

GLOSSARY of PELAGIC BIOGEOGRAPHY

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This glossary of terms applicable to Pelagic Biogeography has been prepared as part of the work of SCOR Working Group 93, "Pelagic Biogeography." The decision to prepare such a glossary was made at the first meeting of the Working Group at Amsterdam, 6 - 8 November, 1990. The need to more clearly communicate and utilize common concepts and terminology was in fact evident at the First International Conference on Pelagic Biogeography, where it was not clear that workers were using such essential terms as "biogeography" to convey the same meaning. This Glossary is one attempt by Working Group 93 to address that problem.

The terms are given in alphabetical order in English with a Spanish translation of the term only when the term and/or the spelling is different. An alphabetical list of Spanish terms is given at the end of this document. The descriptions are given only in English. This list can thus also serve as a dictionary for Spanish speaking people to find the right term in English.

In preparation of this Glossary we have cast our net broadly and include terms applicable in aquatic biogeography *sensu lato*, including freshwater and coastal ecosystems.

Please note the following abbreviations, used widely:

- cf* *confer*: compare with definitions of terms that follow;
- eg* *exempli gratia* for example;
- qv* *quod vide*: definition for indicated (preceding) term will extend and clarify the present definition;
- syn* synonym

We have not attempted to list names, much less diagnoses, for the taxonomic groups that are the principal players in pelagic biogeography nor the proper names of pelagic biogeographic regions or provinces as used by various authors. To have done so would

have greatly increased the size of the Glossary, we believe to the detriment of its usefulness.

Every term we list can be found in use in the literature and defined elsewhere. We have invented nothing, save our own interpretation. The usefulness, if any, of this work is our deliberate effort to bring together terms from what are in fact connected but commonly disparate disciplinary areas - biological oceanography, phylogeny, ecology, physiology, ichthyology, evolutionary biology, physical oceanography, chemical oceanography, biogeography, meteorology, and others. We thank our colleagues for their help in improving this work. The choices and omissions, deliberate or not, as well as the errors, are our own.

“When I use a word,” Humpty Dumpty said in rather a scornful tone, “it means just what I choose it to mean—neither more nor less.”

Lewis Carroll (1832–98), English author, mathematician. *Through the Looking-Glass*, ch. 6 (1872).

A

abiotic factors
factores abióticos

- (1) Physical or chemical parameters "forcing" (*cf* forcing functions) distribution patterns.
- (2) Nonliving forces or situations controlling or influencing the dynamics of living systems.

abundance
abundancia

Ecology: A measure of population density, the number, mass or weight of organisms present in a defined area or volume (*cf* standing crop / standing stock; P/B ratio).

Abyssal
abisal

- (1) Pertaining to the zone of modal ocean basin depth, below 2000 m, lying seaward to and deeper than the bathyal (*qv*) zone.
- (2) Encompassing the ocean floor at depths between 2 and 6 km.

abyssal circulation
circulación abisal

Applies to large-scale oceanic water movement, density-driven, at depths between 2 and 6 km.

abyssobenthic
abisobéntico

A subdivision of the oceanic benthic environment at depths between 2 and 6 km.

abyssopelagic
abisopelágico

A subdivision of the oceanic pelagic environment occupying the strata between 2 and 6 km.

accepted name
nombre aceptado

Taxonomy: A name adopted by an author as the correct name for a taxon.

accidental species
especie accidental

Rare species in a community (*cf* Braun-Blanquet classification), either chance invaders from another community or relicts from a previous community (*cf* exclusive, indifferent, preferential, or selective species).

Acclimation
aclimatación

Response of an animal that enables it to tolerate a change in a single factor in its environment (*eg* temperature). (*cf* acclimitization).

acclimatization

aclimatación transitoria

A reversible adaptive response that enables an organism to tolerate environmental change (*eg* seasonal climatic change).

actic

Of or pertaining to littoral rocky shores as habitat.

action spectrum

espectro de acción

Graphic depiction of the efficiency of different wave lengths of light in promoting a given photoresponse (*eg* in photosynthesis or phototropism).

active pool

existencia activa

A component of a biogeochemical (*qv*) cycle in which the nutrient or active substance exchanges rapidly between the biotic and abiotic components - usually smaller or much smaller than the reservoir pool (*qv*).

adaptation

adaptación

(1) The condition of showing fitness (*qv*) for a particular environment, as applied to the characteristics of a structure, function, or entire organism.

(2) The process by which fitness is acquired.

adaptive peaks and valleys

valles y picos adaptativos

Symbolic contour map showing relative Darwinian fitness or adaptive value of genotypic characters or characteristics, represented by adaptive peaks (high fitness) and valleys (low fitness).

adaptive radiation

radiación adaptativa

(1) Evolutionary divergence of members of a single phyletic line into a series of rather different niches or adaptive zones.

(2) A burst of evolution with rapid divergence from a single ancestral form resulting in exploitation of an array of habitats (*cf* tachytelic, punctuated equilibria).

adaptive zone

zona adaptativa

Comprises the "living space" of a taxon in the associated environmental regime or regimes, habitat or niche. The adaptive specialization that fits the taxon to the given environmental circumstances may be broad or narrow (*eg* stenophagy *vs* omnivory).

adjacently sympatric

simpátrico adyacente

Of or pertaining to those aspects of a parapatric (*qv*) speciation event whereby the daughter species are minimally isolated geographically.

admissible

Taxonomy: The form of a name which can be validly published and the use of a name in accordance with provisions of the applicable international code, such as the ICZN (*qv*) for animals.

adnate

adnato

Closely applied to; growing on; attached along entire length.

advection

advección

(1) Mass motion in the atmosphere or ocean. In the ocean, the transport of water due to wind forcing or density driven circulation.

(2) The transport of organisms or materials by large-scale water movement.

(*cf* upwelling, convection).

affinity index

índice de afinidad

Measure of the relative similarity of the composition of two samples. Reciprocal affinity is a measure of distance.

age class

clase de edad

A category comprising individuals of a given age within a population; a cohort.

age-specific death rate

tasa de mortalidad específica

The death rate for a given age class in a population calculated as the number dying in age class x divided by the number that attain age class x ; designated by l_x .

age-specific fecundity rate

tasa de fecundidad específica

The average number of female young per female produced per unit time by an individual of specified age; designated by m_x .

agamospecies

especie agámica

Species which replicate asexually.

aggregated

agregado

A contagious distribution (qv) in which values, observations or individuals are more clustered or grouped together than in a random (qv) distribution, indicating that the presence of one organism or value increases the probability of another occurring nearby. Also known as overdispersion (qv).

aggregates

agregados

(1) Oceanography: Inorganic or organic clumping of particles, with or without associated living organisms (*cf* marine snow).

(2) Ecology: A group of individual items (soil particles, organisms, etc.) occurring together in a cluster, in which the average inter-individual distance within the cluster is significantly less than the average inter-individual distance outside of the cluster.

aggregation

agregación

(1) The process of forming an aggregate or cluster.

(2) A synonym for cluster.

(3) A group of organisms that is formed when individuals are attracted or limited to a patchily distributed environmental resource (*cf* patchiness).

agium

Of or pertaining to a beach community.

agonistic behavior

comportamiento antagónico

Describes behavioral interaction between two rival organisms of the same species that may involve aggression, threat, appeasement, or avoidance, often involving stereotyped or ritual behavior.

air-sea interface

interfase aire-agua

The zone of contact between atmosphere and marine hydrosphere.

aktological

Of or pertaining to shallow inshore environments and communities.

albedo

albedo

Reflectivity (*eg* of the earth, atmosphere, sea surface, land surface) measured as a percentage of incident solar radiation.

algorithm

algoritmo

A finite series of logical steps or instructions by which a particular numerical or algebraic problem can be solved.

alleles

alelos

The set of alternative gene forms at a given chromosomal locus.

allelopathy

alelopatía

Release by an organism of a chemical substance into the environment that acts as an inhibitor to the germination or growth of another organism. Most common among plants and protists.

allochoric

alocórico

Occurring in two or more communities within a given geographical region.

allochronic speciation
especiación alocrónica

(1) Neontology: Speciation without geographical separation through the acquisition of different breeding seasons or patterns.

