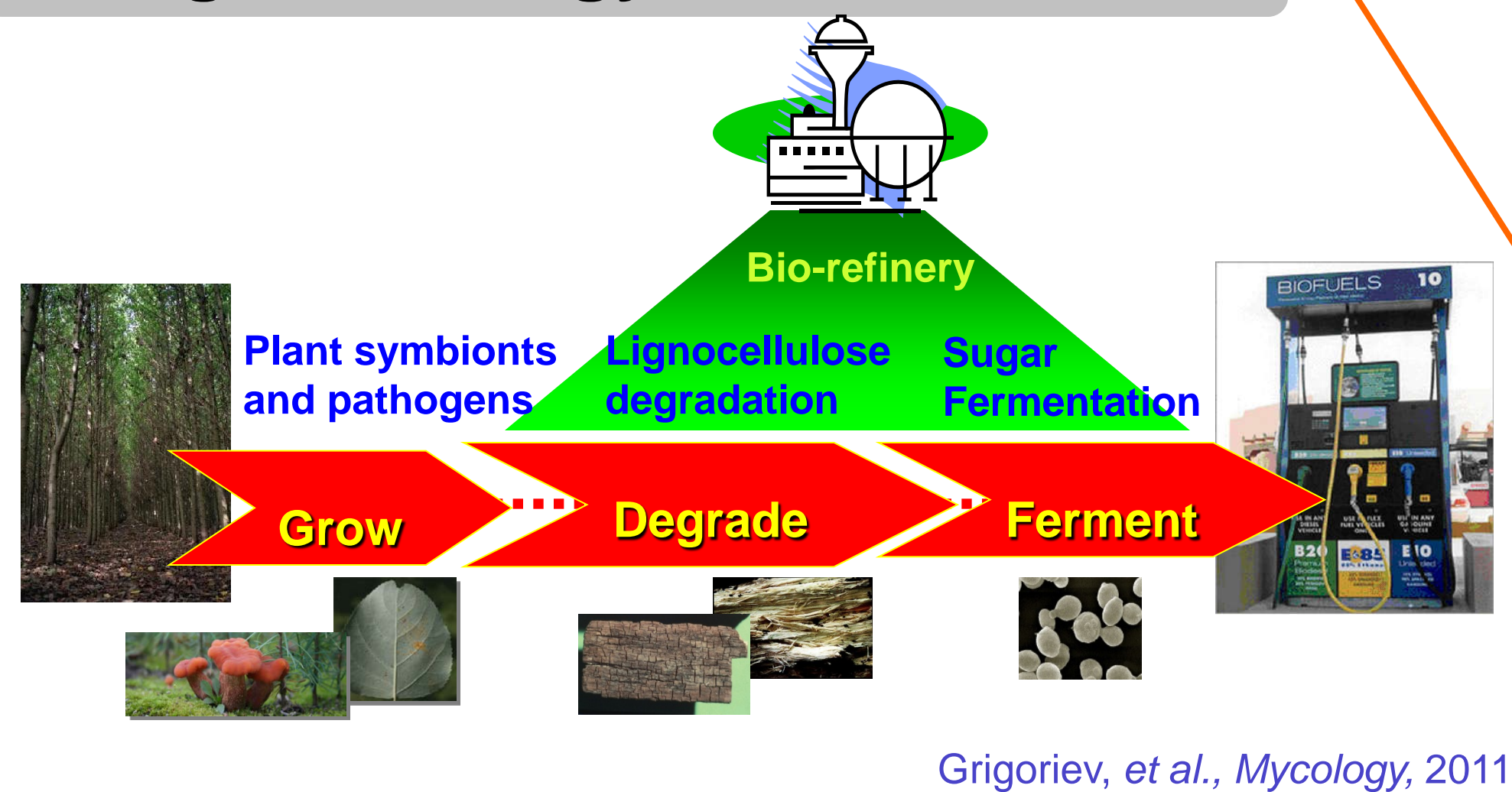
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Abstract

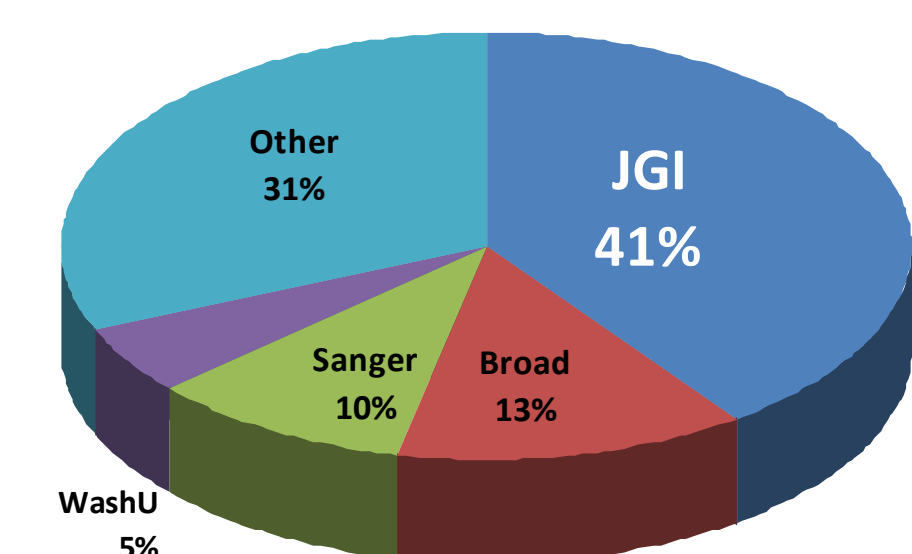
Genomes of fungi relevant to energy and environment are in focus of the Fungal Genomic Program at the US Department of Energy Joint Genome Institute (JGI). Its key project, the Genomics Encyclopedia of Fungi, targets fungi related to plant health (symbionts, pathogens, and biocontrol agents) and biorefinery processes (cellulose degradation, sugar fermentation, industrial hosts), and explores fungal diversity by means of genome sequencing and analysis. Over 150 fungal genomes have been sequenced by JGI to date and released through MycoCosm (www.jgi.doe.gov/fungi), a fungal web-portal, which integrates sequence and functional data with genome analysis tools for user community. Sequence analysis supported by functional genomics leads to developing parts list for complex systems ranging from ecosystems of biofuel crops to biorefineries. Recent examples of such 'parts' suggested by comparative genomics and functional analysis in these areas are presented here.



