According to Fabrice Cordey, a researcher at the Paleoenvironments and Paleobiosphere Laboratory at Lyon-I University, "500,000 fossil species are known to date, and only 0.0002% of the species that have lived since the Cambrian (around545 million years ago) have been discovered in the form of fossils" (Science*and Life No. 1106).*

Fossils (from the Latin *fossilis,* taken from the Earth) are known as"intoxicated or imprintedwith plants or animals, buried in rock layers prior to the present geological period, and preserved there" *(Dictionary Larousse).*

Indeed, by definition, a living organism dies, as a result, as a result, its soft parts (organic matter) and its hard parts (skeleton, shell...) decompose by the action of the chemical elements of the soil, water ... leaving no trace. But, unusually, some people sometimes escape this reality and become, over time, fossils. This particularity is the result of a long process called **fossilization.**

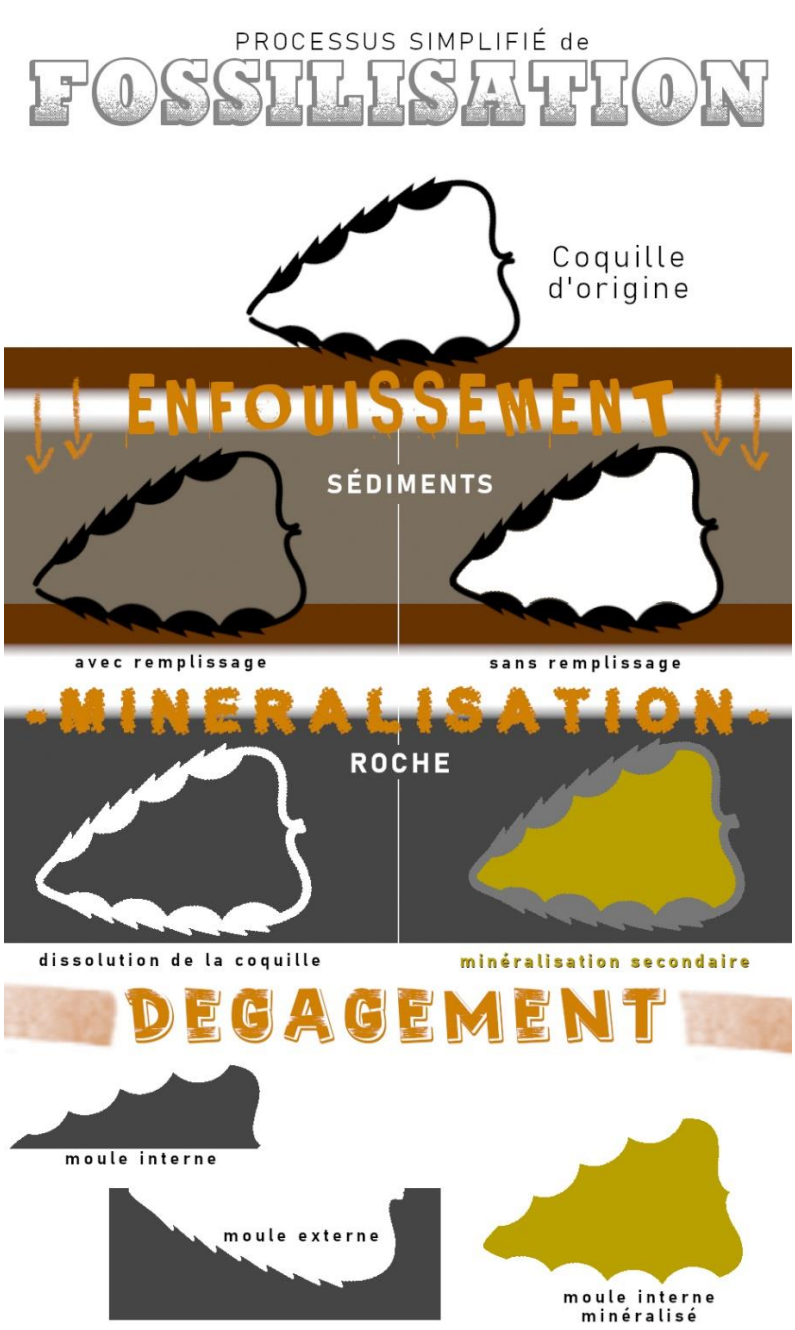
It is, in fact, a set of transformations that a living being undergoes after death and burial in the ground.