(2) Paleontology: Speciation occurring by the sequential replacement of species through time.

allochronic species
especie alocrónica

Paleontology: Species which do not occur at the same time level (*cf* synchronic species).

allochthonous
alóctono

Not indigenous or native; acquired. May apply to species, food or nutrient input, or to sediment transported to be deposited within the system of reference.

allometry
alometría

Differential rate of growth such that size of one part (or more) of the body changes in proportion to another part of the body or the whole, but at a constant exponential rate.

allopatric speciation
especiación alopátrica

Species formation during geographical isolation (*cf* sympatric speciation, centrifugal speciation), as a result of fragmentation of the original breeding population and subsequent genetic divergence of daughter populations (*cf* parapatric, dichopatric).

allopatry
alopatría

(1) The condition of species or populations occupying mutually exclusive (but often adjacent) geographic areas (*cf* sympatry).

(2) Applied to species that occupy separate habitats and do not co-occur as breeding adults in nature.

allotopic
alotópico

Used of populations or species that occupy different macrohabitats (*cf* syntopic).

allotype
alotipo

Taxonomy: A paratype of different sex than the holotype and designated by the original author; has no formal ICZN status.

allozyme
alozima

Genetics: alternative forms of alleles at the same locus.

allozyme frequency
frecuencia alozímica

Allozyme frequency is the total number of times a given allozyme is detected among individuals in a sample, divided by sample size. By "one gene, one enzyme", allozyme frequency (where detectable and not modified by nongenetic factors) provides a direct index of allelic frequency at a given locus.

alpha taxonomy

taxonomía descriptiva

Descriptive taxonomy (*qv*), concerned primarily with the recognition and description of species, usually on the basis of morphological characters.

altricial

Used of offspring or species that show a marked delay in the attainment of independent self maintenance. (*cf* precocial).

ambit

ámbito

The daily, seasonal or lifetime geographic range of an organism.

amensalism

amensalismo

Interaction of species populations in which one population is inhibited whilst the other population is unaffected by the interaction (*cf* commensalism, competition, mutualism, neutralism, parasitism, predation, and proto cooperation). Classic example: an elephant stepping on the nest of a ground-dwelling bird. Better example: trophic group amensalism as in bioturbation effects inhibiting settlement of benthic suspension feeders.

amictic

amítico

Referring to a lake that has no overturn whatever because it is perennially frozen.

amphi-

anfi-

Prefix meaning both, as in amphi-American, species or higher taxa occurring in both the eastern Pacific and western Atlantic, *ie* both sides of the American land mass.

amphitropical

anfitropical

See antitropical.

anadromous

anádromo

Animals that spawn in freshwater but spend most of their lives in seawater, *eg* salmon (*Oncorhynchus*, *Salmo*).

anagenesis

anagénesis

(1) Referring to evolutionary advance (*cf* grade).

(2) Any evolutionary change along a single, unbranching lineage (*cf* cladogenesis).

analogous

análogo

Describes a feature or character state in two taxa which can be functionally similar or virtually identical (at least superficially) but which cannot be traced back to the same feature or character state in any common ancestor. Analogous features commonly derive from convergence or homoplasy (*cf* homologous). The feature or character state itself is termed an analogy.

ancestral character state

estado de carácter ancestral

Phylogeny: the known or presumed primitive state (*qv*) characteristic of the sister outgroup (*qv*) to the group of interest, (*cf* plesiomorphous).

anomaly
anomalía

(1) Statistics: Abnormal feature or characteristic, departing from mean or expected value.
(2) Oceanography: Departure from mean state. Various kinds of anomalies are widely used in oceanographic or geophysical measurements, *eg* magnetic anomalies are measurable additions to or subtractions from the expected local magnetic field due to "fossil magnetic effects" related to polarization reversals of the earth's field. These effects helped demonstrate seafloor spreading.

anoxic
anóxico

The absence of free diatomic oxygen, O₂. As used in the pelagic literature, also applies to large hypoxic (*qv*) water masses in which free oxygen may be at or below the threshold of field detectability but in which hydrogen sulfide is not detectably present (*eg* Eastern Pacific, Arabian Sea).

antarctic
antártico

Zone of the Antarctic (Southern) Ocean and the continent of Antarctica, including the subantarctic and south Subtropical Convergence (*qv*); extending from the continental margin northward to about 40°S, the approximate limit of northward ice drift.

anticyclone
anticiclón

Referring to an area of above average pressure (high pressure cell) in the ocean or atmosphere, characterized by generalized downwelling within the central region of the cell. The circulation pattern is such that when visualized from above, motion of a particle on the right side is southward in the Northern Hemisphere (clockwise) and northward in the Southern Hemisphere (*cf* cyclonic, gyre).

antitrade wind
viento antialisio

Upper altitude wind in low latitudes that flows counter (poleward) to the lower altitude trade wind (*qv*).

antitropical species
especie antitropical

Species occurring in the north and/or south subtropical and/or temperate zones but absent in the intervening tropical (equatorial zone). Biantitropical (or amphitropical) is used to describe this condition for the same species in both hemispheres.

aphotic zone
zona afótica

The depths of the ocean in which there is no sunlight, in which the only light present is produced by bioluminescent organisms.

apomorphous

apomorfo

Phylogeny: Evolutionarily advanced (derived) character state. Applied to features shared by a group of organisms that distinguish these organisms from others. The term means "new featured" (*cf* derivative).

archibenthic

arquibéntico

Pertaining to the benthic environment and benthos of the continental slope between 65 and 1050m; the upper part of the abyssal zone.

archipelago

archipiélago

A group of islands.

Arctic Ocean

Océano Artico

Smallest and shallowest (mean depth = 1,205 m) of the world's five main ocean basins. Area = 14,090,000 km². The shallowness is related to the extreme width of the surrounding continental shelves, up to 1,700 km wide. Covered by floating pack ice, up to 3 to 4 m thick, over much of its surface.

area cladogram

cladograma de área

A cladogram (*qv*) in which area names are substituted for species names (*cf* OTU). Steps in construction: (1) erect cladogram, (2) determine distribution of component OTU's, (3) substitute the names of areas occupied by those OTU's into the cladogram, (4) find the most parsimonious set of events accounting for the correspondence (and differences) between the phylogenetic and geographic cladograms.

arenicolous

arenícola

Living in sand; psammic.

Artenkreis

círculo de especies

A group of closely related species distributed as a partially overlapping mosaic within a geographic area.

artificial classification

clasificación artificial

Taxonomy: A classification based on characters of convenience, without regard to hypothetical phylogenetic relationships. Example: key to flora by color of flowers (*cf* natural classification).

assemblage

conjunto

Ecology: Collection of plants and/or animals characteristically associated with a particular environment. Presence of the assemblage is commonly used as an indicator of that environment (*cf* random assemblage).

assemblage zone
zona de conjunto

Paleontology: Stratigraphic unit or local level (horizon) of stratigraphic unit characterized by an assemblage of plants and/or animals.

association

asociación

See assemblage.

Atlantic Ocean

Océano Atlántico

One of the main oceanic areas of the world. Area = 82,441,000 km². It is relatively (on average) shallow (3,310 m), warm (3.73° C) and most saline (34.90 ppt), of the three warmwater oceans.

atoll

atolón

An island structure in the tropics or subtropics consisting of low sand islands with fringing or barrier coral reefs in a more or less ringlike structure surrounding a lagoon.

Aufwuchs

perifiton

See periphyton.

austral

Southern. Pertaining to zonal areas south of the equator, usually applied to the temperate zone, especially the cold temperate (*cf* boreal).

