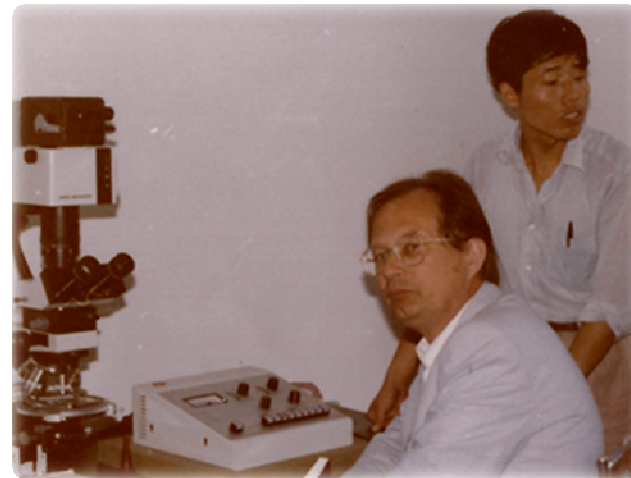




## Nicolas Fedoroff INA P-G



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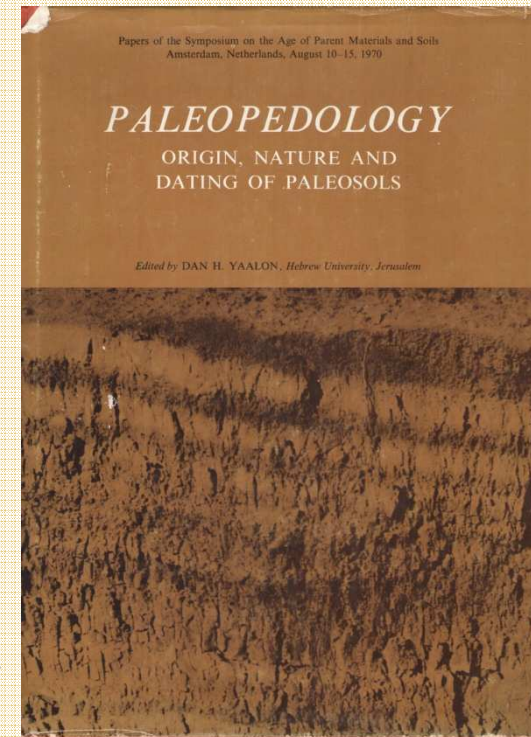
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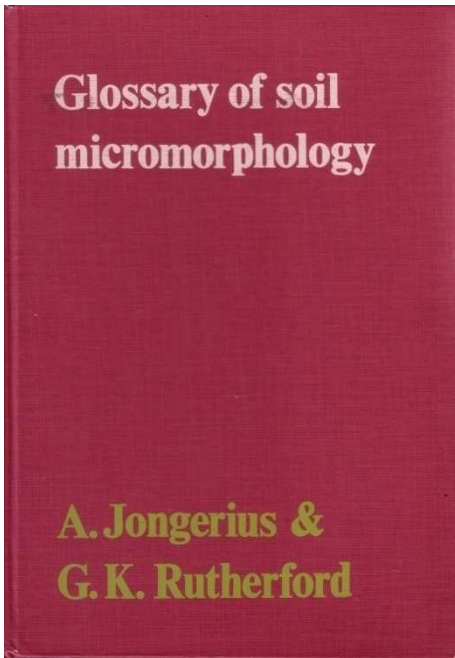
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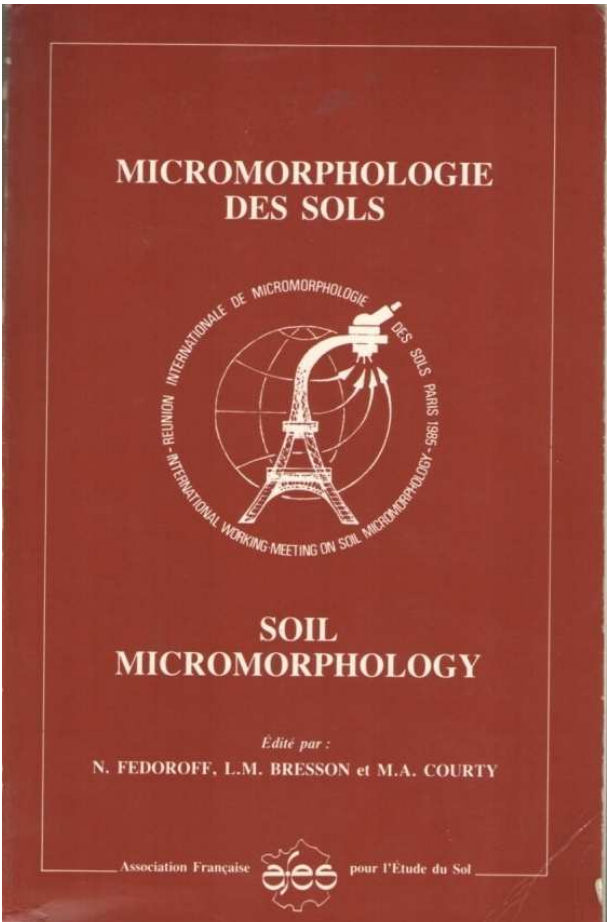
1979



