

Most taxa can be names using English or Latin, for example you talk about the kingdom Animalia or the animal kingdom- consisting of all types of animals.

Species concept

Sometimes different species can interbreed, eg: lion and tiger, so we get liger or tigon is there. Depending on which one is male and female.

Then we have horses and donkeys, you get mule (male donkey) and hinny (male horse). – But offspring are not fertile.

The definition is good for organisms that are alive today but it doesn't help us very much to decide whether two fossil ammonites belong to the same or different species or whether two kinds of birds for which we only have skeleton or feathers in a museum were able to breed together. Moreover as many instances in biology by classifying organisms into species, we are trying to put things into neat and tidy groups that do not really exist.



If one species can evolve into another, then we have to expect to find some groups of organisms where it is difficult to decide if we are dealing with one species or two. Also there are difficulties in organisms where they do not normally reproduce sexually, while everyone agree that blackberries plants belong to genus *Rubus*, there is less agreement that about whether they all belong to the same species such as *Rubus*, *Fruticosus*, etc. the difficulty is that blackberries produce asexually, but occasionally they do produce sexually then there are slight variations in their offspring. Each of them will go on to produce new plants, which are genetically identical to them. Unsure if they are the same or different species???

Phylogeny – study of evolutionary relationships

In modern ways, we can use embryonic relationship. So you study the embryos of different thing and if they have the same characteristics, you can say that it belongs to the same species. As a result of evolution we can say all organisms came about from one common ancestor.

Evolution happens because environment is changes... the parallel changes happens to the organism as well. So without the changes in the organism, it wouldn't survive. But not all the changes that happen are useful, some are, some are not. If it is useful, then that particular organism can produce more their offspring. Eg, when you use antibiotic regularly, some organisms in our body develop a resistance to it. So next time you need a higher dose. After 5 years or so, the microorganisms can grow resistance power, they evolve.

Also mosquito repellent, they can evolve, or they won't survive. Even in our body, there's evolution happening parallel to the environment. But it is just too slow to notice it. According to scientists, in about 50 or 100 years, there will be two different groups of humans. One group will be very tall, rich and facial structure will be different, as they won't