Fungi for Energy & Environment



Fungal Genomics Today & Tomorrow

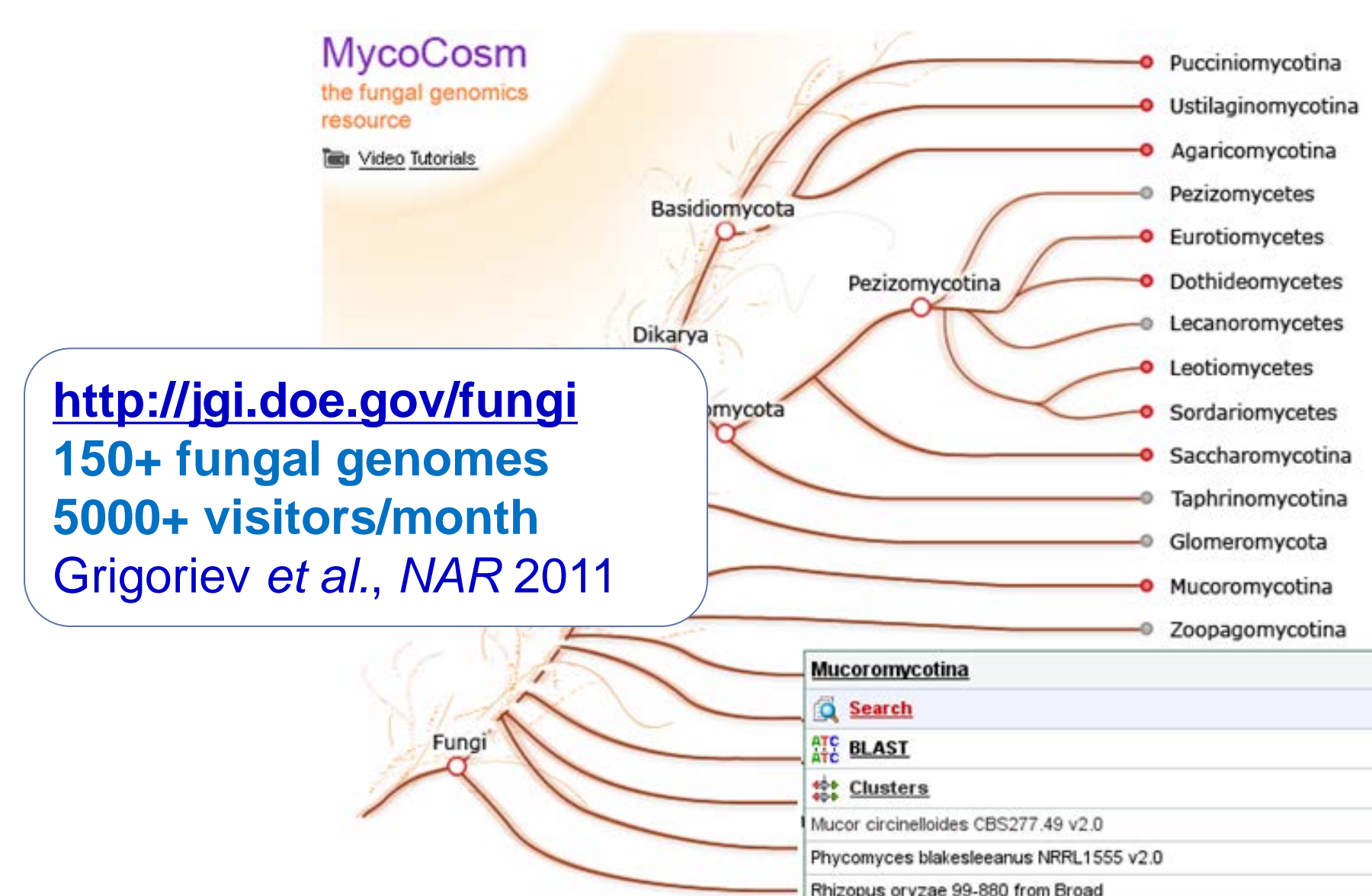


Fungal genome projects worldwide (GOLD 2012)

