

Chapter 1. Introduction

1. Definition

The word palaeontology, which comes from Greek, means the study of ancient life forms:

- Palaeo, from the Greek palaios, meaning ancient ;
- Onto, from the Greek ontos, meaning life, being ;
- Logy, from the Greek logos, meaning discourse or science

Palaeontology is therefore the science that studies life forms of the past. It is concerned with any trace left by a living organism that has been preserved in rock ; these remains are called fossils. The term fossil comes from the Latin word fossilis, meaning « drawn from the earth », and initially referred to any object that had been excavated and isolated. However, since the 18th century, with the rise of comparative anatomy and palaeontology, the concept of fossils has been applied specifically to the remains of organisms most often preserved in sedimentary rock.

2. Types of fossils

These are whole remains or fragments corresponding to the hard parts of organisms :

- Skeletons, shells, tests, carapaces, etc. ;
- Soft parts can also be fossilised. There are various ways of preserving the soft parts of organisms: mummification (feathers, skin, flesh, etc.), freezing, inclusion (amber, resin), carbonisation, in salt deposits (Permian bacteria, 350 million years old).
- There are also imprints and casts, such as the internal casting of a shell by sediment penetration, which subsequently hardens.
- Studies of traces of animal activity (ichnofossils) that may originate from:
 - Feeding : excrement (coprolites);
 - Locomotion : tracks (worm tracks) ;
 - Reproduction : dinosaur eggs, spores and pollen ;
 - Housing : burrows, tunnels, resting trace.