1982



Paris 1985





FEDOROFF N., COURTY M.-A. and GUO Z.T. (2010). Palaeosoils and Relict Soils. In *Interpretation of Micromorphological Features of Soils and Regoliths*, G. Stoops, V. Marcellino & F. Meers (eds), Interpretation of micromorphological features of Soils and Regoliths. Elsevier, 623–663.

# Palaeosoils and Relict Soils

Nicolas Fedoroff<sup>1,\*</sup>, Marie-Agnès Courty<sup>2</sup> and Zhengtang Guo<sup>3</sup>

<sup>1</sup>AGROTECH, Paris, France

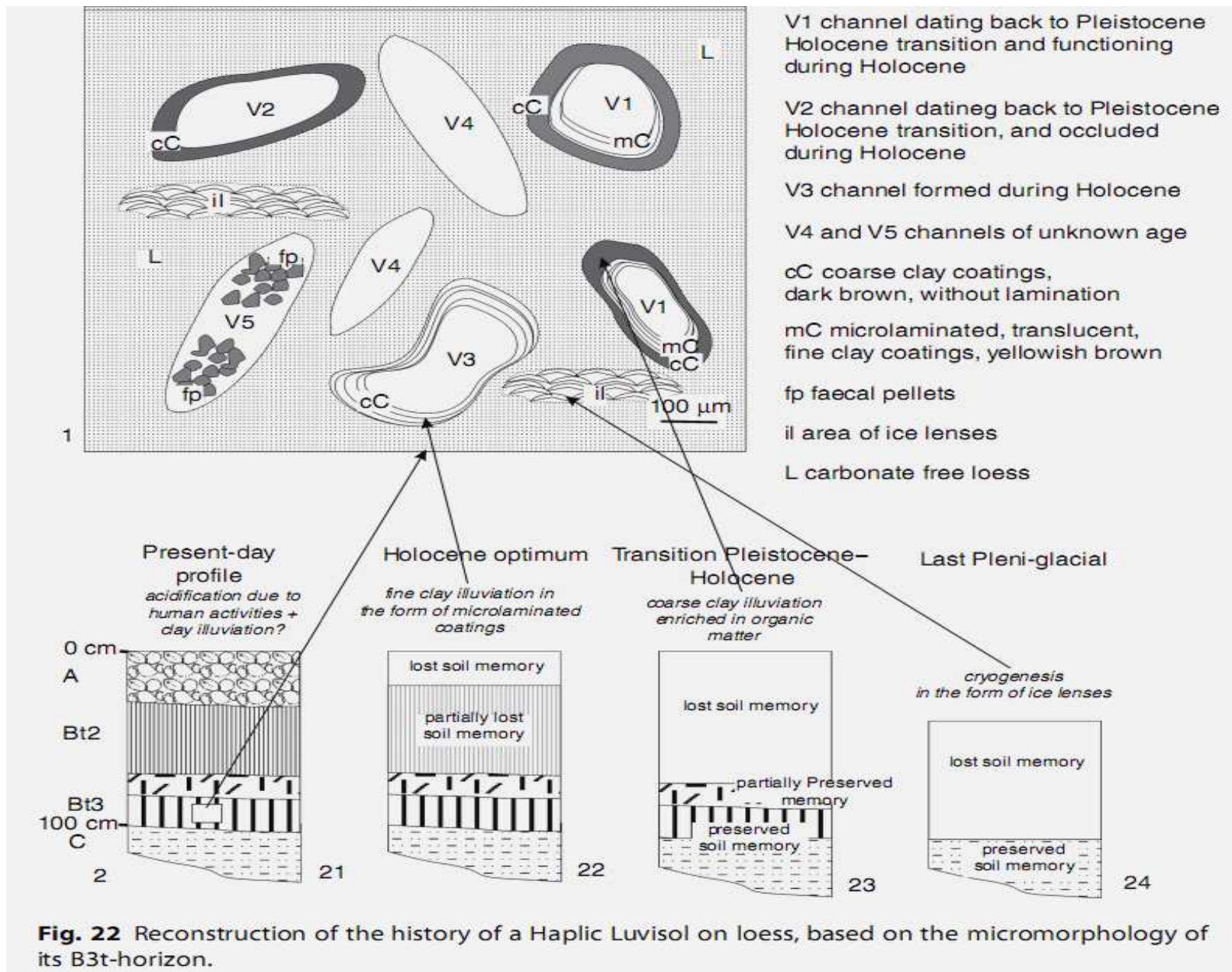
<sup>2</sup>CNRS UMR 7194 & IPES, Universidad Rovira y Virgili, Tarragona, Spain