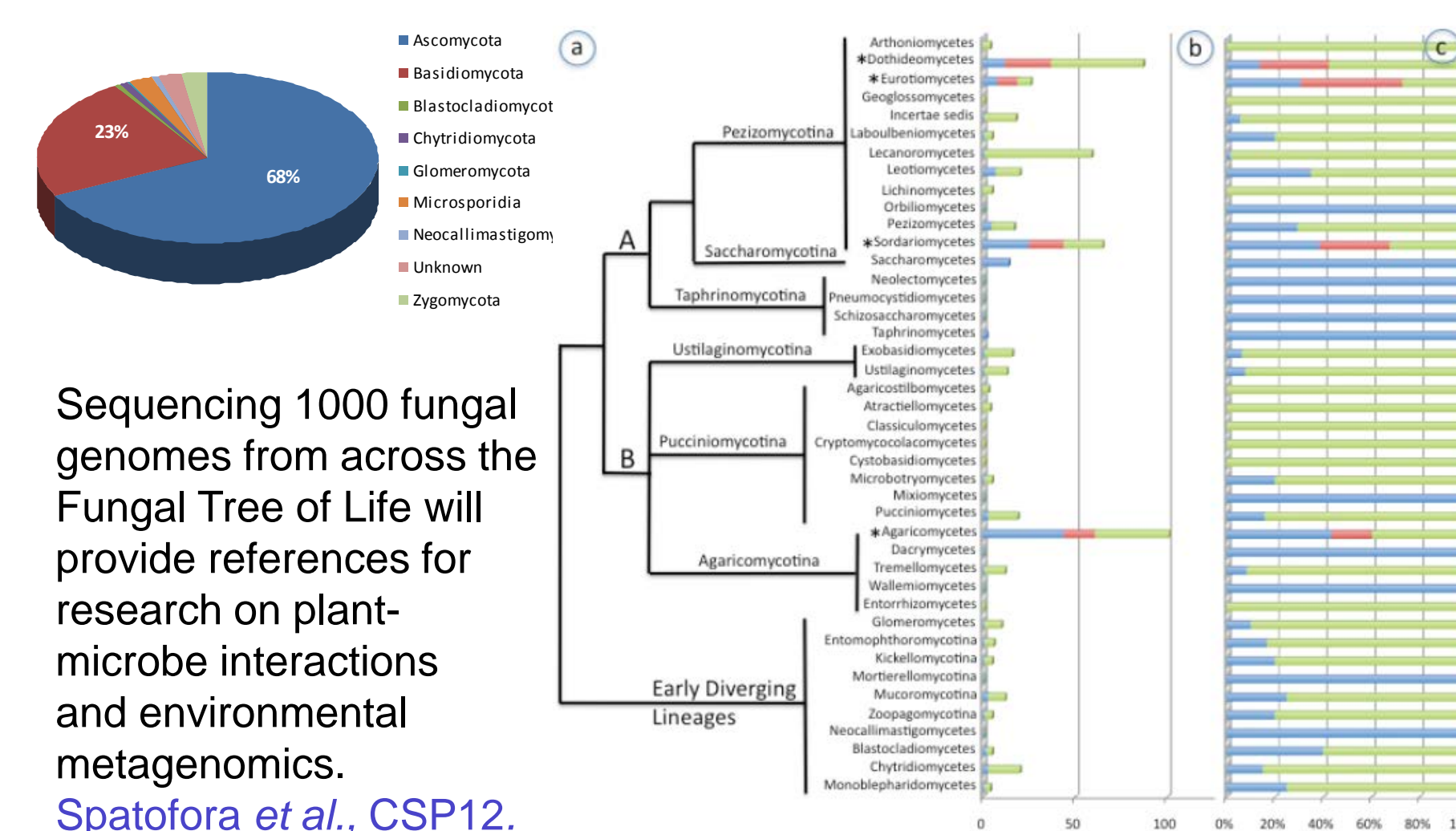
Vectors of JGI strategic development

Scale
Function
Community

