My contribution to the Throughflow project.

Anja Rösler, Universidad de Granada, Spain

November 2010

The origins and evolution of the modern Indo-Pacific reef algal flora

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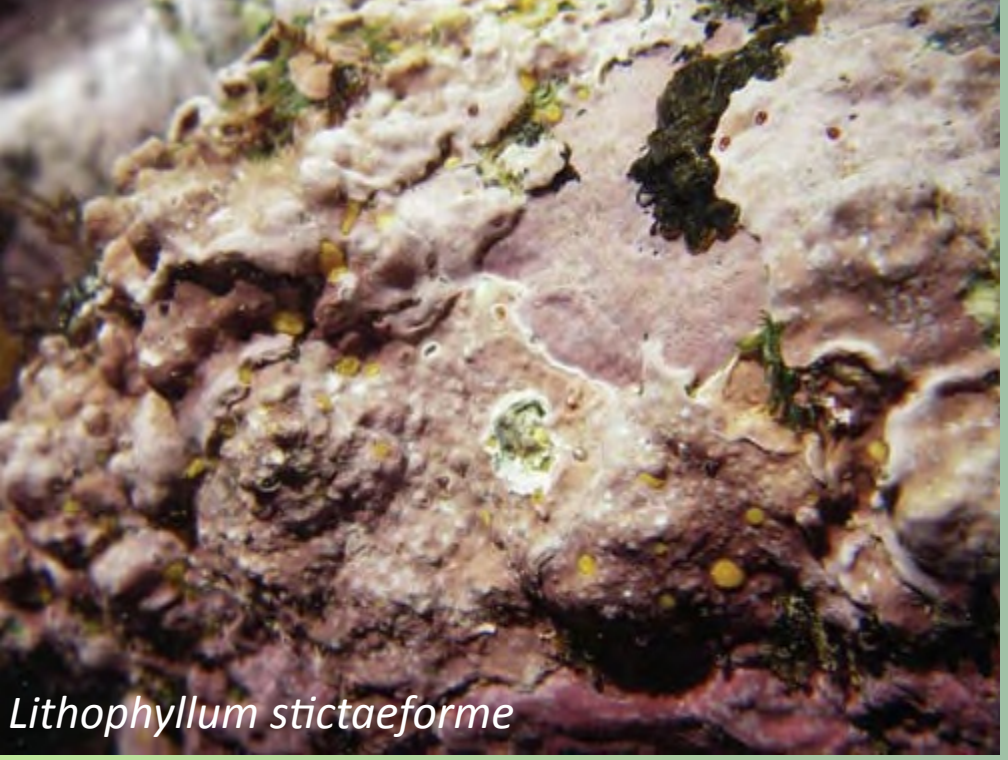
My contribution

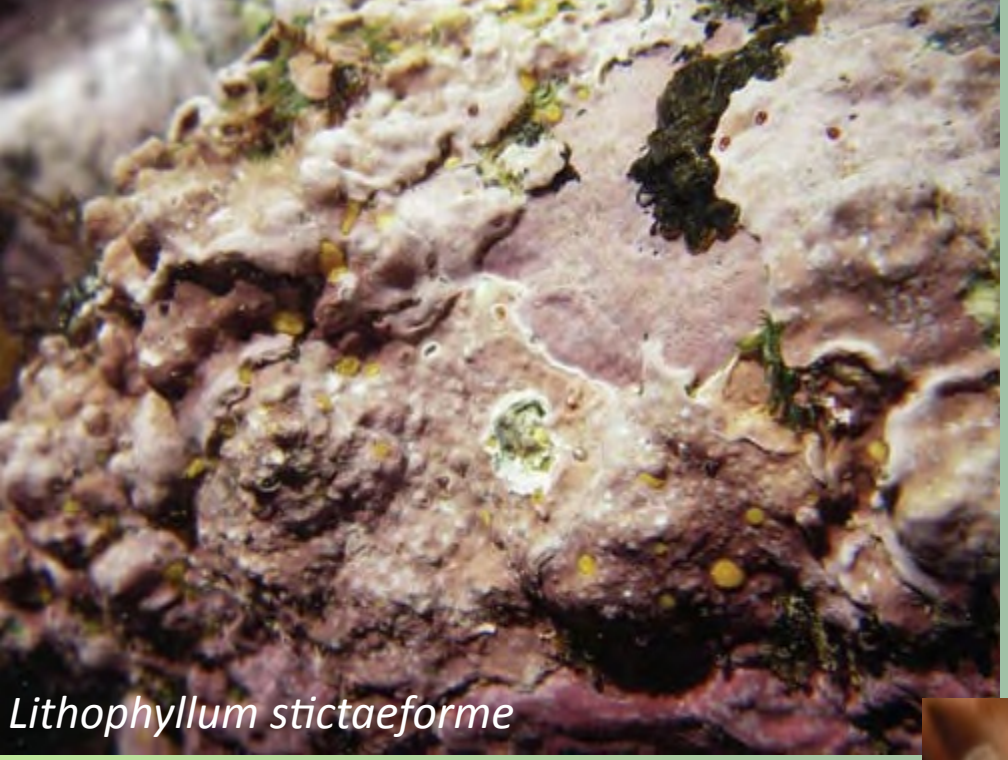
- Document the timing and patterns of the diversification of reef-building coralline algae in the Indo-Pacific
  - Coralline algae are the second most important builders in modern Indo-Pacific reefs
  - They appeared in Oligocene-Miocene times in the IWP area

