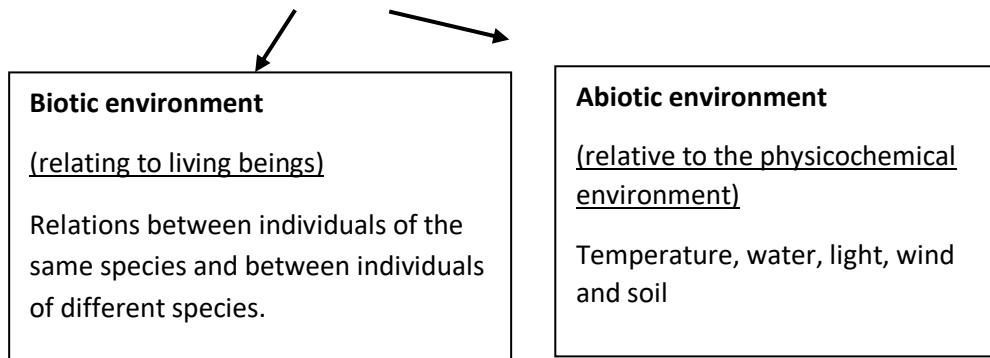


Scientific terminology

Definition of ecology

Science that studies organisms (their distribution and abundance), the relationships they have with their environment as well as the consequences of all these interactions.



The subdivisions of ecology

1-Auto-ecology

- It studies the relationship of a given individual with his environment.
- Auto-ecology observes the behavior (ethology), the functioning of the species in the environment which is ecophysiology.

2- Population dynamics

- It studies the demography of a population by analyzing variations in the abundance of various species (increases and decreases in species numbers) to find the causes.
- It also includes studies of spatial (geographic) distribution, population productivity, etc.

3- Synecology

- It studies the relationships of species among themselves and with the environment.

The levels of organization of ecology

Ecological studies focus on 3 levels:

The individual: it is a specimen (1 individual) of a given species

The population: it is a group of individuals belonging to the same species, living in a given place at a given time.

The community: it is the set of populations of different species living in the same environment and which have often complex interactions between them.

Communities are also called biocenoses.

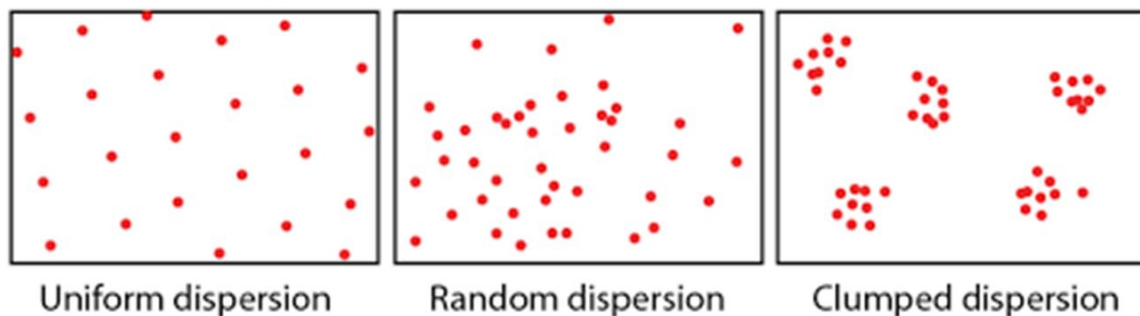
The characteristics of a population

1-Density

It is the number of individuals per unit area (15 deer / km² on Anticosti Island) or volume (5 daphnia / 10 mL of water).

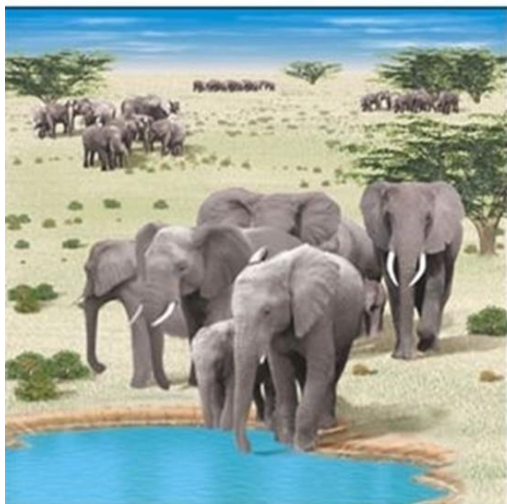
2-Mode of dispersion

- Within the geographic distribution area, the population density can show considerable local variations. These variations inform ecologists about social interactions and the physical environment.
- **Three modes of dispersal of individuals** within the geographic boundaries of the population: clumped (aggregates), uniform and random.



A- Dispersion in clumped

Individuals form groups. Most common mode

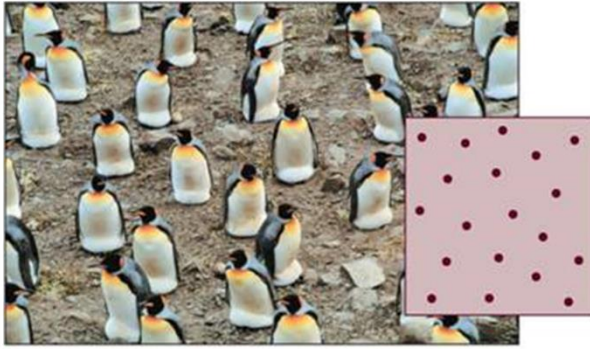


Due to sexual and social behavior (animals)

Because of the resources concentrated in plots (plants)

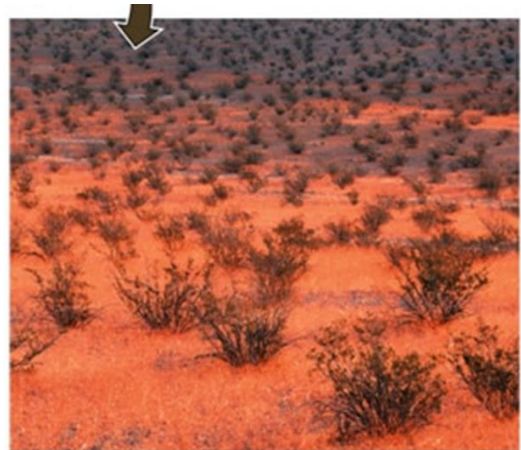
B- Uniform dispersion

Equal distribution over the territory



(b) Uniform

land or other resource (animals).



Because of the competition for water and mineral (plant)

C- Random dispersion

Random distribution on the territory



(a) Random distribution

Because of the lack of attraction or repulsion between organisms. Rather rare mode of distribution.