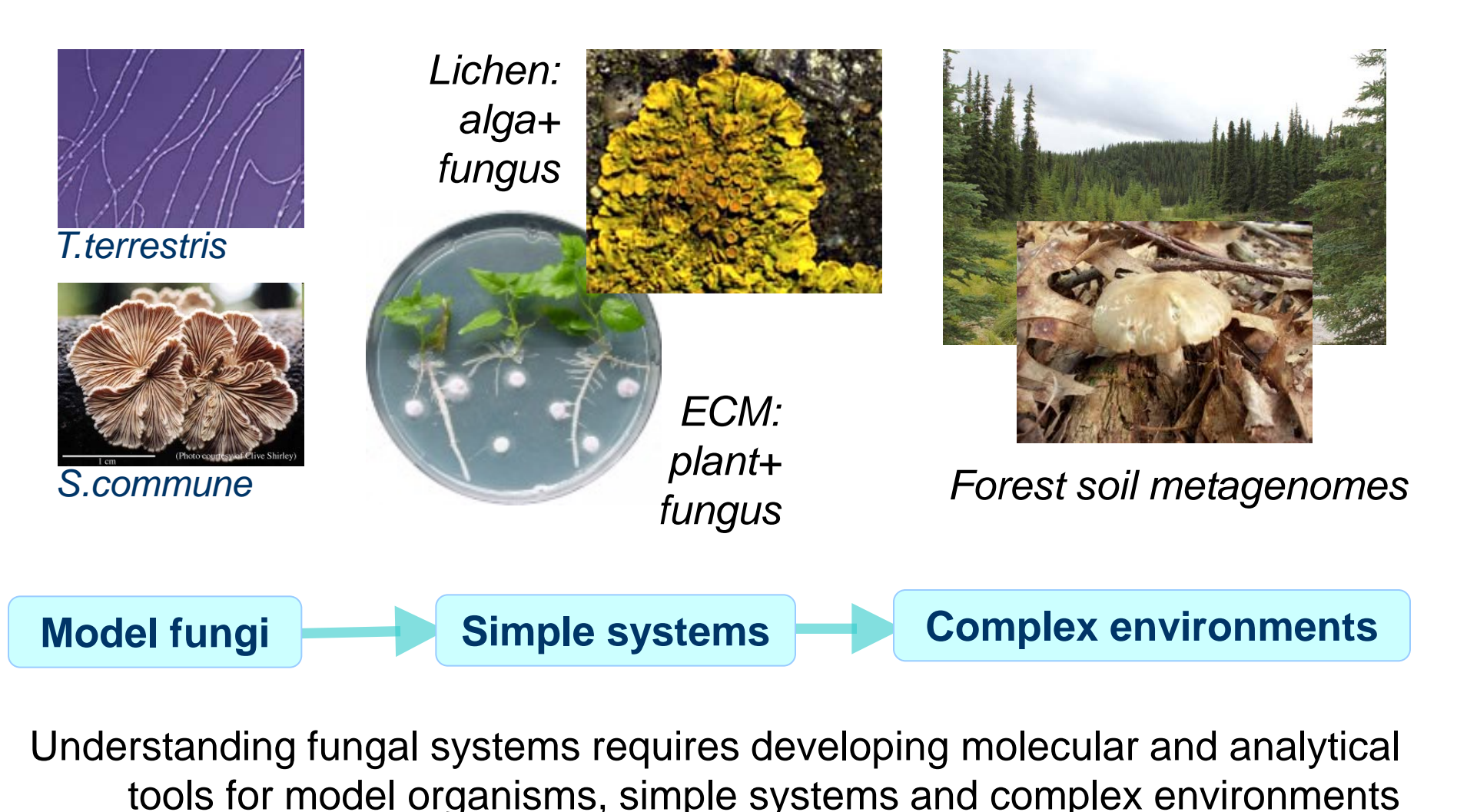
MycoCosm: 150+ fungal genomes



1000 Fungal Genome Project

