




**COMMISSION I  
PEAT-PETROGRAPHY WORKING GROUP**

**Conveners:**  
Kimon Christanis - University of Patras, Greece  
&  
Stavros Kalaitzidis – Integral Resource Consulting, Australia

**Members of WG:**  
Anne Balke, Angeles Borrego, Antonis Bouzinos, Janet Dehmer, Joan Esterle, Deolinda Flores Fonseca, Wolfgang Kalkreuth, Jolanta Kus, Magdalena Misz-Kennan, Ligouis Bertrand, Walter Pickel, Ivana Šýkorová

64th ICCP Meeting, September 2012 – Beijing, China




**ICCP PEAT PETROGRAPHY  
WG**

55<sup>th</sup> ICCP Meeting: Establishment of Peat-Petrography WG under Commission I

**Aim**

- to bring together petrographers that deal with the petrological features of peat, but also scientists from other disciplines that have an interest in "peat science",
- to examine the applicability of the existent maceral terminology,
- to assess/evaluate the necessity of a nomenclature scheme for the micropetrographic constituents of peat, and to which directions this scheme would be feasible to apply for. Some preliminary directions can include:
  - coal science (i.e. as maceral precursors)
  - soil science (i.e. considering peat as organic-rich soil - histosols)
  - organic-rich sediments science (i.e. dispersed organic matter)
  - material science (i.e. applications in industry, environment protection etc.)
  - botanic - plant science (i.e. phylogenetic approach)
- to propose a terminology that will accomplish the specifications for a comprehensive description of peat microscopic constituents.




**Activities**

2005-2008, Four (4) Round Robin Exercises:

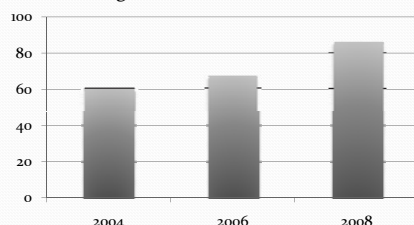
- ❖ Distribution of polished blocks
- ❖ Distribution of photomicrographs

All the relevant reports are in the ICCP Webpage in the secure area

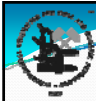


**General Statistics**

**% Agreement on maceral level**



85-90 % Agreement on Maceral sub-group level



**Terminology**

**Huminite**  
Šýkorová, I., Pickel, W., Christanis, K., Wolf, M., Taylor, G.H., Flores, D., 2005. Classification of huminite – ICCP System 1994. *Int. J. Coal Geol.* 62, 85-106.

**Inertinite**  
International Committee for Coal and Organic Petrology (ICCP), 2001. The new inertinite classification (ICCP System 1994). *Fuel* 80, 459- 471.

**Liptinite**  
International Committee for Coal Petrology (ICCP), 1971. *International Handbook of Coal Petrography*, 1st supplement to 2nd edition. Centre National de la Recherche Scientifique, Paris, France.

**New Proposed terms**  
Pre-textinite  
Epiderminite

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

**SCIENCE @ DIRECT®**

International Journal of Coal Geology 62 (2005) 85–106

**Classification of huminite—ICCP System 1994**

I. Šýkorová<sup>a</sup>, W. Pickel<sup>b,\*</sup>, K. Christanis<sup>c</sup>, M. Wolf<sup>d</sup>, G.H. Taylor<sup>e</sup>, D. Flores<sup>f</sup>

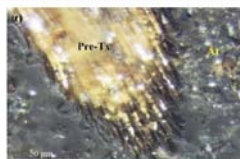

Table 2  
Subdivision of the maceral group huminite

Maceral group	Maceral subgroup	Maceral	Maceral type	Maceral variety
HUMINITE	TELHUMINITE	Textinite		A (dark) B (light)
		Uminite		A (dark) B (light)
	DETRHUMINITE	Atrinite Densinite		
	GELHUMINITE	Corphaninite	Phlobaphinite Paradaphnophinite	
		Géinite	Levigéinite Porrigéinite	

ICCP PEAT PETROGRAPHY WG  
**Draft Classification  
 of Peat macerals**


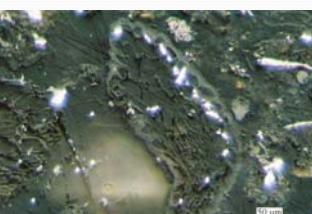
Maceral Group	Maceral Subgroup	Maceral	Maceral Type	Maceral variety	
Huminite	Telohuminite	Textinite		<b>Pre-textinite</b>	
					<b>Epiderminite</b>
					A (dark)
					B (light)
		Ulminite	Texto-ulminite	A (dark)	
			Eu-ulminite	B (light)	
Detrohuminite		Attrinite			
		Densinite			
Gelohuminite	Corpohuminite	Phlobaphinite			
				Pseudophlobaphinite	
		Gelinite	Porigelinite		
			Levigelinite		

