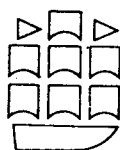


Henderson's Dictionary of
BIOLOGICAL TERMS

Ninth Edition
Sandra Holmes

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Longman
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THE DICTIONARY

A

ABA abscisic acid, *q.v.*

abactinal *a.* [L. *ab*, from; Gk. *aktis*, ray] not situated on the ambulacral area, *appl.* area of echinoderm body without tube-feet and in which madreporite is usually included; *alt.* abambulacral, antambulacral, anti-ambulacral.

abambulacral *a.* [L. *ab*, from; *ambulare*, to walk] abactinal, *q.v.*

A-band the anisotropic or doubly refracting band of a sarcomere, which appears dark and is made of both actin and myosin filaments; *alt.* A-disc, Q-disc, sarcous disc.

abapical *a.* [L. *ab*, from; *apex*, summit] *pert.* or situated at lower pole; away from the apex.

abaxial *a.* [L. *ab*, from; *axis*, axle] *pert.* that surface of any structure which is remote or turned away from the axis; *cf.* adaxial.

abaxile *a.* [L. *ab*, from; *axis*, axle] *appl.* embryo whose axis has not the same direction as axis of seed.

abbreviated *a.* [L. *ad*, to; *brevis*, short] shortened; curtailed.

abcauline *a.* [L. *ab*, from; *caulis*, stalk] outwards from or not close to the stem; *cf.* adcauline.

abdomen *n.* [L. *abdomen*, belly] in vertebrates, the part of the body cavity containing the digestive organs, in mammals separated from the thorax by the diaphragm; in arthropods and certain polychaetes, the posterior part of the body; in tunicates, the section of the body containing stomach and intestines.

abdominal *a.* [L. *abdomen*, belly] *pert.* abdomen; *appl.* structures, organs, or parts of organs situated in, on, or closely related to, the abdomen.

abdominal pores single or paired openings leading from coelom to exterior, in cyclostomes and certain fishes.

abdominal reflex contraction of abdominal wall muscles when skin over side of abdomen is stimulated.

abdominal regions 9 areas into which the abdomen is divided by 2 horizontal and 2 vertical imaginary lines; hypochondriac (2), lumbar (2), inguinal (2), epigastric, umbilical, hypogastric.

abdominal ribs ossifications occurring in fibrous tissue in abdominal region between skin and muscles in certain reptiles.

abdominal ring one of 2 openings in fasciae of abdominal muscles through which passes spermatic cord in male, round ligament in female; *alt.* inguinal ring.

abducens *n.* [L. *abducere*, to lead away] the 6th cranial nerve, supplying the rectus externus muscle of the eyeball.

abduction *n.* [L. *abducere*, to lead away] movement away from the median axis; *cf.* adduction.

abductor *n.* [L. *abductus*, led away] a muscle that draws a limb or part outwards.

aberrant *a.* [L. *aberrare*, to stray] with characteristics not in accordance with type, *appl.* species, etc.

abhymenial *a.* [L. *ab*, from; Gk. *hymēn*, membrane] on or *pert.* the side of the lamella opposite that of the hymenium in agarics.

abience *n.* [L. *abire*, to depart] retraction from stimulus; avoiding reaction; *cf.* adience.

abient *a.* [L. *abire*, to depart] avoiding the source of stimulation; *cf.* adient.

abiocoen *n.* [Gk. *a*, not; *bios*, life; *koinōs*, in common] the abiotic parts of the environment, in total.

abiogenesis *n.* [Gk. *a*, not; *bios*, life; *genesis*, birth] the production of living from non-living matter, considered either in terms of the origin of life on earth, or as spontaneous generation, a theory held up to the 19th century which stated that micro-organisms or higher organisms could arise from non-living material; *alt.* archebiosis, archegenesis, archigenesis, autogenesis, heterogenesis; *cf.* biogenesis.

abiology *n.* [Gk. *a*, not; *bios*, life; *logos*, discourse] the study of non-living things; *alt.* anorganology.

abioseston *n.* [Gk. *a*, not; *bios*, life; *sēsis*, sifting] tripton, *q.v.*

abiosis *n.* [Gk. *a*, not; *biosis*, living] apparent suspension of life.

abiotic *a.* [Gk. *a*, not; *biōtikos*, *pert.* life] non-living.

abiotic environment the non-living part of the environment consisting of topography, climatic factors, and inorganic nutrients.

abiotrophy *n.* [Gk. *a*, not; *bios*, life; *trophē*, maintenance] differential vitality or longevity of cells or tissues.

abjection *n.* [L. *abjicere*, to cast away] the shedding of spores, as from sporophores, usually with some force.

abjunction *n.* [L. *abjungere*, to unyoke] the delimitation of spores by septa at tip of hypha; *v.* abjoint.

ab lactation *n.* [L. *ab*, from; *lactare*, to give milk] cessation of milk secretion; weaning.

abomasum *n.* [L. *ab*, from; *omasum*, paunch] in ruminants, the 4th chamber of the stomach, being

abooospore

the true digestive stomach; *alt.* read, reed, renet-stomach.

abooospore *n.* [L. *ab*, from; Gk. *ōon*, egg; *sporos*, seed] a spore developed from an unfertilized female gamete; *alt.* azygospore, parthenospore.

aboral *a.* [L. *ab*, from; *os*, *oris*, mouth] away from, or opposite to, the mouth; *cf.* oral.

abortion *n.* [L. *abortus*, premature birth] premature birth; arrest of development of an organ.

abranchiate *a.* [Gk. *a*, without; *branchia*, gills] without gills.

abrupt *a.* [L. *abruptere*, to break off] appearing as if broken, or cut off, at extremity; *alt.* truncate.

abruptly-acuminate having a broad extremity from which a point arises, *appl.* leaf.

abruptly-pinnate having the main axis of epipodium not winged, but bearing a number of secondary axes which are winged.

abrupt speciation the formation of a species as the result of a sudden change in chromosome number or constitution.

abscise *v.* [L. *abscondere*, to cut off] to become separated; to fall off, as leaves, fruit, etc.

abscisic acid (ABA) *n.* [L. *abscondere*, to cut off] a hormone found in many higher plants which promotes senescence, leaf fall, dormancy in buds, and antagonizes the effect of the growth-promoting hormones; *alt.* abscisin, dormin.

abscisin *n.* [L. *abscondere*, to cut off] abscisic acid, *q.v.*, especially abscisin II, abscisin I being a less effective and chemically unrelated substance.

abscise, **abscissile**, **abscission layer** the layer of cells in the abscission zone, the breakdown of which separates a leaf, fruit, flower, etc., from the plant; *alt.* separation layer.

abscission *n.* [L. *abscondere*, to cut off] the separation of parts.

abscission zone the region at the base of a leaf, flower, fruit, or other part of the plant consisting of the abscission layer of weak cells and the protective layer of corky cells which protect the wound when the part falls.

absorption *n.* [L. *absorbere*, to suck in] intussusception of fluid by living cells or tissues; passage of nutritive material through living cells; of light when neither reflected nor transmitted.

abstriction *n.* [L. *abstringere*, to cut off] the process of detaching spores or conidia by rounding off of tips of sporophores; abjunction and abscission.

abterminal *a.* [L. *ab*, from; *terminus*, limit] going from the end inwards.

abyssal *a.* [Gk. *abyssos*, unfathomed] *pert.* depths of ocean beyond the continental shelf, *appl.* organisms or material usually found there; *alt.* abyssmal.

abyssobenthic *a.* [Gk. *abyssos*, unfathomed; *benthos*, depths of sea] *pert.* or found on the ocean floor at the depths of the ocean, in the abyssal zone.

abyssopelagic *a.* [Gk. *abyssos*, unfathomed; *pelagos*, sea] *pert.* or inhabiting the ocean depths of the abyssal zone, but floating, not on the ocean floor.

Acalephae *n.* [Gk. *akalēphē*, stinging nettle] in some classifications, a group of coelenterates including the hydroids, jellyfish, and related forms.

acanthaceous *a.* [Gk. *akanos*, thistle] prickly; bearing prickles, as leaves.

acanth- *alt.* *akanth-*.

acantha *n.* [Gk. *akantha*, thorn] prickly; spinous process.

acanthaceous *a.* [Gk. *akantha*, thorn] bearing thorns or prickles.

Acantharia *n.* [Gk. *akantha*, thorn] an order of Sarcodina, formerly included in the Radiolaria, whose spicules are made of acanthin.

acanthin *n.* [Gk. *akantha*, thorn] the substance forming the skeleton of Acantharia, now thought to be strontium sulphate.

acanthion *n.* [Gk. *akanthion*, small thorn] the most prominent point on the anterior nasal spine.

Acanthobdellae *n.* [Gk. *akantha*, thorn; *bdella*, leech] an order of Hirudinea somewhat intermediate between Hirudinea and Oligochaeta.

acanthocarpous *a.* [Gk. *akantha*, thorn; *karpas*, fruit] having fruit covered with spines or prickles.

Acanthocephala *n.* [Gk. *akantha*, thorn; *kephalē*, head] a phylum of pseudocoelomate animals, commonly called thorny-headed worms, that as adults are intestinal parasites of vertebrates and as larvae have an arthropod host.

acanthocephalous *a.* [Gk. *akantha*, thorn; *kephalē*, head] with hooked proboscis.

acanthocladaous *a.* [Gk. *akantha*, thorn; *klados*, branch] having spiny branches.

Acanthocotyloidea *n.* [Gk. *akantha*, thorn; *kotylē*, cup; *eidos*, form] an order of Monopisthocotylea having one or more testes and a small opisthaptor with 16 spines.

acanthocyst *n.* [Gk. *akantha*, thorn; *kystis*, bladder] a sac containing lateral or reserve stylets in Nemertini.

Acanthodiformes *n.* [Gk. *akantha*, thorn; *L. forma*, shape] an order of acanthodians having only one dorsal fin.

Acanthodii, **acanthodians** *n.*, *n.plu.* [Gk. *akanthōdēs*, thorny] a group of fish, at present considered a subclass of Osteichthyes but formerly placed with the sharks or placoderms, which existed from Silurian to Permian times.

acanthodion *n.* [Gk. *akanthōdēs*, thorny] a tarsal seta containing extension of a sensory basal cell, in Acarina; *plu.* *acanthodia*.

acanthoid *a.* [Gk. *akantha*, thorn; *eidos*, shape] resembling a spine or prickly; *alt.* spiniform.

acanthophore *n.* [Gk. *akantha*, thorn; *pherein*, to bear] a conical mass, the basis of median stylet in Nemertini.

acanthopore *n.* [Gk. *akantha*, thorn; *poros*, passage] a tubular spine in certain Polyzoa.

Acanthopterygii, **acanthopterygians** *n.*, *n.plu.* [Gk. *akantha*, thorn; *pterygion*, fin] a large advanced group of teleosts, having spiny fins and spiny scales, existing from upper Cretaceous to the present day and including perch, mackerel, and plaice.

acanthosphenote *a.* [Gk. *akantha*, thorn; *sphēn*, wedge] *appl.* echinoid spine made of solid wedges separated by porous tissue.

acanthozooid *n.* [Gk. *akantha*, thorn; *zōon*, animal; *eidos*, form] tail part of procolex of cestodes; *cf.* cystozooid.

acapnia *n.* [Gk. *akapnos*, without smoke] condition of low carbon dioxide content in blood.

