ECOLOGICAL SUCCESSION

Ecological succession is the phenomenon or process by which an ecological community undergoes more or less orderly and predictable changes following disturbance or initial colonization of new habitat. Succession was among the first theories advanced in ecology and the study of succession remains at the core of ecological science. Succession may be initiated either by formation of new, unoccupied habitat (e.g., a lava flow or a severe landslide) or by some form of disturbance (e.g. fire, severe wind throw, logging) of an existing community.

Primary succession

Succession that begins in new habitats, uninfluenced by pre-existing communities is called primary succession. In primary succession pioneer species like lichen, algae and fungus as well as other abiotic factors like wind and water start to "normalize" the habitat. This creating conditions nearer optimum for vascular plant growth; pedogenesis or the formation of soil is the most important process.

These pioneer plants are then dominated and often replaced by plants better adapted to less odd conditions, these plants include vascular plants like grasses and some shrubs that are able to live in thin soils that are often mineral based.

For example, spores of lichen or fungus, being the pioneer species, are spread onto a land of rocks. Then, the rocks are broken down into smaller pieces and organic matter gradually accumulates, favouring the growth of larger plants like grasses, ferns and herbs. These plants further improve the habitat and help the adaptation of larger vascular plants like shrubs, or even medium- or large-sized trees. More animals are then attracted to the place and finally a climax community is reached.

Secondary succession

Succession that follows disruption of a pre-existing community is called secondary succession. (e.g. forest fire, harvesting, hurricane) that reduces an already established ecosystem (e.g. a forest or a wheat field) to a smaller population of species, and as such secondary succession occurs on preexisting soil whereas primary succession usually occurs in a place lacking soil.

Simply put, secondary succession is the succession that occurs after the initial succession has been disrupted and some plants and animals still exist. It is usually faster than primary succession as:

Soil is already present, so there is no need for pioneer species;

Seeds, roots and underground vegetative organs of plants may still survive in the soil.