ICCP PEAT PETROGRAPHY WG  
**Pre-textinite (draft definition)**

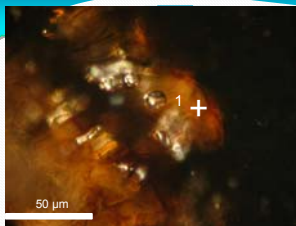
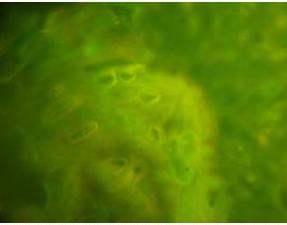
**Pre-textinite:** (variety of Textinite) represents fresh plant cell walls, rich still in cellulose (internal reflections in white light, strong fluorescence under blue light excitation). Often remains of the protoplasm can be observed.

ICCP PEAT PETROGRAPHY WG  
**Epiderminite (draft definition)**

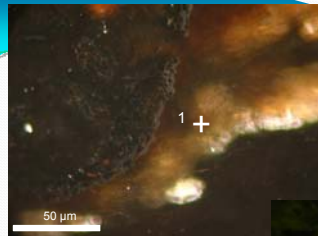
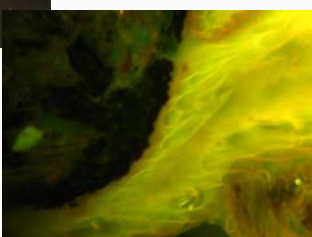



Epidermal cells (*epidermis*, outer cortex) of herbaceous plants; Reveals strong fluorescence in fresh stage; the inner part tends to degrade/gelify during humification/early coalification and transform to telohuminite, while the outer part resembles to cutinite

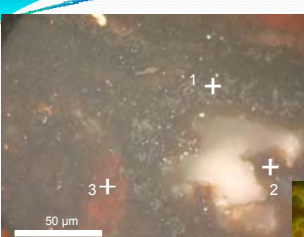
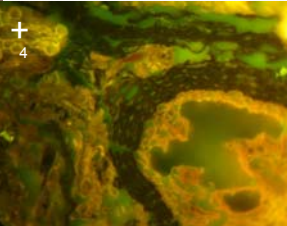
ICCP PEAT PETROGRAPHY WG  
**Peat macerals 1**