Acar, **Acarina** *n.* [Gk. *akarēs*, tiny; *L.L. acarus*, mite] a very large and varied order of arachnids, commonly called mites and ticks, usually having a rounded body.

acarocedidium *n.* [Gk. *akarēs*, tiny; *kēkis*, gall] a gall caused by gall mites (Eriophytidae).

acarology *n.* [Gk. *akarēs*, tiny; L.L. *acarus*, mite; Gk. *logos*, discourse] the study of mites and ticks.

acarophily *n.* [L.L. *acarus*, mite; *philein*, to love] symbiosis of plants and Acarina; *alt.* acarophytism; *a.* acarophilous.

acarpous *a.* [Gk. *a*, not; *karpōs*, fruit] not fruiting.

acaryote *akaryote*, *q.v.*

caudate *caudate*, *q.v.*

caulescent *a.* [Gk. *a*, without; *kaulos*, stalk] having a shortened stem.

cauline, **acaulous** *a.* [Gk. *a*, without; *kaulos*, stalk] having no stem or stipe.

accelerator *n.* [L. *accelerare*, to hasten] *appl.* muscle or nerve which increases rate of action; *cf.* augmentor.

acceptor *n.* [L. *accipere*, to accept] a substance which receives and unites with another substance, as in oxidation-reduction processes where oxygen acceptor is the substance oxidized, hydrogen acceptor the substance reduced.

acceptor RNA transfer RNA, *q.v.*

accessorius *n.* [L. *accedere*, to support] a muscle aiding in action of another; spinal accessory or 11th cranial nerve.

accessory bodies minute argyrophil particles originating from Golgi body in spermatocytes; *alt.* chromatoid bodies.

accessory bud an additional axillary bud; a bud formed on a leaf.

accessory cells auxiliary cells, *q.v.*

accessory chromosomes supernumerary chromosomes, *q.v.*; sex chromosomes, *q.v.*

accessory disc N-disc, *q.v.*

accessory food factor vitamin, *q.v.*

accessory glands detached portions of glands; glands in relation with genital ducts.

accessory nerve one of the 11th pair of cranial nerves which is a motor nerve, arising partly from the medulla and partly from the spinal cord.

accessory pulsatory organs sac-like structures of insects, variously situated, pulsating independently of the heart; *alt.* accessory hearts.

acclimatation acclimation, acclimatization, *q.v.*

acclimation *n.* [L. *ad*, to; Gk. *klima*, climate] the habituation of an organism to a different climate or environment; *alt.* acclimatation, acclimatization.

acclimatization *n.* [L. *ad*, to; Gk. *klima*, climate] acclimation, *q.v.*; acclimation to an environment under human management, such as a zoo; *alt.* acclimation.

accommodation *n.* [L. *ad*, to; *commodus*, fitting] adjustment of eye to receive clear images of objects at different distances, by changing the focal length of the lens; adaptation of receptors to a different stimulus; trend towards absence of sensation as a result of continuous stimulation; capacity of a plant to adapt to new conditions if these are introduced gradually.

accrecence *n.* [L. *acrescere*, to increase] growth through addition of similar tissues; continued growth after flowering; *a.* accrescent.

accrete *a.* [L. *acrescere*, to increase] grown or joined together; formed by accretion.

accretion *n.* [L. *acrescere*, to increase] growth by external addition of new matter; *cf.* intussusception.

accumbent *a.* [L. *accumbere*, to lie on] *appl.* embryo having cotyledons with edges turned towards radicle, as in dicots of the family Craciferae.

accumulators *n. plu.* [L. *ad*, to; *cumulus*, heap] plants with a relatively high concentration of certain chemical elements in tissues.

A-cells alpha cells of islets of Langerhans.

acellular *a.* [L. *a*, without; *cellula*, small room] not containing cells; not considered as cells but as complete organisms, i.e. Protista.

acelomate **acoelomate**, *q.v.*

acelous **acoelous**, *q.v.*

acentric *a.* [Gk. *a*, without; *kentron*, centre] having no centromere, *appl.* chromosomes and chromosome segments; *alt.* akinetic.

acentrous *a.* [L. *a*, without; *centrum*, centre] with no vertebral centra, but persistent notochord, as certain fishes.

acepholocyst *n.* [Gk. *a*, without; *kephalē*, head; *kystis*, bladder] hydatid stage of certain tapeworms.

acephalous *a.* [Gk. *a*, not; *kephalē*, head] having no structure comparable to head, *appl.* some mollusca, *appl.* larvae of certain Diptera, *appl.* ovary without terminal stigma.

acerate *a.* [L. *acer*, sharp] needle-shaped; pointed at one end, *appl.* monaxon or oxeate spicules.

acerose *a.* [L. *acer*, sharp] narrow and slender, with sharp point, as leaf of pine.

acerous *a.* [Gk. *a*, without; *keras*, horn] hornless; without antennae; without tentacles.

acervate *a.* [L. *acervare*, to amass] heaped together; clustered.

acervuline *a.* [L.L. *dim.* of *acervus*, heap] irregularly heaped together, *appl.* shape of foraminiferal tests.

acervulus *n.* [L.L. *dim.* of *acervus*, heap] a small heap or cluster, especially of sporogenous mycelium; *a.* acervulate.

acervulus cerebri brain sand, *q.v.*

acetabulum *n.* [L. *acetabulum*, vinegar cup] the cotyloid cavity or socket in pelvic girdle for head of femur; in insects, cavity of thorax in which leg is inserted; socket of coxa in Arachnida; cavity in proximal end of spine, for articulation with mameelon, in echinoids; sucker in trematodes and cestodes; large posterior sucker in leeches; sucker on arm of cephalopod; one of the cotyledons of placenta in ruminants; *alt.* cotyle; *a.* acetabular.

acetylcholine (ACh) a neurotransmitter which is an acetyl ester of choline, secreted at the synapses of cholinergic nerves, e.g. parasympathetic nerve fibres, and is broken down by the enzyme acetylcholinesterase (cholinesterase); *cf.* noradrenaline.

acetylcoenzyme A, **acetylcoA** an acetyl thioester of coenzyme A which is widely used as a donor of acetyl groups, e.g. in the formation of citric acid from oxaloacetic acid in the Krebs' cycle.

acetylmuramic acid an amino sugar which is a component of bacterial cell walls and is derived from glucosamine and lactic acid.

ACh acetylcholine, *q.v.*

acheenocarp *n.* [Gk. *a*, not; *chainein*, to gape; *karpōs*, fruit] achene, *q.v.*

achaetous *a.* [Gk. *a*, without; *chaetē*, hair] without chaetae.

acheilary

acheilary *a.* [Gk. *a*, without; *cheilos*, lip] having labellum undeveloped, as some orchids.

achelete *a.* [Gk. *a*, not; *chēlē*, claw] without claws or chelae; not cheliform.

achene *n.* [Gk. *a*, not; *chainein*, to gape] a 1-seeded dry, indehiscent fruit formed from one carpel, usually with one seed not fused to the fruit wall; *alt.* achenium, achenocarp, akene.

achenial *appl.* 1-seeded, dry, indehiscent fruits, as achene, cypsel, caryopsis, samara, and nut.

achiasmatic *a.* [Gk. *a*, without; *chiasma*, cross] lacking chiasmata in meiosis, as some Diptera.

Achillis tendo, Achilles tendon *n.* [Gk. *Achilles*; *L. tendo*, tendon] the tendon of the heel, the united strong tendon of gastrocnemius and soleus muscles; *alt.* tendo calcaneus.

achlamydate *a.* [Gk. *a*, without; *chlamys*, cloak] not having a mantle, as certain gastropods.

achlamydeous *a.* [Gk. *a*, without; *chlamys*, cloak] having neither calyx nor corolla; *alt.* gymnanthous.

Acholeplasmas *n. plu.* [Gk. *a*, without; *cholē*, bile; *plasma*, form] a group of Mollicutes recently considered to be distinct from mycoplasmas.

achondroplasia *n.* [Gk. *a*, without; *chondros*, cartilage; *plasis*, a moulding] heritable dwarfism due to disturbance of ossification in the long bones of the limbs and of certain facial bones during development; *cf.* ateleosis.

achrocyte *n.* [Gk. *a*, not; *chrōs*, colour; *kytos*, hollow] colourless cell; lymphocyte, *q.v.*

achroglobin *n.* [Gk. *a*, not; *chrōs*, colour; *L. globus*, sphere] a colourless respiratory pigment of some tunicates and molluscs.

achroic achroous, *q.v.*

achromasie *n.* [Gk. *a*, not; *chrōma*, colour] emission of chromatin from nucleus; *cf.* chromasie.

achromatic *a.* [Gk. *a*, without; *chrōma*, colour] *appl.* threshold, the minimal stimulus inducing sensation of luminosity or brightness; *appl.* neutral colours; achromatic, *q.v.*

achromatin *n.* [Gk. *a*, without; *chrōma*, colour] the non-staining ground substance and linin of the nucleus; *alt.* nuclear sap.

achromatinic *a.* [Gk. *a*, without; *chrōma*, colour] *pert.* achromatin, or resembling achromatin in properties; *alt.* achromatic.

achromic *a.* [Gk. *a*, without; *chrōma*, colour] unpigmented; colourless; *alt.* achromatous.

achromite centromere, *q.v.*

A-chromosomes the normal chromosomes of a diploid chromosome set, as opposed to the B-chromosomes which differ from them structurally and functionally.

achroous *a.* [Gk. *a*, without; *chrōs*, complexion] unpigmented; colourless; *alt.* achroic.

acicle *n.* [*L. acicula*, small needle] a thorn-shaped scaphocerite, as in Paguridae (hermit crabs); *acicula*, *q.v.*

acicula *n.* [*L. acicula*, small needle] a small needle-like bristle, spine or crystal, *alt.* acicle, *plu. aciculæ*; *plu.* of aciculum.

acicular like a needle in shape; sharp-pointed; *alt.* aciculiform.

aciculate *a.* [*L. acicula*, small needle] having acicles or aciculæ.

aciculiform acicular, *q.v.*

aciculum *n.* [*L. acicula*, small needle] a stiff basal seta in parapodium of Chaetopoda; *plu. acicula*.

acid-base balance the maintenance of the cor-

rect ratio of acids to bases in the blood in order to maintain the most suitable pH.

acid-fast remaining stained with aniline dyes on treatment with acids.

acid-gland acid-secreting gland of Hymenoptera; oxyntic cells, *q.v.*

acidic *a.* [*L. acidus*, sour] having the properties of an acid; *appl.* stains whose colour determinant plays the part of an acid, acting on protoplasm, *cf.* basic.

acidophil *a.* [*L. acidus*, sour; Gk. *philein*, to love] oxyphil, *q.v.*; growing in acid media, *alt.* aciduric.

acid tide transient increase in acidity of body fluids which follows the alkaline tide.

aciduric *a.* [*L. acidus*, sour; *durus*, hardy] tolerating acid media; *alt.* acidophil.

aciform *a.* [*L. acus*, needle; *forma*, shape] belonoid, *q.v.*

acinaciform *a.* [*L. acinaces*, short sword; *forma*, shape] shaped like a sabre or scimitar, *appl.* leaf.

acinar *a.* [*L. acinus*, berry] *pert.* acinus; *appl.* cells of pancreas having sac-like terminations.

acinarius *a.* [*L. acinarius*, *pert.* grapes] having globose vesicles, as some algae.

Acinetæ *n.* [Gk. *akinētos*, motionless] Suctorina, *q.v.*

aciniform *a.* [*L. acinus*, berry; *forma*, shape] grape- or berry-shaped; *appl.* a type of silk gland in spiders.

acinus *n.* [*L. acinus*, berry] drupel, *q.v.*; a cluster of cells forming the inner secretory region of a gland, usually a branched or compound gland, *alt.* alveolus; *plu. acini*.

Acipenseriformes *n.* [*Acipenser*, generic name of sturgeon; *L. forma*, shape] a group of degenerate palaeoniscids including the sturgeon, having a mainly cartilaginous skeleton with little bone and a skin naked or with a few bony scales; *alt.* Acipenseroida.

acleidian *a.* [Gk. *a*, without; *kleis*, collar bone] with clavicles vestigial or absent.

acme *n.* [Gk. *akmē*, prime] the highest point attained, or prime, in phylogeny and ontogeny; *cf.* epacme, paracme.

Acnidosporidia *n.* [Gk. *a*, not; *knidē*, nettle; *sporos*, seed; *idion*, *dim.*] an order of Neosporidia having spores without polar capsules.

Acochlidæ *n.* [Gk. *a*, not; *kochlias*, snail] an order of very small opisthobranchs which live as interstitial fauna in sand.