Fossilization is a rare process that can be done in different forms:

Minéralisation	 ammonite	La matière organique va progressivement se transformer en matière minérale.
Incrustation		Des eaux fortement chargées en carbonate de calcium vont créer une fine pellicule minérale sur l'organisme mort.
Carbonisation	 pecopteris	Cela concerne davantage le monde végétal et consiste en une forte baisse des teneurs en oxygène et en azote de la plante au profit du carbone.
Momification	 nodosaure	La momification est le processus de fossilisation le plus rare. Elle autorise la conservation totale d'un organisme et nécessite un enfouissement très rapide (dans la glace ou l'ambre par exemple).

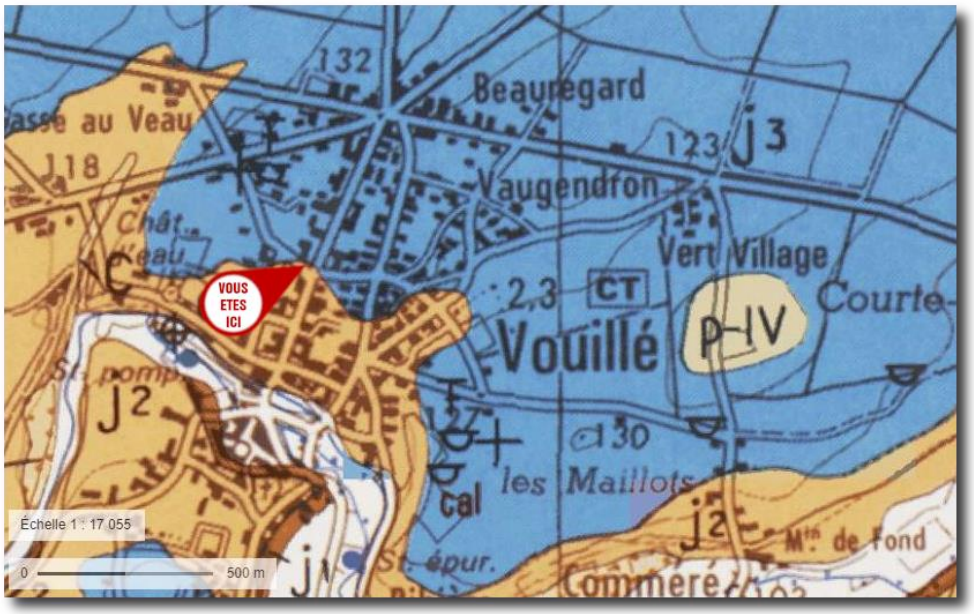
Other types of fossils exist, sometimes called indirect fossils, which are traces of the life of a living being such as footprints (called ichnites) or faeces (called coproliths).

The most common fossils are those that have undergone mineralization, with living tissues gradually being replaced by minerals.



After theory, practice!

Here you are in the commune of Vouillé to observe some fossils. But before that, a small state of the geological sites of where you are:



