

DICTIONARY OF ECOLOGY

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ABBREVIATIONS

cf.—confer, compare this definition with the definition of words that follow.

q. v.—quod vide, indicating that it is desirable to look up the definition of the preceding word in order to understand more fully the definition being considered.

Syn.—Synonym.

Italicized words indicate that they are defined in this book, or that such words form the scientific name of a plant or animal.

A

Aapamoor

A mosaic of high moor and low moor, consisting of circular or elongated mounds covered with dwarf shrubs and sphagnum and depressions occupied by mostly sedges and sphagnum.

Abicoen

The non-biotic elements of a habitat.

Abioseston

See *Seston*.

Abrasion Platform

The part of the continental shelf and terrace on which a horizontal plain is formed by long continued wave action.

Absolute Extremes

The highest (absolute maximum) and lowest (absolute minimum) values of a meteorological element, especially temperature, that have ever been recorded at a station.

Absolute Humidity

See *Humidity, absolute*.

Absorption Loss

The initial loss of water from a canal or reservoir by capillary action and percolation.

Abstract Community

A generalized category comprising a number of similar units or stands of vegetation and including animal life.

Abundance

The total number of individuals of a species in an area, population, or community. The *index of relative abundance* gives a useful approximation of numbers relative to time or space, e.g., the number of rabbits seen in an hour in a certain place. cf. *Density*.

Abyssal

Refers to the deepest region of the ocean and often used for the zone in lakes below the *profundal* (q. v.). See *Archibenthal*.

Abyssal-benthic (Abyssobenthic)

The lower part of the *abyssal* region, below about 3300 feet (1000 meters).

Acarophytium

The symbiotic relationship of mites and plants.

Acaulescent

Refers to a plant with inconspicuous, or seemingly absent, stem above the ground.

Accelerated Erosion

Washing away or blowing away of soil material in excess of *normal erosion* (q. v.), resulting from changes in the vegetation cover or ground conditions.

Accidental

A species that occurs with a low degree of *Fidelity* in a *Community-type*.

Acclimation

The increased tolerance or physiological adjustment of an organism to a change in its environment.

Accommodation

Modification of the focus of the eye.

Accrescent

Refers to plants which continue to grow after flowering.

Accumulator Plant

A plant that absorbs certain elements which accumulate in its tissues to a much higher degree than in most plants, e.g., *Equisetum* concentrates large amounts of silica. cf. *Seleniferous*.

Acheb

A short-lived type of vegetation, characterized chiefly by mustards and grasses, in the Italian Sahara.

Achene

A one-seeded, dry, non-opening fruit in which the seed is not attached to the wall of the fruit, e.g., sunflower "seed."

Aciculignosa

Coniferous vegetation with small, evergreen, needle-like leaves.

Acid Bog

See *Bog*.

Acidophilous

Refers to organisms that grow well or exclusively on soil or in a medium that is acid in reaction.

Acid Soil

A soil with an acid reaction, containing more hydrogen than hydroxyl ions; for practical purposes with a pH below 6.6.

Acidotrophic

Refers to organisms that feed on food having an acid reaction.

Acquired Character

A modification of structure or function appearing during the lifetime of an individual, caused by environmental conditions, e.g., broad leaves of some plants growing in shade.

Acre-Foot

The quantity of water that will cover one acre one foot deep.

Acre-Inch

The quantity of water that will cover one acre one inch deep.

Acrodomatia

Structures on plants that shelter mites.

Acropetal

Refers to the development of organs in plants, the oldest at the base, the youngest at the tip. cf. *Basipetal*.

Acrophytia

Plant communities in alpine regions.

Actic

Refers to the part of the seashore between tide marks. See *Littoral*.

Actinometer

An instrument which measures radiant energy, especially the property that produces chemical effects.

Actinometry

The measurement of chemical reactions caused by radiation.

Actinomyces

A group of organisms possessing very fine hyphae or

threads, classified with bacteria or fungi. Various kinds cause decomposition, disease, or produce antibiotics such as *streptomycin* (q.v.).

Action

The impingement of environmental factors such as heat or light upon organisms.

Actium

A plant-animal community on a rocky seashore.

Activated Sludge

Material composed chiefly of bacteria and protozoa, used in one method of sewage disposal.

Actophilous

Refers to organisms that grow well on rocky seashores.