Acoela *n.* [Gk. *a*, not; *koilos*, hollow] an order of small turbellarians with no gut and having simple gonads and ducts; an order of almost symmetrical opisthobranchs which have no shell or mantle cavity, *alt.* Nudibranchia.

acoelomate *a.* [Gk. *a*, without; *koilōma*, hollow] *appl.* animals not having a true coelom; *alt.* acoelomatous, acelomate, aceolous.

acoelous *a.* [Gk. *a*, without; *koilos*, hollow] *appl.* vertebrae with flattened centra; acoelomate, *q.v.*; *alt.* aceolous.

acondylous *a.* [Gk. *a*, without; *kondylos*, knuckle] without nodes or joints.

acone *a.* [Gk. *a*, without; *kōnos*, cone] *appl.* insect compound eye without crystalline or liquid secretion in cone cells.

aconitase *n.* [*Aconitum*, generic name of monkshood] the enzyme which converts citric acid to cis-aconitic acid and also converts isocitric acid to

- cis*-aconitic acid; EC 4.2.1.3; *r.n.* aconitate dehydratase.
- aconitic acid** [*Aconitum*, generic name of monkshood] a colourless acid obtained from monkshood, horsetail, and some other plants which takes part in the Krebs' cycle in the form of *cis*-aconitic acid.
- acont** akont, *q.v.*
- acont-** *alt.* akont-.
- Aconta** *n.* [Gk. *a*, without; *kontos*, punting pole] a group of eukaryotic algae that never produce flagella, i.e. the red algae; *cf.* Contophora.
- Acontae** *n.* [Gk. *a*, without; *kontos*, punting pole] Zygnematales, *q.v.*
- acontia** *n.plu.* [Gk. *akontion*, small javelin] thread-like processes of mesenteric filaments armed with nematocysts in some actinians.
- acotyledon** *n.* [Gk. *a*, without; *kotylēdon*, a cup-shaped hollow] a plant without a cotyledon.
- acoustic** *a.* [Gk. *akouein*, to hear] *pert.* organs or sense of hearing, *appl.* meatus, nerve, etc.; *pert.* science of sound.
- acoustico-lateralis system** a system of receptors in fish and amphibians, which detects slow vibrations and consists of neuromasts that are either scattered or arranged in a lateral-line system.
- ACP** acyl carrier protein, *q.v.*
- acquired behaviour** behaviour brought about by conditioning and learning.
- acquired character** a modification or permanent structural or functional change effected during the lifetime of the individual organism and induced by use or disuse of a particular organ, by disease, trauma, or other functional or environmental influences.
- acral** *a.* [Gk. *akros*, tip] *pert.* extremities.
- acrandry** *n.* [Gk. *akros*, tip; *anēr*, male] the condition of having antheridia borne at the tips, in bryophytes; *a.* acrandrous.
- Acrania** *n.* [Gk. *a*, not; *kranion*, skull] a group of chordates including all groups except Craniata, i.e. including the Urochordata and Cephalochordata, sometimes considered a subphylum with the urochordates and cephalochordates as classes; *alt.* Protochordata.
- acranthous** *a.* [Gk. *akros*, tip; *anthos*, flower] having the inflorescence borne on the tip of the main axis; *cf.* pleuranthous.
- Acrasiales, Acrasieae** *n.* [Gk. *akrasia*, bad mixture] a group of cellular slime moulds whose simple amoeboid cells aggregate into a pseudoplasmodium.
- acrasin** *n.* [Gk. *akrasia*, bad mixture] a chemotactic substance produced by certain slime moulds which causes the aggregation of cells and has now been shown to be cyclic AMP.
- Acraspoda** *n.* [Gk. *akraspedos*, without fringes] in some classifications, a group of coelenterates having a medusa without a velum.
- acraspedote** *a.* [Gk. *a*, without; *kraspedon*, border] having no velum.
- acroblast** *n.* [Gk. *akros*, tip; *blastos*, bud] a body in spermatid which gives rise to acrosome, *alt.* idiosphaerotheca; outer layer of mesoblast.
- acrobryous** *a.* [Gk. *akros*, tip; *bryein*, to swell] growing at the tip only.
- Acrocarpi** *n.* [Gk. *akros*, tip; *karpus*, fruit] a group of mosses comprising acrocarpous forms; *cf.* Pleurocarpi.
- acrocarpic, acrocarpous** *a.* [Gk. *akros*, tip; *karpus*, fruit] with terminal fructifications; *appl.* mosses bearing archegonia and therefore capsules at the tips of the stem or main branches; *cf.* pleurocarpous.
- acrocentric** *a.* [Gk. *akros*, tip; *kentron*, centre] with centromere at end, *appl.* chromosome. *n.* A rod-shaped chromosome. *Cf.* metacentric, telocentric.
- acrochordal** *a.* [Gk. *akros*, tip; *chorde*, cord] *appl.* a chondrocranial unpaired frontal cartilage in birds.
- acrochroic** *a.* [Gk. *akros*, tip; *chrōs*, colour] with coloured tips, as of hyphae.
- acrocoracoid** *n.* [Gk. *akros*, tip; *korax*, crow; *eidos*, form] a process at dorsal end of coracoid in birds.
- acrocyst** *n.* [Gk. *akros*, tip; *kystis*, bladder] the spherical gelatinous cyst formed by gonophores at maturation of generative cells.
- acrodont** *a.* [Gk. *akros*, tip; *odontos*, tooth] *appl.* teeth attached to the summit of a parapet of bone, as in lizards.
- acrodrome, acrodromous** *a.* [Gk. *akros*, tip; *dramein*, to run] *appl.* leaf with veins converging at its point; *alt.* campylodrome.
- acrogenous** *a.* [Gk. *akros*, tip; *-genēs*, producing] increasing in growth at summit or apex.
- acrogenous** *a.* [Gk. *akros*, tip; *-genēs*, producing] ferns and mosses, collectively.
- acrogynous** *a.* [Gk. *akros*, tip; *gynē*, female] with archegonia arising from apical cell, *appl.* certain liverworts; *cf.* anacrogynous.
- acromegaly** *n.* [Gk. *akros*, tip; *megalon*, great] gigantism due to excessive activity of part of pituitary gland.
- acromial** *a.* [Gk. *akros*, summit; *ōmos*, shoulder] *pert.* acromion, *appl.* artery, process, ligament, etc.
- acromio-clavicular** *a.* [Gk. *akrōmion*, shoulder summit; *L. clavícula*, *dim.* of *clavis*, key] *appl.* ligaments covering joint between acromion and clavicle.
- acromion** *n.* [Gk. *akros*, summit; *ōmos*, shoulder] ventral prolongation of scapular spine.
- acron** *n.* [Gk. *akron*, top] preoral region of insects; anterior, unsegmented part of young trilobite.
- acronematic** *a.* [Gk. *akros*, tip; *nēma*, thread] *appl.* flagella which are smooth and whip-like.
- acroneme** *n.* [Gk. *akros*, tip; *nēma*, thread] the slender part of acronematic flagella.
- acropetal** *a.* [Gk. *akros*, summit; *L. petere*, to seek] ascending; *appl.* leaves, flowers, or roots, developing successively from an axis so that youngest arise at apex; *alt.* basifugal; *cf.* basipetal.
- acrophyte** *n.* [Gk. *akron*, peak; *phyton*, plant] a plant growing at a high altitude; alpine plant.
- acropiasm** *n.* [Gk. *akros*, tip; *plasma*, form] cytoplasm of the apex of an ascus.
- acropodium** *n.* [Gk. *akros*, tip; *pous*, foot] digits,—fingers or toes; *cf.* metapodium.
- acrorhagus** *n.* [Gk. *akros*, summit; *rhax*, grape] a tubercle near the margin of certain Actinaria, containing specialized nematocysts.
- acrosarc** *n.* [Gk. *akros*, summit; *sarx*, flesh] a pulpy berry resulting from union of ovary and calyx.
- acroscopic** *a.* [Gk. *akros*, tip; *skopein*, to view] facing towards the apex; *cf.* basiscopic.

Acrosiphonales

Acrosiphonales *n.* [Gk. *akros*, tip; *siphōn*, tube] an order of green algae which have an unusual type of cellulose in their cell walls, but are otherwise mainly similar to the Cladophorales.

acrosome *n.* [Gk. *akros*, tip; *sōma*, body] organelle at apex of spermatozoon which digests the coatings around the egg so that the sperm can enter; *alt.* apical body, head-cap, idiosphaerosome, perforatorium.

acrospire *n.* [Gk. *akros*, tip; *speira*, something twisted] the 1st shoot or sprout, being spiral, at end of germinating seed.

acrospore *n.* [Gk. *akros*, tip; *sporas*, seed] the spore at the apex of a sporophore or hypha.

acrostical *a.* [Gk. *akros*, tip; *stichos*, row] *appl.* hairs: small bristles along dorsal surface of thorax of some Diptera such as *Drosophila*.

acrostichoid *a.* [Gk. *akros*, tip; *stichos*, row; *eidos*, form] *appl.* fern sporangia produced all over the surface, not in sori over a vein.

acrosyndesis *n.* [Gk. *akros*, tip; *syndēsai*, to bind together] telosyndesis, *q.v.*

acroteric *a.* [Gk. *akroteria*, extremities] *pert.* outermost points, as tips of digits, nose, ears, tail.

Acrothoracica *n.* [Gk. *akros*, tip; *thōrax*, chest] an order of barnacles having a reduced number of thoracic limbs.

acrotonic, acrotonous *a.* [Gk. *akros*, tip; *tonos*, brace] having anther united at its apex with rostellum; *cf.* basitonic.

acrotroch *n.* [Gk. *akros*, tip; *trochos*, hoop] a circlet of cilia anterior to prototroch of trochophore, in certain polychaetes.

acrotrophic *a.* [Gk. *akros*, tip; *trophē*, nourishment] *appl.* ovariole having nutritive cells at apex which are joined to oocytes by nutritive cords; *alt.* telotrophic; *cf.* meroistic, polytrophic.

ACTH adrenocorticotrophic hormone, *q.v.*

actin *n.* [Gk. *aktis*, ray] a protein occurring in muscle where it combines with myosin to form actomyosin, in striped muscle found alone in the I-disc, and also found in flagella and other contractile systems.

actinal *a.* [Gk. *aktis*, ray] *appl.* area of echinoderm body with tube-feet, *alt.* ambulacral; *appl.* oral area with tentacles in Actiniaria; star-shaped.

actine *n.* [Gk. *aktis*, ray] a star-shaped spicule.

actinenchyma *n.* [Gk. *aktis*, ray; *en*, in; *cheein*, to pour] cellular tissue having a stellate appearance.

Actiniaria *n.* [Gk. *aktis*, ray] an order of Zoantharia, commonly called sea anemones, which are solitary without a skeleton, and have complete and incomplete septa in multiples of 6.

actinic *a.* [Gk. *aktis*, ray] *appl.* or *pert.* rays with wavelengths between those of visible violet and of X-rays, and having certain chemical effects, e.g. on ergosterol, *q.v.*

actiniform actinoid, *q.v.*

Actinistia *n.* [Gk. *aktis*, ray] Coelacanthina, *q.v.*

actinobiology *n.* [Gk. *aktis*, ray; *bios*, life; *logos*, discourse] the study of the effects of radiation upon living organisms.

actinoblast *n.* [Gk. *aktis*, ray; *blastos*, bud] the mother cell from which a spicule is developed, as in Porifera.

actinocarpous *a.* [Gk. *aktis*, ray; *karpos*, fruit] *appl.* plants with flowers and fruit radially arranged; *alt.* actinocarpic.

actinochitin *n.* [Gk. *aktis*, ray; *chitōn*, tunic] anisotropic or birefringent chitin; *cf.* isotropic chitin.

actinodrome *a.* [Gk. *aktis*, ray; *dromos*, course] veined palmately; *alt.* actinodromous.

actinogonidial *a.* [Gk. *aktis*, ray; *gonos*, offspring] having radially arranged genital organs.

actinoid *a.* [Gk. *aktis*, ray; *eidos*, shape] rayed; star-shaped, stellate; *alt.* actiniform.

actinology *n.* [Gk. *aktis*, ray; *logos*, discourse] the study of the action of radiation; study of radially symmetrical animals; homology of successive regions or parts radiating from a common central region.

actinomere *n.* [Gk. *aktis*, ray; *meros*, part] a radial segment; *alt.* antimer.

actinomorph *a.* [Gk. *aktis*, ray; *morphē*, form] radially symmetrical; *alt.* actinomorphous, regular; *cf.* zygomorphic.

Actinomycetales, actinomycetes *n., n.plu.* [Gk. *aktis*, ray; *mykēs*, fungus] an order of mainly rod-shaped non-motile bacteria which often branch in culture, and including many members that produce important antibiotics; sometimes considered to be a separate class of Schizophyta.

actinomycin D *n.* [Gk. *aktis*, ray; *mykēs*, fungus] an antibiotic produced by the actinomycete *Streptomyces chrysomallus* which prevents the formation of mRNA.

actinopharynx *n.* [Gk. *aktis*, ray; *pharynx*, gullet] the gullet of a sea anemone.

