

## THE CONCEPT OF SPECIES - CORRECTION

Look at: [http://bit.ly/concept\\_species](http://bit.ly/concept_species)

### 1- Three different concepts of species

(name and define the 3 concepts presented in the document)

- The morphological species concept: it defines species based on similar physical appearances. This concept is not perfect because it can lead to confusion. Indeed, sometimes organisms may look different, yet belong to the same species while organisms may look alike but are not the same species.
- The biological (or isolation) species concept: It states that species are members of populations of organisms which interbreed. Their offsprings can also mate and reproduce.
- The phylogenetic species concept: it defines a species as a group having a shared and distinctive evolutionary history. The members of this group descended from a common ancestor and share identical characteristics.

### 2- Surprising examples

(list the two examples of hybrids presented in the document and two of their characteristics – about genetics and reproduction)

First example: the mule is the result of a cross between a mare (female horse) and a jackass (male donkey). Most of the time, mules are sterile. They possess a different number of chromosomes compared to both donkeys and horses.

Second example: the zebroid is the offspring of a cross between a zebra and any other equine. In most cases the sire (= father) is a zebra stallion. The females zebroid are poorly fertile and males generally sterile. They possess a different number of chromosomes compared to both parents.

Pas attendu dans votre réponse, mais à relever :

Ces deux exemples montrent que le « biological concept of species » n'est pas parfaitement adapté car ici, deux individus d'espèces différentes peuvent se reproduire ensemble et parfois le descendant est fertile (même si c'est extrêmement rare).

En conclusion, on se rend compte que le **critère le plus fiable qui nous permet de réunir des individus au sein d'une même espèce** n'est pas leur morphologie, ni leur faculté à se reproduire ensemble, mais leur nombre de chromosomes, autrement, la **génétique**. En effet les hybrides ont toujours un nombre de chromosome différent de celui de leurs deux parents, qui eux même n'ont pas non plus le même nombre de chromosomes (ex : âne : 62, cheval : 64, mule=hybride : 63).

### **CONCLUSION: Is it easy to define the concept of species?**

It is not easy to define the concept of species. There are always exceptions to the rule as we could see in the examples before.

The concept of species is a creation of humans in order to classify the living beings, but it is not possible to find the perfect definition because nature doesn't answer to human's rules.