Adaptability

Capability of an organism to make changes which fit it better to its environmental conditions.

Adaptable

Refers to the adaptability of an organism.

Adaptation

(1) The process or processes by which an organism becomes apparently better suited to its environment or for particular functions. (2) The structures or activities of an organism, or of one or more of its parts, which tend to fit it better for life in its environment. (3) The adapted form.

Adaptedness

The sum of genetic characters by which an organism is suited to its environment.

Adaption

See *Adaptation*.

Adaptive Radiation

The evolution of *taxa* (q. v.) as they become adapted to

new habitats, applicable also to the development of a new community.

Adaptive Selection

The evolution of more or less similar forms in separate but ecologically similar areas.

Additive

A material added to a fertilizer, or to another substance, to improve its chemical or physical condition.

Adiabatic

Refers to an occurrence in which heat is neither gained nor dissipated.

Adjustment

Processes by which an organism becomes better fitted to its environment; functional, never structural. cf. *Adaptation*.

Adobe

A fine calcareous clay or silt, may be mixed with water to make bricks for construction purposes. cf. *terron*.

Adsorption

The attachment of molecules or ions to surfaces or interfaces such as solid-liquid, solid-gas, and liquid-gas boundaries.

Advance Growth

Young trees in openings or under the canopy in forests before cutting or regeneration operations are started. syn. Advance reproduction. cf. *Second growth*.

Adventitious Species

Organisms which have invaded from a distance.

Adventitious

An organ growing out of its usual location, e.g., root from a stem; a species which has invaded from another area and has become more or less naturalized.

Adventive

A plant growing spontaneously, not native, ephemeral or not spreading appreciably.

Aelophilous

Refers to dissemination by wind.

Aeolian

Refers to the wind, or to soil materials which have been moved by the wind or are subject to such movement.

Aeration

The processes by which air and other gases in a medium are renewed or exchanged.

Aerobe

An organism capable of living only in the presence of free oxygen.

Aerenchyma

Tissue with thin-walled cells and large air spaces, especially common in aquatic plants.

Aerial Photograph

A vertical or oblique photograph taken from the air.

Aerobic

Refers to life or a process occurring only in the presence of free oxygen. See *Aerobe*.

Aerobiosis

Life in the presence of free oxygen in the medium.

Aerophyte

See *Epiphyte*.

Aeroplankton

Microorganisms floating in the air, cf. *Plankton*.

Aerotaxis

Involuntary response of an organism to a gas, such as

the curving of a plant toward a higher concentration of oxygen.

Aestidurilignosa

Woodland characterized by mixed evergreen-deciduous hardwoods.

Aestilignosa

Forest or woodland in which the woody plants are leafless in winter and buds are protected by scales, e.g., beech forest.

Aestival

See *Estival*.

Affinity

The relationship between organisms that indicates a common origin; used occasionally to denote similarity of communities.

Afforestation

The process of establishing a forest on an area, especially where forest was not present previously, cf. *reforestation*.

Aftermath

The regrowth of plants after mowing.

After-ripening

The dormancy period, following formation of the seed that is required for changes in the embryo to occur prior to germination.

Agameon

See *Agamospecies*.

Agamic

Asexual.

Agamogenesis

Asexual reproduction, parthenogenesis (q. v.).

Agamospecies

An aggregation of individuals in which reproduction oc-

curs almost exclusively by asexual means. syn. Agameon, binom.

Agamospermy

Production of seed asexually, exclusive of vegetative reproduction, cf. apomixis.

Age and Area

Willis' hypothesis that the older a species is, the larger is the area that it occupies.

Age Class

A stand in which all of the trees originated in the same regeneration period. cf. *Even-aged*.

Age Distribution

The classification of individuals of a population according to age classes or periods such as prereproductive, reproductive, and postreproductive.

Agglutination

Formation of clumps of microorganisms or cell inclusions.

Aggradation

Building up of a portion of the earth's surface toward uniformity of grade by deposition, as on the bottom of a lake.

Aggregate

A cluster of particles as a crumb of soil; to collect particles into a cluster.

Aggregation

The coming together of organisms into a group, e.g., offspring clustered about the parents. The condition of being collected into a cluster or group. cf. *Community*.

Agonistic Behaviour

An activity such as fighting, feigning, and escaping, connected with conflict between animals.