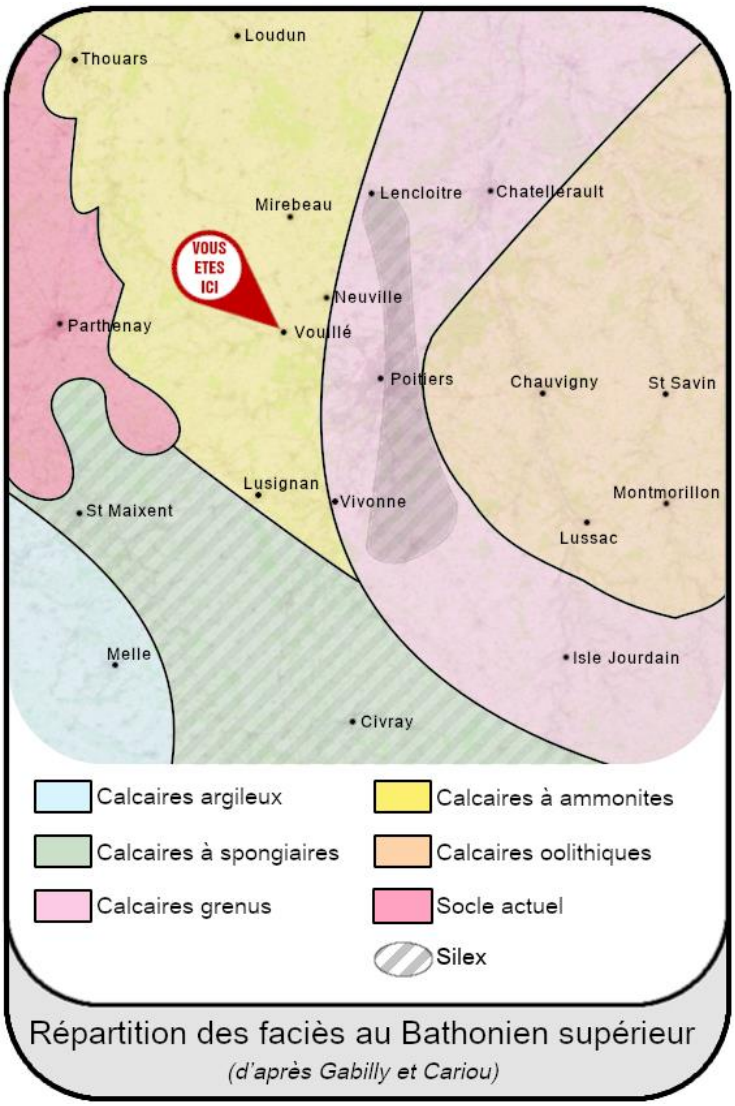
Carte géologique BRGM *(source : Géoportail)*

ECHELLE DES TEMPS GEOLOGIQUES

selon Gradstein & Ogg (2004)

Géosciences pour une Terre durable — brgm

Eon	Ere	Système Période	Série Epoque	Etage	Repère carte	Age* en Ma
Phanérozoïque		Quaternaire	Holocène		q4	0.0118
			Pléistocène	Supérieur	q3	0.126
				Moyen	q2	0.781
				Inférieur	q1	1.806
				Gélasien	n3	
			Pliocène			
	Mésozoïque				n1	
		Jurassique	Supérieur	Tithonien	j7	145.5 ±4.0
				Kimméridgien	j6	150.8 ±4.0
				Oxfordien	j5	155.0 ±4.0
			Moyen	Callovien	j4	161.2 ±4.0
				Bathonien	j3	164.7 ±4.0
				Bajocien	j2	167.7 ±3.5
				Aalénien	j1	171.6 ±3.0
			Inférieur	Toarcien	l4	175.6 ±2.0
				Pliensbachien	L3	183.0 ±1.5
				Sinémurien	l2	189.6 ±1.5
				Hettangien	l1	196.5 ±1.0
			Supérieur	Rhétien	t7	199.6 ±0.6
				Norien	t6	203.6 ±1.5
				Carnien	t5	216.5 ±2.0



Répartition des faciès au Bathonien supérieur

(d'après Gabilly et Cariou)

