

## Fossil Record

When first challenged with this question, many ideas came to mind. However, based on the source material provided and some extended reading, I have developed the following theories as to why palaeontologists think they have only discovered 1% of all animals as fossils.

My initial reasoning was that animals have different decomposition rates. This means (from the viewpoint of fossilisation) that (ancient) animals broke down faster than others, so could never be fossilised and, therefore, couldn't have been found as fossils. As we know, soft tissues are only occasionally preserved due to micro-organisms being able to break them down, as well as the fact that they are so fragile. However, it is clear that bones can easily be fossilised or withstand remaining in the ground for hundreds (if not thousands of years), with clear proof being the discovery of dinosaurs and other now extinct species. However, the oldest fossil finds were only of single species. Also, who is to say that at that stage of evolution of other organisms in the World that bones (and bone like structures) had not fully developed a strength, or even been created in many of the species, so that animals could survive the Earth's initial conditions. Animals may have been made without a specific structure/ very weak one (which then developed over time to what we have now) and were just very simple cell structures. This would mean that animals couldn't have fossilised because they decomposed too quickly, or their bone structure was so weak that there was no evidence left to be found by future palaeontologists. These types of animals would have been plentiful, however, may have gone extinct quickly, making up a large number of unknown species. A possible explanation as to why only 1% of animals may have been found.

Another possible answer to the question could be the human and natural impact on the land (past and present) where fossils may lie. As humans settled and developed across the world, it is fair to say that we changed the land. Be it mining, in which strange rocks would (in the past) be broken and disposed of or used to build shelters/housing. A large number of animal fossils from ancient and extinct animals may have been destroyed entirely, especially as countries began to urbanise. However, geological changes in the Earth could also have removed these fossils through natural disasters and other earth shattering and changing events (such as the breakup of Pangea which would have destroyed many previous fossils along the lines where continents split). The movement of land and wearing down as people relentlessly continued to change the environment would have played a massive factor in removing fossils and therefore evidence of whole species.

In conclusion, I believe that decomposition, and the impact of geological and human changes to the Earth, have compromised the preservation of ancient life forms and can explain why palaeontologists have potentially only discovered 1% of animals as fossils.