Coralline algae

- calcareous red seaweeds
- found worldwide
- classified in the orders Corallinales and Sporolithales
- either articulated (and partially calcified), or completely calcified



Lithophyllum stictaeforme



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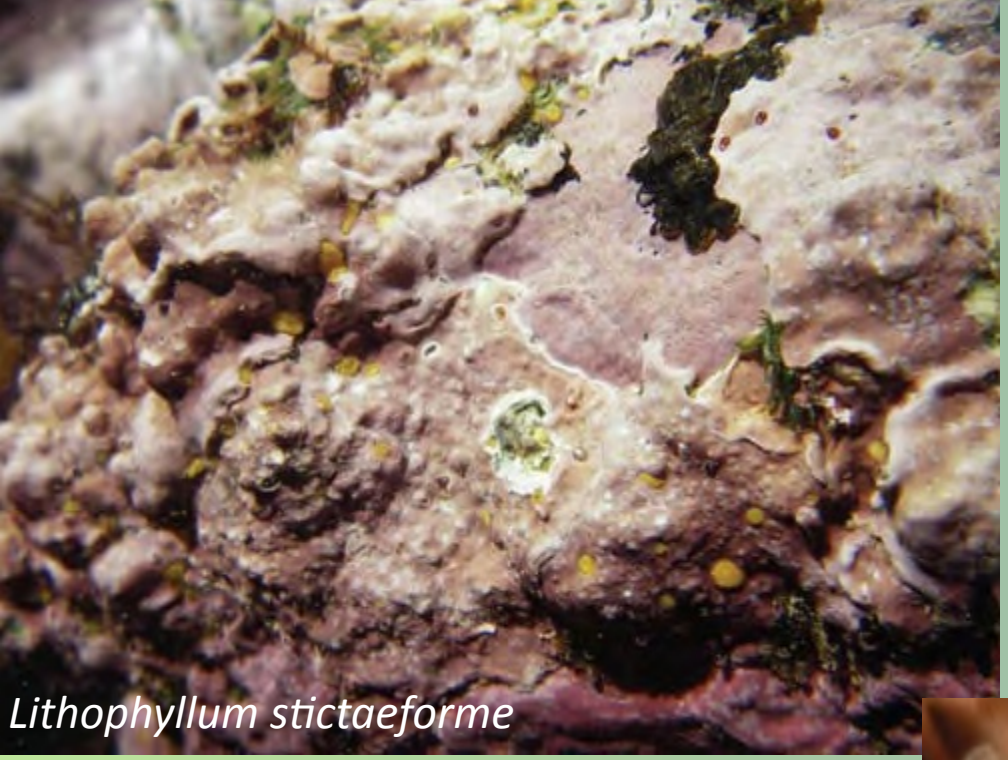
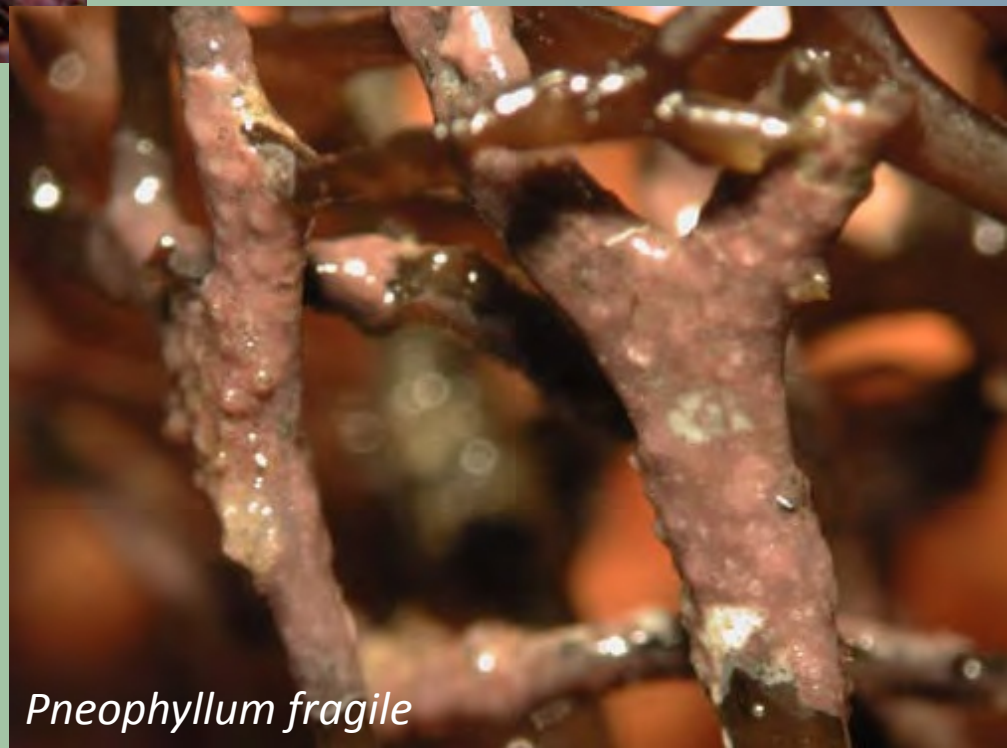
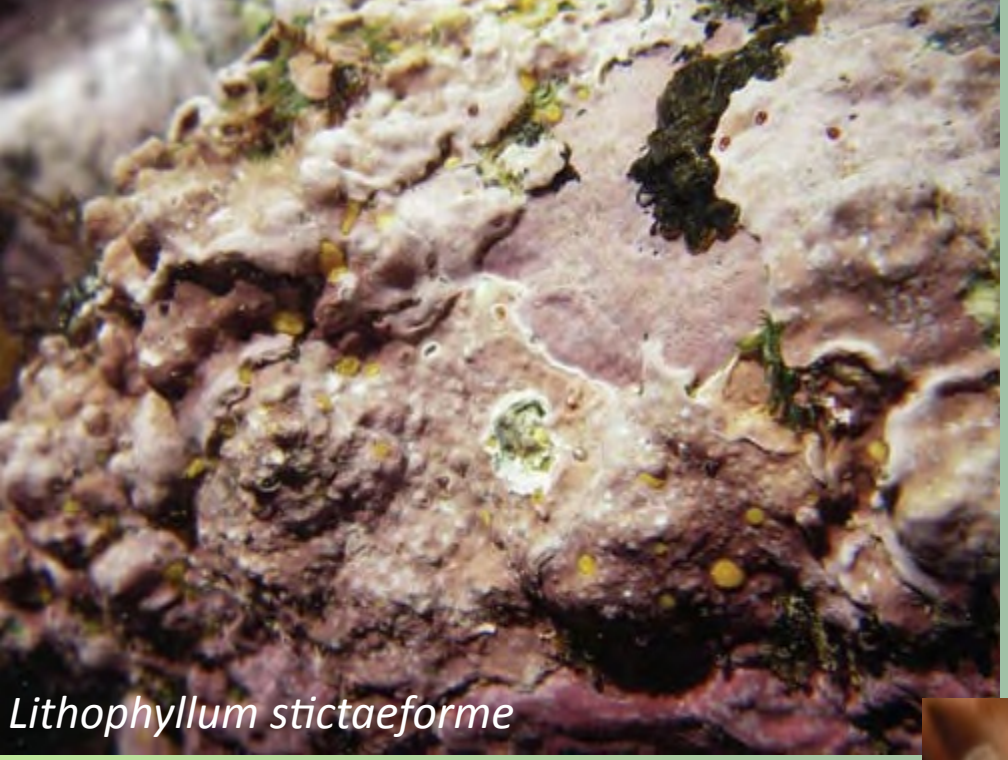


