

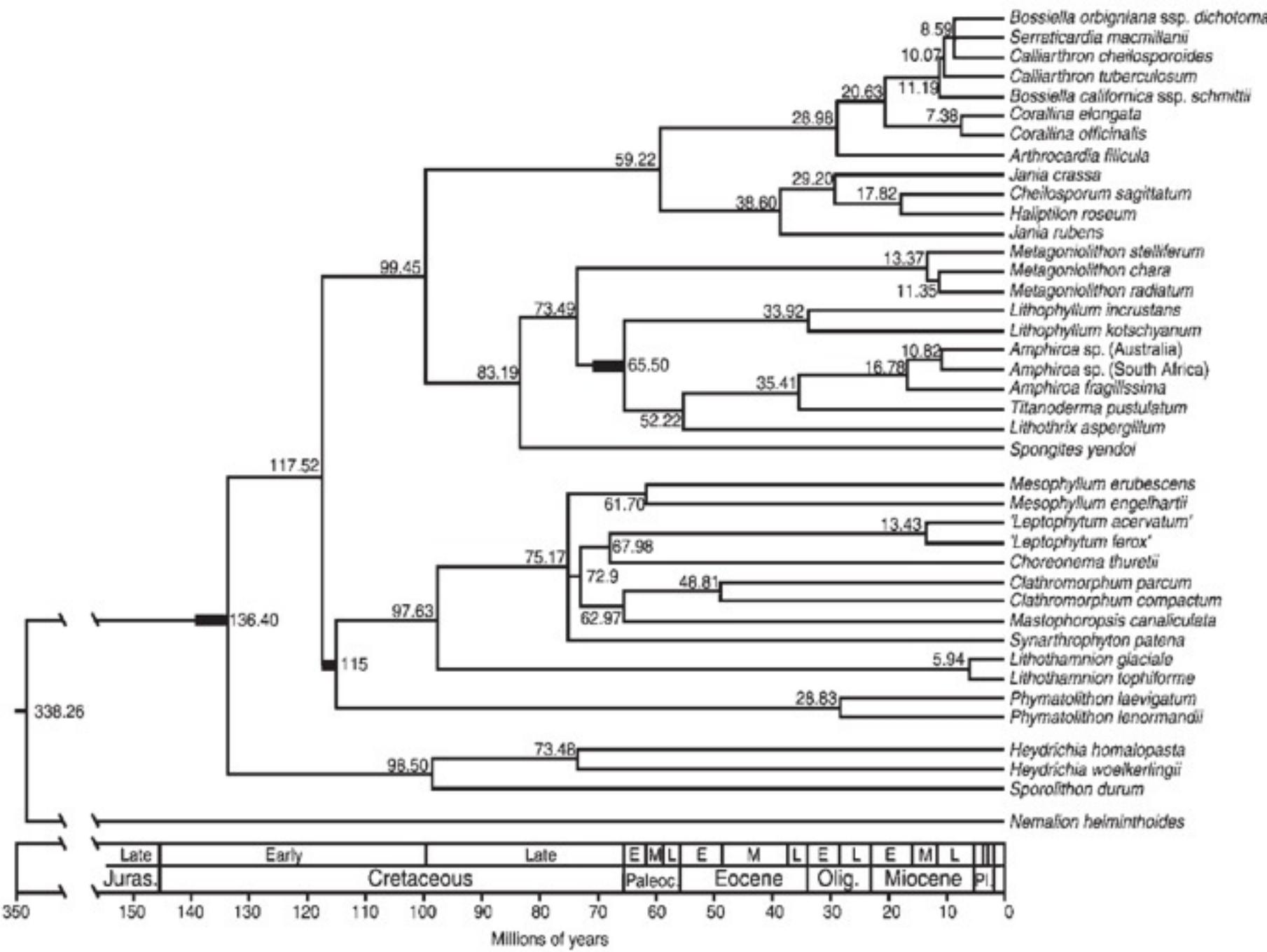
Progress report III: Coralline algae

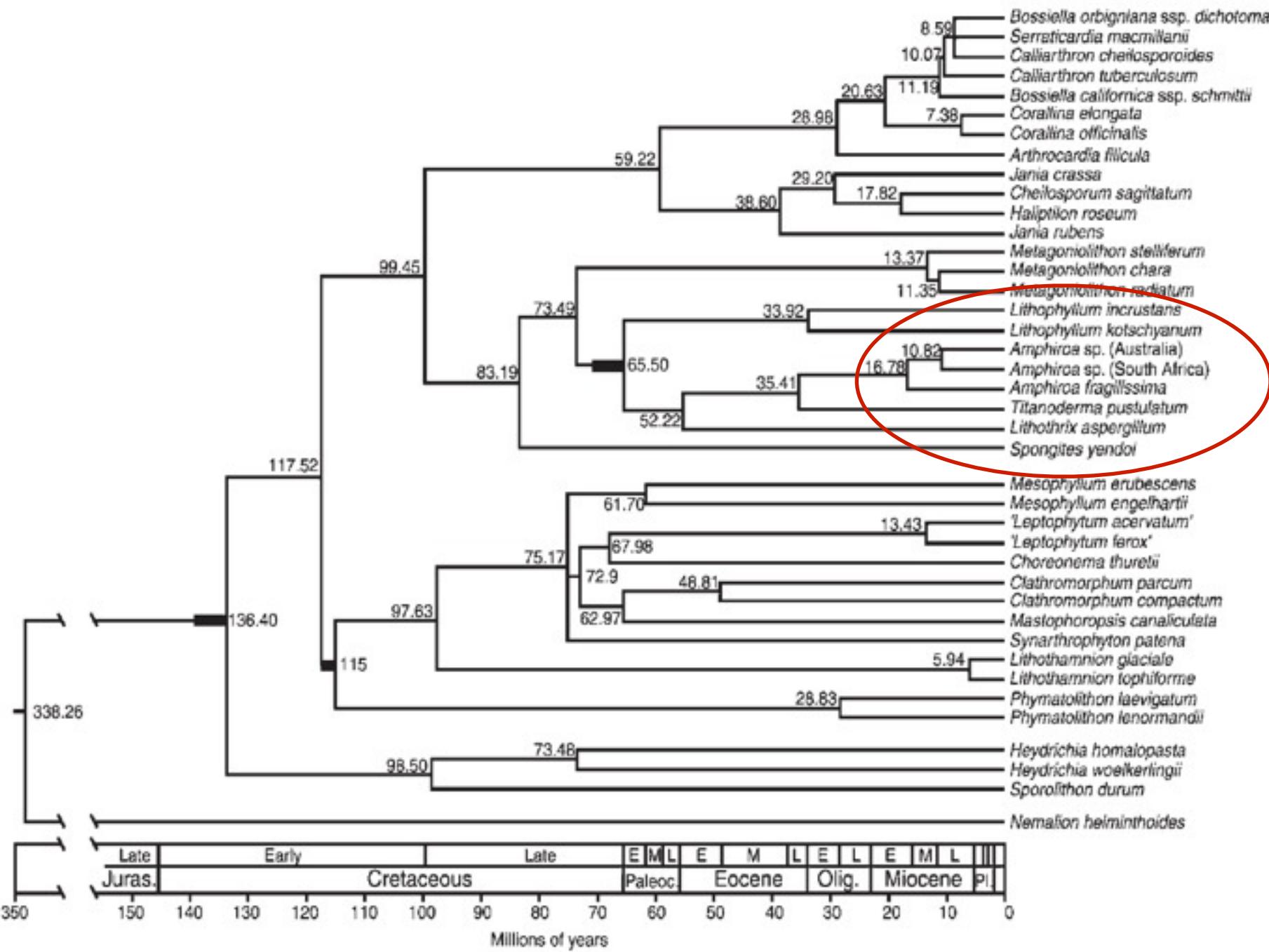


Anja Rösler
Departamento de Estratigrafía y Paleontología
Supervisors: Juan Carlos Braga and Francisco Perfectti

Short reminder

- Document the timing and patterns of the diversification of reef-building coralline algae in the Indo-Pacific
=> produce a time tree





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- molecular phylogeny with various nuclear markers and one chloroplastidial

