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Biologia.blu Ambiente e sostenibilità

GLOSSARY

- A -

abiotic: Nonliving.

acid precipitation: Precipitation that has a lower pH than normal as a result of acid-forming precursors introduced into the atmosphere by human activities.

altruism: A range of behaviours performed by animals that may be to their own disadvantage but which benefit others.

amensalism: Interaction in which one animal is harmed and the other is unaffected.

atmosphere: The gaseous mass surrounding our planet. Also a unit of pressure, equal to the normal pressure of air at sea level.

- B -

Batesian mimicry: The convergence in appearance of an edible species (mimic) with an unpalatable species (model).

biodiversity: The degree of variation of life in an ecosystem.

biogeochemical cycle: Movement of elements through living organisms and the physical environment.

biogeographic region: One of several defined, continental-scale regions of Earth, each of which has a biota distinct from that of the others.

biomass: The total weight of all the living organisms, or some designated group of living organisms, in a given area.

biome: A major division of the ecological communities of Earth, characterized primarily by distinctive vegetation. A given biogeographic region contains many different biomes.

bioremediation: A waste management technique that involves the use of organisms to remove or neutralize pollutants from a contaminated site.

biosphere: All regions of Earth (terrestrial and aquatic) and Earth's atmosphere in which organisms can live.

biota: All of the organisms—animals, plants, fungi, and microorganisms—found in a given area.

biotic: Alive.

- C -

carnivore: An organism that eats animal tissues.

climate: The average of the atmospheric conditions (temperature, precipitation, wind direction and velocity) found in a region over time.

circadian rhythm: A rhythm in behavior, growth, or some other activity that recurs about every 24 hours under constant conditions.

circannual rhythm: A rhythm of behavior, growth, or some other activity that recurs on a yearly basis.

cohort: A group of similar-aged organisms, considered as it passes through time.

commensalism: Class of relationship between two organisms where one organism benefits without affecting the other.

communication: A signal from one organism (or cell) that alters the functioning or behavior of another organism (or cell).

community: Any ecologically integrated group of species of microorganisms, plants, and animals inhabiting a given area.

competition: In ecology, use of the same resource by two or more species, when the resource is present in insufficient supply for the combined needs of the species.

conservation biology: An applied, normative science that carries out investigations designed to help preserve the diversity of life on Earth.

critical period: The age during which some particular type of learning must take place or during which it occurs much more easily than at other times. Typical of song learning among birds.

- D -

deciduous: Refers to a woody plant that sheds its leaves but does not die.

decomposers: Organisms that metabolize organic compounds in debris and dead organisms, releasing inorganic material; found among the bacteria, protists, and fungi. See also *detritivore*.

deforestation: The removal of a forest or stand of trees where the land is thereafter converted to a non-forest use; examples of deforestation include conversion of forestland to farms, ranches, or urban use.

detritivore: An organism that obtains its energy from the dead bodies and/or waste products of other organisms.

disturbance: A short-term event that disrupts populations, communities, or ecosystems by changing the environment.

- E -

ecological community: The species living together at a particular site.

ecological niche: The functioning of a species in relation to other species and its physical environment.

ecology: The scientific study of the interaction of organisms with their living (biotic) and nonliving (abiotic) environment.

ecosystem: The organisms of a particular habitat, such as a pond or forest, together with the physical environment in which they live.

endemic: Confined to a particular region, thus often having a comparatively restricted distribution.

energy: The capacity to do work or move matter against an opposing force. The capacity to accomplish change.

environment: Whatever surrounds and interacts with a population, organism, or cell. May be external or internal.

environmental carrying capacity: The number of individuals in a population that the resources of a habitat can support.

ethology: The scientific study of animal behavior.

eutrophication: The addition of nutrient materials to a body of water, resulting in changes in ecological processes and species composition therein.

exponential growth: Growth, especially in the number of organisms in a population, which is a geometric function of the size of the growing entity: the larger the entity, the faster it grows.

extinction: The termination of a lineage of organisms.

- F -

food chain: A portion of a food web, most commonly a simple sequence of prey species and the predators that consume them.

food web: The complete set of food links between species in a community; a diagram indicating which ones are the eaters and which are eaten.

forestry: The science, art, and craft of creating, managing, using, conserving, and repairing forests and associated resources to meet desired goals, needs, and values for human benefit.

fossil fuels: Fuels formed by natural processes such as anaerobic decomposition of buried dead organisms (i.e. coal, petroleum, and natural gas).

- G -

global warming: The rise in the average temperature of Earth's atmosphere and oceans since the late 19th century and its projected continuation.

greenhouse effect: The heating of Earth's atmosphere by gases such as water vapor, carbon dioxide, and methane; such greenhouse gases are transparent to sunlight but opaque to heat; thus sunlight-engendered heat builds up at Earth's surface and cannot be dissipated into the atmosphere.

- H -

habitat: The environment in which an organism lives.

herbivore: An animal that eats plant tissues.

hydrological cycle: The movement of water from the oceans to the atmosphere, to the soil, and back to the oceans.

- I -

imprinting: In animal behavior, a rapid form of learning in which an animal comes to make a particular response, which is maintained for life, to some object or other organism.

inclusive fitness: The inclusive fitness of an organism is judged by the number of offspring it has, how they support them, and how their offspring could support others.