Australasian Region

Australasia

A biogeographic realm indicating principally Southeast Asia, New Guinea, Australia and adjacent islands and coastal seas. Also applied to oceanic communities over semi-isolated basins and seas in this area.

autapomorph

autopomorfía

Phylogeny: An apomorphous (*qv*) character state that is unique to a particular species or lineage in the group under consideration.

autecology

autoecología

The study of individual organisms and populations, including demography, physiological ecology, behavior, and their relation to their environment. Usually applied to the study of a single species (*cf* synecology).

autochthonous

autéctono

(1) Geography: Native in the sense of having originated (evolved) in the place in question.

(2). Ecology: Indigenous or native. Applied to species, food or nutrient input, or sediment that was both produced and deposited within the area of reference.

autopotamic

Organisms adapted to streams and completing their life cycles in streams.

autotrophic

autotrófico

Organisms (some procaryotes, some protists, most plants) capable of utilizing light energy and simple inorganic compounds and elements to produce energy-rich organic molecules, thus commonly referred to as primary producers (*cf* primary production).

autumnal

otoñal

Of or pertaining to autumn, that period of the year between the autumnal equinox and the winter solstice (in the Northern Hemisphere from about September 21 to about December 21) (*cf* vernal).

auxotrophic

auxotrófico

Situation whereby some primary producers require external "growth factors" or "vitamins", complex organic molecules, for growth (*eg* dinoflagellates).

B

bacterioneuston

bacterioneuston

The bacterial component of the neuston (*qv*).

bacterioplankton

bacterioplancton

Bacterial plankton (*qv*).

balanced polymorphism

polimorfismo balanceado

Polymorphism (*qv*) in which the genetically distinct forms are more or less permanent components of the population, where maintained by selection as in selective superiority of the heterozygote over both homozygotes (*cf* genetic polymorphism).

baroclinic

baroclínico

Condition in the ocean or atmosphere in which surfaces of constant pressure (isobaric) and constant density are not parallel, but intersect.

barotropism

barotropismo

Orientation or change of direction in an organism in response to a pressure stimulus.

barrier

barrera

Any physical (or biological) object or condition obstructing free interchange along what would otherwise be an open corridor. Barriers may be more effective for some functional or taxonomic groups than others (*cf* pathway, corridor).

basin

cuenca

Geography: A concavity in the earth's surface, a low point surrounded on all sides by higher (shallower) ground. Sill depth marks the maximum depth below the water's surface (or minimum altitude above the basin floor) of connection between the basin and other areas of the earth's surface.

bathyal zone

zona batial

A subdivision of the oceanic benthic environment encompassing the zone between 200 - 2000 m, roughly the zone of the continental margin (*cf* shelf break, slope, rise).

bathymetry

batimetría

Measurement of oceanic depths, principally to delineate topography.

bathypelagic

batipelágico

(1) Zone of pelagic oceanic environment extending from 1000 m to top of abyssopelagic (2000 m) where the latter zone is recognized.

(2) Zone of pelagic oceanic environment in which diel changes in sunlight are absent or of insufficient excursion to cue diel vertical migration. Part of the aphotic (*qv*) zone.

Beaufort Scale

escala de Beaufort

Table of values from 0 to 12 for describing wind strength, where each force value has a definable effect on observed sea state.

benthic

béntico, bentónico

Of or pertaining to the bottom of the ocean.

benthic boundary region

That stratum of water extending upward from the bottom to that depth where the bottom has virtually no effect upon water movement (*cf* nepheloid layer).

benthopelagic

bentopelágico

Pelagic organisms living in ecological association with the bottom, not on it or in it, but influenced by it and coactively interacting with components of the bottom community.

benthos

bentos

In freshwater and marine ecosystems, the assemblage of organisms attached to, resting on, moving on or in, or living within the bottom substratum/sediments (adjectival form: benthic)(*cf* demersal, infauna, epifauna).

Bergmann's Rule
ley de Bergmann

The observation that the body size of homoiothermic animals in a single closely-related evolutionary line increases along a gradient of warm to cold temperatures, relating to heat loss or gain and the ratio of body surface area to volume.

Beringia

Area comprising the Bering Strait and adjacent areas of Siberia and Alaska, which, at various times, relating to changes in sea level, provided a land or alternately a water route for the dispersal of organisms.

bet-hedging

Ecology: A life history "strategy" such as iteroparity in which an organism apportions its efforts or resources, such as reproductive output, so that one or a few "good years" may balance or exceed the results of a number of "bad" or mediocre years. Example: iteroparous reproduction and distribution of reproductive value among forms such as pelagic clupeoids.

beta taxonomy
taxonomía beta

The arrangement of species into hierarchical systems of taxa at higher category rank.

biantitropical

See antitropical species.

bioacoustics

bioacústica

(1) Study of the production and use of sound by living organisms.

(2) Use of sound (sonar, transponders, etc.) to study aspects of the functioning of living organisms *in situ*. Studies carried out are principally distribution, relative abundance and behavior of these organisms.

bioassay

test biológico

Measurement of quantity or intensity of an action based on quantitative assessment of organismal response.

biocoenosis

biocenosis

(1) An assemblage (*qv*) of organisms associated with a specific habitat type (*cf* thanatocoenosis).

(2) The living part of a biogeocoenosis, comprising the phytocoenosis (autotrophs), zoocoenosis (heterotrophs), and microbiocoenosis (decomposers).

biogenesis

biogénesis

(1) Evolution: Principle that a living organism can arise only from another living organism (*cf* spontaneous generation).

(2) Geology: The formation of any substance from or by living organisms, *eg* coal, petroleum, limestone, oceanic oozes, etc.

biogenic sediment
sedimento biogénico

A sediment of which 30% or more is produced by the activities of living organisms, *eg* limestone, radiolarian ooze, foraminiferan ooze etc.

biogeny
biogenia

Evolution of organisms, comprising ontogeny (*qv*) and phylogeny (*qv*).

biogeochemical cycle
ciclo biogeoquímico

Movement of chemical elements from organism to physical environment to organism in more or less cyclic pattern. Termed nutrient cycle(s) where element(s) or compound(s) act as nutrients (*qv*).

biogeographic boundary
límite biogeográfico

- (1) The various disjunctive groupings of plants and animals are usually delimited by one or more barriers to migration which act to prevent faunal and/or floral mixing. The location of such barriers determines or defines boundaries.
- (2) Zones of most rapid change in species composition per unit distance traveled.

biogeographical province
provincia biogeográfica

Biological subdivision of the earth's surface, usually based on taxonomic rather than ecological criteria, and embracing both faunal and floral characteristics. The concept is usually not rigorously nor quantitatively defined, and often varies from authority to authority in defining criteria and extent.

biogeographical region or realm (oceanic)
región biogeográfica (oceánica)

See above. Major regions (consensus lacking, terminology variable):
EQUATORIAL (tropical): Atlantic, Indian, western and central Pacific, Eastern Tropical Pacific.
CENTRAL (subtropical): North and South Atlantic, South Indian, North & South Pacific.
SUBARCTIC: North Atlantic and Pacific.
TRANSITION: North and South eastern Pacific
SUBTROPICAL CONVERGENCE: South Atlantic, South Indian, South Pacific
SUBANTARCTIC and ANTARCTIC: Southern Ocean

biogeographical region or realm (terrestrial)
región biogeográfica (terrestre)

A collection of provinces, usually placed at the apex of the biogeographical hierarchical classification. Major terrestrial regions usually recognized: Antarctic, Australasian, Ethiopian, Nearctic, Neotropical, Oceania, Oriental and Palearctic. Holarctic = Palearctic + Nearctic.

biogeography
biogeografía

Study of the distribution of organisms, both single species and assemblages. Includes both historical (systematics, phylogeny, evolution) and ecological approaches to understanding distributional patterns.

bioherm

bioherma

- (1) Paleontology: A moundlike accumulation of fossil remains on the site where organisms lived.
- (2) Ecology: Any organism contributing to the formation of an organic reef, such as a coral reef.

biological accommodation

acomodación biológica

The notion that as diversity grows in a community, species become not only tolerant of but (in many cases) dependent upon the predictable occurrence of other species in the community. Concomitant concepts: niche diversification (*qv*) and community as "superorganism" (*cf* superorganism concept).