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 - => produce a time tree
- molecular phylogeny with various nuclear markers and one chloroplastidial
- Occurrence dates of fossils to calibrate molecular clock
- Environmental information (depth,...)



ITS 2

ITS 1

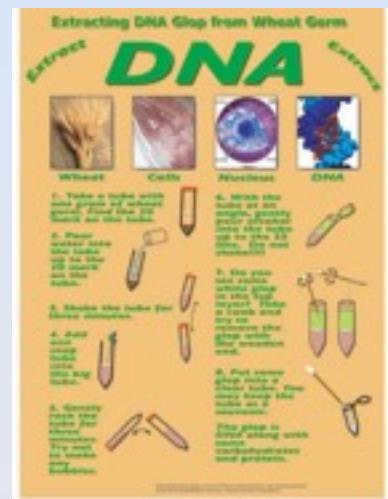
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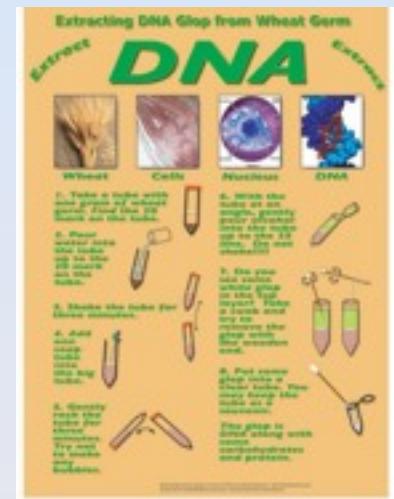
Ladder