Actinopoda *n.* [Gk. *aktis*, ray; *pous*, foot] a subclass of Sarcodina, in some classifications.

Actinopterygii, actinopterygians *n., n.plu.* [Gk. *aktis*, ray; *pterygion*, fin] a subclass of bony fishes, often called ray-finned fishes, consisting of many extinct groups and most living bony fish, having ganoid scales and usually paired fins with broad bases.

actinospore *n.* [Gk. *aktis*, ray; *sporas*, seed] a spore of actinomycetes.

actinostr *n.* [Gk. *aktis*, ray; *osteon*, bone] basal bone of fin-rays in teleosts.

actinostele *n.* [Gk. *aktis*, ray; *stēlē*, pillar] a stele with no pith, having xylem and phloem in alternating or radial groups, so the xylem is star-shaped in cross-section.

actinostome *n.* [Gk. *aktis*, ray; *stoma*, mouth] the mouth of a sea anemone; 5-rayed oral aperture of starfish.

actinotrichia *n.plu.* [Gk. *aktis*, ray; *thrix*, hair] unjointed horny rays at edge of fins in many fishes.

actinotrocha *n.* [Gk. *aktis*, ray; *trochos*, wheel] free-swimming larval form of Phoronida.

Actinozoa *n.* [Gk. *aktis*, ray; *zōon*, animal] Anthozoa, *q.v.*

actinula *n.* [Gk. *aktis*, ray] a larval stage in some hydrozoans.

Actinulida *n.* [Gk. *aktis*, ray] a small order of hydrozoans, being very small individuals living as meiofauna and retaining the appearance and cilia of actinula larvae.

action potential a potential difference produced in a nerve or muscle when it is stimulated, reversing the resting potential from about -70 millivolts to about +30 millivolts, and being an easily observed manifestation of a nerve impulse; *cf.* resting potential.

action system the pattern of behaviour in an organism.

activating enzymes a group of enzymes involved in protein synthesis, that catalyse the reaction of ATP with an amino acid and the formation of amino acyl-tRNA; also known as amino acyl synthetases; EC sub-subgroup 6.1.1.

activator *n.* [*L. activus*, active] a substance which promotes or protects enzyme action; a substance which stimulates development of any particular embryonic tissue or organ.

active centre or site the region of an enzyme molecule which interacts with the substrate molecules and where activation and reaction take place.

active transport the movement of materials into cells other than by diffusion, usually involving energy expenditure by the cell and often against concentration gradients.

actomyosin *n.* [*Gk. aktis*, ray; *mys*, muscle] a protein in muscle formed from the linkage of the 2 proteins actin and myosin in myofilaments, which shortens when stimulated and so causes muscles to contract.

aculeate *a.* [*L. aculeus*, prickle] having prickles, sharp points, or a sting.

aculeiform *a.* [*L. aculeus*, prickle; *forma*, shape] formed like a prickle or thorn.

aculeus *n.* [*L. aculeus*, prickle] a prickle growing from bark, as in rose; a sting; a hair-like projection; a microtrichium, *q.v.*

acumen *n.* [*L. acumen*, point] the point of an acuminate leaf.

acuminate *a.* [*L. acumen*, point] drawn out into long point; tapering; pointed.

acuminiferous *a.* [*L. acumen*, point; *ferre*, to carry] having pointed tubercles.

acuminulate *a.* [*L. acuminatus*, *dim.* of *acumen*, point] having a very sharp tapering point.

acute *a.* [*L. acutus*, sharpened] ending in a sharp point; temporarily severe, not chronic.

acyclic *a.* [*Gk. a*, without; *kyklos*, circle] *appl.* flowers with floral leaves arranged in a spiral; *cf.* cyclic.

acyl carrier protein (ACP) a small protein which carries acyl groups in the metabolic cycles concerned with fat synthesis.

adamentoblast *n.* [*Gk. adamas*, diamond; *blastos*, bud] enamel cell; ameloblast, *q.v.*

adambulacral *a.* [*L. ad*, to; *ambulare*, to walk] *appl.* structures adjacent to ambulacral areas in echinoderms.

Adam's apple laryngeal prominence, *q.v.*

Adapedonta *n.* [*L. adaperire*, to open fully; *dens*, tooth] an order of burrowing lamellibranchs with eulamellibranch gills and gaping shells; *cf.* Eulamellibranchiata.

adaptation *n.* [*L. adaptare*, to fit to] the process by which an organism becomes fitted to its environment; a structure or habit fitted for some special environment; the fitting of sensations to a point when discomfort ceases; adjustment of disturbance of nervous system without involving higher coordinating centres.

adaptive *a.* [*L. adaptare*, to fit to] capable of fitting different conditions; adjustable; inducible, *appl.* enzymes formed when their specific substrates are available, *cf.* constitutive enzymes; *appl.* radiation: evolution from a common ancestry of a number of morphologically and ecologically dif-

ferent types adjusted to different environments.

adaptogens *n.plu.* [*L. adaptare*, to fit to; *Gk. genos*, birth] a hypothetical group of drugs which return body processes to normal in the presence of stress, but are ineffective when there is no stress.

adaptor RNA transfer RNA, *q.v.*

adaxial *a.* [*L. ad*, to; *axis*, axle] turned towards the axis; *cf.* abaxial.

adcauline *a.* [*L. ad*, to; *caulis*, stalk] towards or nearest the stem; *cf.* abcauline.

ad-digital *n.* [*L. ad*, to; *digitus*, finger] a primary wing quill connected with phalanx of 3rd digit.

adduction *n.* [*L. ad*, to; *ducere*, to lead] movement towards the median axis; *cf.* abduction.

adductor *n.* [*L. ad*, to; *ducere*, to lead] a muscle which brings one part towards another.

adeciduate *a.* [*L. a*, away from; *decidere*, to fall down] not falling, or coming away, *appl.* evergreens, *appl.* placenta; *alt.* indeciduate.

adecticious *a.* [*Gk. a*, without; *dektikos*, biting] without functional mandibles to escape from puparium or cocoon, *appl.* pupa of some insects; *cf.* decticious.

adelocodonic *a.* [*Gk. adelos*, concealed; *kodon*, bell] *appl.* undetached medusa of certain Gymnoblaster, which degenerates after discharging ripe sexual cells; *cf.* phanerocodonic.

adelomorphie *a.* [*Gk. adelos*, concealed; *morphē*, shape] indefinite in form; *appl.* central cells of peptic glands; *alt.* adelomorphous.

adelomycete *n.* [*Gk. adelos*, concealed; *mykēs*, fungus] a fungus lacking the sexual spore stage, an imperfect fungus; see Fungi Imperfecti.

adelophycen *a.* [*Gk. adelos*, concealed; *phykion*, seaweed] *appl.* stage or generation of many seaweeds when they appear as prostrate microthalli.

adelphogamy *n.* [*Gk. adelphos*, brother; *gamos*, marriage] brother-sister mating, as in certain ants; union of mother cell and one of the daughter cells formed from it by mitosis.

adelphous *a.* [*Gk. adelphos*, brother] joined together in bundles, as filaments of stamens; *cf.* monadelphous, diadelphous.

adenase *n.* [*Gk. aden*, gland; *-ase*] a hydrolysing enzyme which catalyses the deamination of adenine with the formation of hypoxanthine and ammonia; EC 3.5.4.2; *r.s.* adenine deaminase.

adendritic, adendric *a.* [*Gk. a*, not; *dendron*, tree] without dendrites or branches, *appl.* cells.

adendroglia *n.* [*Gk. a*, not; *dendron*, tree; *glia*, glue] a type of neuroglia lacking processes.

adenine *n.* [*Gk. aden*, gland] a purine base which is part of the genetic code of DNA where it pairs with thymine, and of RNA where it pairs with uracil, and is part of the molecule of NAD, NADP, FAD, and adenosine.

adenoblast *n.* [*Gk. aden*, gland; *blastos*, bud] embryonic glandular cell.

adenochelri *n.plu.* [*Gk. aden*, gland; *cheir*, hand] elaborate accessory copulatory organs, outgrowths of atrial walls in Turbellaria; *alt.* adeno-dactyli.

adenocyte *n.* [*Gk. aden*, gland; *kytos*, hollow] secretory cell of a gland.

adenodactyli *n.plu.* [*Gk. aden*, gland; *daktylos*, finger] adenochelri, *q.v.*

adenohypophysis *n.* [*Gk. aden*, gland; *hypo*, under; *physis*, growth] the glandular lobe or portions of the pituitary body, derived from

adenoid

Rathke's pouch, consisting of the pars distalis, pars tuberalis, and pars intermedia; *cf.* neurohypophysis.

adenoid a. [Gk. *adēn*, gland; *eidos*, shape] *pert.* or resembling a gland or lymphoid tissue. *n.* Nasopharyngeal tonsil.

Adenophora n. [Gk. *adēn*, gland; *phora*, producing] Aphasmidia, *q.v.*

adenophore n. [Gk. *adēn*, gland, *pherein*, to carry] the stalk of a gland, especially a nectar gland.

adenophyllous a. [Gk. *adēn*, gland; *phyllon*, leaf] bearing glands on leaves.

adenopodus a. [Gk. *adēn*, gland; *pous*, foot] bearing glands on peduncles or petioles.

adenose a. [Gk. *adēn*, gland] glandular.

adenosine n. [Gk. *adēn*, gland] a nucleoside with adenine as its base.

adenosine diphosphate (ADP) a nucleotide cofactor made of adenosine and 2 phosphate groups, involved in energy transfers; *cf.* adenosine triphosphate.

adenosine monophosphate (AMP) a nucleotide made of adenosine and one phosphate group; *alt.* adenylic acid; *cf.* adenosine triphosphate, cyclic AMP.

adenosine triphosphate (ATP) a nucleotide cofactor made up of adenosine and 3 phosphate groups, important in many biological reactions where energy is transferred, and which can be converted to adenosine diphosphate and monophosphate with the release of energy and phosphates, or made from these compounds with the uptake of energy in phosphate bonds.

adenostemonous a. [Gk. *adēn*, gland; *stēmōn*, spun thread] having glands on stamens.

adenoviruses n.pl. [Gk. *adēn*, gland; *L. virus*, poison] a group of viruses containing double-stranded RNA, infecting various mammals including those causing respiratory diseases in man.

adenylic acid adenosine monophosphate, *q.v.*; formerly called vitamin B₃ when found in striated muscle.

adequate appl. stimulus which normally acts on a given receptor, and induces the appropriate sensation.

adermin pyridoxine, *q.v.*; broadly, vitamin B₆.

adesmic a. [Gk. *adesmos*, unfettered] *appl.* cyclo-merial scales made up of separate lepidomerial units; *cf.* monodesmic, polydesmic.

adesmy n. [Gk. *adesmos*, unfettered] a break or division in an organ usually entire.

adetopneustic a. [Gk. *adētos*, free; *pnein*, to breathe] having dermal gills occurring beyond abactinal surface, as in certain stelleroids.

adfrontal a. [*L. ad*, to; *frons*, forehead] *appl.* oblique plates beside frons of certain insect larvae.

ADH antidiuretic hormone, *q.v.*

adherent a. [*L. ad*, to; *haerere*, to stick] exhibiting adhesion, *q.v.*; attached to substratum, *appl.* zoocia of polyzoon colony; *cf.* coherent.

adhesion n. [*L. ad*, to; *haerere*, to stick] condition of touching without growing together of parts normally separate, as between members of different series of floral leaves; *cf.* cohesion.

adhesive cells various glandular or specialized cells for purposes of attachment, as on tentacles of Ctenophora, on epidermis of Turbellaria, on pedal disc of hydra.

adiabatic a. [Gk. *a*, not; *diabatos*, passable] with-

out losing or gaining heat; incapable of translocation.

adience n. [*L. adire*, to approach] urge, or advance, towards stimulus; approaching reaction; *cf.* abience.

adient a. [*L. adire*, to approach] approaching the source of stimulation; *cf.* abient.

adipocellulose n. [*L. adeps*, fat; *cellula*, small room] cellulose with a large amount of suberin, as in cork tissue.

adipocyte n. [*L. adeps*, fat; *Gk. kytos*, hollow] one of the cells forming the fat-body in insects.

adipoleucocyte n. [*L. adeps*, fat; *Gk. leukos*, white; *kytos*, hollow] leucocyte containing fat droplets or wax, in insects.

adipolysis n. [*L. adeps*, fat; *Gk. lysis*, loosing] lipolysis, *q.v.*

adipose a. [*L. adeps*, fat] *pert.* animal fat; fatty.

adipose body fat-body, *q.v.*

adipose fin modified rayless posterior dorsal fin, as in Salmoniformes, Characiformes, Suluriformes.

adipose tissue a type of connective tissue whose cells are filled with fat.