biological magnification

magnificación biológica

See food chain magnification.

biological oceanography

oceanografía biológica

Study of the biology of the oceans; *ie* organisms as part of living systems of the sea: contrasted with marine biology (*qv*).

biological rythm (rhythm)

ritmo biológico

Spontaneous cyclic functions encountered at all levels of organization, cellular to ecosystem, with both endogenous (*qv*) and exogenous (*qv*) cues.

biological tracer

trazador biológico

Oceanography: Any living component of marine systems (or the immediate products or impacts of these components) that can be utilized in a Lagrangian (*qv*) sense to trace water movements.

bioluminescence

bioluminiscencia

Production of light by living organisms (*cf* luminescence).

biomass

biomasa

The total mass of living components (producers, consumers, decomposers) in an ecosystem at any one time. The mass (or weight) per unit volume of water or beneath a unitary area of sea surface. Also termed standing crop.

biome

bioma

A large climatic region containing a significant proportion of plants and animals with characteristic adaptations for that climate.

biometrics

biometría

The application of mathematical and statistical concepts to the analysis of biological phenomena; quantitative biology (biometry).

biomonitoring

biomonitorio

Monitoring of environmental change by assessment of changes in organisms.

biostratigraphy
bioestratigrafía

Branch of stratigraphy (*qv*) that involves use of fossil plants and/or animals in the dating and correlation (*qv*) of the stratigraphic (layered) sequences of rock in which they are discovered. A zone is the fundamental division recognized by biostratigraphers.

biota

The flora and fauna of a region.

biotic factors
factores bióticos

Pertaining to biological effects on the environment, *eg* oxygen production by phytoplankton; oxygen utilization by bacteria and animals resulting in oxygen minimum zones.

biotope
biotopo

Environmental region and/or regime populated by a characteristic biota or community.

bioturbation
bioturbación

The mixing of a sediment by the burrowing, feeding or other activity of living organisms, particularly benthic infauna. Forming a bioturbated sediment may lead to trophic group amensalism (*qv*) as in inhibition of growth of suspension feeders by heavily turbating deposit feeders.

bipolarity
bipolaridad

The presence in the Arctic and Antarctic of apparently identical species absent in intervening temperate and tropical regions.

bloom
floración

Ecology: Exponential growth through increase in numbers, typically in autotrophic (*qv*) protists (*eg* phytoplankton in spring bloom (outburst) conditions).

boreal

Northern. Pertaining to zonal areas north of the equator, usually applied to the temperate zone, especially the cold temperate (*cf* austral).

bottleneck
cuello de botella

Ecology: A sudden decrease in population size due to perturbation or dispersal, with concomitant reduction in genetic diversity, enhancing the probability of genetic drift effects.

bottom water mass
masa de agua de fondo

Water lying at the deepest part of the water column in the ocean, *eg* Antarctic Bottom Water.

boundary current
corriente de margen

Oceanography: Northward or southward directed ocean current flowing parallel and close to a continental margin, caused by deflection of eastward and westward transoceanic currents at the continental margin as well as the wind stress curl in that region.

boundary region
región limítrofe

In the pelagic, a zone where conditions change more rapidly (quantitatively undefined) than outside such zones, for example at the edge of boundary currents (*qv*) and at water mass boundaries (*qv*).

brackish waters
aguas salobres

Seawater containing an admixture of freshwater, generally from river runoff (*cf* estuary).

bradytelic
braditélico

Exceedingly slow rate of evolution (anagenetic or cladogenetic) manifested by slowly-evolving lineages which survive much longer than would be expected (on the basis of average duration of recognizable lineages) (*cf* anagenesis, cladogenesis, horotelic, tachytelic).

Braun-Blanquet Classification
clasificación de Braun-Blanquet

Ecology: Both a category of classification based on use of arithmetical similarity indices from counts of joint species occurrences in samples and a specific index ($I_B = a/(a+b)$, $b = c$). This index is now largely replaced in usage by such forms as the Czekanowski-Dice-Sorensen Index ($I_{CDs} = 2a/[(a+b)+(a+c)]$). (a = number of species in common; b = number of species unique to first sample, c = number of species unique to second sample).

browsing
hurgando

See grazing.

C

C-S-R triangle
triángulo C-R-S

Ecology: a three-component system of life history strategies conceptualized as a triangle with the three extremes representing competitive species (C-strategists)(*qv*), stress-tolerant species (S-strategists)(*qv*), and ruderal species (R-strategists)(*qv*).

C-strategist

estratega C, estratega competitivo

Within the C-S-R (*qv*) triangle a species typically with large body size, rapid growth, relatively long life span, relatively efficient dispersal, devoting only a small proportion of metabolic energy to the production of offspring - a competitive species.

caballing (cabeling)

Oceanography: (1) downward displacement (downwelling) of ocean surface water in regions where surface water masses converge (*cf* upwelling). (2) The mixing of two parcels of water with the same density but different temperature-salinity properties producing a mixture with a greater density than that of the constituents.

camouflage (crypsis)

camuflaje, cripsis, mimetismo

Coloration and/or body form that makes animals difficult to distinguish from their backgrounds, thus reducing predation. Light output may be used cryptically by pelagic luminescent organisms.

canalization

canalización

Evolution: (1) Developmental stability (inflexibility) where the same phenotype is produced in a wide range of genetic and environmental backgrounds. Development is such that all the different genotypes have a standard phenotype over the range of environments common to that species.

(2) Convergent evolution driven by restricted range of possible responses to environment, *eg* development of streamlined or fusiform body shape in fast-swimming organisms (*eg* tunas, pelagic sharks, ichthyosaurs, odontocete whales)

carcinology

carcinología

The study of crabs and other crustaceans.

carnivorous

carnívoro

Heterotrophic consumption of live animal matter; flesh-eating (*cf* omnivorous, herbivorous, detritivorous).

carrying capacity

capacidad de carga

Ecology: The maximum population of a given organism that a particular environment can sustain; the K (saturation) value for growth of a species population following the logistic (*qv*) (sigmoid) growth model.

catadromous

catádro

Applied to migratory behavior of organisms that spend most of their lives in freshwater but travel to the sea to breed, *eg* the American and European eels (*Anguilla*) travel to the Sargasso Sea to spawn (*cf* diadromous, anadromous).

category
categoría

Taxonomy: The rank or level in the Linnean hierarchy to which a given taxon is assigned.

center of origin
centro de origen

A region, typically in the tropics, that exhibits the greatest diversity (species richness) within a taxon, and regarded as the region of origin of that taxon.

center-of-origin/dispersal approach
hipótesis del centro de origen/dispersión

Hypothesis that areas of evolutionary diversification (centers of origin) are sites of origin of new (apomorph, advanced) taxa that supplant (extirpate) preexisting (plesiomorph, primitive) taxa and spread outward via dispersal from the center of origin (*cf* generalized track/vicariance approach; cladistic biogeography).

central gyre
vórtice central, giro central

Oceanography: the anticyclonic (*qv*) circulation pattern in the subtropical regions of the open ocean basins (*cf* central region).

central region
región central

Oceanography: An area of sea surface underlain by one of the central principal upper water masses (*eg* North Atlantic Central, Indian Ocean Central, Eastern North Pacific Central, etc.).

central water
agua central

One of the principal central upper water masses, originating in winter by cooling of relatively salty subtropical surface water, sinking and mixing (to some extent), to form upper water masses between the main thermocline and the stratum of Antarctic Intermediate Water (where present: upper boundary of AAIW at about 800 - 1000 m).

central-gyre species
especie de giro central

A species limited to or most abundant within one of the main subtropical anticyclonic gyral systems.

central-water mass areas

Synonym of central region (*qv*).

central-water species

Synonym of central gyre species (*qv*).

centrifugal speciation
especiación centrífuga

The hypothesis that most speciation events occur as a result of the isolation of small peripheral populations at the edge of a much larger species "track" (range), resulting from both the much smaller population size and differential selection pressures in environments or areas at the extreme limits of the species range.