Ladder



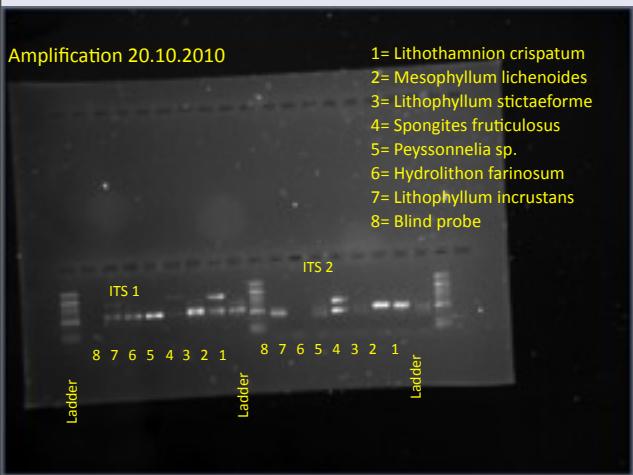
ITS 1 ITS 2
8 7 6 5 4 3 2 1 8 7 6 5 4 3 2 1
Ladder Ladder

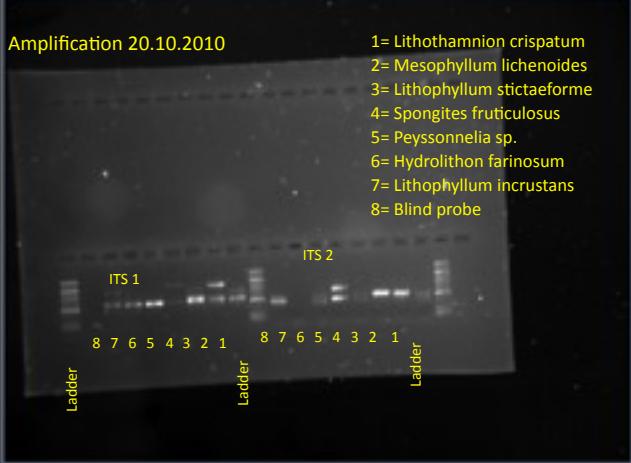
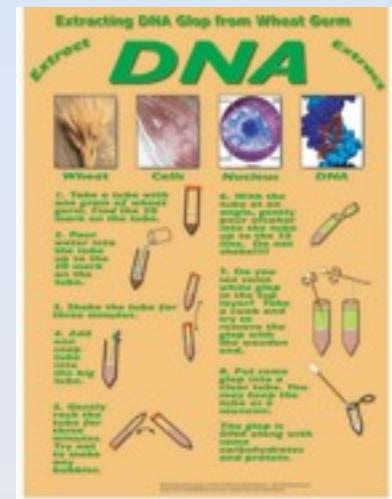




Amplification 20.10.2010

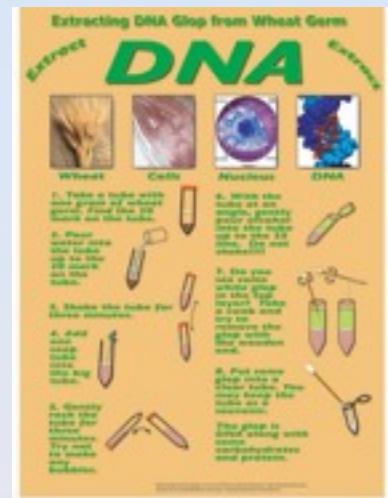
- 1= *Lithothamnion crispatum*
- 2= *Mesophyllum lichenoides*
- 3= *Lithophyllum stictaeforme*
- 4= *Spongites fruticulosus*
- 5= *Peyssonnelia* sp.
- 6= *Hydrolithon farinosum*
- 7= *Lithophyllum incrassans*
- 8= Blind probe



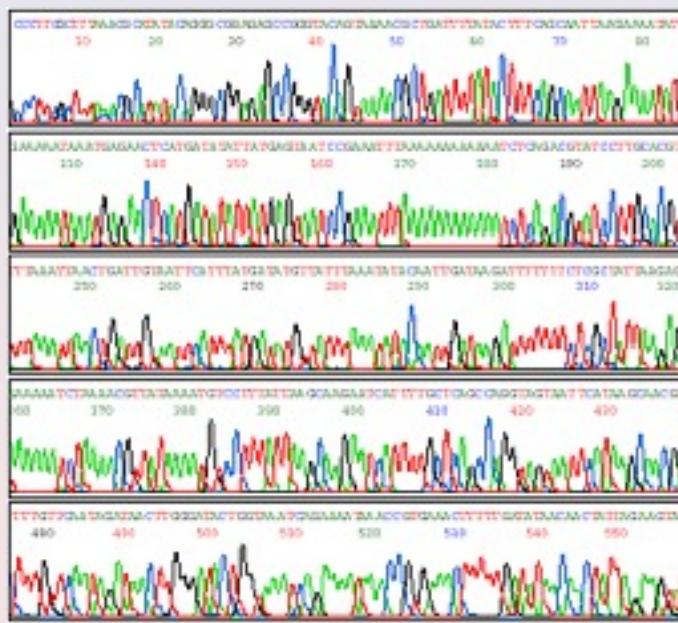
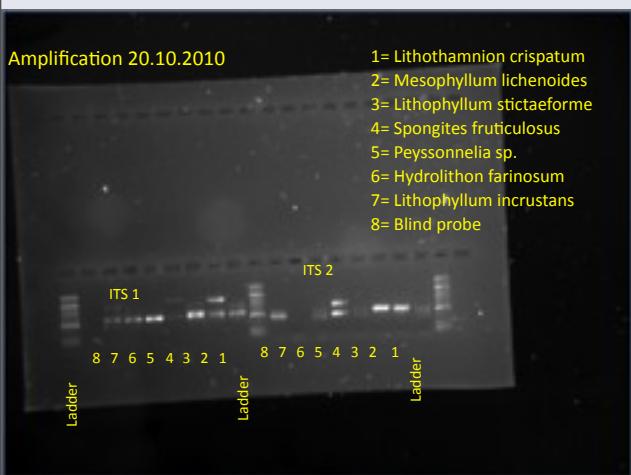


