

Biological Species

A group of **interbreeding natural** population that **do not** (usually) successfully **mate** or **reproduce** with **other such groups** (which occupy a specific niche)

Asexual Species

Fragmentation - Starfish - An arm is removed, and grows into a new Starfish. Where the arm that was removed, a new arm will regrow on the old body.

Budding - Yeast - Buds come off of their organisms which, are genetically identical to them.

When relatives mate

Two different, yet closely relating species mate	Horse + Donkey = Mules (mostly infertile)	Russet-backed Thrush + Olived-backed Thrush (fertile offspring)
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Cohesion Species

Small group of cohesive individuals that share intrinsic cohesive mechanisms.

Genetic cohesive mechanisms - Gene flow and stabilising selection function to maintain species integrity

Cohesion Species (cont)

Ecological cohesive mechanisms - Abundance, demographic stability, strengths of interactions with other species

Potential for genetic and/or demographic exchangeability. Downplays hybridisation (i.e. what separates species)

Ecological Species

Lineages that **occupy** and **adaptive zone different** in some way from that of any other lineage **within** its range, and which **evolves separately** from all other lineages **outside** its range

Common ancestor but now diverged **Ecological competition** within its **own species**

Adapting to individual niches

Recognition Species

Recognise - Linked to **features** used to each other for the purpose of **mating** and **reproduction** recognise mates

White peacock - Females would not recognise him as the same species. They may not mate with him.

The Western meadowlark and Eastern meadowlark - Look very similar but have a different song. They do not breed as their distinct song prevents them from recognising each other.

The sixth mass extinction

Earth appears to be undergoing a **6th mass extinction** - Extinction is occurring **faster** than **"background extinction"** (which occurs between the mass extinction events)

1 species extinct per 1 million species **each year** - Rate of between 10-10,000 times faster than background extinction

Recent data

Lower estimate - 200-2000 species a year

Upper estimate - 10,000-100,000 species a year

Extinction comes after

Decrease in population **size** - Decrease in population **distribution**

Hard to know..

We don't know how many species exist

Impossible to estimate - >Take **samples** and extrapolate up >Look at **patterns** in identification rates >Look at **ratio** - such as 1:6 vascular plants to fungi

Bias towards species - >Charismatic >Larger >Common species

Least known or described - >Fungi >Viruses >Bacteria

1.5 million catalogued so far - 100k well known

Estimated to be 3-10 million species **globally**

Anthropogenic causes

Anthropogenic hazards are **hazards** caused by **human action** or **inaction**. They are contrasted with natural hazards. Anthropogenic hazards may adversely affect humans, other organisms, biomes, and ecosystems.

land development is altering the landscape in any number of ways such as:
Changing landforms from a natural or semi-natural state for a purpose such as agriculture or housing
Subdividing real estate

over-exploitation the action or fact of making excessive use of a resource.

Species translocations and introductions Translocation: The intentional capture and release of animals to the wild to establish, reestablish, or augment a population.

pollution the presence in or introduction into the environment of a substance which has harmful or poisonous effects.

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