

LEVELS OF ORGANISATION

The different levels of ecological organization include organisms, populations, communities, ecosystems, landscapes, biomes, and the biosphere.

1. Organisms

Organisms are the fundamental units of study in ecology. At this level, we seek to understand their structure, functions, behaviors, distribution, and how they adapt to their surroundings.

2. Population:

A population consists of a group of individuals belonging to the same species that inhabit a particular area.

3. Biological community:

A biological community is formed by various populations of different species in a given area. These populations interact with each other, displaying relationships such as competition, predation, and mutualism.

4. Ecosystem:

An ecosystem comprises a biological community interacting with its physical environment. This interaction involves the exchange of energy and the recycling of nutrients.

5. Landscape:

A landscape refers to a distinct unit of land with natural boundaries, containing patches representing different ecosystems.

6. Biome:

A biome is a large geographical region characterized by a specific type of vegetation and associated wildlife, determined by the prevailing climate.

7. Biosphere:

The biosphere encompasses all the Earth's terrestrial and aquatic biomes, creating a life-supporting zone.

Ecology primarily focuses on four levels of biological organization: organisms, populations, communities, and biomes. At each level, questions arise about how and why processes occur. For instance, when we hear a bulbul singing in the garden, we may wonder how it produces its song and why it sings. Exploring such questions with a scientific perspective can lead to fascinating insights. For example, understanding the mechanics of the bird's voice box and vibrating bone may answer the how-type question, while recognizing its need to communicate with a mate during the breeding season may address the why-type question. This approach encourages curiosity and the discovery of various intriguing phenomena in nature.

| S.No | Question | Answer |
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| 1. | Why are night blooming flowers generally white? | Night blooming flowers use their light-reflecting properties (moon light) and fragrance to attract moths and other insects for pollination. They are therefore white or light in colour. |
| 2. | How does the bee know which flower has nectar? | There is one bee whose job consists of scouting nectar flowers. Once this bee finds this flower, it does figure eight bee dance that is signal for the rest. |
| 3. | Why does cactus have so many spines? | Cacti grow in desert environment where water is very scarce. The purpose of spines is to protect fleshy stem of the cactus from predators and to minimize water loss which occurs through transpiration" |