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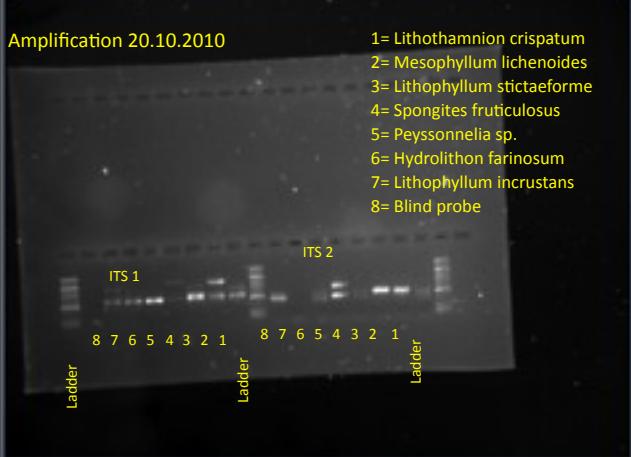
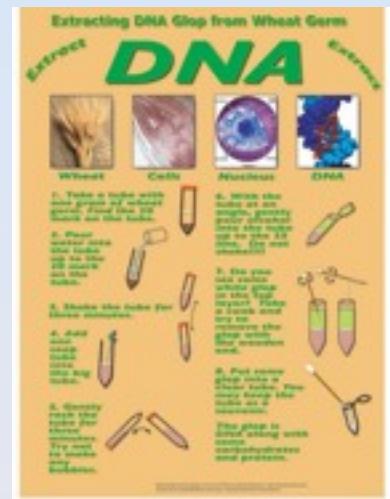




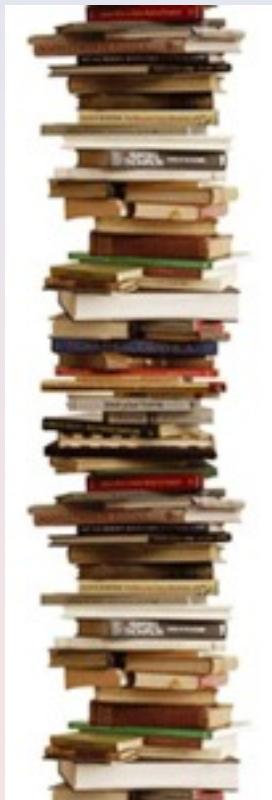
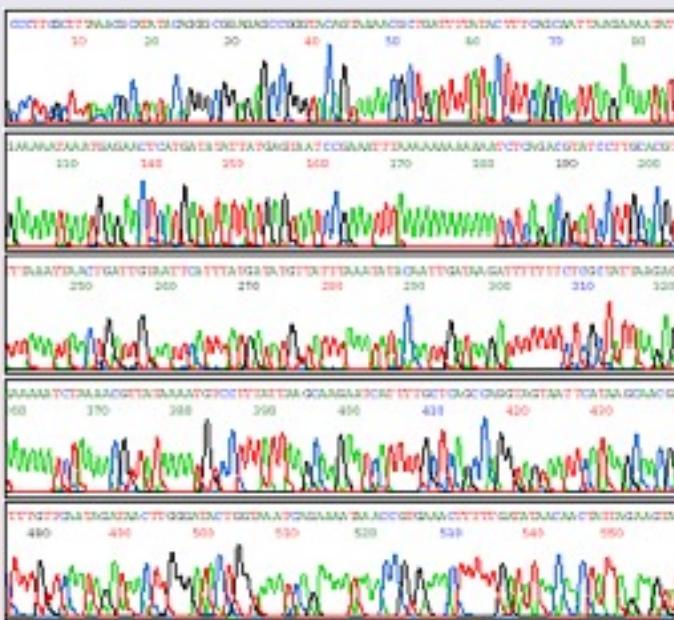
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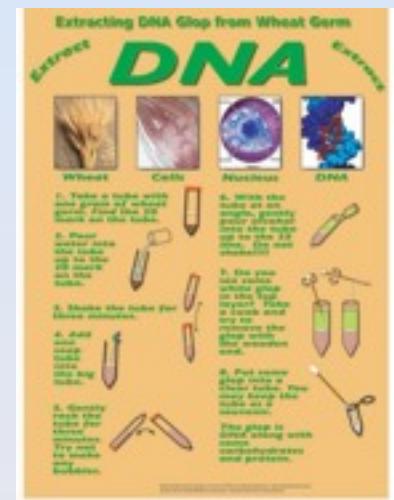