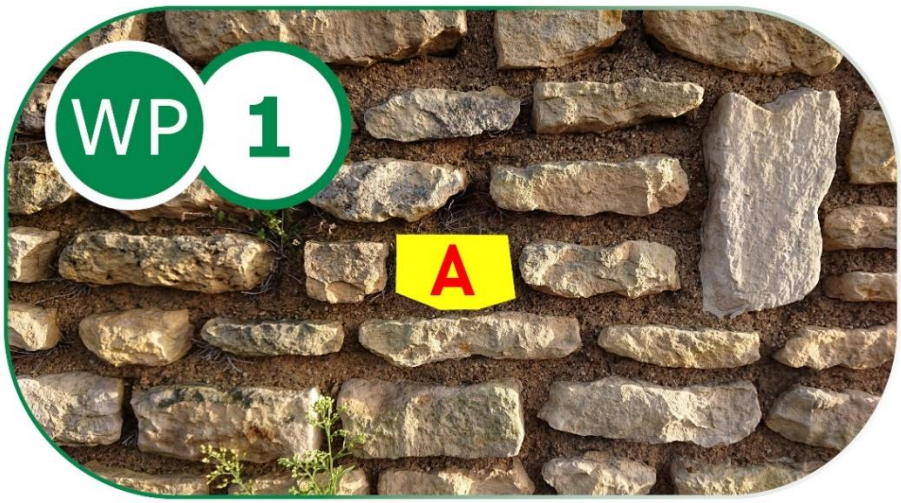
This small village has many local stone buildings that will allow us to observe some fossils.

Questions

Question 1

What kind of rock is under your feet right now? What geological floor does it belong to?

See you at WayPoint 1(N46°38.572 E00°10.007)



Question 2

What living organism became a fossil in front of you?

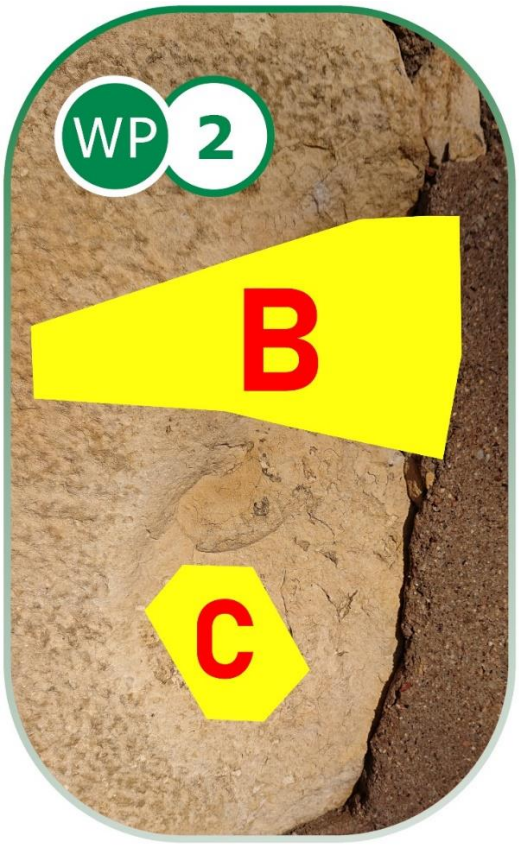
Question 3

What form of fossilization has taken place on this living organism?

Question 4

What is the final shape in zone A: inlay, carbonization, internal mold, external mold or mineralized mould?

See you at WayPoint 2 (N46°38.556, E00°10.029)



Question 5

Which living organism became a fossil in Zone B?

What is the final shape in zone B: inlay, carbonization, internal mold, external mold or mineralized mould?

Question 6

What is the final shape in zone C: inlay, carbonization, internal mold, external mold or mineralized mould?

To validate your visit, send me your answers by the message center or by e-mail *(see top of page)*.

Earthcache

A cache by HUBair Message this owner

You can log in "Found it",
and I will contact you if there is a problem.

References

http://www.cosmovisions.com/fossile.htm
https://www.futura-sciences.com/planete/definitions/paleontologie-fossilisation-1972/
http://www.linternaute.com/science/biologie/comment/06/fossilisation/fossilisation.shtml
http://sigespoc.brgm.fr/spip.php?article34
https://gigadino.pagesperso-orange.fr/basespaleo.html