cetology

cetología

The study of cetaceans: whales, dolphins and porpoises.

character

carácter

Systematics/Evolution: Any detectable attribute or property of the phenotype of an organism. Character expression is often divided into continuous or discrete, quantitative or qualitative character states.

character displacement

desplazamiento de carácter

An increase in differences (often morphological) between two species where the species occur together, compared to the differences between them where they occur separately.

character state

estado de carácter

One of two or more expressions of the range of variation of a character (there are no univariate characters, in the simplest case a character is either present or absent, hence a minimum of two states (this reduction is often taxonomically uninteresting)). States may be discrete or continuous, quantitative or qualitative, and may involve any feature whatever expressed by the organism (*cf* correlated characters).

character state tree

árbol de estados de carácter

The linear or branching sequence of character states in a transformation series (*qv*).

chemical stratification

estratificación química

Oceanography: The layering of water defined by different chemical constituency than overlying and/or underlying water types. An extreme example: the hot brines at the bottom of the Red Sea basins.

chemoheterotroph

quimioheterótrofo

Chemotrophic (*qv*) organism that obtains its energy chiefly from organic compounds.

chemolithotroph

quimiolitotrófico

Chemotrophic (*qv*) organism that obtains its energy from the oxidation of inorganic compounds or elements (*cf* chemoheterotroph).

chemotaxis

quimitaxis

Orientation or directed movement of an organism in response to a chemical stimulus.

chemotrophic

quimiotrófico

Of or pertaining to organisms that obtain their energy from chemical sources and not from sunlight (*cf* phototrophic).

chlorinity
clorinidad

A measure of chloride and bromide ion concentration in sea water, used in estimating salinity, where salinity = 1.80655 times the chlorinity.

chlorophyll maximum
máximo de clorofila

A layer in the sea where the concentration of chlorophyll is highest, indicating the presence of "shade-tolerant" phytoplankton. These are adapted to low levels of light intensity, and revealed as a subsurface peak in chlorophyll concentration at depths of 60 to 100 to 150 m. Especially evident in the open subtropical Pacific and Atlantic, thought to be a permanent feature within these central gyral areas.

chorology
corología

The description and delimitation of the distributional ranges of taxa (*cf* biogeography, faunistics, floristics).

circadian rhythm (rhythm)
ritmo circadiano

Diel pattern of various metabolic or behavioral activities which may persist even when the light regime (L:D) is artificially altered; thought to be controlled by an endogenous biological clock.

circumtropical

Species found in tropical and warm-temperate areas of the land and/or ocean throughout the world or at least very broadly distributed within the zone of the tropics.

clade
clado

Phylogeny: A monophyletic lineage resulting from cleavage (cladogenesis) in an earlier lineage. Clade is applied to genealogically-related (share most recent common ancestor) organisms (as opposed to grade (*qv*)).

cladistic biogeography
biogeografía cladística

Study of distribution based upon: knowledge of present distribution of taxa within monophyletic lineage, and estimate of phylogeny within that lineage. The approach is to account for the present distribution in the fewest presumed (deduced) vicariance or dispersal events consistent with that estimate of phylogeny.

cladistic distance
distancia cladística

The number of branching points between any two nodes (*qv*) on a phylogenetic tree (*cf* patristic distance, phenetic distance).

cladistics
cladística

A taxonomic theory of relationship based on estimates of propinquity of descent, by which organisms are ordered and ranked on the basis of the inferred most recent branching point in the phylogeny. The method requires strictly dichotomous branching, with sister (daughter) taxa supplanting the stem taxon (*cf* phenetics, evolutionary systematics).

cladogenesis

cladogénesis

A branching sequence in cladistic theory. It presumes the origin of daughter species by dichotomous splitting of a stem species (*cf* anagenesis).

cladogram

cladograma

A dendrogram (*qv*) based on cladistic principles; a strictly genealogical dendrogram in which no attempt is made to estimate or depict rates or amount of genetic divergence between taxa (*cf* phenogram).

classification

clasificación

The arrangement into categories using common characteristics or affinities.

climatology

climatología

The study of climate, *ie* of long-term environmental conditions that are associated in part with the presence or absence of various communities. In terrestrial systems the seasonal distribution of temperature and precipitation as well as insolation are important determinants; in the sea the seasonal distribution of insolation is the main determinant of climate, modified variously by advective hydrography.

climax community

comunidad climax

Normally defined as the plant community in equilibrium with the zonal climate. In the sea a true climax community may be best exemplified by the seasonally monotonous central gyral areas.

clinal speciation

especiación clinal

A form of allopatric speciation (*qv*) in which a vicariant event (*qv*) interrupts gene flow in a former cline.

cline

A gradual and nearly continuous monotonic change in a property, whether environmental (physical, *eg* thermocline; or chemical, *eg* nutricline) or biological (*eg* clinal variation in a character). Clines can be smooth (*qv*) or stepped (*qv*) and can reverse in sign (increase or decrease from mean value). In biology typically applied to changes in gene frequencies or character states clinally distributed.

closed net haul

lance con red de apertura y cierre

See discrete depth sampling.

co-adaptation

coadaptación

Development and maintenance of advantageous traits benefiting one or both parties in a two-species interaction. Predator-prey and cleaning-symbiosis are examples of such evolving interactions in marine communities.

coaction
interacción

Interaction; reciprocal action between members of a group or community. May take the form of competition, predator-prey interaction, symbiosis, etc.

coarse-grain exploitation
explotación de grano grueso, explotación selectiva.

Use of resources electively (*cf* electivity). Harvesting resources, particularly food resources, in disproportion to actual occurrence of resource in environment (preference). (*cf* fine-grain exploitation).

coastal plain
planicie costera

A relatively flat land area adjacent to the sea.

coastal upwelling
afloramiento costero

Upwelling (*qv*) of subsurface waters impingent upon or nearby a coast; upwelling inshore of the shelf break.

coastal waters
aguas costeras

Ocean waters nearshore; the ocean region covering the continental shelves (*cf* neritic).

coastal zone
zona costera

General term for the nearshore region of the ocean; that portion of the ocean most influenced by land effects and freshwater runoff.

coenocline
cenocline

Gradient of communities along an environmental gradient, reflecting the changing importance or frequency of different species populations in the community (*cf* ecocline; superorganism concept).

coevolution
coevolución

Complementary evolution (*qv*) or coadaptation (*qv*) of closely associated or interacting species.

cohort
cohorte

- (1). Population biology: Age class (*qv*).
- (2). Taxonomy: A taxonomic rank between infraclass and superorder.

cold core ring
anillo de centro frío

A mesoscale cyclonic gyre (*cf* mesoscale feature) with upwelling at the center of the system typically formed as an eddy from a western boundary current such as the Gulf Stream. May entrain and isolate localized populations for periods lasting weeks to months.

cold-water species

An austral or antarctic, boreal or arctic, species typically in oceanic regimes, found at or poleward of ca. 40°N or 40°S.

cold-water vs warm-water

aguas cálidas vs. aguas frías

In general "warm-water" includes all oceanic areas equatorward of the subtropical convergence zones (ca 40°N and 40°S). "Cold-water" includes generally includes all oceanic areas poleward of those zones. (*cf* cold-water species; warm-water species).

colony

colonia

Ecology: Physiologically connected group of individual organisms incapable of separate existence or of limited such capability (*eg* non-reproductive) (examples include sponges, and many cnidarians, among others).

commensalism

comensalismo

Interaction between species populations in which one species benefits from the interaction, but the other species is unaffected (*cf* amensalism, mutualism).

community

comunidad

Ecology: Applied to any group of species found living together in a particular environment. Views of community organization range from random assemblages (*qv*) to communities as superorganisms (*cf* superorganism concept). In the open ocean the concept of a community has a wide range from assemblage(*qv*) to biome(*qv*).

compensation depth

profundidad de compensación

In aquatic ecosystems, the depth at which light penetration is so reduced that the rate of photosynthesis just balances the rate of respiration. This is generally at a depth where light intensity is about 1% of full daylight. Also called compensation level (*cf* critical depth).

