Interactions of the Community

1. Outline six factors that affect the distribution of plant species.

|  |  |  |
| --- | --- | --- |
| Temperature | Soil pH | Light |
| *Enzyme-controlled reactions occur at optimal temperatures and some plants show extreme adaptations, such as frost-resistant crops and Manzanita shrubs, which need fire for germination.* |  |  |
| Water | Salinity | Mineral nutrients |
|  |  |  |

1. Explain how the following factors affect the distribution of animal species:

|  |  |
| --- | --- |
| **Factor** | **Effect on the distribution of animals** |
| Temperature |  |
| Water |  |
| Food Supply |  |
| Breeding sites |  |
| Territory |  |

1. Explain the following interactions between species, giving two examples of each:

|  |  |  |
| --- | --- | --- |
| *Herbivory* | Explain: | |
|  | e.g. 1: | e.g.2: |
| *Predation* | Explain: | |
|  | e.g. 1: | e.g.2: |
| ***Intra-****specific competition* | Explain: | |
|  | e.g. 1: | e.g.2: |
| ***Inter-****specific competition* | Explain: | |
|  | e.g. 1: | e.g.2: |
| *Parasitism* | Explain: | |
|  | e.g. 1: | e.g.2: |
| *Mutualism* | Explain: | |
|  | e.g. 1: | e.g.2: |

1. Explain what is meant by the *niche concept*.
2. Give an example of two species in their niches:

|  |  |
| --- | --- |
| **Example 1:** | ***Amphiprion ocellaris*  (clownfish)** |
| Habitat: |  |
| Nutrition: |  |
| Interactions: |  |
| Predators: |  |
| Reproduction: |  |
| Other information: |  |

|  |  |
| --- | --- |
| **Example 1:** |  |
| Habitat: |  |
| Nutrition: |  |
| Interactions: |  |
| Predators: |  |
| Reproduction: |  |
| Other information: |  |

1. Distinguish between *fundamental* and *realized niches*.

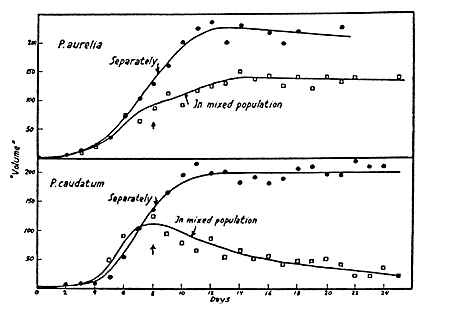
Fundamental:

Realised:

1. Using examples, explain the consequences of environmental change on a species with :

|  |  |
| --- | --- |
| A narrow niche: | A broad niche: |
|  |  |

1. Outline the method and importance of GF Gause’s paramecium experiments. (<http://www.ggause.com/gfg05.htm>)



1. Explain the *competitive exclusion principle*.
2. Using examples, explain how competitive exclusion can lead to:
   1. The removal/ replacement of one species from a niche.