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# LIPID BIOMARKERS ARCHIVED IN GUANO ACCUMULATIONS FROM FRENCH CAVES

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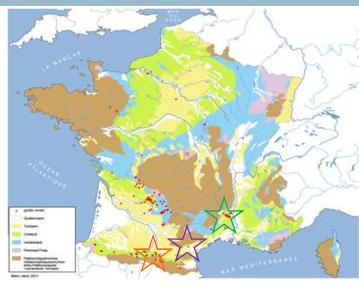
## Introduction

Guano are accumulations over time of materials issued from bat excretions. Although they constitute potential archives of past environmental changes, they are yet unexplored, at least from an organic geochemistry point of view. Here we discuss biomarker imprints from 15 guano samples recovered from various French caves.

### What?



### Where?



Sample	Site	Town	Age
BROU-3	Brouzet cave	Corrèze	In progress
DEMOI-04	Démoléses cave	Saint Baulzille de Putois	In progress
ESCA-019	Escalans cave	Saint Baulzille de Montmel	4544 - 4368 BC
ESCA-020	Escalans cave	Saint Baulzille de Montmel	6067 - 5920 BC
FEES-001	Fées cave	Tharaux	>45 000 BC
FEES-003	Fées cave	Tharaux	
Jherm-4	J'Herme cave	Jherm	In progress
Jherm-5	J'Herme cave	Jherm	In progress
Jherm-11	J'Herme cave	Jherm	In progress
MIG-013	Migou cave	Corrèze	553 - 5373 BC
MIG-014	Migou cave	Corrèze	In progress
ROQ-002	La Roquette cave	Conqueyrac	419 - 548 BC
TOUIT-3	Tourtouse cave	Tourtouse	Recent
TOUIT-5	Tourtouse cave	Tourtouse	Recent
TOUIT-10	Tourtouse cave	Tourtouse	Recent

### How?

**Extraction:** DCM:isopropanol / ultrasonically

**Separation:** Aminopropyl-bonded silica

- Neutrals= DCM:isopropanol
- Acids= Formic acid-ether, ether
- Polars= MeOH



### Identification/quantitation:

• GC: TRACE1300

• • BPX5 60 m, 0.32 mm id, 0.25 µm

• MS: Thermo Scientific ISQ QD



## Biomarker distributions

### n-Alkanes