- K -

kin selection: The evolutionary strategy that favours the reproductive success of an organism's relatives, even at a cost to the organism's own survival and reproduction.

- L -

logistic growth: Growth, especially in the size of an organism or in the number of organisms in a population, that slows steadily as the entity approaches its maximum size.

- M -

metabolism: The sum total of the chemical reactions that occur in an organism, or some subset of that total (as in respiratory metabolism).

metapopulation: A group of spatially separated populations of the same species which interact at some level.

migration: The regular, seasonal movements of animals.

Müllerian mimicry: The convergence in appearance of two or more unpalatable species.

mutualism: The type of symbiosis, such as that exhibited by fungi and algae or cyanobacteria in forming lichens, in which both species profit from the association.

- N -

nitrogen fixation: Conversion of nitrogen gas to ammonia, which makes nitrogen available to living things. Carried out by certain prokaryotes, some of them free-living and others living within plant roots.

nutrient: A food substance; or, in the case of mineral nutrients, an inorganic element required for completion of the life cycle of an organism.

- O -

ocean current: A continuous, directed movement of seawater generated by the forces acting upon this mean flow, such as breaking waves, wind, Coriolis effect, temperature and salinity differences and tides caused by the gravitational pull of the Moon and the Sun.

omnivore: An organism that eats both animal and plant material.

organism: Any living entity.

overfishing: The act whereby fish stocks are depleted to unacceptable levels, regardless of water body size.

ozone layer: A layer in Earth's atmosphere that absorbs most of the Sun's UV radiation, it contains relatively high concentrations of ozone.

- P -

parasitism: A non-mutual relationship between organisms where one organism, the parasite, benefits at the expense of the other, the host.

pheromone: A chemical substance used in communication between organisms of the same species.

photoperiod: The duration of a period of light, such as the length of time in a 24-hour cycle in which daylight is present.

phytoplankton: Autotrophic organisms drifting in oceans, seas, and bodies of fresh water.

plate tectonics: A scientific theory that describes the large-scale motions of Earth's lithosphere; the model builds on the concepts of continental drift.

pollution: The introduction of contaminants into the natural environment that cause adverse change.

population: Any group of organisms coexisting at the same time and in the same place and capable of interbreeding with one another.

population density: The number of individuals (or modules) of a population in a unit of area or volume.

predator: An organism that kills and eats other organisms.

prey: An organism consumed as an energy source.

primary consumer: An herbivore; an organism that eats plant tissues.

primary producer: A photosynthetic or chemosynthetic organism that synthesizes complex organic molecules from simple inorganic ones.

primary succession: Succession that begins in an area initially devoid of life, such as on recently exposed glacial till or lava flows.

- R -

rangelands: Vast natural landscapes in the form of grasslands, shrublands, woodlands, wetlands, and deserts.

reconciliation ecology: The practice of making exploited lands more biodiversity-friendly.

releaser: A sensory stimulus that triggers the performance of a stereotyped behavior pattern.

renewable energy: A category of energy sources that comes from resources which are continually replenished on a human timescale (such as sunlight, wind, tides, waves and geothermal heat).

resource: Something in the environment required by an organism for its maintenance and growth that is consumed in the process of being used.

restoration ecology: The science and practice of restoring damaged or degraded

ecosystems.

- S -

secondary consumer: An organism that eat primary consumers.

secondary succession: Ecological succession after a disturbance that did not eliminate all the organisms originally living on the site.

signal: A chemical (neurotransmitter or hormone) or light message emitted from a cell or cells or organism(s) and received by others to cause some change in function or behavior.

species: The basic lower unit of classification, consisting of an ancestor–descendant lineage of populations of closely related and similar organisms. The more narrowly defined "biological species" consists of individuals capable of interbreeding freely with each other but not with members of other species.

species diversity: A weighted representation of the species of organisms living in a region; large and common species are given greater weight than are small and rare ones.

species richness: The total number of species living in a region.

stratosphere: The upper part of Earth's atmosphere, above the troposphere; extends from approximately 18 kilometers upward to approximately 50 kilometers above the surface.

succession: In ecology, the gradual, sequential series of changes in species composition of a community following a disturbance.

sustainability: The potential for long-term maintenance of human well being, which has ecological, economic, political and cultural dimensions.

symbiosis: Close and often long-term interaction between two or more different biological species.

- T -

territory: A fixed area from which an animal or group of animals excludes other members of the same (and sometimes other) species by aggressive behavior or displays.

trophic cascade: The progression over successively lower trophic levels of the indirect effects of a predator.

trophic level: A group of organisms united by obtaining their energy from the same part of the food web of a biological community.

troposphere: The lowest atmospheric zone, reaching upward from the Earth's surface approximately 17 km in the tropics and subtropics but only to about 10 km at higher latitudes. The zone in which virtually all the water vapor in the atmosphere is located.

- U -

upwelling: The surfaceward movement of nutrient-rich, cooler water from deeper layers of the ocean.

- Z -

zooplankton: Heterotrophic (sometimes detritivorous) organisms drifting in oceans, seas, and bodies of fresh water.