<sup>3</sup>Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, China

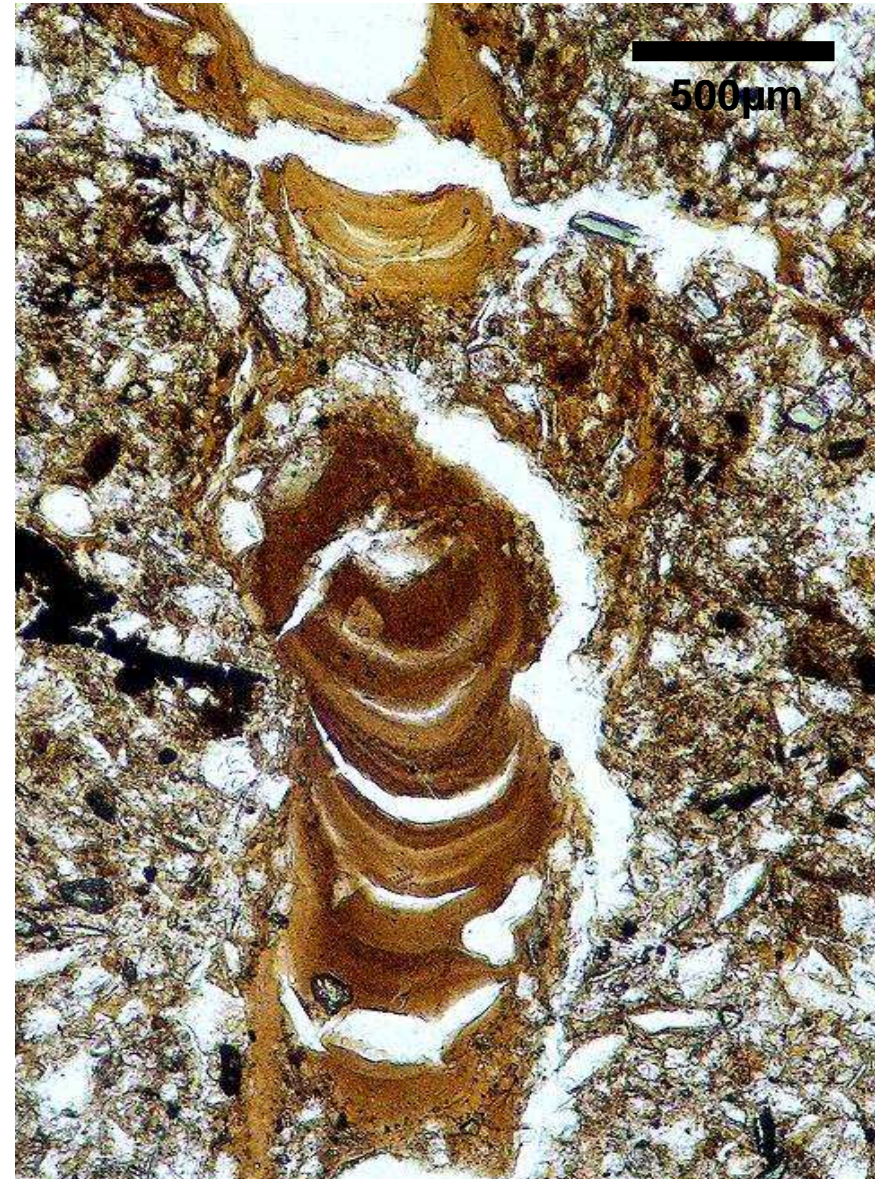
