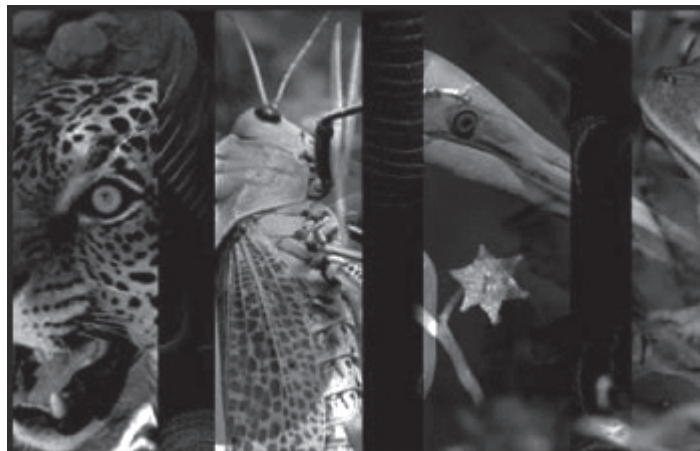


What are species?



Species, such as the quetzal, ahuehete (*Montezuma cypress*), jaguar, dahlia, crocodile, and the monarch butterfly are the units in which we categorize all living things, including human beings. A species is a **group of organisms that can reproduce and create fertile offspring**.

In general, individuals of a species are recognizable because they are similar in form and function. Often, however, individuals of a species are very different. For example, male and female birds of the same species are very different, tadpoles are very different to frogs, and caterpillars are very different to butterflies. The opposite can also be true: some species appear very similar and are difficult to distinguish at times, even with the most expert eye.

In the past, species were classified according to their shape. Carl Linnaeus (1707-1778), the Swedish botanist, naturalist and explorer proposed a method of classification known as the **binomial system**, which assigns a pair of names to each species: The name of the genus which it shares with other related species and the species name, which is unique. For example, the wolf (*Canis lupus*) and coyote (*Canis latrans*) share the generic name *Canis* and are close relatives, but each also has its unique specific name.

At present, the innovative techniques of DNA analysis allow us to determine the identity and the family relationship between species. The measure of similarity or difference between the DNA of different species is known as **genetic distance** and allows us to understand the degree of relationship between species.

The rules of scientific nomenclature are specified in five codes: animals (International Code of Zoological Nomenclature), plants (International Code of Botanical Nomenclature), cultivated plants (International Code of Nomenclature for Cultivated Plants), bacteria (International Code of Nomenclature of Bacteria) and viruses (International Committee on Taxonomy of Viruses).

Subspecies. Subspecies, varieties, species or geographical races are emerging species, i.e. species in formation. They possess features of anatomy, physiology or behavior, normally appropriate to the environment in which they live, but which differ from the average characteristics of the species to which they belong. For example, the Mexican wolf (*Canis lupus baileyi*) is the smallest subspecies of gray wolf (*Canis lupus*). In scientific classification these are distinguished by a third name that designates the subspecies.