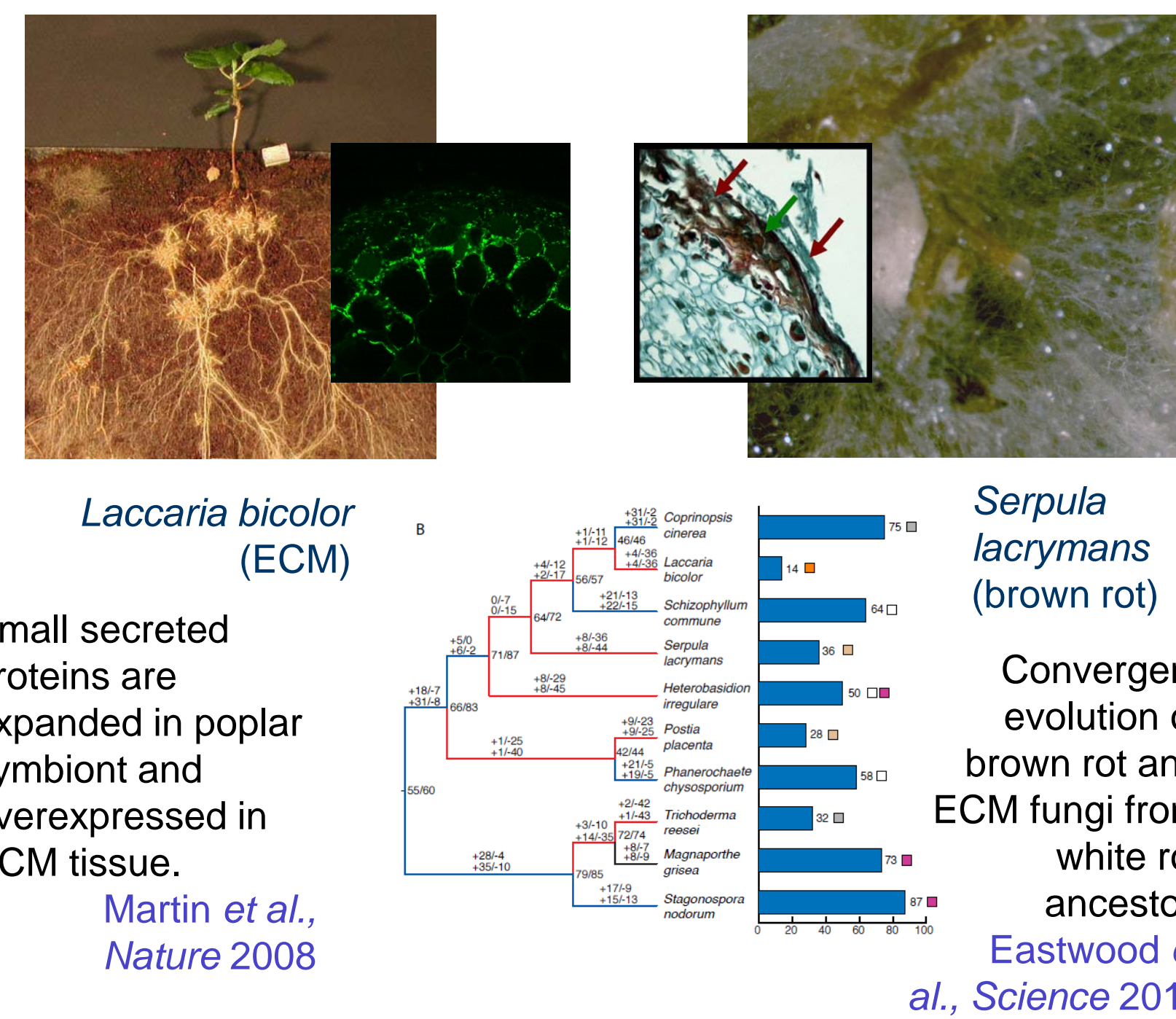


Fungal Systems & Metagenomes

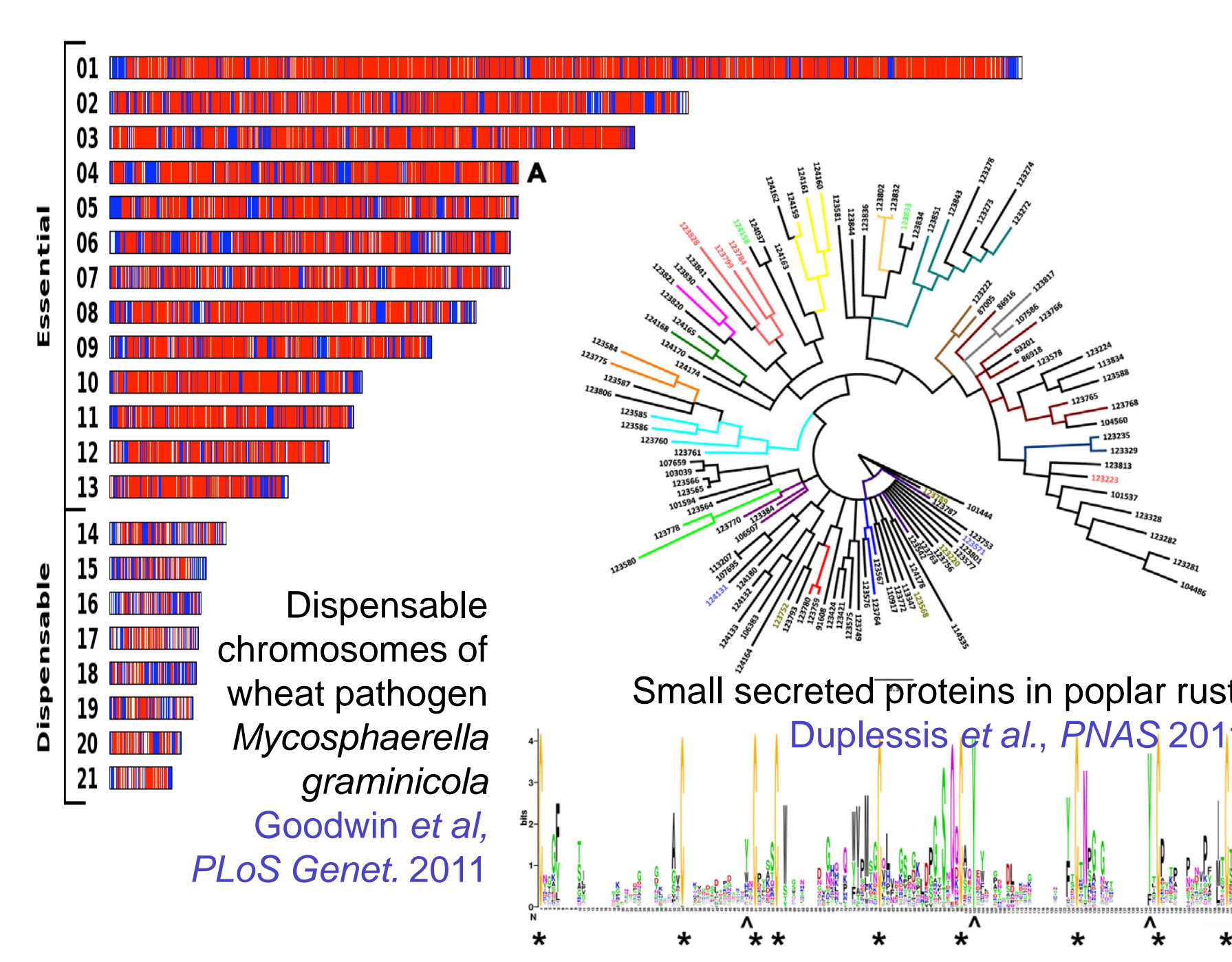


