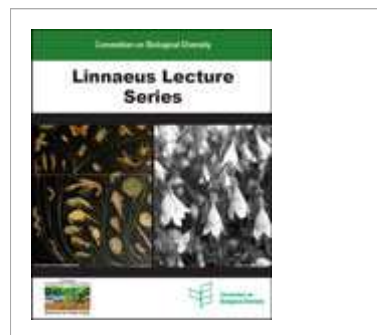


What is Taxonomy?

Taxonomy is the science of naming, describing and classifying organisms and includes all plants, animals and microorganisms of the world. Using morphological, behavioural, genetic and biochemical observations, taxonomists identify, describe and arrange species into classifications, including those that are new to science. Taxonomy identifies and enumerates the components of biological diversity providing basic knowledge underpinning management and implementation of the Convention on Biological Diversity. Unfortunately, taxonomic knowledge is far from complete. In the past 250 years of research, taxonomists have named about 1.78 million species of animals, plants and micro-organisms, yet the total number of species is unknown and probably between 5 and 30 million.

Click **here** for information on the biography and legacy of the "father of taxonomy", Carl Linnaeus.



What's in a Name?¹

Different kinds of animals, fungi and plants and microorganisms are called different 'species'. This reflects a real biological difference – a species is defined as a potentially interbreeding group of organisms that can produce viable offspring that themselves can interbreed. Thus animals of two different species, like a horse and a zebra, cannot interbreed, while animals of the same species can. Taxonomists provide unique names for species, labels that can help us find out more about them, and enable us to be sure that we are all talking about the same thing. Of course, there are names for organisms in many languages, but it is important, for example, when discussing the hedgehog to know whether one is talking about the small spiny insectivore *Erinaceus europaeus*, other members of the same family, cacti of the genus *Echinocerus*, or the orange fungus *Hydnum repandum*, all of which have the same 'common' name in English. For this reason the Latin 'scientific' name, is given as a unique universal identifier.

How to Name a Species: the Taxonomic Process¹

Taxonomists begin by sorting specimens to separate sets they believe represent species. Once the specimens are sorted the next job is to see whether or not they already have names. This may involve working through identification guides, reading descriptions written perhaps 200 years ago, and borrowing named specimens from museums or herbaria to compare with the sample. Such comparison may involve external characters, need to dissect internal structures, or even molecular analysis of the DNA. If there is no match the specimens may represent a new species, not previously given a name. The taxonomist then has to write a description, including ways in which the new species can be distinguished from others, and make up a name for it, in a Latin format. The name and the description must then be properly published so that other taxonomists can see what has been done, and be able to identify the species themselves. From finding the specimens to the name appearing in print can take several years.

1. Text taken from: Secretariat of Convention on Biological Diversity. 2007. Guide to the Global Taxonomy Initiative, CBD Technical Series # 27