



La Pélite

The red gorge shows up in your mailbox when you least expect it.

Discovering...

Fossils

A fossil is a **remnant of life** which has been preserved inside sedimentary rocks formed before today's geological period. It can be shells, feces, burrows, pieces of wood, bones, pollen, trackways, and so on. These remains can be from animals or plants.

In most cases, fossils are formed by mineralisation: over time, dead organic tissues are gradually replaced by minerals. This is how well-preserved remains of living organisms can be found.

Few Permian fossils have been discovered in the Gorges de Daluis Reserve's red pelite. The first one was unearthed by Jean Vernet in 1963: it was an insect wing. 40 more years would pass before another fossil was found. Nowadays, **fossils of 4 different species** have been excavated:

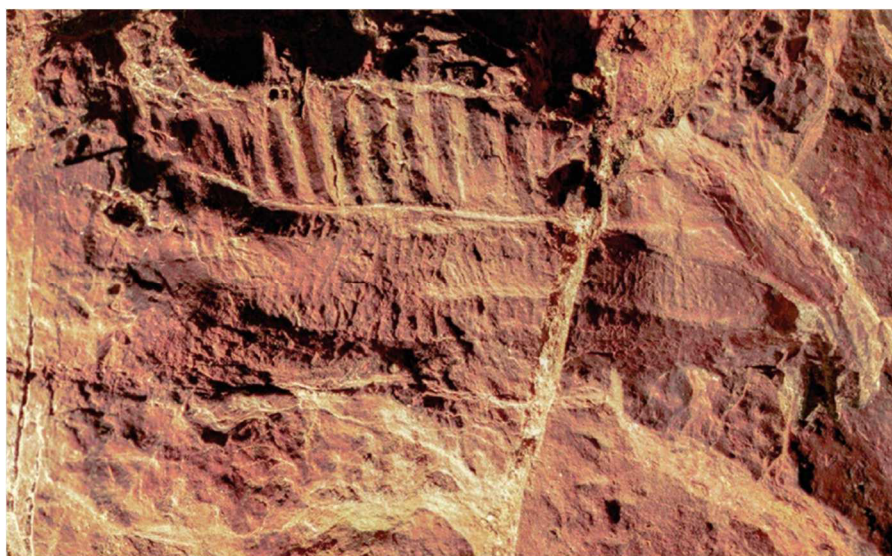
- A *Meganeuridae* wing: a primitive odonata (dragonfly) in 1963,
- Triops: two-to-fifteen-millimetre long crustacean arthropods in the 2000s,
- Conchostracans: small bivalve crustaceans,
- A *Permotettigonia gallica* wing: a Permian leaf grasshopper, found by Pierre Rostan in 2016,

These fossils are very useful, they give us crucial information: about the site's climate and environment 270 million years ago, but also about environmental pressures back then. These clues, put together, help scientists figure out the mysterious puzzle of the History of Earth and Life.

Meeting...

A paleontologist

Paleontology is the study of fossilized remains of



Permotettigonia gallica (forewing) © R.Garrouste.

past living creatures and what it tells us about evolution.

Romain Garrouste grew up in Var, before moving to Marseille and Nice to study the interactions between organisms and their habitats. While working in French Guiana, he discovered termites trapped in copal ore and found his true calling as a paleontologist. He then went from studying living creatures to fossil ones. This gave him a clear advantage thanks to a principle called "Uniformitarianism" or "Doctrine of Uniformity": changes in environment are caused by the same factors no matter the period. From there, the living conditions of today's species can be applied to the equivalent fossil ones.

Today, the paleontologist works as a researcher at the **French National Museum of Natural History** and at the *Institut de Systématique, Évolution, Biodiversité* (ISyEB) where he has described paleontology as a tool to make progress in genetics. The scientist fights to draw attention to the *Dôme de Barrot*, where he has resumed fossil excavation.

Upcoming...

School activities

"From pebble to planet" and "Men and rocks": 2 educational days animated by Mercantour National Park in the school of Valberg on **22nd January**, and in the school of Guillaumes on **6th February**.

Did you know...?

Permotettigonia gallica

The discovery of this wing shook the scientific community. It belongs to the oldest known grasshopper. We now have to reconsider the group to be more than 100 million years older. The wing shares the same characteristic shapes as the wings of today's "leaf grasshoppers". "Leaf grasshoppers" are well-known in humid intertropical regions for being mimetic insects, which means they mimicry (imitate) surrounding leaves to better hide from predators.

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