Plant Health

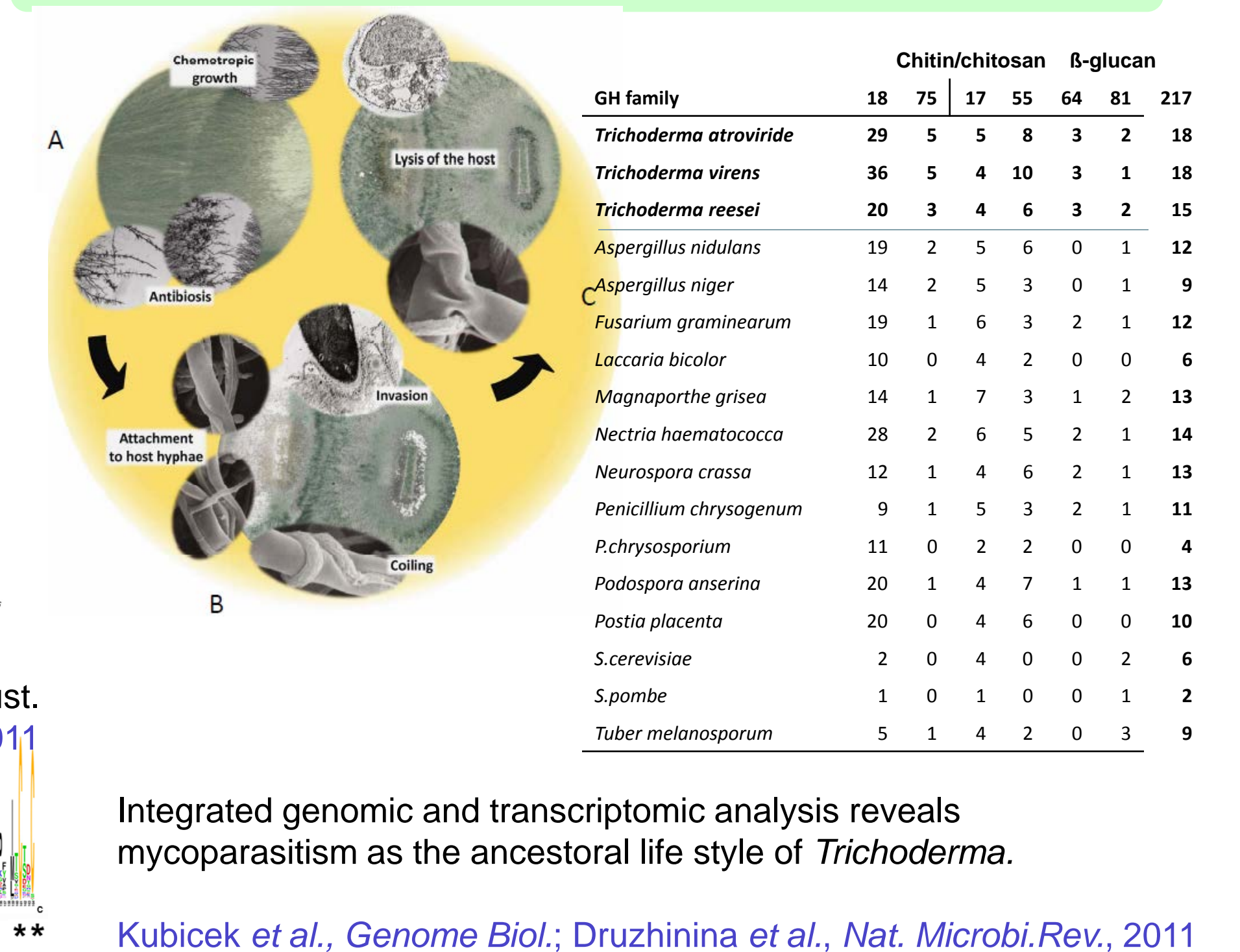
Symbionts



Plant Pathogens

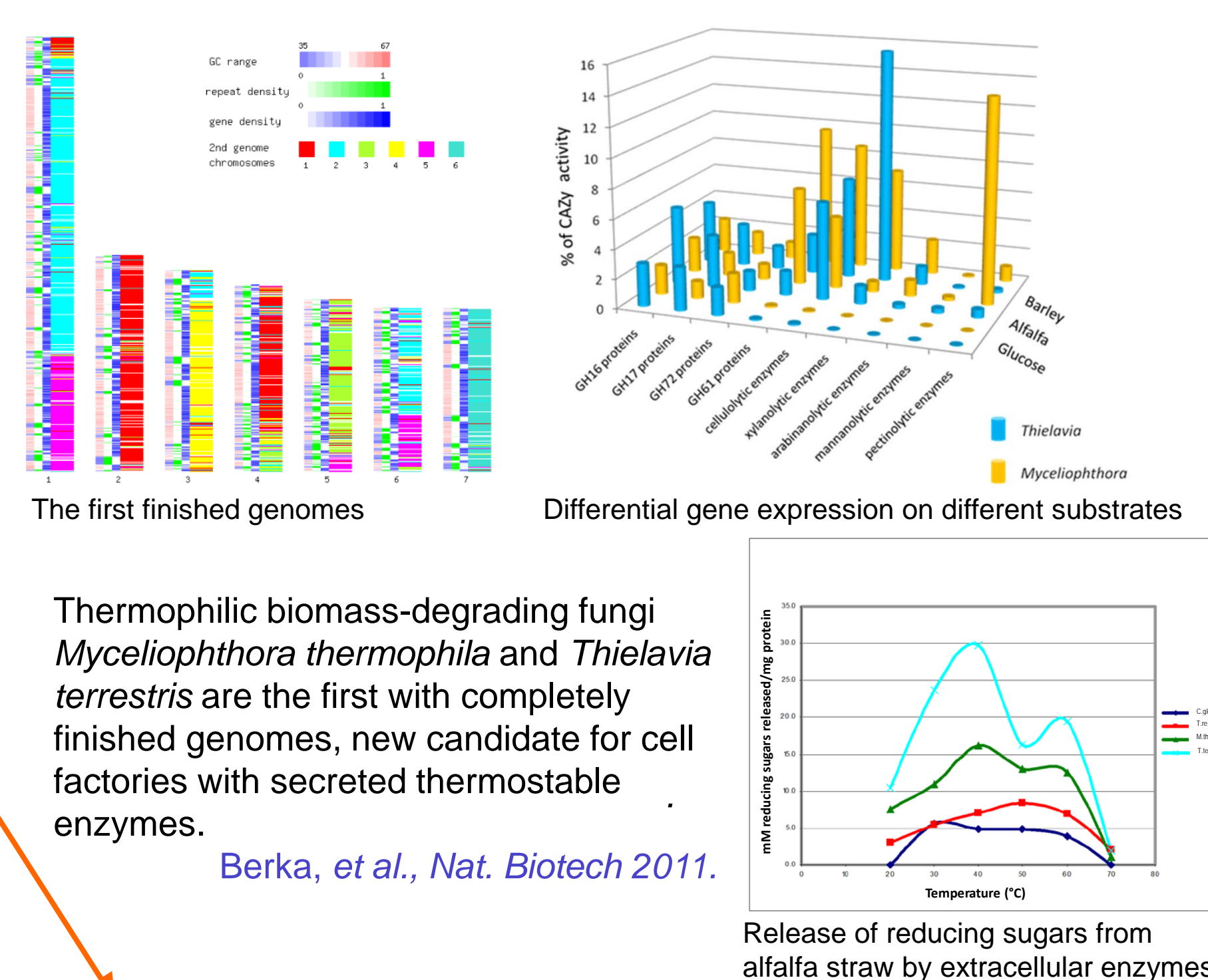