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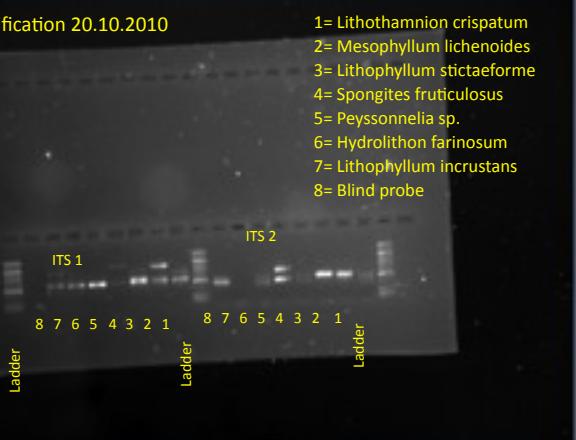


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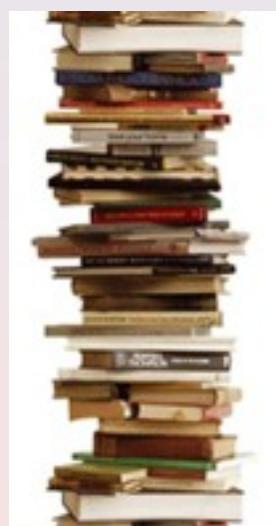
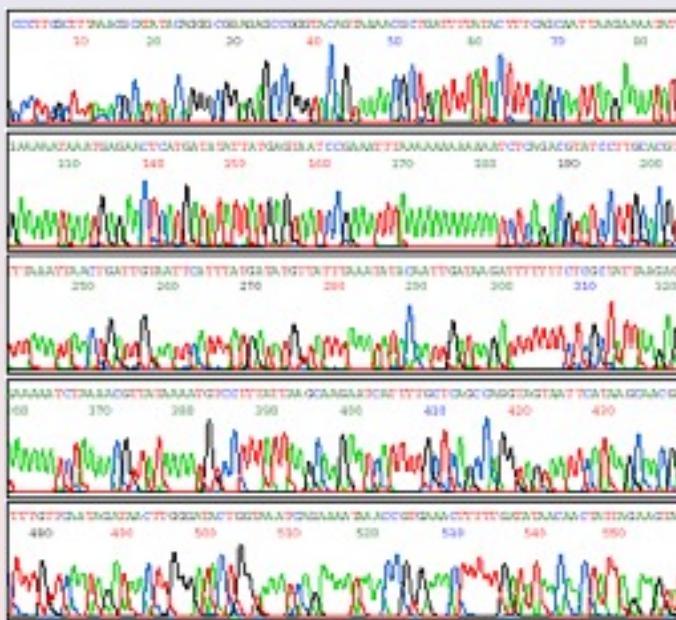


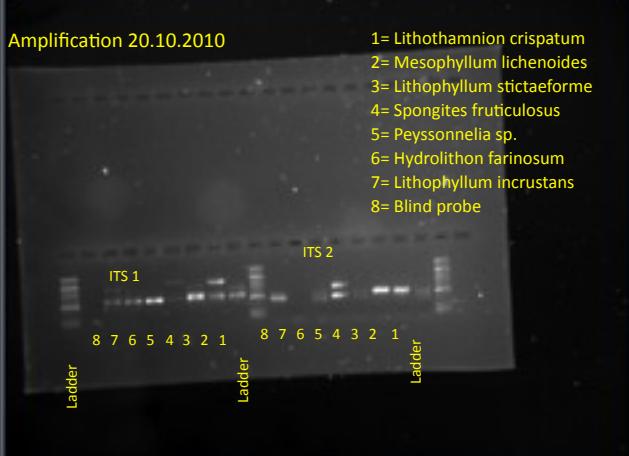
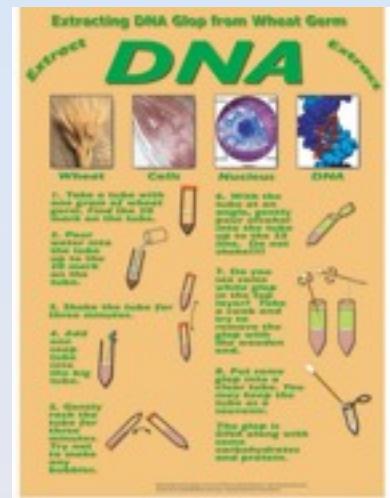