Lithophyllum stictaeforme



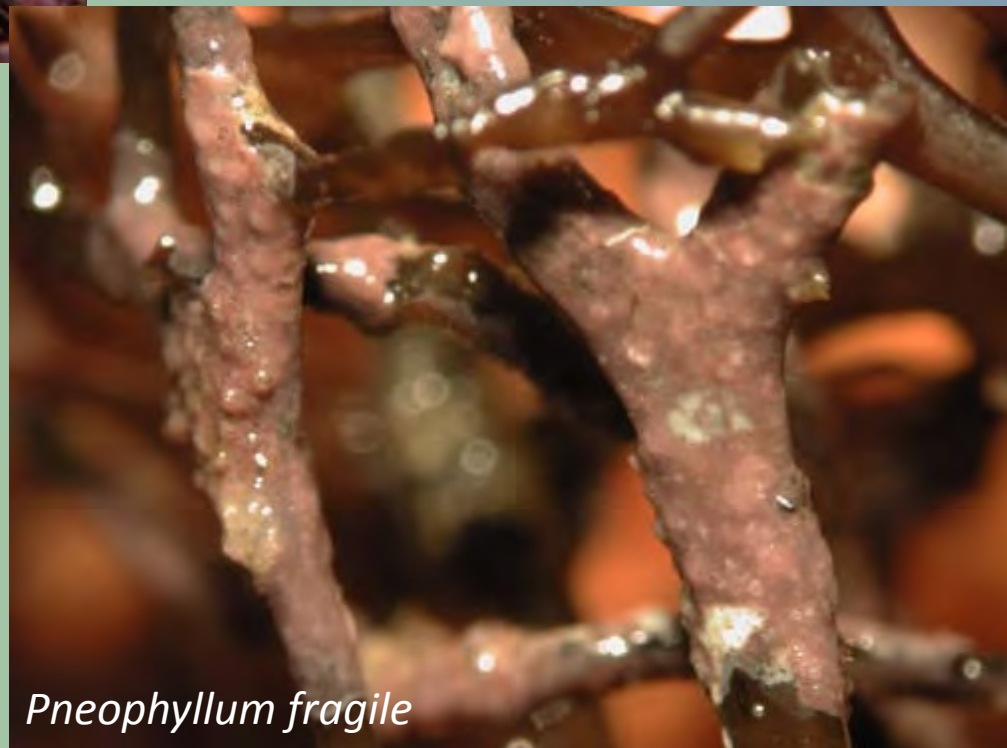
Pneophyllum fragile



Lithophyllum stictaeforme

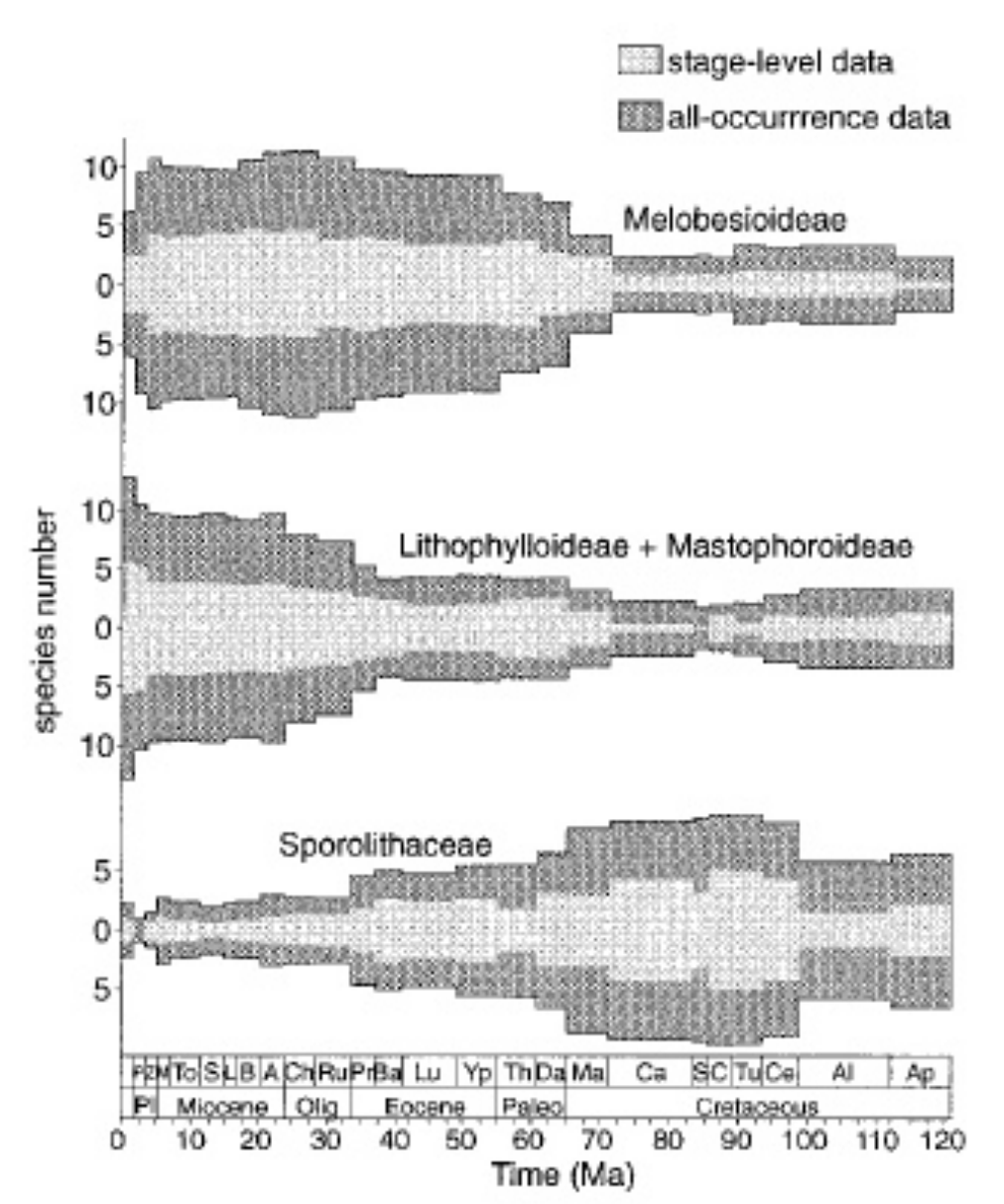
Lithotamnion indicum

Sporolithon durum



Pneophyllum fragile

History: Origination and diversification of the Families

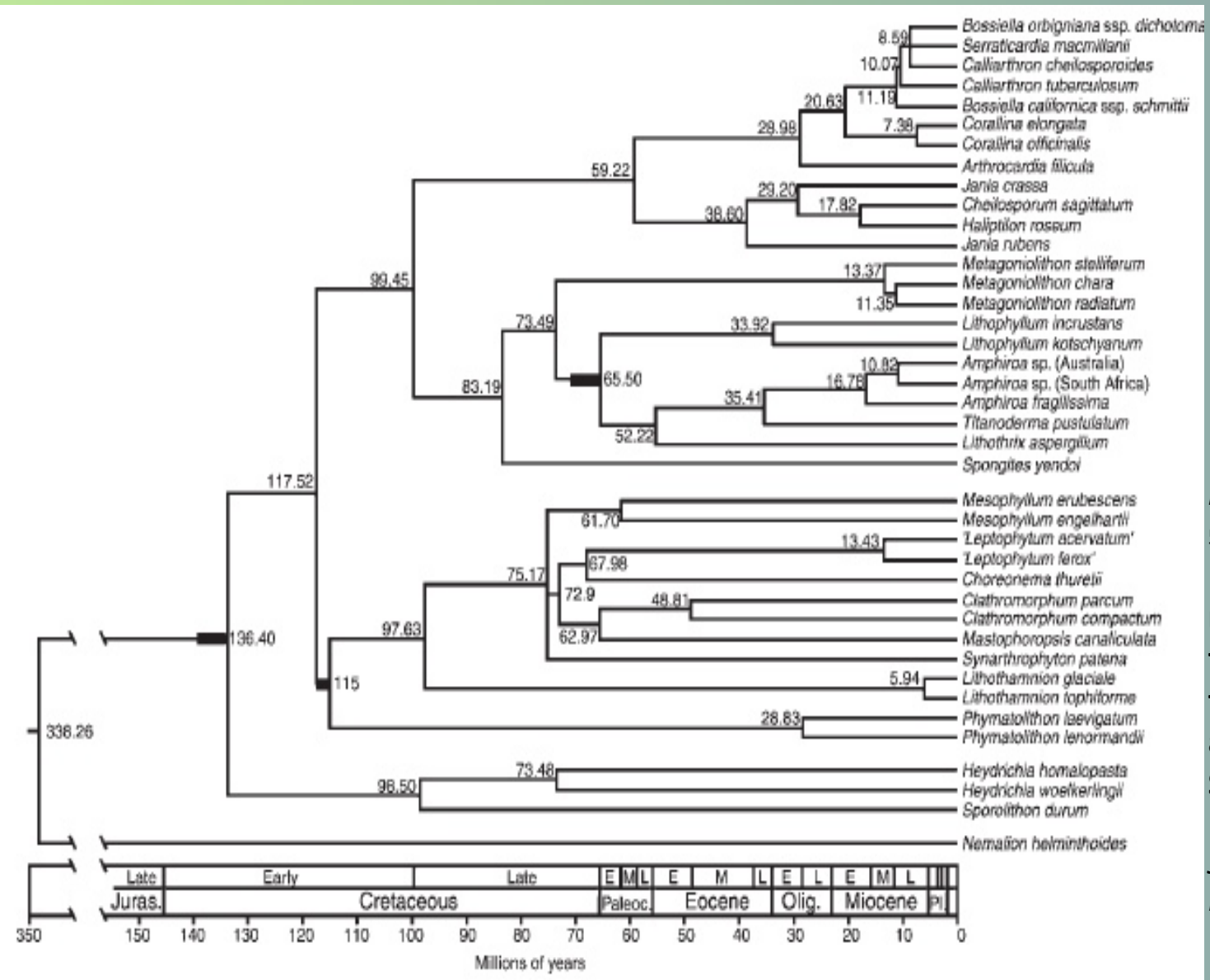


Paleobiology, 26(4), 2000, pp. 651–667

Diversity of coralline red algae: origination and extinction patterns from the Early Cretaceous to the Pleistocene

Julio Aguirre, Robert Riding, and Juan C. Braga

Good fossil record gives timing pattern in evolutionary history



Paleobiology, 36(4), 2010, pp. 519–533

Integrating phylogeny, molecular clocks, and the fossil record in the evolution of coralline algae (Corallinales and Sporolithales, Rhodophyta)

Julio Aguirre, Francisco Perfectti, and Juan C. Braga

What I´ve learnt so far

- Tortonian and Messinian reefs in SE Spain
- How Paleontologists work in the field
- How fossil algae and thin sections look
  - with first intentions of identification
- Diving and collection of recent algae