A-disc A-band, *q.v.*

aditus n. [*L. aditus*, entrance] anatomical structure forming approach or entrance to a part, e.g. to antrum, larynx, etc.

adjustor n. [*L.L. adjustare*, to adjust, from *L. ad*, to; *justus*, just] a muscle connecting stalk and valve in Brachiopoda; ganglionic part of a reflex arc; connecting receptor and effector.

adjuvant n. [*L. ad*, to; *juvenalis*, youthful] a substance that increases the production and lifetime of antibodies when a body is injected with antigen.

adlacrimal n. [*L. ad*, to; *lacrima*, tear] lacrimal bone of reptiles, not homologous to that of mammals.

admedial a. [*L. ad*, towards; *medius*, middle] near the middle, *alt.* mediad; near the median plane, *alt.* admedian.

adminiculum n. [*L. adminiculum*, support] a locomotory spine of certain pupae; posterior fibres of linea alba attached to os pubis.

adnasal n. [*L. ad*, to; *nasus*, nose] a small bone in front of each nasal in certain fishes.

adnate a. [*L. ad*, to; *gnatus*, born] joined to another organ of a different kind; *pert.* or designating the condition of being closely attached to side of petiole or stalk, as stipules or leaves; designating condition of anther with back attached throughout its length to filament, or to its continuation the connective; *appl.* gills of an agaric which are fused with the stem for the whole of their width; *alt.* conjoined.

adnephtrin(e) adrenaline, *q.v.*

adnexa n.pl. [*L. ad*, to; *nectere*, to bind] structures or parts closely related to an organ; extra-embryonic structures, as foetal membranes, placenta.

adnexed a. [*L. ad*, to; *nectere*, to bind] reaching to the stem only; *appl.* gills of an agaric which are fused to the stem for only part of their width.

adolescaria n. [*L. adolescere*, to grow up] metacercaria, *q.v.*

adoral a. [*L. ad*, to; *os*, mouth] near or *pert.* mouth.

ADP adenosine diphosphate, *q.v.*

adpressed a. [*L. ad*, to; *pressus*, pressed] appressed, *q.v.*

- adradius** *n.* [L. *ad*, to; *radius*, radius] in cocenterates, the radius midway between perradius and interradius, a radius of 3rd order.
- adrectal** *a.* [L. *ad*, to; *rectum*, rectum] near to or closely connected with rectum.
- adrenal** *a.* [L. *ad*, to; *rectum*, rectum] situated near kidneys; *alt.* suprarenal, surrenal.
- adrenal body** one of a pair of bodies adjacent to the kidneys in mammals consisting of the suprarenal and interrenal (adrenal) glands, the suprarenals forming the central portion (medulla) secreting adrenaline and noradrenaline, and the interrenals forming the outer portion (cortex) secreting the adrenocortical hormones, in some vertebrates the 2 glands being separate; *alt.* adrenal gland, suprarenal gland, paranephros.
- adrenaleergic** *adrenergic*, *q.v.*
- adrenalin(e)** *n.* [L. *ad*, to; *renes*, kidneys] a hormone secreted by the suprarenal medulla of the adrenal bodies and by nerve endings of the sympathetic nervous system, which prepares the animal for fight or flight reactions and maintains muscle tone, may act as a neurotransmitter, and is also found in some invertebrates; *alt.* adrenaline, adrephrine, epinephrine, suprarenin.
- adrenergic** *a.* [L. *ad*, to; *renes*, kidneys; Gk. *ergon*, work] *appl.* sympathetic nerves, which liberate adrenaline or noradrenaline from their terminations; *alt.* adrenaleergic; *cf.* cholinergic.
- adrenin(e)** *adrenaline*, *q.v.*
- adrenocortical** *a.* [L. *ad*, to; *renes*, kidneys; *cortex*, bark] *pert.* or secreted in the adrenal cortex, *appl.* various hormones including sex hormones, glucocorticoids, mineralocorticoids.
- adrenocorticotrop(h)ic** *a.* [L. *ad*, to; *renes*, kidneys; *cortex*, bark; Gk. *trophē*, nourishment] *appl.* polypeptide hormone secreted by the adenohypophysis which controls the growth and activity of the adrenal cortex, *alt.* ACTH, corticotrophin; *alt.* corticotrophic.
- adrenotropic, adrenotrophic** *a.* [L. *ad*, to; *renes*, kidneys; Gk. *trophē*, turn; *trophē*, nourishment] *appl.* a pituitary hormone acting on the adrenal medulla.
- adrostral** *a.* [L. *ad*, to; *rostrum*, beak] near to or closely connected with beak or rostrum.
- adsorption** *n.* [L. *ad*, to; *sorbere*, to suck in] the adhesion of molecules to solid bodies; formation of unimolecular surface layer; taking up of a substance at a surface.
- adtidal** *a.* [L. *ad*, to; A.S. *tid*, time] *appl.* organisms living just below low-tide mark.
- adultoid** *appl.* nymph having imaginal characters differentiated further than in normal nymph.
- aduncate** *a.* [L. *aduncus*, hooked] crooked; bent in the form of a hook.
- adust(ous)** *a.* [L. *adustus*, sunburnt] browned; appearing as if scorched.
- advehent** *a.* [L. *advehere*, to carry to] afferent; carrying to an organ.
- adventitia** *n.* [L. *adventitius*, extraordinary] external connective tissue layer of blood vessels; *alt.* tunica adventitia.
- adventitious** *a.* [L. *adventitius*, extraordinary] accidental; found in an unusual place; *appl.* tissues and organs arising in abnormal positions; secondary. *appl.* dentine.
- adventive** *a.* [L. *advenire*, to arrive] not native. *n.* An organism in a new habitat but not completely established there.
- aecia** *plu.* of aecium.
- aecial** *aecidial*, *q.v.*
- aecidia** *plu.* of aecidium.
- aecidiat** *a.* [L. *aecidium*, cup] *pert.* aecidia, or aecidium; *alt.* aecial.
- aecidiosorus** *n.* [L. *aecidium*, cup; Gk. *sōros*, heap] a cluster or row of aecidiospores.
- aecidiospores** *n.plu.* [L. *aecidium*, cup; Gk. *sporas*, seed] the spores produced in an aecidium; *alt.* aeciospores.
- aecidium** *n.* [L. *aecidium*, cup] in rust fungi, a cup-shaped structure containing chains of aecidiospores; *alt.* cluster cup, aecium; *plu.* aecidia.
- aeciospores** *aecidiospores*, *q.v.*
- aecium** *aecidium*, *q.v.*
- aedeagus** *n.* [Gk. *aidōia*, genitals] the male intermittent organ of insects; *alt.* aedocagus, edcagus.
- aegithognathous** *a.* [Gk. *aigithos*, hedge sparrow; *gnathos*, jaw] with maxillopalatines separate, vomers forming a wedge in front and diverging behind, *appl.* a type of palate found in Passeres.
- aeolian** *a.* [L. *Aeolus*, god of the winds] wind-borne, *appl.* deposits.
- Aepyornithiformes** *n.* [Aepyornis, generic name; L. *forma*, shape] an order of very large Pleistocene birds of the subclass Neornithes from Madagascar, known as elephant birds.
- aerenchyma** *n.* [Gk. *aēr*, air; *engchyma*, infusion] parenchyma tissue with large intercellular spaces; air-storing tissue in cortex of various aquatic plants; tissue between spore mass and capsule wall in mosses.
- aerial** *a.* [L. *aer*, air] inhabiting the air; *appl.* roots growing above ground, e.g. from stems of ivy, for purposes of climbing; *appl.* small bulbs appearing in leaf axils, *alt.* bulbils.
- aero-aquatic** *a.* [L. *aer*, air; *aqua*, water] *appl.* or *pert.* fungi growing in water and liberating spores in the air.
- aerobe** *n.* [Gk. *aēr*, air; *bios*, life] an organism capable of living in the presence of oxygen; *alt.* aerobiont; *a.* aerobic; *cf.* anaerobe.
- aerobic respiration** respiration occurring in the presence of oxygen.
- aerobiology** *n.* [Gk. *aēr*, air; *bios*, life; *logos*, discourse] the study of air-borne organisms and their distribution.
- aerobiont** *n.* [Gk. *aēr*, air; *bion*, living] aerobe, *q.v.*; an organism living mainly in the air.
- aerobiosis** *n.* [Gk. *aēr*, air; *biōsis*, manner of life] existence in presence of oxygen.
- aerobiotic** *a.* [Gk. *aēr*, air; *biōtikos*, *pert.* life] living mainly in the air.
- aerocyst** *n.* [Gk. *aēr*, air; *kystis*, bladder] an air vesicle of algae.
- aerogenic** *a.* [Gk. *aēr*, air; *gennaein*, to produce] gas-producing, *appl.* certain bacteria.
- aerolae** *n.plu.* [L. *aer*, air] in the walls of diatoms, large depressed box-like structures.
- aeromorphosis** *n.* [Gk. *aēr*, air; *morphōsis*, form] modification of form or structure owing to exposure to air or wind.
- aerophora** *n.* [Gk. *aēr*, air; *pherein*, to bear] aerating outgrowth or pneumatophore in certain ferns.
- aerophyte** *n.* [Gk. *aēr*, air; *phyton*, plant] an epiphyte attached to the aerial portion of another plant.
- aeroplankton** *n.* [Gk. *aēr*, air; *planktos*, wander-

aerostat

ing] living particles drifting in the air, as spores, pollen, bacteria, etc.; also applied to non-living particles; *alt.* anemoplankton.

aerostat *n.* [L. *aer*, air; *stare*, to stand] an air sac in insect body or in bird bone.

aerostatic *a.* [L. *aër*, air; *stare*, to stand] containing air spaces; *alt.* pneumatic.

aerotaxis *n.* [Gk. *aër*, air; *taxis*, arrangement] the arrangement of micro-organisms or motile gametes towards or away from oxygen; *a.* aerotactic.

aerotropism *n.* [Gk. *aër*, air; *trōpē*, turn] reaction to gases, generally to oxygen, particularly the growth curvature of roots or other parts of plants to changes in oxygen tension; *a.* aerotropic.

aesth- *alt.* *esth-*.

aesthacyte *n.* [Gk. *aisthēsis*, sensation; *kytos*, hollow] a sensory cell of primitive animals such as sponges.

aesthesia *n.* [Gk. *aisthēsis*, sensation] sensibility; sense-perception; *alt.* aesthesia.

aesthetac *n.* [Gk. *aisthēta*, perceiver; *askēin*, to exercise] an olfactory receptor on antennule of some crustaceans such as *Daphnia*.

aesthetes *n.plu.* [Gk. *aisthēta*, perceiver] sense organs.

aestival *a.* [L. *aestivus*, of summer] produced in, or *pert.* summer; *pert.* early summer, *cf.* serotinal; *alt.* estival.

aestivation *n.* [L. *aestivus*, of summer] the mode in which different parts of flower are disposed in flower bud, *cf.* prefloration; torpor during heat and drought during summer in some animals, *cf.* hibernation; *alt.* estivation; *v.* aestivate.

aethallium *n.* [Gk. *aithalos*, soot] an aggregation of plasmodia or sporangia to form a compound fruit body in slime moulds; *cf.* pseudoaethallium.

aethogametism *n.* [Gk. *aithēs*, unaccustomed; *gameizō*, spouse] asynethogametism, *q.v.*; *alt.* aethogamety.

aetiolation etiolation, *q.v.*

aetioliol etioliol, *q.v.*

aetiology *n.* [Gk. *aitia*, cause; *logos*, discourse] the science of causation; origin of causes; *alt.* etiology.

affectional *appl.* behaviour concerned with social relationships as in monkeys, important in development and maintenance of social cohesion and organization.

afferent *a.* [L. *afferre*, to bring] bringing towards; *appl.* nerves carrying impulses to nervous centres, *alt.* centripetal; *appl.* blood vessels carrying blood to an organ or set of organs; *cf.* efferent.

efferent neurone sensory neurone, *q.v.*

afflagellar *a.* [Gk. *a*, without; L. *flagellum*, whip] akont, *q.v.*

afliatoxin a mycotoxin produced by *aspergillus* which is thought to cause liver damage.