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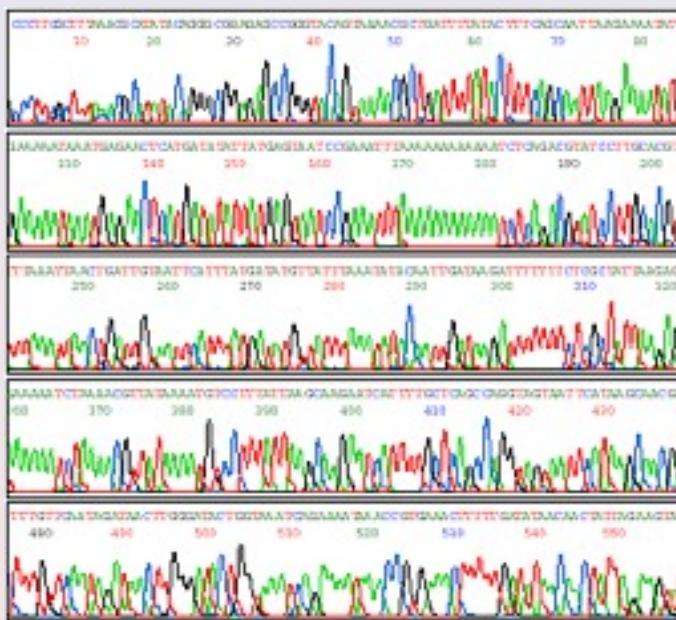


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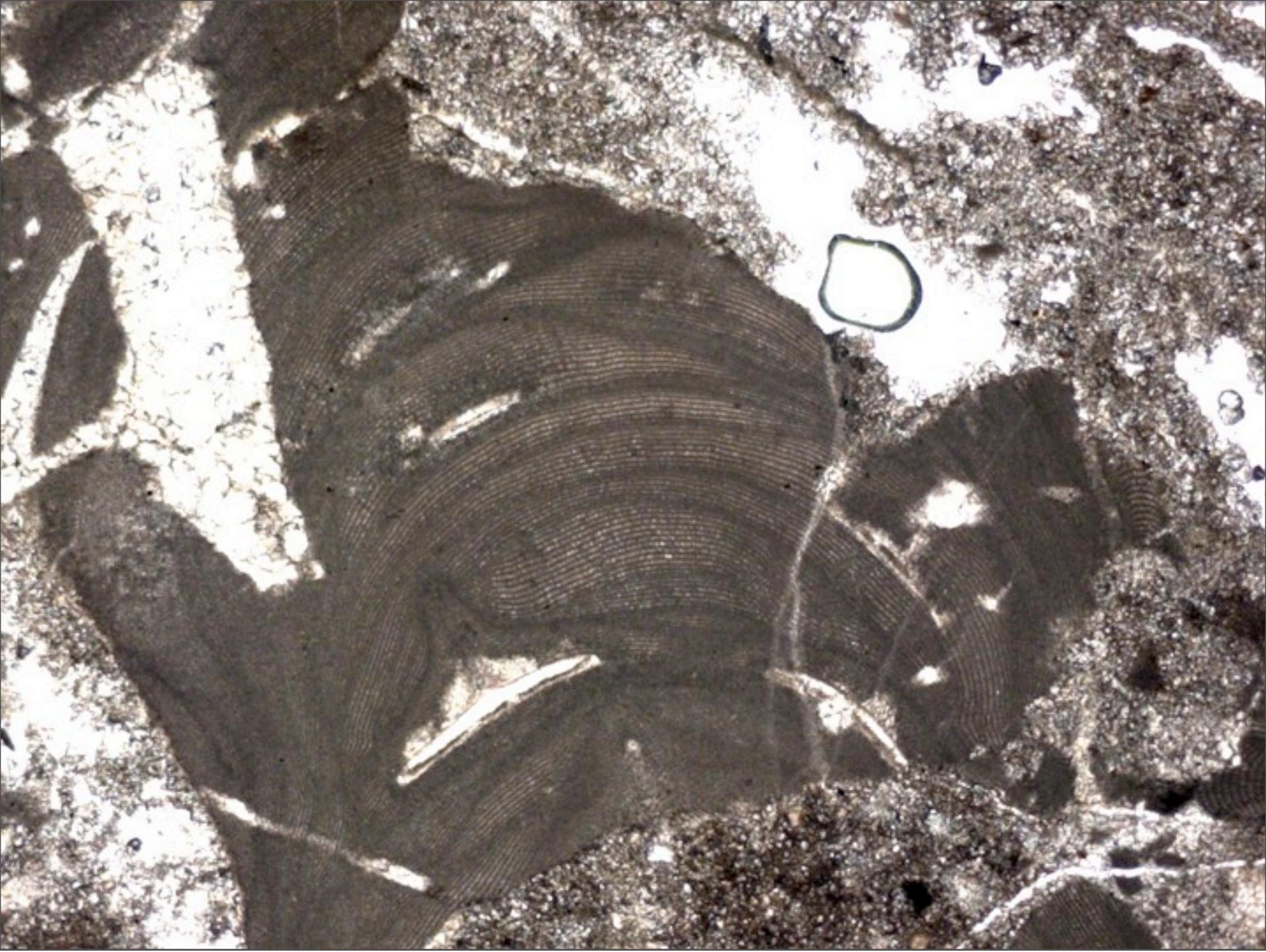
Recent work