Tortonian and Messinian reefs in SE Spain

How Paleontologists work in the field

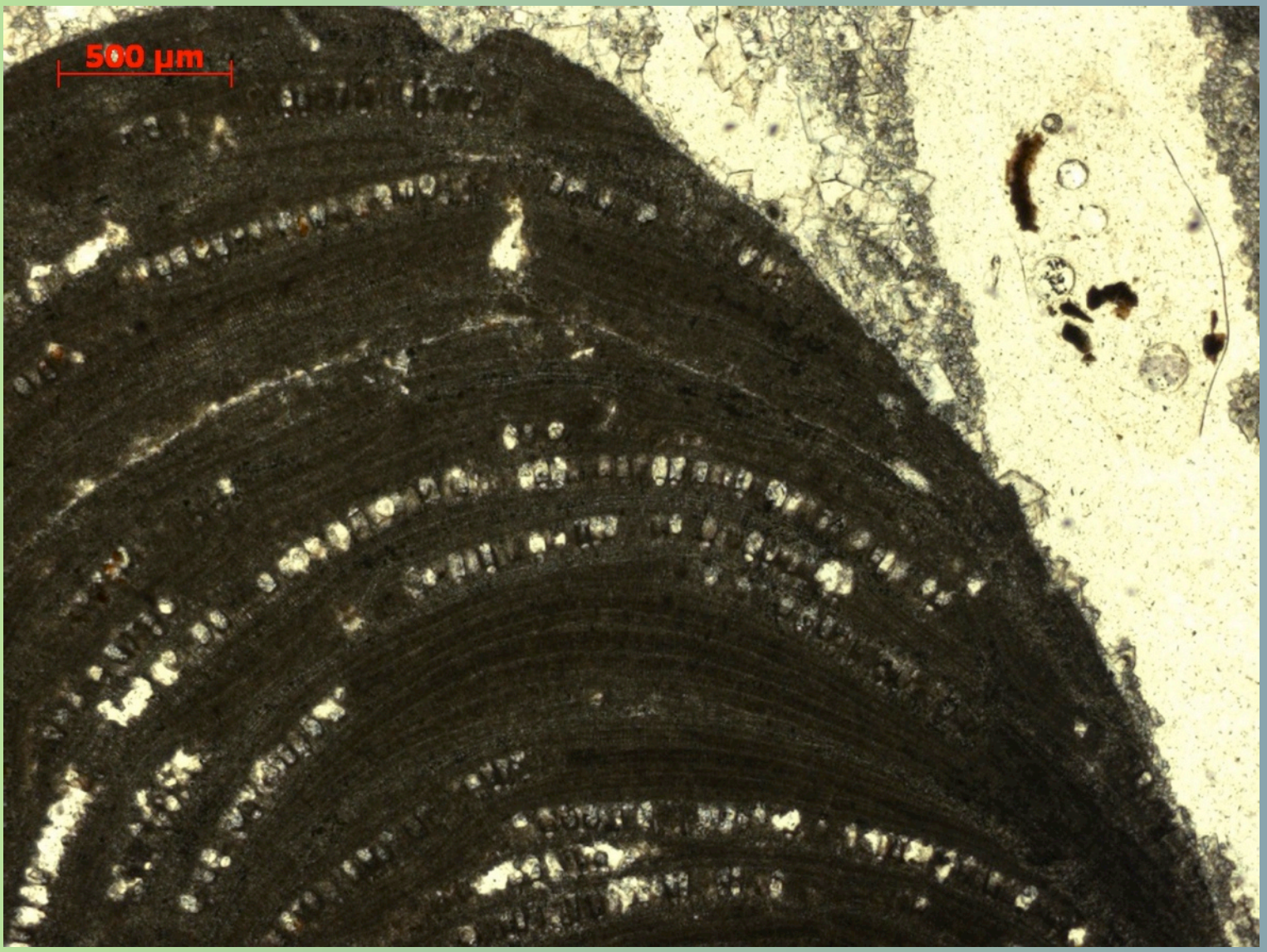
How Paleontologists work in the field

How fossil coralline algae can look

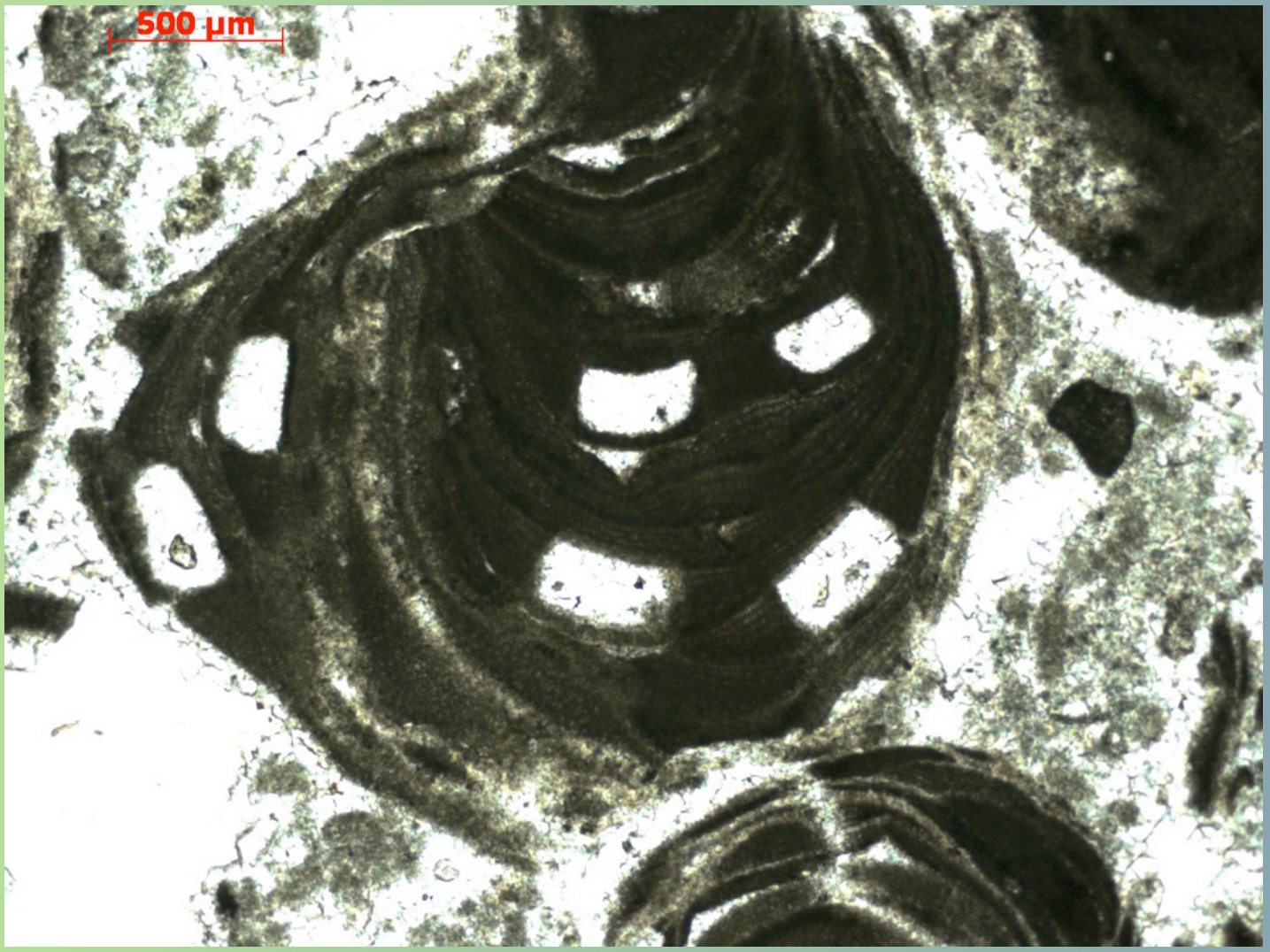