Biocontrol

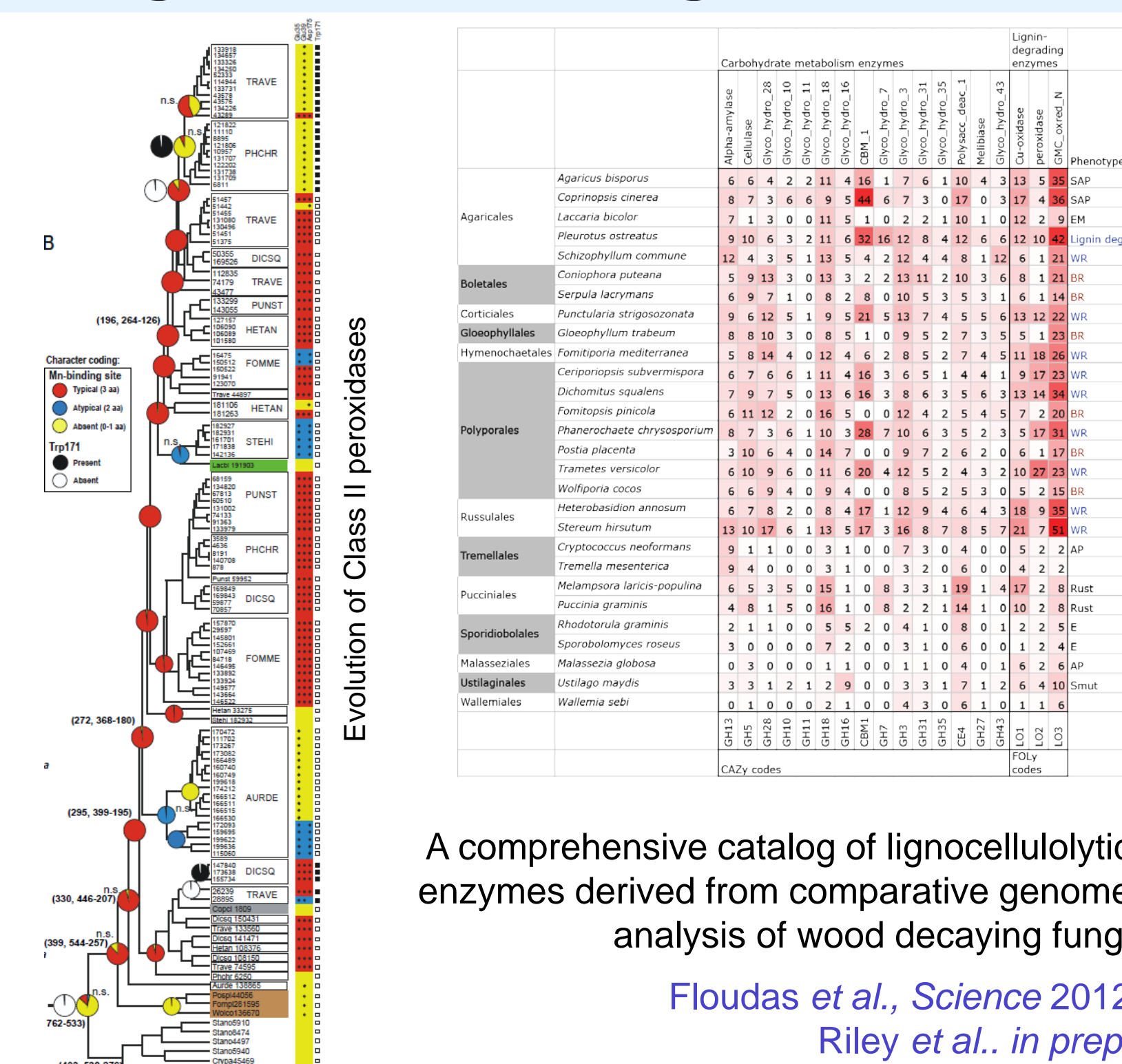


Biorefinery