- Equipping genetic laboratory and stabilizing methodology of DNA extraction and amplification, ready to sequence
- Studying important publications on taxonomy
- Coordinating sampling information with stratigraphic pre-results: time/facies table (Pattern of facies where algae can be found)
- Preparation of fossil samples for being cut and analyzed

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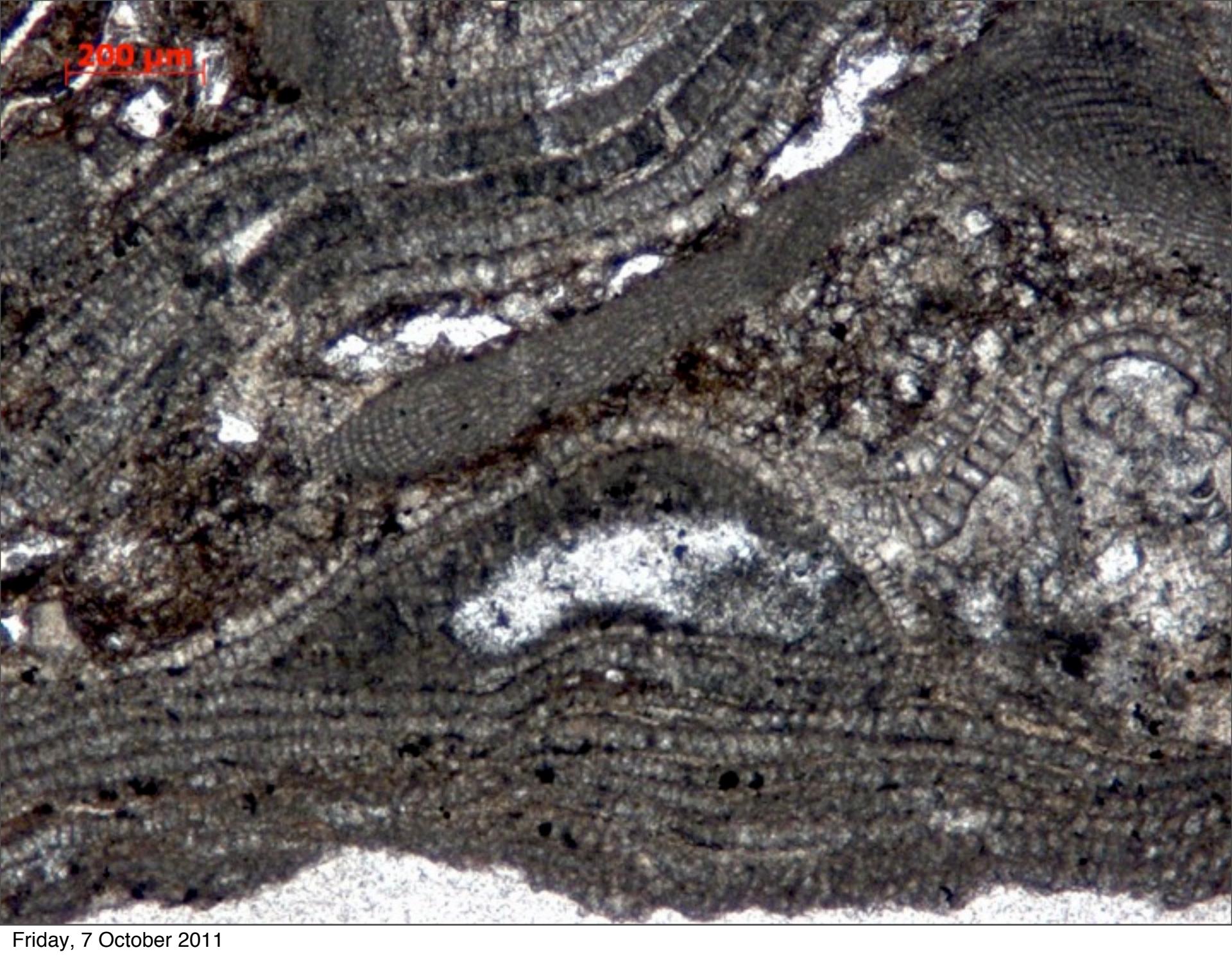
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Friday, 7 October 2011

200 μ m



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- Collection of recent Indopacific samples in the Great Barrier Reef, Australia