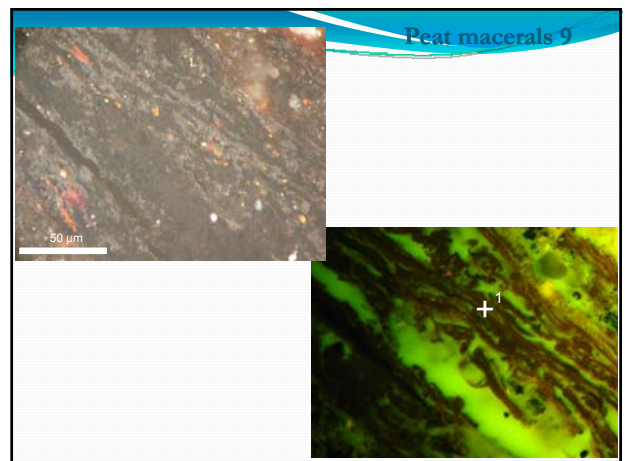
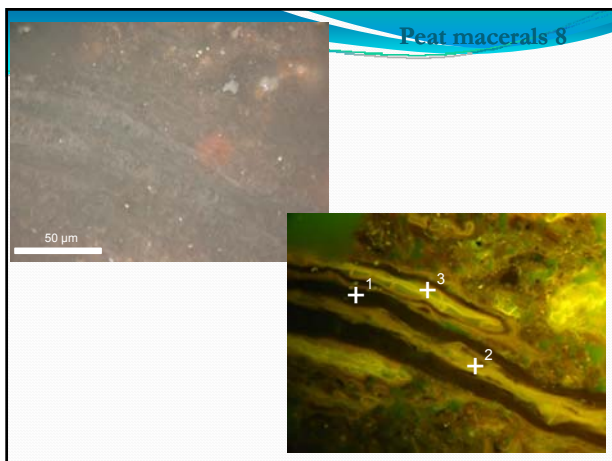
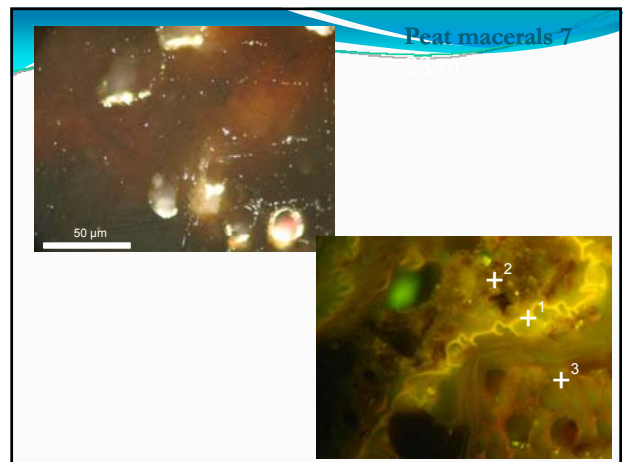
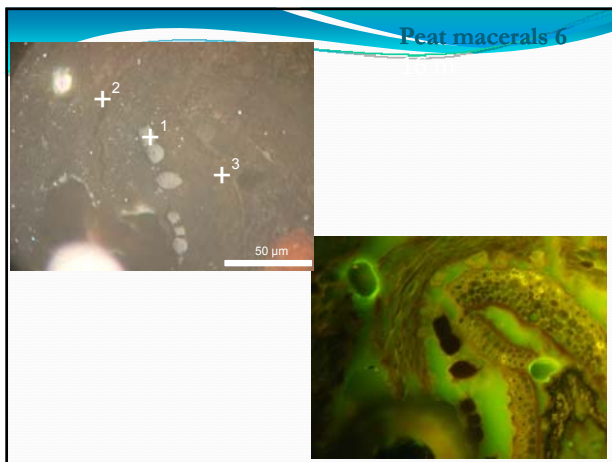
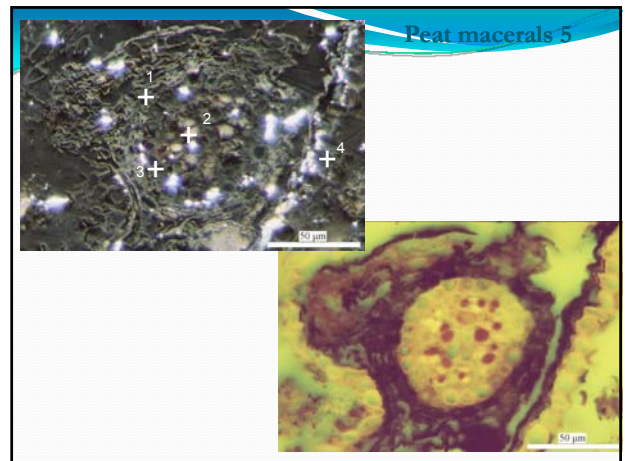
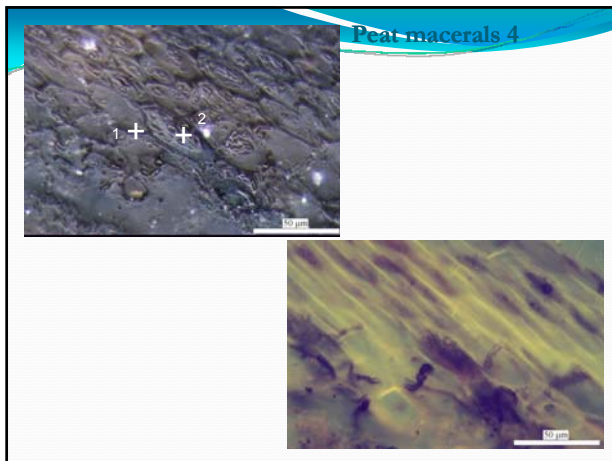



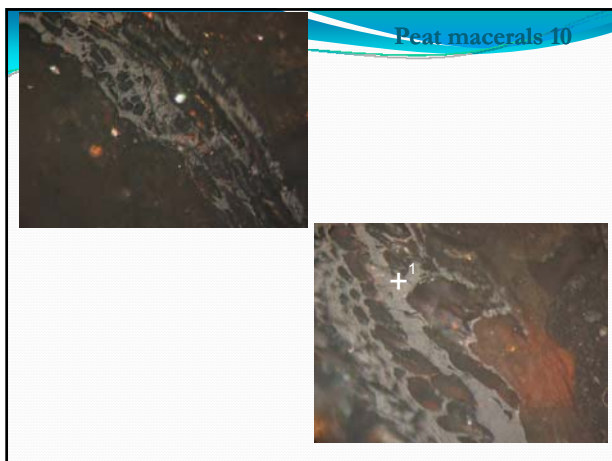
ICCP PEAT PETROGRAPHY WG  
**Peat macerals 2**

ICCP PEAT PETROGRAPHY WG  
**Peat macerals 3**





Next to do..

- ❖ Finalize the report/classification – November 2012
- ❖ Circulate to WG members for comments
- ❖ Submit the draft Publication to 65<sup>th</sup> ICCP