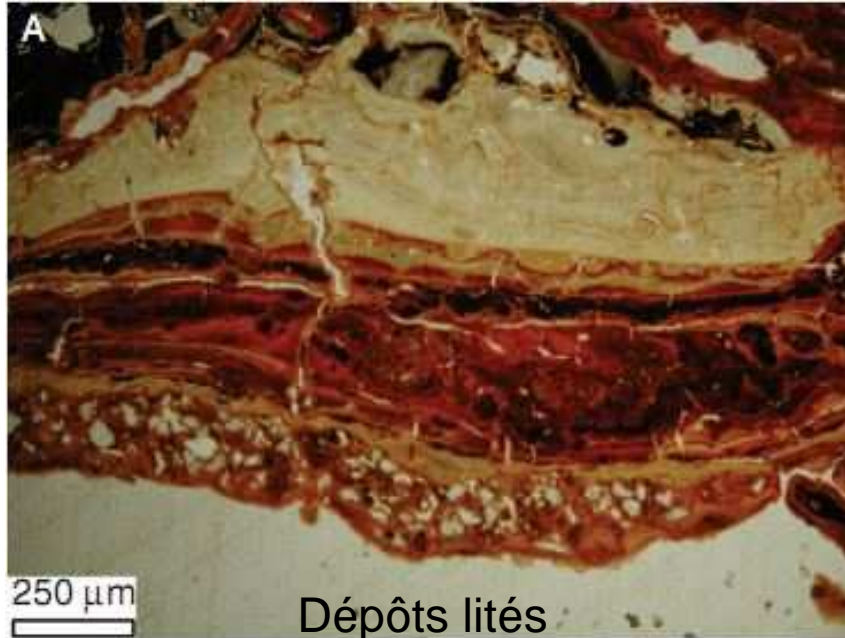
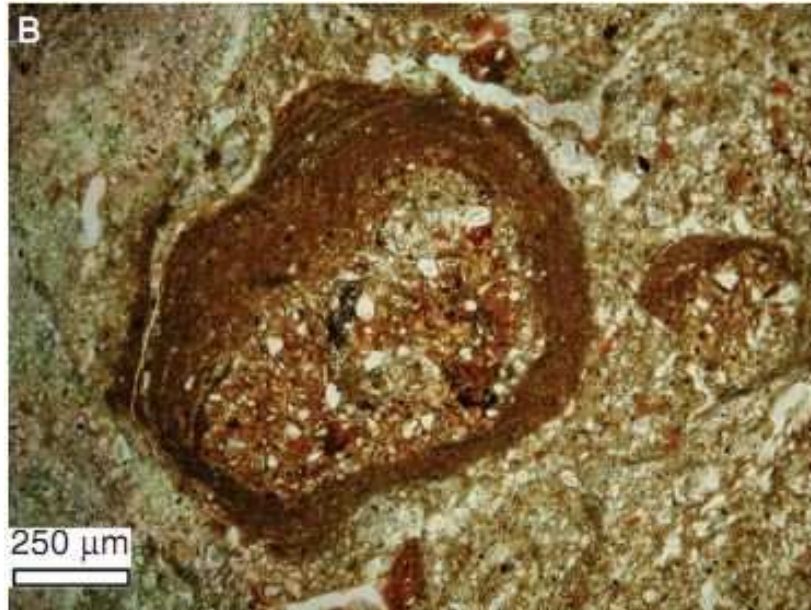
## Contents