competition

competencia

Ecology: Interaction between conspecific individuals or individuals of different species in which the growth and survival of all competing individuals is negatively affected as long as the competing individuals are present in the system.

competitive exclusion

exclusión competitiva

The idea that two species with identical resources needs and utilization patterns may not indefinitely coexist in a stable environment (Gause's Principle or Rule). In this view one species will inevitably outcompete and eliminate the other species from the system. Commonly modeled by the Lotka-Volterra (*qv*) equations derived from the logistic model of population growth.

competitively dominant species
especie competitivamente dominante

In a competition situation, the species that always "wins", extirpating the other, except where added predation by a third species or environmental manipulation may affect the competitive outcome.

complementary species
especie complementaria

See ecologically equivalent species.

concordant distribution pattern
patrón de distribución concordante

Congruence in the distributional tracks or ranges of species (or higher taxa), but can also refer to congruence in areas of maximum abundance of taxa. Widely used in open ocean biogeographic studies for determination of major ecosystem-assemblage areas, this approach, under the name generalized track, is the starting point of the vicariance biogeographer.

congeneric
congenérico

Applied to species of the same genus.

conservative property
propiedad conservativa

Oceanography: Characteristics of seawater that are nearly constant, changing only very slowly, such as salinity, density, refractive index and osmotic pressure (*cf* nonconservative property). Essentially they change only at the interface between ocean and atmosphere (evaporation, rainfall, etc), or land and sea (freshwater runoff, etc).

conspecific
conspécífico

Applied to individuals or populations of the same species; (*cf* heterospecific).

consumers
consumidores

See heterotrophic.

contagious distribution
distribución contagiosa

See overdispersion.

continental drift
deriva continental

Hypothesis proposed to describe the relative movements of continental land masses over the surface of the earth. First plausibly espoused by Alfred Wegener, but corroborated by the development of the theory of plate tectonics (*qv*) which provides a credible mechanism.

continental island
isla continental

An island that is geologically related to a continent and was formerly connected to the continent, allowing floral and faunal interchange until the time of disjunction.

continental margin
margen continental

Nearshore ocean zone that consists of the shoreline, shelf, slope and rise (*qv*). Underlain by continental or sialic crust.

continental rise
elevación continental

An area of gently sloping ocean floor (slope of usually less than half a degree or 1:100) at the base of the continental slope.

continental shelf
plataforma continental

The ocean floor adjacent to the shoreline (average slope typically very gradual, 10' or less, or 1:1,000). This zone extends from the line of permanent immersion to the shelf break (usually about 100 -120 m depth).

continental slope
talud continental

The ocean floor extending from the shelf break (at the seaward edge of the continental shelf) to the continental rise (where present) or to abyssal depths where absent (average slope about 04° or 7:100) (*cf* bathyal zone).

continuous variable
variable continúa

A variable that can theoretically assume any value between two given limits.

continuum
continuo

A gradual or imperceptible intergradation between two or more extreme values.

contranatant

Fisheries biology: Cycle of migration concept; swimming, moving or migrating against the current (*cf* denatant).

convection
convexión

(1) Vertical circulation within a fluid resulting from density differences caused by temperature variation or (in the oceans) salinity variation.

(2) In the atmosphere, formation of Hadley Cells driven by rising air heated at the surface at the equator and descending over the subtropics. The trade winds (*qv*) and antitrade winds (*qv*) complete the flow.

convergence
convergencia

(1) Evolution: Similarity, usually morphological, acquired independently in distantly-related forms (*cf* homoplasy).

(2) Oceanography: situation in ocean or atmosphere where more fluid flows into a given surface or nearsurface regional stratum than out, resulting in sinking and displacement.

coordinate taxa
taxones coordinados

Phylogeny: In cladistics, groups within a monophyletic lineage at the same branching level require equivalent rank in the Linnean hierarchy.

coral

Sessile invertebrates of the Phylum Cnidaria (Coelenterata) (Class Anthozoa). Many species are colonial with the ability to deposit massive calcareous skeletons which often form reefs. All reef-building (hermatypic) corals have endosymbiotic mutualistic dinoflagellates termed zooxanthellae (*qv*).

coral reef
arrecife coralino

The massive calcareous deposits produced through the growth of corals, other invertebrates, and benthic algae, in shallow waters of the tropics. The classic categorization of reef-forms is fringing reef *vs* barrier reef *vs* atolls (*qv*).

core method
método de núcleo de masa de agua

Oceanography: Technique for analyzing a region where a water mass property reaches a maximum or minimum value within a wedge- or tongue-shaped distribution. Because of mixing the core gradually weakens in intensity (difference from surrounding waters) as it spreads with distance from the source. By backtracking along the core the source area or zone may be located.

correlated characters
caracteres correlacionados

Character state (*qv*) expressions that are associated either as manifestations of a well-integrated ancestral gene complex or because they are functionally similar or related.

correlation
correlación

(1). Stratigraphy: discovery of similarities in lithography and/or fossil content that results in assignment of different rock formations or portions thereof to the same time interval.

(2). Statistics: technique used to assess degree of association between two independent data sets.

corridor
corredor

Route along which the dispersal of many species is regarded as probable.

Typically, a migration route allows more or less uninhibited faunal and floral interchange, although essentially one-way corridors are also quite possible (*cf* barrier).

cosmopolitan
cosmopolita

Distribution of an organism that is worldwide or pandemic. Applied to oceanic species that are warmwater species (*qv*) and found throughout most of all three warmwater oceans.

coterminous
coterminal

Applied to organisms with overlapping or quite similar distributions (*cf* sympatry, syntopic).

-coulous

Suffix, meaning "to inhabit", *eg* cavernicoulous, monticoulous, piscicoulous, etc.

crenium

Of or pertaining to a community associated with spring (not vernal (*qv*)) waters.

crepuscular

Twilight; organisms active at dawn and dusk; also applied to events which take place and/or with maximum rates during dawn and dusk (*cf* diurnal, nocturnal).

critical depth

profundidad crítica

Oceanography/Limnology: The depth, determined by measurements, at which total (integrated) photosynthesis is equal to total (integrated) respiration rate for the reference population of phytoplankton. Also called critical level (*cf*. compensation depth).

cryopelagic

criopelágico

Pelagic organisms limited to arctic and/or antarctic (polar) waters, not occurring in intervening temperate or tropical waters.

cryoplankton

crioplancton

Pertaining to cryopelagic plankton.

crypsis

cripsis

See camouflage.

cryptic species

especie críptica

Sibling species (*qv*); sometimes termed hidden species.

cultural eutrophication

eutroficación cultural

General term for increase in nutrients in aquatic or marine ecosystems due to human activities.

cyclomorphosis

ciclomorfosis

Cyclical changes in form such as seasonal changes in morphology.

cyclonic

ciclónico

Referring to an area of below average pressure (low pressure cell) in the ocean or atmosphere, characterized by generalized upwelling within the central region of the cell. The circulation pattern is such that when visualized from above, motion of a particle on the right side is northward in the Northern Hemisphere (counterclockwise) and southward in the Southern Hemisphere (*cf* anticyclonic, gyre).

