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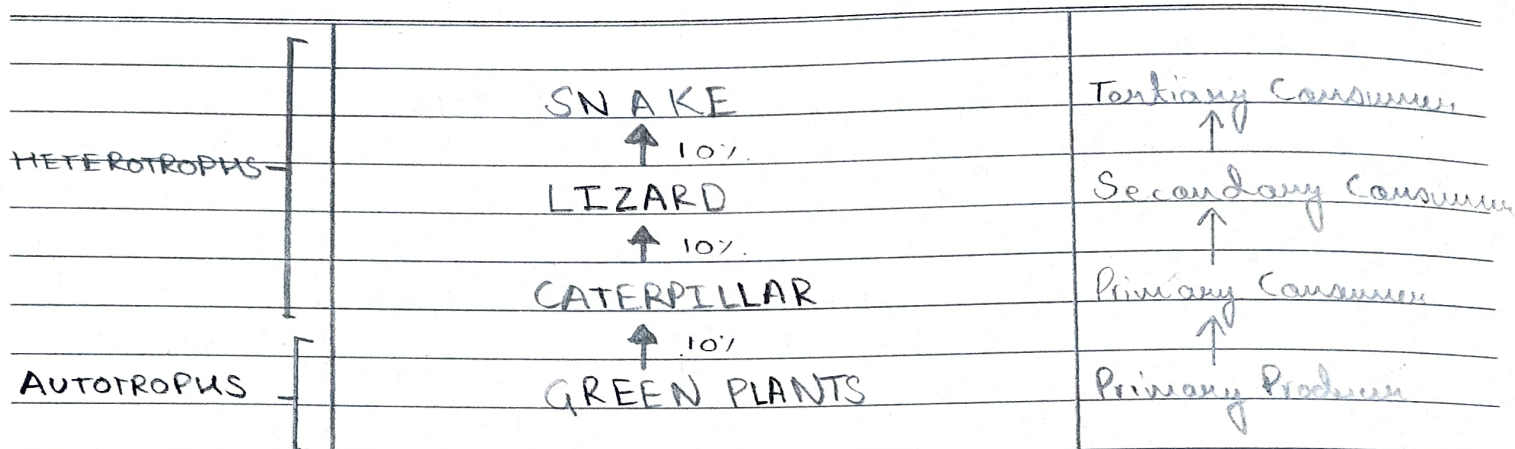
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### Terrestrial Ecosystem



### TROPICAL FORESTS

- A tropical forest is characterized by an area (typically vast) which is characterized and densely populated by tall vegetation. Before diving into the details regarding tropical forests, let's first get an idea of what a terrestrial ecosystem is.
- A terrestrial ecosystem, just like any other ecosystem, is composed of both biotic and abiotic factors interacting with each other and their environment. The term "terrestrial" means land or Earth, as these ecosystems are dominantly situated on land. A terrestrial ecosystem is nonetheless, complex and extremely interconnected harbouring a huge set of diverse life forms. The majority of the biomass is contributed by botanical life.
- To get a better idea of what a grazing food chain (GFC) in a terrestrial ecosystem looks like, let's depict one!



A Grazing Food chain of A TERRESTRIAL ECOSYSTEM

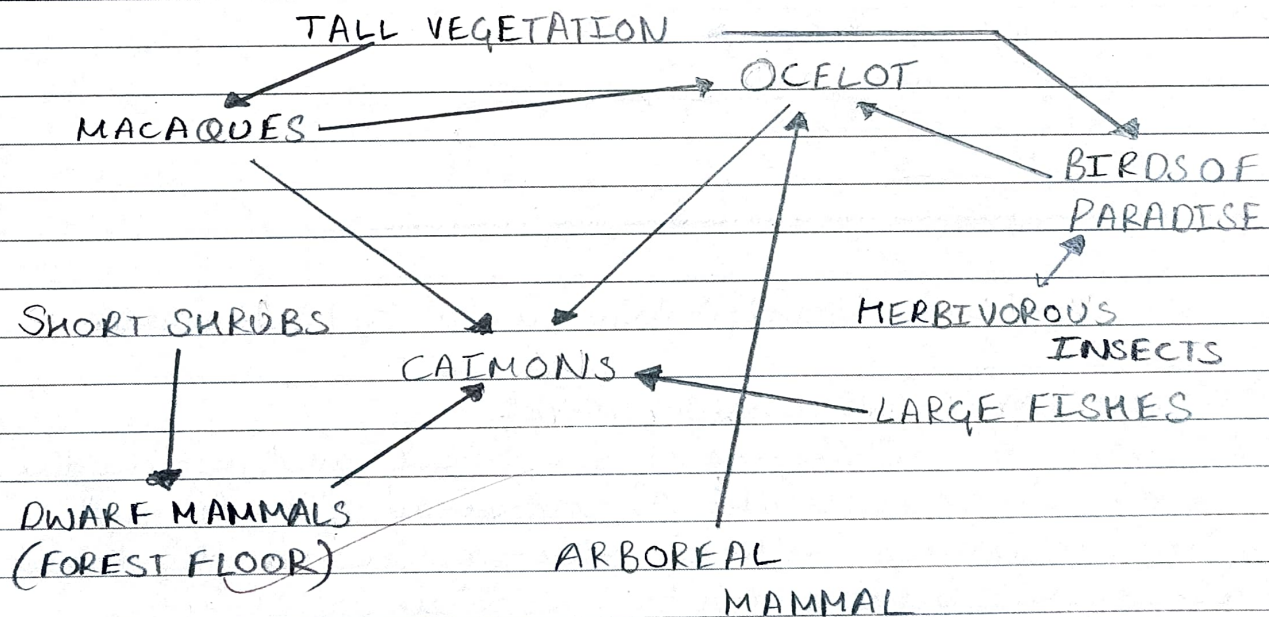
- Now that we understand and comprehend the basic idea behind a terrestrial ecosystem, let's continue with tropical forests, which are a type of terrestrial ecosystem.
- A tropical forest is typically situated in a tropical climate and receives a vast amount of sunlight. However, despite receiving large amounts of solar radiation, this ecosystem still manages to inhabit lifeforms which can't tolerate it. We will understand this in greater depth as we move on further.