1. Introduction
  2. Methodology
    - 2.1 Recognition of Palaeosoils and Relict Soils
    - 2.2 Reconstruction of history
      - 2.2.1 *Discontinuous soil evolution*
      - 2.2.2 *Soil memory*
      - 2.2.3 *Systems analysis of polygenetic palaeosoils and soils*
  3. Common Types of Hierarchies
    - 3.1 Textural features
    - 3.2 Ferruginous features
    - 3.3 Calcitic facies
  4. Reworked Materials
    - 4.1 In situ soil reworking and mass transportation
    - 4.2 Transport in suspension
    - 4.3 Aeolian processes
  5. Palaeoenvironmental Significance
  6. Transitions in Palaeosoil Sequences and Their Significance
  7. Reconstruction of The History of Relict Soils
  8. Dating Palaeosoil Development
  9. Diagenesis
  10. Conclusions
- References

# Concept de hiérarchie : base de l'analyse séquentielle des sols



# Revêtements argileux



# Intercalations

Fedoroff & Courty, 2012

Textural features and microfacies expressing temporary and permanent soil water saturation

Proc. 14<sup>th</sup> Int. Working meeting on Soil Micromorphology. Lleida, Spain

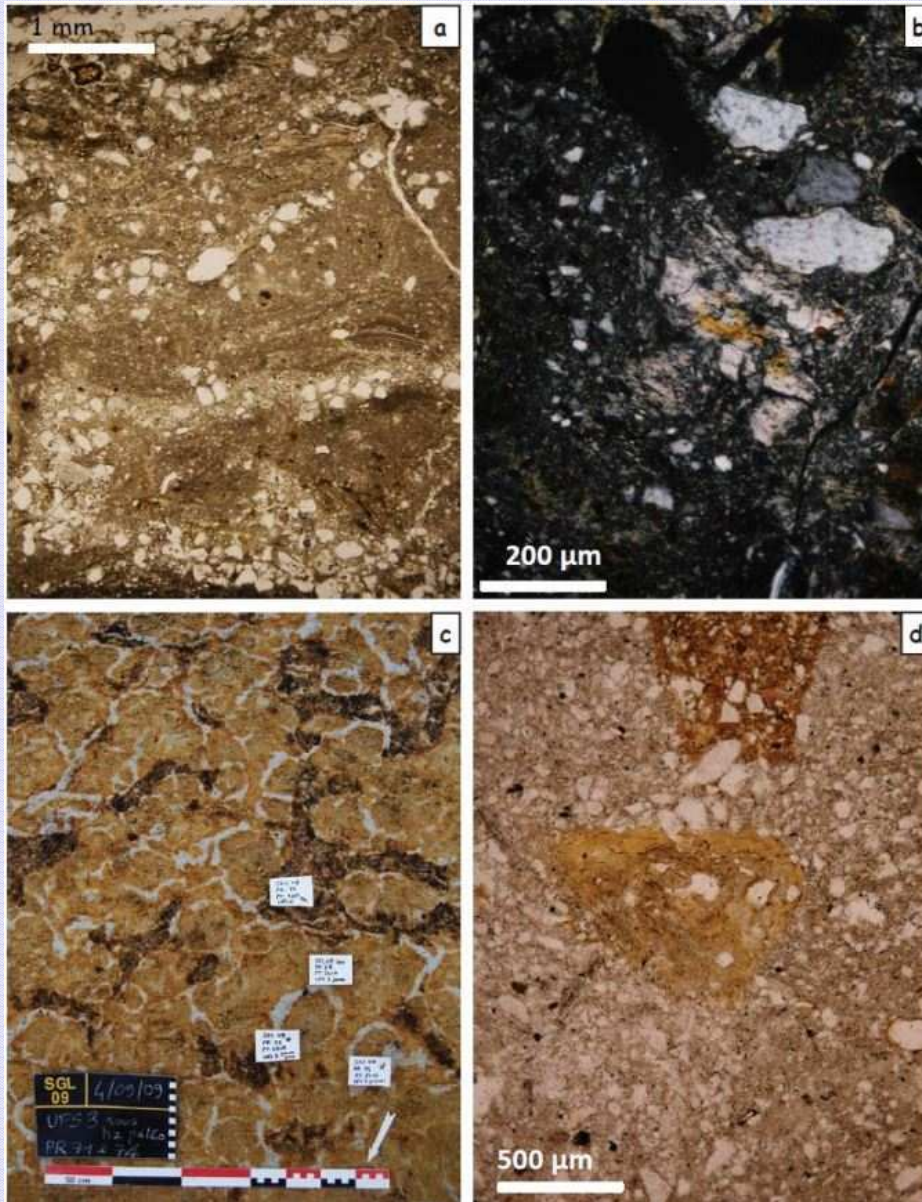
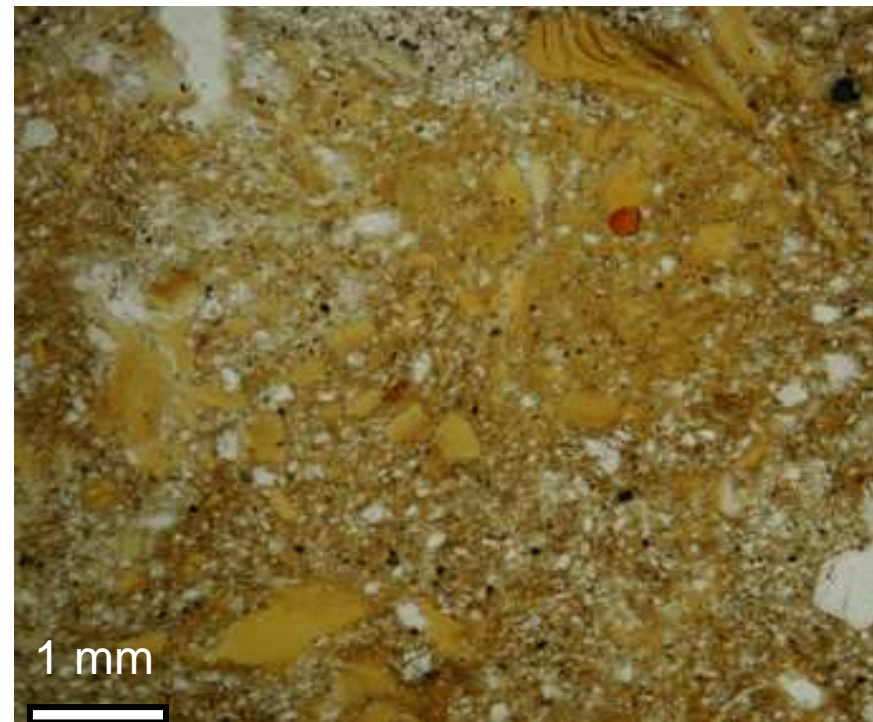
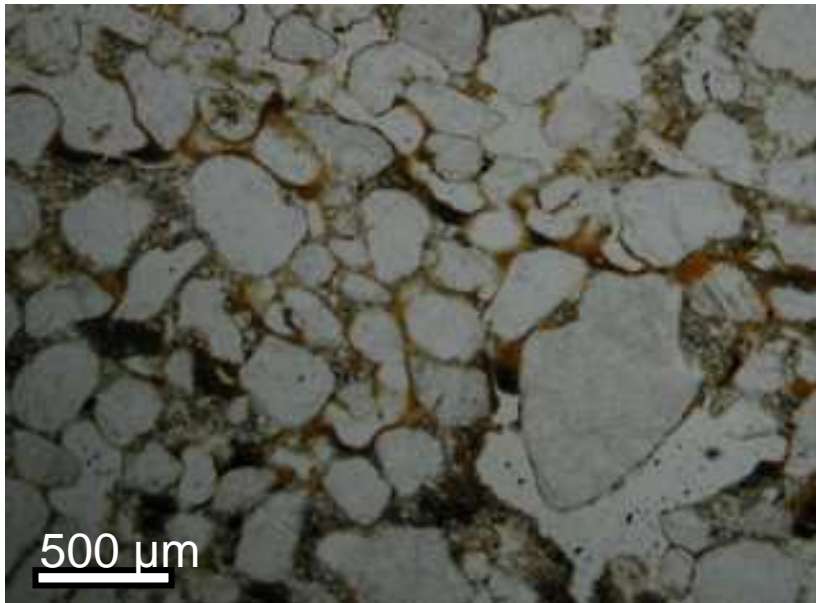
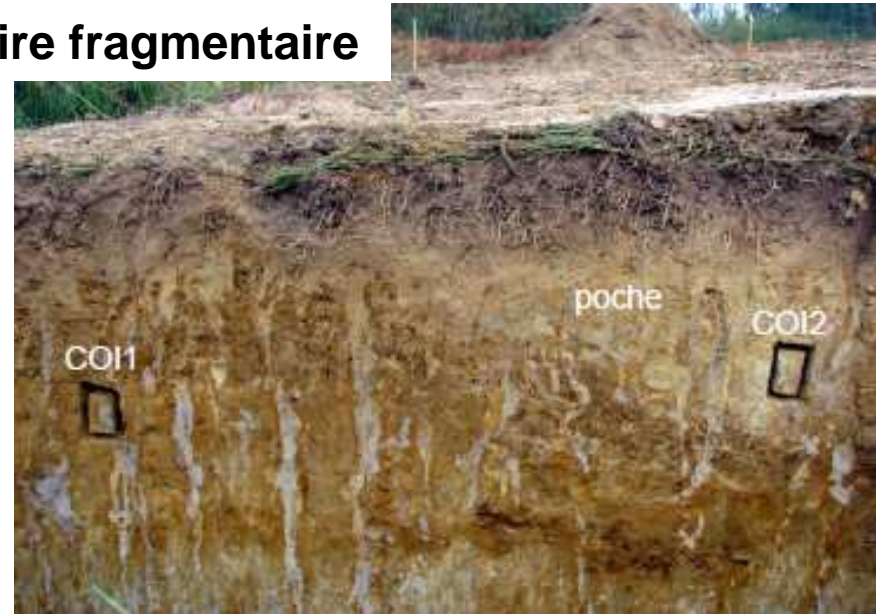


Figure 1. Micrographs from the Albeluvisols of the middle Palaeolithic sites of St-Gein and Cacères (south-west France). (a) Intercalative microfacies at the base of a well developed tongue (St-Gein). (b) A clayey intercalation characterized by medium orientation and some disjunction. (c) Horizontal view of the upper Bt horizon of the Albeluvisol of St-Gein. (d) Embedding of a waterlogged phase between two well drained clay illuvial phases in a relict horizon of Cacères.



# Paléosols et sols reliques : une mémoire fragmentaire



# Questions clés

## Evolution au cours du temps des sols avec traits texturaux (illuviation)

- L'illuviation d'argiles: en général considérée comme un processus continu en équilibre avec les conditions environnementales actuelles
- Aux échelles de temps géologiques: l'illuviation est discontinue, calée sur des changements climatiques abrupts
- Trop d'importance accordée aux revêtements argileux
- L'illuviation n'est pas reliée à l'éluviation

## Problèmes à résoudre

- **Origine, composition et signification des revêtements argileux**
- **Pourquoi les processus de formation des sols sont-ils discontinus?**
- **Relations entre revêtements argileux, stabilité des sols et carbone**

**Limites de la micromorphologie des sols atteintes**