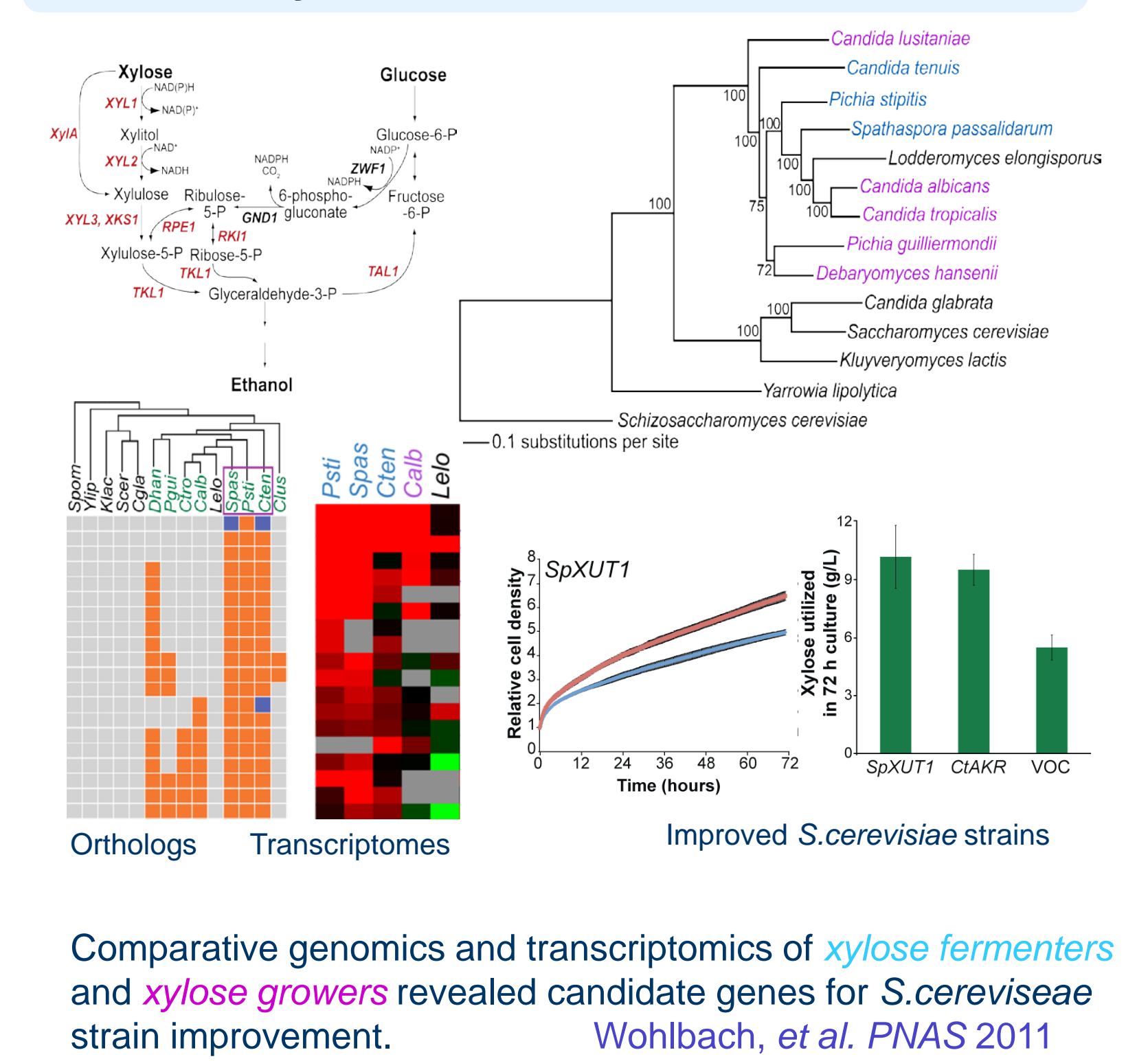
Thermophiles



Lignocellulose Degradation



Xylose Fermenters



Fungal Diversity