AFP alphafoetoprotein, *q.v.*

afterbirth *n.* [A.S. *aefter*, behind; *beran*, to bring forth] placenta and foetal membranes expelled after offspring's birth; *alt.* decidua, secundines.

after-brain myelencephalon, *q.v.*

after-ripening the period after a seed has been dispersed when it cannot germinate, even if conditions are favourable, and during which physiological changes occur so that it can germinate.

after-sensation persistent sensation, due to continued activity in sense receptor, after cessation of external stimulation.

aftershalf *n.* [A.S. *aefter*, farther away; *sceaf*,

shaft] a small tuft of down near superior umbilicus of a feather; *alt.* hypopitulum.

agameton *n.* [Gk. *a*, without; *gamos*, marriage; *on*, being] a species comprising only apomictic individuals.

agameta *n.* [Gk. *a*, without; *gameizō*, spouse] a young form, gamete, or amoeba, which develops directly without syngamy into an adult, in Sporozoa being a merozoite or schizontoite.

agametoblast *n.* [Gk. *a*, not; *gameizō*, spouse; *blastos*, bud] *see* cytomer; *alt.* schizontoblast.

agamic *a.* [Gk. *a*, without; *gamos*, marriage] asexual; parthenogenetic; *alt.* agamous.

agemic complexes a group of apomictic plants that are usually allopolyploids and consist of many different biotypes forming a taxonomically difficult group.

agamobium *n.* [Gk. *a*, without; *gamos*, marriage; *bios*, life] the asexual generation in alternation of generations, i.e. the sporophyte; *cf.* gamobium.

agamodemone *n.* [Gk. *a*, not; *gamos*, marriage; *dēmos*, people] a deme consisting predominantly of apomictic plants or asexual organisms.

agamogenesis *n.* [Gk. *a*, without; *gamos*, marriage; *genesis*, descent] any reproduction without the male gamete such as parthenogenesis; asexual reproduction.

agamogenetic *a.* [Gk. *a*, without; *gamos*, marriage; *genesis*, descent] asexual; produced asexually.

agamogony *n.* [Gk. *a*, without; *gamos*, marriage; *gonos*, generation] schizogony, *q.v.*; any reproduction without the sexual process.

agamohermaphrodite *a.* [Gk. *a*, without; *gamos*, marriage; *hermaphroditas*, combining both sexes] with neuter and hermaphrodite flowers on the same plant, usually in the same inflorescence.

agamont *n.* [Gk. *a*, without; *gamos*, marriage; *on*, being] a schizont; that stage which gives rise to agametes.

agamospores *nb.* [Gk. *a*, without; *gamos*, marriage; L. *species*, particular kind] a species that reproduces only non-sexually.

agamosperry *n.* [Gk. *a*, without; *gamos*, marriage; *sperma*, seed] any form of apomixis in which embryos and seeds are produced asexually.

agamotropic *a.* [Gk. *a*, not; *gamos*, marriage; *trōpē*, turn] *appl.* flowers which once having opened, remain so without closing.

agamous agamic, *q.v.*

agar *n.* [Mal. *agar-agar*, a seaweed] a medium for bacterial and other cultures, prepared from agar-agar, a gelatinous substance, yielded by red algae.

Agaricales, agarics *n., n.plu.* [L. *agaricum*, fungus] an order of Basidiomycetes having basidia developed on the surface of gills, or in some classifications also on pores or occasionally on a smooth surface.

age and area hypothesis of Willis that older species occur in a more extensive area than that occupied by more recent species.

agenesis, ageneisis *n.* [Gk. *a*, not; *genesis*, origin] failure to develop.

agenneisis *n.* [Gk. *a*, without; *gennēsis*, an engendering] sterility.

ageotropism *n.* [Gk. *a*, not; *gē*, earth; *trōpē*, turn] not responding to gravity; negative geotropism, *alt.* apogeotropism.

- agglomerate** *a.* [L. *ad*, to; *glomus*, ball] clustered, as a head of flowers; *appl.* adhering mass of Protozoa, as in agglomeration of trypanosomes.
- agglutinate** *v.* [L. *agglutinare*, to glue on] to cause or to undergo agglutination. *n.* The mass formed by agglutination. *a.* Stuck together; obstruct, *q.v.*
- agglutination** *n.* [L. *ad*, to; *glutinare*, to glue] the formation of clumps or floccules by pollen, bacteria, erythrocytes, spermatozoa, and some protozoans.
- agglutinin** *n.* [L. *ad*, to; *glutinare*, to glue] a substance or specific antibody which causes agglutination; *alt.* heteroagglutinin.
- agglutininogen** *n.* [L. *ad*, to; *glutinare*, to glue; Gk. *gennaîn* to produce] substance or antigen that produces agglutinin.
- aggregate** *a.* [L. *ad*, to; *gregare*, to collect into a flock] formed in a cluster; *appl.* fruit formed from apocarpous gynaecium of a single flower, as raspberry, *alt.* etaerio; *appl.* fruit formed from several flowers, as pineapple; *appl.* certain medullary rays; *appl.* a type of silk gland in certain spiders; *appl.* soil particles cemented together by humus, inorganic salts, and mucilage to form clumps of various sizes and shapes, *alt.* ped.
- aggregation** *n.* [L. *ad*, to; *gregare*, to collect] a grouping or crowding of separate organisms; movement of protoplasm in tentacle or tendrils of sensitive plants, which causes tentacle or tendril to bend towards the point stimulated.
- aggressin** *n.* [L. *aggressus*, attacked] toxic substance produced by pathogenic organisms, inhibiting defensive reactions of host; *alt.* virulin.
- aggression** animal behaviour involving threats or attacks on other animals or sometimes inanimate objects.
- agglomerular** *a.* [Gk. *a*, without; L. *glomerare*, to form into a ball] devoid of glomeruli, as kidney in certain fishes.
- aglossate** *n.* [Gk. *a*, without; *glôssa*, tongue] having no tongue.
- agluttons** *n.plu.* [Gk. *a*, not; *glykys*, sweet] the non-sugar residue produced, together with glucose or some other sugar, on hydrolysis of glycosides.
- agminated** *a.* [L. *agmen*, a crowd] clustered; *appl.* glands: Peyer's patches, *q.v.*
- Agnatha** *n.* [Gk. *a*, without; *gnathos*, jaw] a class or superclass of primitive jawless vertebrates, including the lampreys, hagfish, and their extinct relatives; see also Cyclostomata.
- agnathostomatous, agnathous** *a.* [Gk. *a*, without; *gnathos*, jaw; *stoma*, mouth] having mouth unfurnished with jaws, as lamprey.
- agon** *n.* [Gk. *agôn*, contest] the active principle of an enzyme; cf. pheron, symplex.
- agonist** *n.* [Gk. *agônistês*, champion] a prime mover or muscle directly responsible for change in position of a part.
- agonistic** *a.* [Gk. *agônistês*, champion] *appl.* behaviour involving contest, combat, escape, attack, or appeasement.
- agranular** *a.* [L. *a*, away; *granulum*, small grain] without granules; without a conspicuous layer of granular cells, *appl.* cortex of brain: the motor areas.
- agranulocyte** *n.* [Gk. *a*, without; L. *granulum*, small grain; Gk. *kytos*, hollow] a non-granular or lymphoid leucocyte.
- agrestal** *a.* [L. *agrestis*, rural] *appl.* uncultivated plants growing on arable land.
- agriotype** *n.* [Gk. *agrius*, wild; *typos*, image] wild or ancestral type.
- agroecology** *n.* [Gk. *agrôsis*, grass; *logos*, discourse] that part of botany dealing with grasses; *alt.* graminology.
- allotropism** apheliotropism, *q.v.*
- A-horizon** the upper, or leached, soil layers; *alt.* eluvial layer.
- air bladder** *n.* [L. *aer*; A.S. *bledre*, bladder] the swim bladder in fishes; hollow dilatation of thallus in bladderwrack.
- air cells** thin-walled cavities in ethmoidal labyrinth; numerous cavities in mastoid; alveoli of lungs; air spaces in plant tissue.
- air chamber** gas-filled compartment of *Nautilus* shell, previously occupied by the animal; accessory respiratory organ or respiratory sac in certain air-breathing teleosts.
- air duct** duct connecting the swim bladder and gut of certain fishes.
- air pore** stoma, *q.v.*, of plants; lenticel, *q.v.*
- air sacculi** small terminal sacs of alveolar ducts of bronchioles.
- air sacs** spaces filled with air and connected with lungs in birds; dilatations of tracheae in many insects; sacs representing tracheal system and having hydrostatic function in certain insect larvae; *alt.* aerostats.
- air sinuses** cavities in frontal, ethmoid, sphenoid, and maxillary bones, with passages to nasal cavities.
- Aistopoda** *n.* [Gk. *aistos*, unseen; *pous*, foot] an extinct order of limbless leptocephali amphibians existing from Carboniferous to Permian times.
- aitogenic** *a.* [Gk. *aitios*, causing; *gennaîn*, to generate] resulting from causation; *appl.* reaction, as movement induced by an external agent.
- aitonastic** *a.* [Gk. *aitios*, causing; *nastos*, close-pressed] *appl.* curvature of part of a plant, induced by a diffuse stimulus.
- akanth-** *acanth-*, *q.v.*
- akaryocyte** *akaryote*, *q.v.*; erythrocyte, *q.v.*
- akaryote** *n.* [Gk. *a*, without; *karyon*, nut] a cell in which nucleoplasm has not collected together to form a nucleus; a non-nucleated cell; *alt.* akaryocyte. *a.* Non-nucleated; *alt.* akaryote.
- akene** *achene*, *q.v.*
- akinese** *n.* [Gk. *a*, not; *kîneîs*, movement] absence or arrest of motion.
- akinese** *n.* [Gk. *a*, not; *kîneîs*, to move] a resting cell in certain algae, which will later reproduce, corresponding to chlamydo-spore of fungi.
- akinetic** *a.* [Gk. *a*, not; *kîneîs*, to move] acentric, *q.v.*
- akont** *a.* [Gk. *a*, without; *kontos*, punting pole] without flagella; *alt.* aflagellar, akont, atrichous.
- akont-** also akont-, *q.v.*
- ala** *alanine*, *q.v.*
- ala** *n.* [L. *ala*, wing] any wing-like projection or structure; lateral petal of papilionaceous flower; membranous expansion on some fruits or seeds for wind dispersal; basal lobe of moss leaves; outgrowth from petiole of a decurrent leaf; a wing-like projection on bone; *plu.* alae.
- alanine** *n.* [Gk. *alanin*, irregular from *aldehyd*, aldehyde] a non-essential amino acid, amino-propionic acid; abbreviated to ala.
- alar** wing-like; *pert.* wings or alae; axillary.

alarm pheromone

alarm pheromone a pheromone released into the environment which induces a fright response in other members of the species.

alary *a.* [*L. ala*, wing] wing-like, *alt.* aliform; *pert.* wings.

ala spuria bastard wing, *q.v.*

alate *a.* [*L. alatus*, winged] having a wing-like expansion, as of petiole or stem; broad-lipped, *appl.* shells; *appl.* a spicular system in Calcareo which is sagittal because of inequality of angles; winged; *alt.* pterote.

ala temporalis alisphenoid, *q.v.*

albedo *n.* [*L. albus*, white] diffused reflection, the ratio of the amount of light reflected by a surface to the amount of incident light; mesocarp, white tissue of rind, of hesperidium, *cf.* flavedo.

albescens *a.* [*L. albescere*, to grow white] growing whitish.

albicans *a.* [*L. albicare*, to be white] tending to become white.

albinism *n.* [*L. albus*, white] absence of pigmentation in animals normally pigmented; state of having colourless chromatophores.

albino *n.* [*Sp. albino*, white, from *L. albus*] any animal with congenital deficiency of pigment in skin, hair, eyes, etc.; a plant with colourless chromatophores, due to absence of chloroplasts or undeveloped chromoplasts.

albamaculus *a.* [*L. albus*, white; *macula*, spot] *appl.* variegation in plants consisting of an irregular distribution of green and white patches on leaves due to mitotic segregation of genes or chloroplasts.

albuginea *n.* [*L. albus*, white; *gignere*, to beget] white, dense connective tissue surrounding testis, ovary, corpora cavernosa, spleen, or eye; *alt.* tunica albuginea, perididymia.

albumen *n.* [*L. albumen*, white of egg] white of egg containing several proteins including ovalbumin; in higher animals the nutritive material around the yolk; endosperm, *q.v.*

albumin *n.* [*L. albumen*, white of egg] one of a group of heat-coagulable, water-soluble proteins, such as ovalbumin in egg white, serum albumin in blood, lactalbumin in milk, and leucosin in wheat.

albuminoids *n.plu.* [*L. albumen*, white of egg; *Gk. eidos*, form] scleroproteins, *q.v.*

albuminous *a.* [*L. albumen*, white of egg] *pert.*, containing, or of nature of, albumen or an albumin.

albuminous cells parenchyma cells associated with sieve cells, as in pteridophytes and gymnosperms.

albumum *n.* [*L. albus*, white] the young wood of dicotyledons, containing functional xylem, often white in colour and next to the bark; *alt.* sapwood, splintwood; *cf.* duramen.