D

data matrix**matriz de datos**

An X-Y spreadsheet or table in which values corresponding to the X rows (cases) are entered for the Y columns (fields). Data may be qualitative or quantitative. Additional table dimensions are possible but any beyond third order (X-Y-Z) are not commonly used in field-oriented biology.

daughter species**especie hija**

Phylogeny: One of two species resulting from cleavage of the stem species during cladogenesis (*cf* parapatric speciation).

decomposer**descomponedor**

Organisms (mainly bacteria and fungi) that provide for nutrient recycling by consuming complex organic molecules and releasing simpler organic molecules and inorganic molecules as metabolic products. Generally synonymous with microconsumer (*cf* heterotroph).

deep water mass**masa de agua profunda**

A water mass typically formed in boreal or austral subarctic or subantarctic seas by cooling of relatively salty water at the surface. Occurs at depths between intermediate and bottom water. For example, North Atlantic Deep Water.

degeneration**degeneración**

Evolution: Loss or reduction of structure or function during the course of evolution or ontogeny.

delta

Region at the mouth of a river where sediments are deposited resulting in a buildup of the land structure because of sedimentation rate and local conditions.

deme

(1) A panmictic cluster of individuals, separated from other such clusters by lowered expectation of panmixis (*qv*). (2) A local population of a species; the community of potentially interbreeding individuals at a particular locality (*cf* parapatric speciation).

demersal

In aquatic systems, organisms, especially fishes, that live close to the bottom. Also applies to eggs and larvae originating (spawned, hatched) on or near the bottom and remaining there until transformation (*cf* emersal).

denatant

Fisheries biology: Cycle of migration concept. Swimming, moving, drifting or migrating with the current. (*cf* contranantant)

dendrogram

dendrograma

A diagrammatic drawing in the form of a tree designed to indicate degrees of relationship (*cf* phylogenetic tree, cladogram, phenogram, hierarchical classification).

density

densidad

(1) Physics: Mass per unit volume.

(2) Ecology: Population standing stock standardized by unit area or unit volume.

density current

corriente de densidad

Current produced by differences in density - usually a thermohaline current - where denser water sinks and less dense water rises to replace it.

density-dependent

denso-dependiente

Factor affecting population density covarying with population size, *ie* proportion of individuals affected by factor is a function of population size.

density-independent

denso-independiente

Factor affecting population size not varying with population density but operating on a constant proportion of individuals, irrespective of population size.

depensatory compensation

An increase in the abundances of some species in a feeding guild (*qv*) when other species of the guild are absent, compared to the abundances when the guild assemblage is species rich.

deposit feeder

consumidor de material depositado

Any organism feeding on fragmented particulate organic material in or on the substratum (*cf* detritovore).

derivative

derivativo

Phylogeny: Adjective applied to an apomorphous (*qv*) character state. Derived or descended from something different (*cf* primitive; plesiomorphous).

determinate growth

crecimiento determinado

Growth that is limited during the life span of an organism so that the organism reaches a maximum size, after which growth ceases (*cf* indeterminate growth).

deterministic process

proceso determinístico

Applied to processes and patterns that are the predictable outcome of antecedent causes (*cf* stochastic processes).

detritovore

detritívoro

Heterotroph that feeds on dead material, *eg* macerated salt marsh wrack or leaf litter (*cf* deposit feeder).

detritus

detritos

Dead organic material, typically particulate plant material on or in the seafloor.

diadromous

diádrómo

Organisms that migrate from seawater into fresh (anadromous, *qv*) or from freshwater into salt (catadromous, *qv*) to spawn (*cf* oceanodromous, potamodromous).

diapause

diapausa

A resting stage of halted or inhibited development of an organism related to seasonal changes in food supply, temperature or other factors.

diastrophism

diastrofismo

Deformation of the Earth's crust on a large scale to produce major geological features, *eg* mountain ranges, rift valleys, continents and the deep ocean floor.

diatom ooze

fango de diatomeas

A siliceous deepsea sediment in which 30% or more of the material is composed of frustules of diatoms.

dichopatric

dicopátrico

Pertaining to populations or species having geographical ranges separated to the extent that individuals from the two populations never meet and gene flow is not possible. (*cf* allopatric, parapatric, sympatric).

dichotomous character

caracter dicotómico

A character that exists in only two states, a binary character, *eg* present *vs* absent.

dichotomous key

clave dicotómica

An identification key constructed as a sequence of alternative choices; each pair forming a character couplet.

diel vertical migration

migración vertical diaria

Twice daily movement of planktonic or micronektonic organisms in response to day:night shift in light intensity. Typically migrating organisms are found at shallower depths during nighttime, deeper depths during daytime. Sometimes (incorrectly) termed diurnal vertical migration.

differentiation

diferenciación

(1) Biology: Changes in structure and function of a group of cells with increasing specialization during ontogeny. Loss of totipotency (*qv*). (2) Biogeography: The origin of difference(s) between different organisms or biotas as a result of evolution and/or other processes.

dimictic

dimíctico

Applied to a body of water (typically a midlatitude lake) in which occur two seasonally driven turnover events.

directional selection

selección direccional

(1). Evolution: Anagenetic speciation trend in which there is an apparently directed (orthogenetic) stepwise succession of species or forms, presumably reflecting longterm, monotonic selection (*cf* anagenesis, orthogenesis).
 (2). Genetics: Selection that changes the frequency of an allele in a constant direction, often used in agriculture/horticulture (*cf* disruptive selection, stabilizing selection).

discrete depth sampling

muestreo de profundidades discretas

Sampling protocol employing equipment that allows capture of organisms within a limited and defined depth stratum, with little or no contamination (unwanted captures) in depths shallower (or deeper) than the specified stratum. Essential to description of diel vertical migration (*qv*), seasonal and ontogenetic shifts in depth, etc. (*cf* open net haul).

disharmony

Ecology: In biodiversity, the overrepresentation of some groups of organisms and underrepresentation or absence of others due to accidents of dispersal. Encountered frequently in dealing with oceanic islands but may appear elsewhere.

disjunct

disyunto

Distinctly separate; used of a discontinuous range in which one or more populations are separated from other potentially interbreeding populations by sufficient distance or other barriers to preclude effective gene flow between them.

dispersal

dispersión

Tendency of an organism to move away from its birth (natal) or breeding site (*cf* philopatry).

dispersal biogeography

biogeografía dispersiva

Study of the geography of organisms through the center-of-origin/dispersal approach (*qv*).

dispersion

dispersión

Statistics: The internal pattern of variation within a population, *eg* variation in the value of a character around a mean value. In spatial statistics the pattern relative to some specific location of individuals relative to one another (*cf* even, random, aggregated).

disphotic (dysphotic) zone

zona disfótica

Middepths of the ocean (or in freshwater) where light intensity is sufficient during daylight hours to cue diel photic response or visual detection, but insufficient to support net positive photosynthesis (*cf* euphotic, aphotic).

disruptive selection

selección disruptiva

Population biology: Selection that changes the frequency of alleles in a disjunctive or divergent manner, leading to bimodality (or multimodality), *ie* the fixation of alternative alleles in members of the population, which, after several generations, should result in two (or more) divergent phenotypic extremes in the population, with few or no intermediate phenotypes (*cf* directional selection, stabilizing selection).

distance

distancia

Systematics: Any measure of dissimilarity between taxa.

distribution

distribución

(1) Biogeography: The geographical range of a taxon or group.

(2) Ecology: The spatial pattern or arrangement of the members of a population or group (*cf* dispersion).

diurnal

diurno

Active during daylight hours (*cf* crepuscular, nocturnal).

diurnal vertical migration

migración vertical diurna

See diel vertical migration.

divergence

divergencia

(1) Evolution: Change in allele frequencies in a population. Also: genetic segregation and/or differentiation within a taxon to the extent that distinct derivative taxa result (*cf* anagenesis, cladogenesis).

(2) Oceanography, meteorology: Net outward flow (loss) from a particular stratum, with deeper fluid upwelling to replace it, as at the surface along the equator in the Pacific. The opposite of convergence (*qv*).

diversification

diversificación

Evolution: Increase in the diversity of distinct types in one monophyletic lineage.

diversity

diversidad

Ecology: Measure of the taxonomic complexity of a community with the components of species richness (number of species) and dominance or equitability (the distribution of individuals among species). Often measured by indices that estimate the likelihood that two individuals of the same species will be selected on successive random samples from the community.

diversity index

índice de diversidad

Mathematical expression of the species diversity of a given community or area, typically including components of both species richness (qv) and equitability (qv).