How fossil coralline algae can look

Photo by Simone Arragoni

How fossil coralline algae can look

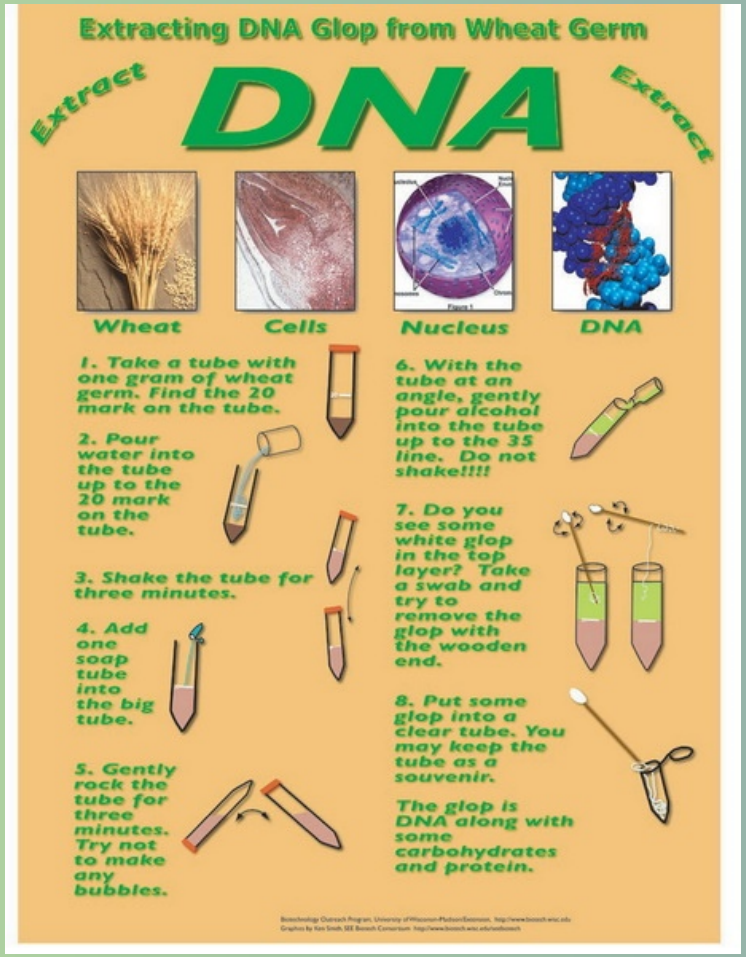


How fossil coralline algae can look



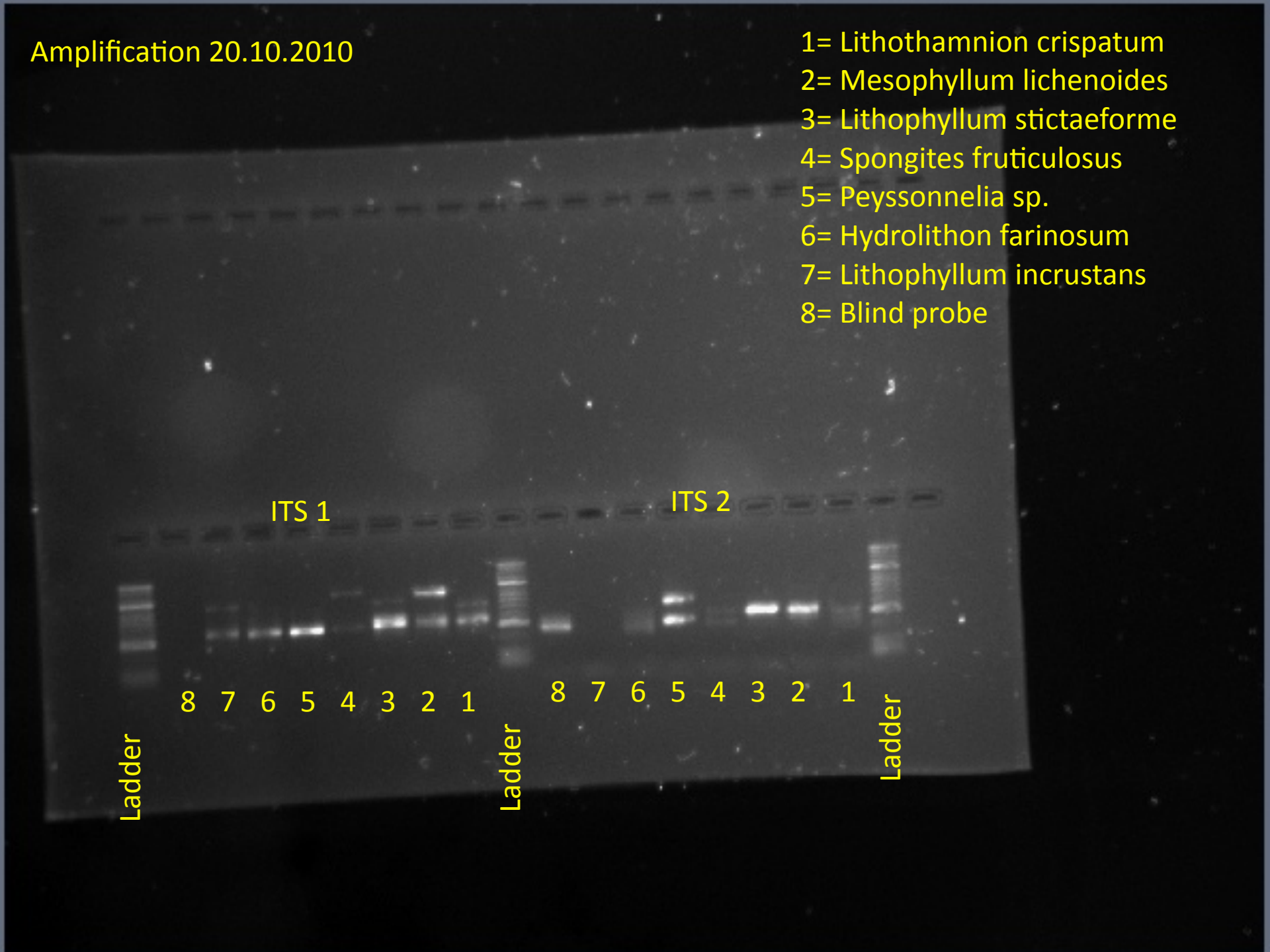
How to collect recent algae

DNA extraction



Amplification 20.10.2010

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



uipo ▸ Data (D:) ▸ PhD ▸ Literatura_PhD ▸

cluir en biblioteca ▾ Compartir con ▾ Grabar Nueva carpeta

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Thanks for your attention!