Alcyonacea *n.* [*Alcyonium*, generic name] an order of Octocorallia, commonly called soft corals, in which the lower parts of the polyps fuse to form a soft mass.

Alcyonaria *n.* [*Alcyonium*, generic name] Octocorallia, *q.v.*

alder flies see Neuroptera.

aldohexoses aldehydic sugars with 6 carbon atoms.

aldolase *n.* [*Aldehyde*] an enzyme which cleaves fructose-1,6-bisphosphate (formerly diphosphate) to form 2 types of triose phosphates; formerly

used for any of a group of enzymes which in general catalyse the formation of aldehydes from ketose phosphates; EC 4.1.2.13; *r.n.* fructose-bisphosphate aldolase.

aldose *n.* [*Aldehyde*] a group of monosaccharides containing an aldehyde group; *cf.* ketose.

aldosterone *n.* [*Aldehyde*, *Gk. stear*, suet] a hormone of the adrenal cortex, promoting retention of sodium ions, excretion of potassium, and influencing carbohydrate metabolism.

alecithal *a.* [*Gk. a*, without; *lekithos*, yolk] with little or no yolk, *appl.* ova; *alt.* alecithic.

alepidote *a.* [*Gk. a*, not; *lepidōtos*, scaly] without scales; *alt.* elepidote.

aletocyte *n.* [*Gk. alētes*, wanderer; *kytos*, hollow] wandering cell, *q.v.*

aleurispore, **aleurispore**, **aleurium** **aleurospore**, *q.v.*

aleurone *(s)* *n.* [*Gk. aleuron*, flour] protein grains found in general cytoplasm and used as a reserve food material. *a.* *Appl.* layer of endosperm containing protein, as in cereals.

aleuroplast *n.* [*Gk. aleuron*, flour; *plastos*, formed] a plastid storing protein.

aleurospore *n.* [*Gk. aleuron*, flour; *sporos*, seed] a lateral conidium of certain fungal parasites of skin; spore or tip early separated from hypha by a septum, or by contraction of protoplasm; *alt.* aleuriospore, aleurispore, aleurium, microconidium.

alexin *(s)* *n.* [*Gk. alexein*, to ward off] a substance in blood serum which combines with an amboceptor to produce lysis; *alt.* complement.

algae *n.* [*L. alga*, seaweed] a major division of the plant kingdom consisting of simple non-vascular photosynthetic plants with a unicellular, colonial, filamentous, or thalloid body, and being aquatic in marine or fresh water or found in damp habitats on land; *alt.* Phycophyta, algae.

algosis *n.* [*Gk. algēsis*, sense of pain] the sense of pain.

algaliculous *a.* [*L. alga*, seaweed; *colere*, to inhabit] living on algae.

algin *n.* [*L. alga*, seaweed] a gel-like polysaccharide, the salt of alginic acid, found in cell walls of brown algae.

alginic acid an acid occurring in the middle lamellae of cells of many brown algae.

algoid *a.* [*L. alga*, seaweed; *Gk. eidos*, shape] *pert.*, resembling, or of the nature of an alga.

algology *n.* [*L. alga*, seaweed; *Gk. logos*, discourse] the study of algae; *alt.* phycology.

Algonkian *a.* [*Algonquian* tribe of Indians] *pert.* late Proterozoic era.

alien a plant thought to have been introduced by man but now more or less naturalized.

aliform *a.* [*L. ala*, wing; *forma*, shape] wing-shaped; *appl.* muscles as in insects; *appl.* some wood parenchyma with wing-like extensions; *alt.* alary.

alima *n.* [*Gk. halios*, *pert.* sea] a larval stage of certain Crustacea.

alimentary *a.* [*L. alimentarius*, *pert.* sustenance] *pert.* nutritive functions.

alimentary canal the tube from mouth to anus which ingests and digests foodstuffs and from which they are absorbed into the body; *alt.* alimentary tract, digestive tract, gut.

alimentary system the alimentary canal and its associated glands.

alimentation *n.* [L. *alimentum*, nourishment] the process of nourishing or being nourished.

Alismatales *n.* [*Alisma*, generic name] an order of monocots, placed in the Alismatidae or Helobiace and used in slightly different ways by different authorities.

Alismatidae *n.* [*Alisma*, generic name] a subclass of monocots having many primitive characteristics such as an apocarpous gynaecium with spirally arranged carpels, and being aquatic or semi-aquatic herbs; *alt.* Helobiace.

allsphenoid *n.* [L. *ala*, wing; Gk. *sphēn*, wedge; *eidos*, form] wing-like portion of sphenoid forming part of cranium; *alt.* ala temporalis.

alltrunk *n.* [L. *ala*, wing; *truncus*, trunk] thorax of insect when fused with 1st segment of abdomen.

alkaline gland Dufour's gland, *q.v.*

alkaline tide transient decrease in acidity of body fluids after taking food.

alkaloid *n.* [Ar. *al*, the; *qali*, ash; Gk. *eidos*, form] any of a group of nitrogenous organic bases found in plants, having poisonous or medicinal properties, such as caffeine, morphine, nicotine, strychnine, etc.; *alt.* vegetable base.

alkenes a group of saturated hydrocarbons thought to be chemical fossils indicating life, which have been found in Pre-Cambrian geological strata.

allæsthetic *a.* [Gk. *allos*, other; *aisthētēs*, perceiver] *appl.* characters effective when perceived by other organisms; *alt.* allesthetic.

allantochorion *n.* [Gk. *allas*, sausage; *chorion*, skin] foetal membrane formed of outer wall of allantois and the primitive chorion, being the true chorion.

allantoic *a.* [Gk. *allas*, sausage] *pert.* allantois.

allantoic acid an oxidation product of allantoin, formed by the action of the enzyme allantoinase, which can be broken down to urea and glyoxylic acid before excretion.

allantoicase an enzyme catalysing the hydrolytic breakdown of allantoic acid to glyoxylic acid and urea, which is found in amphibia, certain fishes, and invertebrates; EC 3.5.3.4; *r.n.* allantoicase.

allantoid *a.* [Gk. *allas*, sausage; *eidos*, form] botuliform, *q.v.*

allantoin *n.* [Gk. *allas*, sausage] the end-product of purine and pyrimidine metabolism occurring in allantoic fluid and urine of certain mammals, gastropods, and insects.

allantoinase the enzyme which catalyses the conversion of allantoin to allantoic acid; EC 3.5.2.5; *r.n.* allantoinase.

allantole *n.* [Gk. *allas*, sausage] an embryonic organ, a membranous sac arising from posterior part of alimentary canal in higher vertebrates, and acting as an organ of respiration and/or nutrition and/or excretion; *a.* allantoic.

allæstotonic *a.* [Gk. *allassein*, to change; *tonos*, strain] induced by stimulus, *appl.* movements of grown plants; *cf.* auxotonic.

allatectomy *n.* [L. *allatum*, aided; Gk. *ektomē*, a cutting out] excision or removal of corpora allata.

allatum hormone juvenile hormone, *q.v.*

allote *n.* [Gk. *allēlōn*, one another] one of a pair or more of alternative hereditary characters; a gene which can occupy the same locus as another gene in a particular chromosome; *alt.* allelomorph; *a.* allelic; *cf.* multiple alleles.

allelism *n.* [Gk. *allēlōn*, one another] the relationship between alleles and their inheritance; *alt.* allelomorphism, alternative inheritance.

allelocatalysis *n.* [Gk. *allēlōn*, one another; *katalysis*, dissolution] mutually accelerating or retarding effect of cells by their secretion of growth-accelerating or -retarding substances, as in certain Protozoa which accelerate their rate of fission due to this, with increase in number of individuals present.

allelomimetic *a.* [Gk. *allēlōn*, one another; *mimētikos*, imitative] *appl.* animal behaviour involving imitating another animal usually of the same species.

allelomorph *n.* [Gk. *allēlōn*, one another; *morphē*, form] allele, *q.v.*; *a.* allelomorphism.

allelomorphism allelism, *q.v.*

allelopathy *n.* [Gk. *allēlōn*, one another; *pathos*, suffering] the influence or effect of one living plant upon another.

allotype *n.* [Gk. *allēlōn*, one another; *typos*, pattern] the frequency of alleles in a population.

Allen's rule the idea that the protruding parts of an animal body such as tails, ears, limbs are shorter in animals in colder regions than those of the same species in warmer regions.

allergen *n.* [Gk. *allos*, other; *ergon*, activity; *-genēs*, producing] a substance, usually a protein, which induces allergy; *alt.* atopen.

allergy *n.* [Gk. *allos*, other; *ergon*, activity] changed reactivity on second or subsequent infection or poisoning; exaggerated or unusual susceptibility, *alt.* anaphylaxis; atopy, *q.v.*

allæsthetic allæsthetic, *q.v.*

allaceous *a.* [L. *allium*, garlic] *pert.* or like garlic or onion.

alloantigen *n.* [Gk. *allos*, other; *anti*, against; *genos*, birth] isoantigen, *q.v.*

allobiosis *n.* [Gk. *allos*, other; *biōsis*, manner of life] changed reactivity of an organism in a changed internal or external environment.

allocarpy *n.* [Gk. *allos*, other; *karpos*, fruit] the production of fruit after cross-fertilization.

allocheiral *a.* [Gk. *allos*, other; *cheir*, hand] having right and left sides reversed; *pert.* reversed symmetry.

allochroic *a.* [Gk. *allos*, other; *chrōs*, colour] able to change colour; with colour variation.

allochronic *a.* [Gk. *allos*, other; *chronos*, time] not contemporary, *appl.* species, etc.; *alt.* allogenic; *cf.* synchronic.

allochthonous *a.* [Gk. *allos*, other; *chthōn*, the ground] exotic; not aboriginal; acquired; *cf.* autochthonous.

allocortex *n.* [Gk. *allos*, other; L. *cortex*, bark] the primitive cortical areas or cortex of olfactory brain; *cf.* isocortex.

allocyely *n.* [Gk. *allos*, other; *kyklos*, circle] the differences in coiling behaviour in chromosomes or regions of a chromosome, as seen in some sex chromosomes, the nucleolar organizer, and centromere.

