Community Ecology

Community

- This term refers to the species that occur at any particular locality.

- Each community characterises by :

I. Constituent species or

II. Primary production

- Species interactions (mutualism or predation) lead to govern many ecological (population decrease or increase)and evolutionary processes (natural selection).

Concepts of Community

1. Individualistic concept: H. A. Gleason: species aggregation

2. Holistic concept: F. E. Clement: Superorganism whose constituents of species have coevolved together. (likes human body)

- Two different predictions can be proposed about the integrity of the community across space and time??????????????

Competition

- Niche:- is the sum of total ways the organisms utilise the resources of its environments.
- -Does the species is capable to occupy their entire niche? Why or what is the limitation for that?
- Interspecific competition: species compete for the sharing niches which is not available in enough to satisfy their requirements.

- Interference competition: Fighting over resources.
- Exploitative competition: consuming shared resources.
- So
- There are two types of niches:

1. Fundamental niche: the entire niche that a species is capable of using, based on its physiological and tolerance limits and resources needs.
2. Realized niche: the actual niche the species occupies

Gause Principle

- *Paramicum aurelia* and *Paramicum caudatum* (overlap in resources)
- Exploitive competition
- Competitive Exclusion: if two species are competing for a limited resources, the species that uses the resources efficiently will eventually eliminate the other locally (when niche is identical for both species and limited).
- *Paramicum bursaria* : the *P. caudatum*

and bursaria lived together in the culture tube. What? Oxygen concentration, So when the two species occupy the same unlimited recourses or the have different niches

Resources Partitioning

- Experiment of Warbler Species feed on insects at the tree?
- 1- feeds near the tip of branches
- 2- feed on the dense of leaves
- 3- feed at the base of branches
- 4- feeds on the tree
- 5- feed on the very apex of the tree

- **Sympatric species: the same species occupy the same geographical space: they avoid the competition by living in different portions or utilising different food. This kind of partitioning result from the natural selection (different morphological features).**

- **Allopatric species: the same species with the same morphological features**