Friday, 7 October 2011

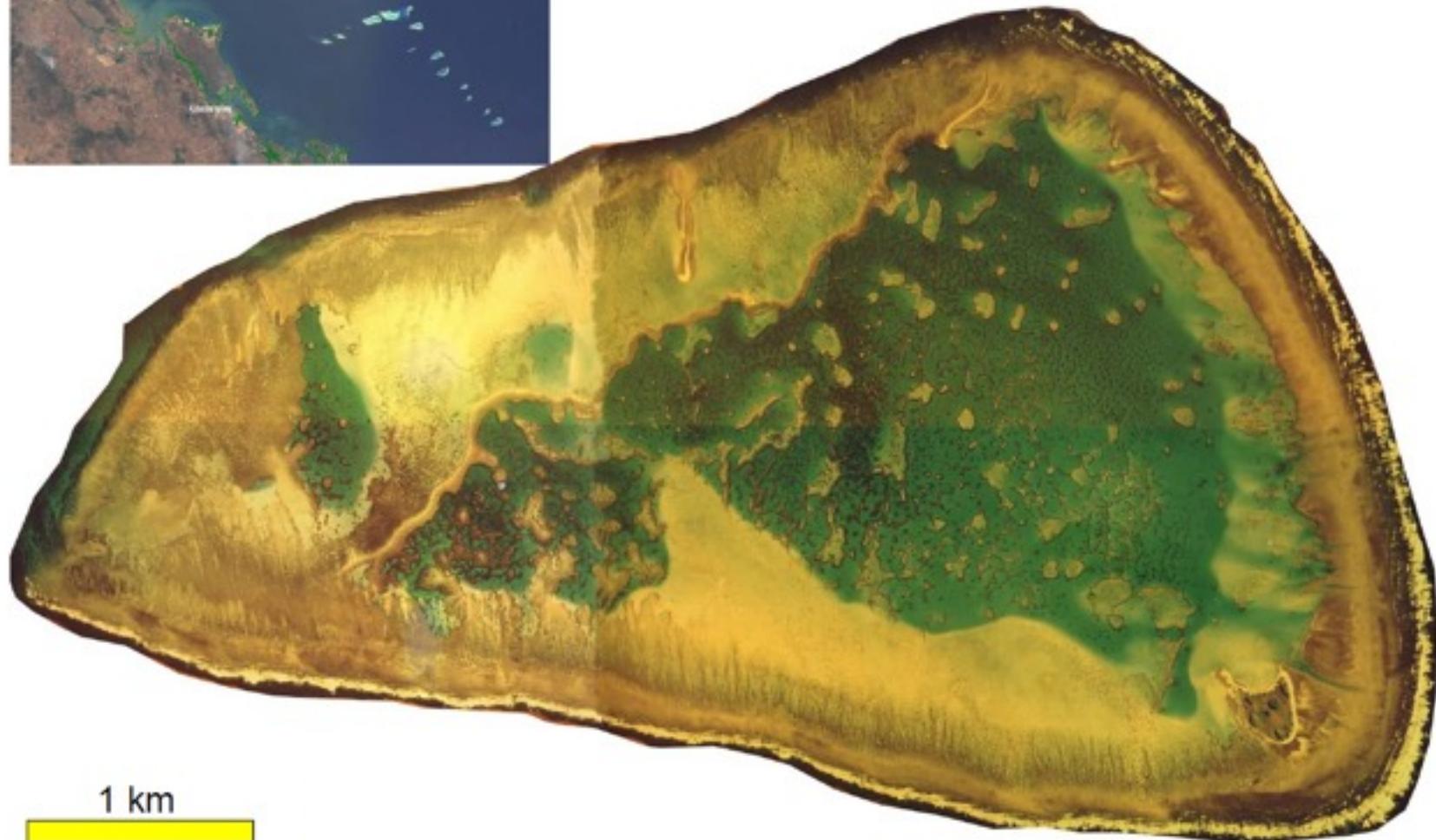


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MARS5007 - One Tree Reef (S GBR) ⚡



Location, location, location!



1 km



Friday, 7 October 2011



Friday, 7 October 2011



Friday, 7 October 2011



Friday, 7 October 2011



Friday, 7 October 2011



Friday, 7 October 2011

Origins and evolution of the modern Indo- Pacific reef algal flora



Anja Rösler
Departamento de Estratigrafía y Paleontología

Summary

- Conditions set for intensive genetical analysis of recent indopacific algae (which will arrive ± now in Granada)
- Pattern of facies where algae can be found
- Fossil algae samples found in December 2010 cover relatively small time span => older (Aquitanian and Oligocene) sites would be *completing* => this field trip

Next steps 2011

- collect more fossil algae of different stages
- Intensive genetic analysis of Australian recent algae
- Continue studying taxonomy
- Analysis of fossil algae found last year:
 - Make thin sections => in process
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 - Fill up the time/occurrence table => find first occurrences
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