Agrarian Zone

The portion of a country that can be cultivated.

Agrestal

Refers to an organism that grows in arable ground.

Agrology

The study of soils. See *Edaphology*.

Agronomy

The study of the production, processing, and use of farm crops.

Agrophilous

Refers to organisms that grow well in grain fields or other areas resulting from man's activities.

Agrostology

The branch of systematic botany dealing with grasses.

A Horizon (Soil)

The stratum of soil consisting of one or more of the following layers. (A_0 horizon, partly decomposed or matted plant remains lying on top of the mineral soil. A_{00} horizon, the relatively fresh leaves and other plant debris, generally of the past year, lying on the A_0 horizon.) A_1 horizon, the surface mineral layer, relatively high in organic matter, usually dark in color. A_2 horizon, below the A_1 horizon, in places the surface layer, usually lighter in color than the underlying horizon, in which leaching of solutes and suspended materials occurs. A_s horizon, transitional to the B horizon, more like A than B, sometimes absent.

Aiphyllus

Evergreen.

Air layering

A method for producing roots on a stem in an aerial position.

Air-sacs

Thin-walled structures, containing air, in birds and in some insects.

Alar, Alary, Alate

Winged.

Albinism

Complete or almost complete absence of pigment, resulting in plants that are white in whole or in part, and in animals with milky-white skin, light hair, and red pupils in eyes.

Albino

An organism deficient in pigment.

Allee's Principle

The extent of aggregation and the degree of density of a population most favorable for optimum growth and survival varies according to the species and environmental conditions. Either deficiency or excess may be detrimental.

Aletophyte

A weed growing in a *mesic* (q. v.) habitat.

Algae

The simplest kind of green plants, usually growing in water or damp places, consisting of several phyla, formerly classified in the *Thallophytes* (q. v.).

Algoid

Resembling an alga.

Algology

The study of *Algae*.

Alien

An introduced plant which has become naturalized.

Aliquote

The constant of temperature for a certain stage in the life-cycle of an organism. See *Temperature summation*.

Alkali Reserve

The total amount of dissolved salts or other substances which tend to maintain the normal alkalinity of a natural water or the internal body fluid of an organism.

Alkali Soil

A soil that has such a high degree of *Alkalinity* (pH 8.5 or higher), or such a high percentage of exchangeable sodium (15 per cent or more), or both, that the growth of most crop plants is reduced or prevented. See *Black alkali*, *Saline soil*.

Alkaline Soil

A non-acid soil which contains more hydroxyl ions than hydrogen ions; precisely, a soil with pH 7.0 or higher; for practical purposes, with pH 7.3 or higher.

Alkalinity

The chemical state of water or other substance in which the hydroxyl ions exceed the hydrogen ions, usually with pH 7.0 or higher. cf. *Salinity*.

Alleghanian Life Zone

One of the divisions of Merriam's *Austral life zone* (q. v.), east of the 100th meridian. See *Life zone*.

Allelarkean Society

An independent, dense, fixed, civilized society. cf. *Autarkean society*.

Allele

One of the two forms of a gene located at a certain position (locus) on a *homologous chromosome* (q. v.). If one allele of a pair is dominant to the other it largely controls the character, e.g., greenness is dominant over *albinism* (q. v.) in seedlings.

Allelomimetic Behaviour

Two or more animals, mutually stimulated, acting similarly. See *Mimetic*.

Allelomorph

See *Allele*.

Allelopathy

Influence of plants, exclusive of microorganisms, upon each other, caused by products of metabolism.

Allen's Principle (Rule)

Appendages of animals tend to be shorter in cold regions, resulting in reduced loss of heat. Cf. *Bergmann's principle*.

Allergen

A substance which induces *allergy*, or causes symptoms to show. e.g., *Pollen*.

Allergy

Sensitivity resulting in pathologic condition in certain people to substances such as pollen, food, hairs; or may be caused by mental or environmental conditions.

Alliance

A group of plant associations according to Braun-Blanquet classified together on the basis of similarity in floristic and sociological characteristics. See *Association*.

Allochoric

Refers to a species occurring in two or more similar communities in the same region.

Allochthonous

Refers to deposits of material that originated elsewhere, e.g., drifted plant materials on the bottom of a lake. cf. *Autochthonous*.

Allogamy

Cross-fertilization (q. v.). See *Outbreeding*.