#### LIFEFORMS IN A TROPICAL FOREST

- As stated earlier, a tropical forest is densely populated by vegetation. However, this does not mean that there is a low population in fauna. This ecosystem is also considerably popular for hosting a record breaking amount of endemic species (Both fauna and flora).



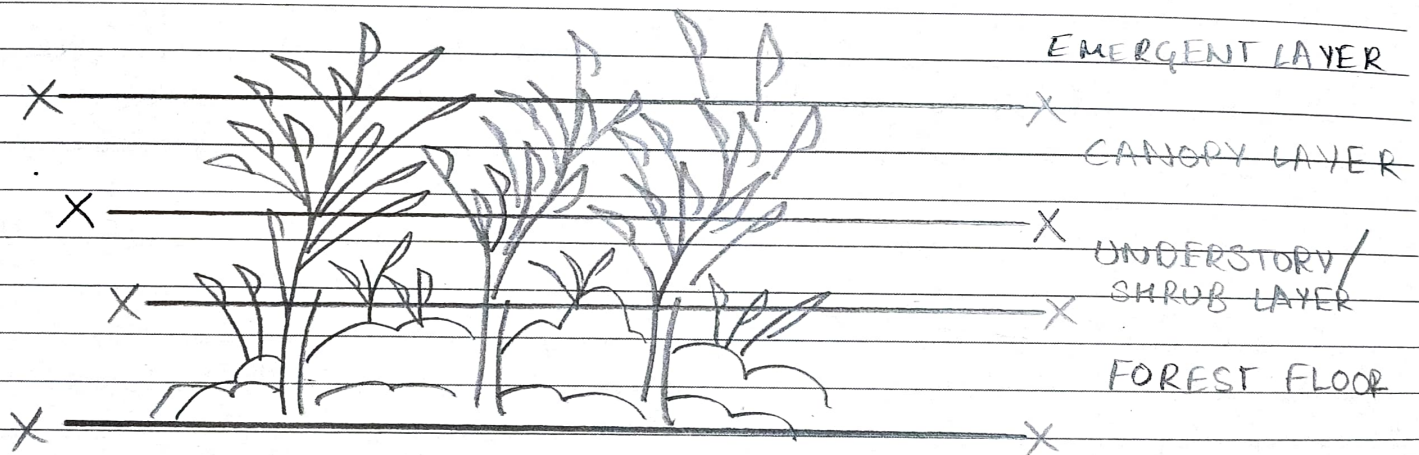
- These life forms may include carnivorous mammals, herbivorous insects, herbivorous mammals, an obscene amount of birds (aves), microorganisms and the list goes on and on.
- The flora may include evergreen trees and shrubs. Several angiosperms. Note that there have been reports and recordings of many species of angiosperms on the forest floors of tropical forests. This is very exciting for botanists as well as evolutionary biologists as it is a very rare possibility of seeing angiosperms in sunlight deficient environments. This also hints at the fact that forest biomes must have their own set of pollinators.
- The "who-eats-who" diagram for a tropical forest cannot be depicted in a simple linear food chain as it is a complex interconnected system. A food web might be a better choice.



A FOOD WEB REPRESENTATION OF A TYPICAL TROPICAL FOREST

## VERTICAL STRATIFICATION IN A TROPICAL FOREST

- A tropical forest, or really any type of forest is a unique habitat because it experiences vertical stratification in terms of biomass.
- If we vertically divide ~~the~~ forests into segments by only using ~~one~~ horizontal streaks, we will observe that each of those segments is a unique habitat on its own.



Vertical Stratification in a tropical forest

### EMERGENT LAYER AND CANOPY LAYER

- These are the topmost layers of the forest and receive the most amount of sunlight. A vast array of birds and arboreal creatures inhabit this section of the forest and experience great diversity in their population.
- Birds of paradise are one of the most prominent examples of biodiversity in the canopy of the forest ecosystem.



## UNDERSTORY / SHRUB LAYER

- This section of the forest accompanies with vast array of arboreal mammals and herbivorous insects. Some birds also ~~is~~ inhabit this region from time to time.
- A great variety of medium height vegetation is dominant here. This also attracts large to medium sized herbivores.
- A lot of frugivorous birds of paradise dominantly reside here in this section of the forest.

## FOREST FLOOR

- This is the lowest section of the forest which receives the least amount of sunlight. This allows for an entirely different microclimate to reside here, since this area is deficient of sunlight.
- A large variety of bacteria (nitrogen-fixers, parasites etc.) reside here ~~and the~~ along with small herbivores and small vegetation. This area is also very popular for hosting a wide variety of amphibious creatures.

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