Allocozoala, Alloicozoala *n.* [Gk. *allos*, different; *kōilos*, hollow] an order of turbellarians having a pharynx, and an intestine with short diverticula.

allogamy *n.* [Gk. *allos*, other; *gamos*, marriage] cross-fertilization, *q.v.*; *cf.* autogamy; *a.* allogamous.

alogene

- alogene** *n.* [Gk. *allos*, other; *genos*, descent] a recessive allele; *cf.* protogene.
- alogenic** *a.* [Gk. *allos*, other; *genos*, descent] caused by external factors, *appl.* plant successions; *pert.* alogenes; of different genetic constitution, *alt.* alogeneic; derived from elsewhere, *alt.* alogeneic; *alogenous*, *q.v.*; *exogenous*, *q.v.*; *allochronic*, *q.v.*; *cf.* autogenic.
- alogenous** *a.* [Gk. *allos*, other; *genos*, descent] *appl.* floras persisting from an earlier environment; *alt.* alogenic.
- allograft** *n.* [Gk. *allos*, other; O.F. *graffe*, graft] homograft, *q.v.*
- alloheteroploid** *n.* [Gk. *allos*, other; *heteros*, other; *aploos*, onefold; *eidos*, form] heteroploid derived from specifically distinct genomes; *cf.* autoheteroploid.
- allologensis** *n.* [Gk. *alloios*, different; *genesis*, descent] alternation of generations, *q.v.*
- alloiometron** *n.* [Gk. *alloios*, different; *metron*, measure] measurable change of proportion or intensity of development within species or races, e.g. head, limb, tooth, etc., proportions.
- allokinesis** *n.* [Gk. *allos*, other; *kinēsis*, movement] reflex, or passive, movement; involuntary movement.
- allokinetic** *a.* [Gk. *allos*, other; *kinētikos*, putting in motion] moving passively; drifting, as plankton; *cf.* autokinetic.
- allometric** *a.* [Gk. *allos*, other; *metron*, measure] differing in growth rate; *pert.* allometry; *alt.* heterogenic.
- allometry** *n.* [Gk. *allos*, other; *metron*, measure] study of relative growth; change of proportions with increase of size; growth rate of a part differing from a standard growth rate or from the growth rate of the whole; *alt.* heterogony, disharmony.
- allomixis** *n.* [Gk. *allos*, other; *mixis*, mingling] cross-fertilization, *q.v.*
- allomone** *n.* [Gk. *allos*, other; *hormone*] a chemical secreted by an individual which causes another organism of a different species to react favourably to it, such as scent given out by flowers attracting pollinating insects.
- allomorphosis** *n.* [Gk. *allos*, other; *morphōsis*, shaping] evolution with a rapid increase of specialization; *cf.* aromorphosis.
- alloparalectotype** *n.* [Gk. *allos*, other; *para*, beside; *lektos*, chosen; *typos*, pattern] specimen, from the original collection, of the sex opposite to that of the holotype, and described subsequently.
- allopatric** *a.* [Gk. *allos*, other; *patra*, native land] having separate and mutually exclusive areas of geographical distribution; *cf.* sympatric.
- allopelagic** *a.* [Gk. *allos*, other; *pelagos*, sea] *pert.* organisms found at any depth of the sea.
- allophene** *n.* [Gk. *allos*, other; *phainein*, to appear] a phenotype not due to a mutation in the actual cells showing the characteristic but due to other cells of the host, and which will show a normal phenotype if transplanted to a normal host; *cf.* autophene.
- allophore** *n.* [Gk. *allos*, other; *pherein*, to bear] a cell or chromatophore containing red pigment, in skin of fishes, amphibians, and reptiles.
- allrophytoid** *n.* [Gk. *allos*, other; *phytos*, growing; *eidos*, form] a propagative bud, differing from a vegetative bud; a bulbil, as of some lilies.
- alloplasm** *n.* [Gk. *allos*, other; *plasma*, mould] the differentiated portion of protoplasm such as myofibrils or cilia, not forming independent organelles; protoplasmic derivatives such as intercellular substance and cell walls.
- alloplast** *n.* [Gk. *allos*, other; *plastos*, formed] a morphological cell unit of more than one kind of tissue; *cf.* homoplast.
- allotriploid**, **allotriploid** *n.* [Gk. *allos*, other; *polys*, many; *aploos*, onefold; *eidos*, form] a polyploid produced from a hybrid between 2 or more species and therefore possessing 2 or more unlike sets of chromosomes; *alt.* multiple diploid, amphiploid; *cf.* autopolyploid.
- allorhizal** *a.* [Gk. *allos*, other; *rhiza*, root] having opposed root and shoot poles; *cf.* homorhizal.
- all-or-none** principle that response to a stimulus is either completely effected or is absent, first observed in heart muscle; *alt.* Bowditch's law.
- alloscutum** *n.* [Gk. *allos*, another; *L. scutum*, shield] dorsal area or sclerite behind scutum in larval ticks; *cf.* conscutum.
- allosematic** *a.* [Gk. *allos*, other; *sēma*, sign] having markings or coloration imitating warning signs in other, usually dangerous species; *cf.* aposematic.
- allosomal** *a.* [Gk. *allos*, other; *sōma*, body] *pert.* allosome; *appl.* inheritance of characters controlled by genes located in an allosome.
- allosome** *n.* [Gk. *allos*, other; *sōma*, body] a chromosome other than a typical one, such as a sex chromosome; *alt.* heterochromosome; *cf.* autosome.
- allosteric** *a.* [Gk. *allos*, other; *stereos*, solid] *appl.* effect of binding of certain small molecules on to a protein, such as an enzyme, at a site or sites distant from the active site, which change the properties of the active site.
- allostoses** *n.plu.* [Gk. *allos*, other; *osteon*, bone] bones formed by direct ossification of areolar connective tissue without passing through a cartilage stage; *alt.* membrane bone, investing bone; *cf.* autostoses.
- alliosynapsis**, **alliosyndesis** *n.* [Gk. *allos*, other; *synapsis*, union; *syndesis*, a binding together] pairing of homologous chromosomes from opposite parents, in a polyploid; *cf.* autosyndesis.
- allotetraploid** *n.* [Gk. *allos*, other; *tetraplē*, fourfold] an allotetraploid produced when a hybrid between 2 species doubles its chromosome number; *alt.* amphidiploid.
- Allotheria** *n.* [Gk. *allos*, other; *thērion*, small animal] a subclass of Jurassic to Eocene herbivorous mammals, including the single order Multituberculata, which may be primitive and are sometimes considered as a group of therians.
- allotherm** *n.* [Gk. *allos*, other; *thermē*, heat] an organism with body temperature dependent on environmental temperature.
- allotopotype** *n.* [Gk. *allos*, other; *topos*, place; *typos*, model] an allotype obtained from the type locality.
- Allotriognathi** *n.* [Gk. *allotrios*, strange; *gnathos*, jaw] Lampridiformes, *q.v.*
- allotriploid** *n.* [Gk. *allos*, other; *triploos*, threefold; *eidos*, form] an organism whose somatic cells contain 3 sets of chromosomes, 1 of which differs from the other 2.
- allotrophic** *a.* [Gk. *allos*, other; *trophē*, nourish

- ment] heterotrophic, *q.v.*; with a changed, usually lowered, nutritive value, *appl.* foods.
- allotropism** *n.* [Gk. *allos*, other; *trepein*, to turn] tendency of certain cells or structures to approach each other; mutual tropism, as between gametes; *alt.* allotropy; *a.* allotropic.
- allotropous** *a.* [Gk. *allos*, any other; *tropos*, direction] *appl.* insects not limited to or adapted to visiting special kinds of flowers; *appl.* flowers whose nectar is available to all kinds of insects; *cf.* eutropous; *n.* allotropy.
- allotropy** allotropism, *q.v.*; allotropous condition.
- allotype** *n.* [Gk. *allos*, other; *typos*, pattern] paratype of the sex opposite to that of the holotype.
- allotypy** *n.* [Gk. *allos*, other; *typos*, type] the property in proteins of existing in antigenically distinguishable forms that it has not so far been possible to distinguish by chemical means.
- allozygote** *n.* [Gk. *allos*, other; *zygotos*, yoked] a homozygote having recessive characters, *cf.* protozygote; a homozygote in which the 2 homologous genes are thought to have an independent origin, *cf.* autozygote.
- alluvial** *a.* [L. *alluere*, to wash to] *pert.* deposits formed by finely divided material laid down by running water; *appl.* A-horizon of soil.
- alpha** (α) cells oxyphilic cells in pars glandularis of pituitary gland; cells which secrete glucagon in islets of Langerhans, *alt.* A-cells.
- alphafetoprotein (AFP)** a blood protein, the levels of which can indicate whether a pregnant woman is carrying a foetus with spina bifida or anencephaly.
- alpha** (α) globulin one of the constituents of blood plasma, some of which are hormone-transporters.
- alpha** (α) granules metachromatic granules in central region of protoplast, as in blue-green algae.
- alpha** (α) helix a right-handed helix which forms the most stable structure in any polypeptide chains; *cf.* beta pleated sheet.
- alpha** (α) rhythm spontaneous rhythmic fluctuations of electric potential of cerebral cortex during mental inactivity.
- alpha** (α) tocopherol vitamin E, *q.v.*
- aliphatomorphous** *a.* [Gk. *aliphiton*, pearl barley; *morphē*, form] having the appearance of peeled (pearl) barley, *appl.* certain fungi.
- alsinaceous** *a.* [Gk. *alsinē*, chickweed] *appl.* petalous corolla where intervals occur between petals, as in chickweed.
- alteration theory** explains electromotive forces of nerve and muscle by alterations in chemical composition of tissue at cross-section.
- alternate** *a.* [L. *alternus*, one after another] not opposite; *appl.* leaves, branches, etc., occurring at different levels successively on opposite sides of stem; every other; taking turns.
- alternating cleavage** spiral cleavage, *q.v.*
- alternation of generations** the occurrence in one life history of 2 or more different forms differently produced, usually an alternation of a sexual with an asexual form; *alt.* alloigenesis, metagenesis, digenesis, heterogamy, heterogenesis, heterogony.
- alternation of parts** general rule that leaves of different whorls alternate in position with each other, sepals with petals, stamens with petals.
- alternative inheritance** allelism, *q.v.*
- alterne** *n.* [L. *alternus*, one after another] vegetation exhibiting disturbed zonation due to abrupt change in environment, or to interference with normal plant succession.
- alternipinnate** *a.* [L. *alternus*, one after another; *pinna*, wing] *appl.* leaflets or pinnae arising alternately on each side of midrib.
- Altmann's granules** [R. Altmann, German histologist] hypothetical units, *q.v.*; mitochondria, *q.v.*
- altrices** *n.plu.* [L. *altrix*, nourisher] birds whose young are hatched in a very immature condition; *cf.* precoces.
- altricial** *a.* [L. *altrix*, nourisher] requiring care or nursing after hatching or birth.
- altruistic adaptation** an adaptation favouring the survival of a group at the expense of an individual member of that group.
- alula** *n.* [L. *alula*, *dim.* of *ala*, wing] a small lobe separated off from wing base on its posterior edge in certain insects; lower tegula or squama thoracalis of Diptera; bastard wing, *q.v.*
- alutaceous** *a.* [L. *aluta*, alum-dressed leather] tannicoloured; leathery; having appearance of minute cracks, *appl.* markings on elytra of certain beetles.
- alveola** *n.* [L. *alveolus*, small cavity] a pit on the surface of an organ, *alt.* faveolus; alveolus, *q.v.*
- alveolar** *a.* [L. *alveolus*, small pit] *pert.* an alveolus; *pert.* tooth socket; *appl.* artery, nerve, process, canal, in connection with the jaw bone; *appl.* small cavities in lungs, glands, etc.; *appl.* pores connecting adjacent to air cells or pulmonary alveoli.
- alveolar theory** a 19th-century theory of the structure of cytoplasm, that protoplasm was made of a series of bubbles called 'alveolar spheres' scattered in the ground substance; *alt.* foam theory.
- alveolate** *a.* [L. *alveolatus*, pitted] deeply pitted or honeycombed; *alt.* faveolate.
- alveolation** *n.* [L. *alveolatus*, pitted] the formation of alveoli; alveolate appearance.
- alveolus** *n.* [L. *alveolus*, small pit] a small pit or depression; tooth socket, *alt.* odontobothrium; pyramidal ossicle supporting tooth in Aristotle's lantern of sea urchin; air cavity of lungs; a cavity in glands, *alt.* acinus; cavity in tarsus of spiders, receptacle for haematodocha; pit for articulation of macrotrichia; a subdivision of a vacuole; *alt.* alveola.
- alveus** *n.* [L. *alveus*, cavity] a white layer of fibres on ventricular surface of hippocampus; utricle of ear; dilatation of thoracic duct.
- amacrine** *a.* [Gk. *a*, not; *makros*, long; *is*, fibre] having no conspicuous axon; *appl.* cells in inner nuclear layer of retina, with dendrites in inner plexiform layer.
- amb** *n.* [L. *ambulare*, to walk] ambulacral area.
- ambiens** *n.* [L. *ambire*, to go round] a thigh muscle in certain birds, the action of which causes the toes to maintain grasp on perch.
- ambient** *a.* [L. *ambire*, to go round] surrounding; *appl.* vein, the costal nervure when encircling insect wing.
- ambilateral** *a.* [L. *ambo*, both; *latus*, side] *pert.* both sides.
- ambiparous** *a.* [L. *ambo*, both; *parere*, to produce] containing the beginnings of both flowers and leaves, *appl.* buds.