DOC

COD

Dissolved organic carbon. That fraction of nonliving organically bound carbon in seawater that will pass through a filter of stipulated pore size (often 0.45 μ m). By far the largest fraction of organically-bound carbon in sea water.

doldrums

zona de calmas ecuatoriales

Meteorology: Oceanic equatorial zone with low pressure and light variable winds at the surface, reflecting the overhead ascending arm of the tropical Hadley Cell (qv). The zone moves seasonally north and south with respect to the equator (*cf* convection, trade winds).

domain

dominio

Oceanography: Unique identifiable bodies of water with consistent properties, climatic locality and continuity. For example Transitional Domain (*cf* transition region).

dome

domo

Oceanography: An area of recumbent (return) flow in an equatorial current system resulting in upwelling (qv) as indexed by marked shoaling of isotherms and other features, as in the Guinea Dome (eastern tropical Atlantic) or Costa Rica Dome (eastern tropical Pacific).

dominance

dominancia

Ecology: Applied to species that are conspicuously successful in competition. The species having the most influence on community composition and form; also used to describe the most conspicuous, or largest and/or most abundant species in a community.

dominance hierarchy

jerarquía de dominancia

(1) Behavior - Social order of dominance sustained by agonistic or other behavior, *eg* pecking order.

(2) Ecology - listing in rank order by species of community components, the most abundant species is listed first, the next most abundant second, and so forth.

dominant species

especie dominante

The species having the greatest influence on community composition and form.

downwelling

hundimiento (de masa de agua)

Sinking of ocean surface waters, as in the central regions of an oceanic anticyclonic Gyre (*cf* upwelling).

drift

deriva

(1) Oceanography: Movement of objects at the ocean surface associated with advection by currents or being blown by the wind.

(2) Geology: Any sediment laid down through the activity of glacial ice.

(3) Geophysics: Movement of crustal plates, including continents or portions thereof, relative to the mantle.

DSL

capa difusora profunda (CDP)

Deep scattering layer. A sonically interfering stratum of organisms causing sensible acoustic return on sonar equipment, often yielding an acoustic signature as a false bottom.

dwarfism

enanismo

The condition of being stunted, much smaller than normal, having restricted growth.

dynamics

dinámica

Movement of objects and the forces thereunto related, in a Newtonian Laws of Motion sense. In modern ocean science jargon has come to mean studies directed toward elucidation of function and prediction as opposed to static description.

dysphotic

disfótico

See disphotic.

dystrophic

distrófico

Pertaining to overproductivity in aquatic environments, usually related to abnormally high nutrient load, resulting in choking overgrowth of aquatic vegetation (*cf* eutrophic, oligotrophic).

In a lake typically associated with bog and peat production and anoxia in bottom waters and/or sediments.

dyticon

pelon, psammon

An ooze-inhabiting community.

E

East Pacific Barrier

barrera del Pacífico este

The barrier to dispersal of shallow-water marine organisms (as well as terrestrial organisms) imposed by the vast islandless expanse of the eastern Pacific Ocean.

eastern boundary current
corriente de margen oriental

The relatively shallow, slow, high productivity near-coastal limb of the great subtropical anticyclonic gyres found on the eastern margin of oceans (especially the Atlantic and Pacific); *eg* the California, Peru, Canary and Benguela Currents.

ebb tide
marea bajante

The receding or outward flowing portion of the tidal cycle (*cf* flood tide).

ecdemiac
alóctono

Foreign, non-native, introduced (*cf* endemism).

ecesis (æcesis)

The pioneer stage of dispersal to a new habitat; successful invasion and establishment.

eclectic
ecléctico

Composed of theories, doctrines, protocols or paradigms drawn from a number of different sources; willingness to use that which works in place of that which is desired. Pragmatic.

ecogeographical rule
regla ecogeográfica

Any generalization describing a trend of geographic variation correlated with environmental conditions (*cf* Bergmann's rule, Jordan's laws).

ecological (Eltonian) pyramid
pirámide ecológica (de Elton)

Graphical representation of trophic structure and function of a community or ecosystem; may consist of plots of numbers (abundance) or biomass or energy. Illustrates that energetically the autotrophs are always dominant but in standing stock terms grazing pressure may result in so-called inverted pyramids (biomass only) for short periods of time.

ecological amplitude
amplitud ecológica

A component of "potential niche" (*cf* fundamental niche) - range of tolerance of a given organism to any one environmental parameter (temperature, salinity, etc), often exhibiting a bell-shaped response curve or nearly so.

ecological biogeography
biogeografía ecológica

The study of animal distribution with emphasis on environmental association, usually emphasizing present not longterm interactions, seeking to utilize pattern in environmental parameters (physical, chemical, biological) to elucidate understanding of pattern in the distribution of single species and assemblages of species.

ecological efficiency

eficiencia ecológica

Ratio of output to input of mass and/or energy at any given trophic level (qv) (also applied to single species or populations or parts or assemblages thereof).

ecological niche

nicho ecológico

See niche.

ecological race

raza ecológica

A race (qv) that owes its most conspicuous attributes to the selective effect of a specific environment, usually localized or of limited distribution.

ecologically equivalent species

especie ecológicamente equivalente

Pairs of independently evolved but ecologically similar species occupying similar niches in different communities; also termed complementary species.

ecology

ecología

Study of the interrelationships among organisms and between organisms and all aspects of their environment, both living and nonliving.

ecophene

ecofeno

All naturally occurring phenotypes produced within a given habitat by a single genotype.

ecophenotypic

ecofenotípico

(1) Denoting nongenetic modification of the phenotype by specific ecological conditions, particularly those associated with a particular habitat.

(2) Variation caused by nongenetic responses of the phenotype to local conditions of habitat, climate, etc.

ecosystem

ecosistema

Used to describe the interdependence of species in the living world (biome (qv) or community (qv)) upon one another and with their nonliving (abiotic) environment. Energy flow, material flow and biogeochemical interactions are among the fundamental components of ecosystem-level studies.

ecotone

ecotono

Relatively narrow and sharply defined transition zone between two or more communities.

Edge communities or assemblages (those associated with ecotones) are commonly species rich with elements of both communities present (although in extreme ecotones (land to sea, freshwater to salt water) the reverse may be true).

ecotype**ecotipo**

A descriptive term applied to local races (especially plants but also zooplankton) of varying degrees of distinctiveness which owe their most conspicuous characters to the selective effects of local environments.

ecronic**estuarial**

Estuarine.

ectotherm**ectotérmico**

See poikilotherm.

eddy**torbellino, rulo, giro, vórtice**

Oceanography, meteorology: Small or mesoscale (*cf* mesoscale feature) motion of fluid (air or water) in different directions (including at some points contrary to the direction of the large-scale current with which they are associated) usually in circular form. Eddies vary in size from small-scale turbulence to such mesoscale features as cold core (*qv*) and warm core rings (*qv*).

edge effect**efecto de borde**

Ecology: (1) The effect exerted by adjoining communities on the population structure within the marginal zone (ecotone), which often contains a greater number of species and higher population densities of some species than either adjoining community. (2) In biofouling studies pertains to differences in the composition and abundance of organisms occurring at the edge of a structure compared to the center of the structure (*eg* fouling panel).

edge species**especie de borde**

A species found predominantly or commonly in the marginal zone (ecotone) of a community.

Ekman divergence**divergencia de Ekman**

As a consequence of the Coriolis effect and friction, surface drift in response to the wind is 90° to the right of the wind over the depth of the Ekman layer (*qv*) in the northern hemisphere. Thus sustained longshore winds cause offshore divergence of surface waters with the consequence of coastal upwelling, a most important feature of eastern boundary current ecosystems, at least seasonally.

Ekman layer**capa de Ekman**

The thickness of the layer of water affected by the Ekman spiral, Ekman surface drift, and hence Ekman divergence; a function of wind speed and latitude: $DE \sim 4.3 W / (\sin f)^{1/2}$ (where DE = Ekman Layer depth, W is wind velocity, and f is the latitude, in appropriate units), approximately 50 m for a wind of 10 m sec⁻¹ at 45° N.

El Niño

Oceanography: Collapse of the normal upwelling regime in the eastern Pacific, particularly in the Peru Current, associated with trans-Pacific flushing of warm wind-mixed layer water during an ENSO (*qv*) event .

electivity

selectividad

Ecology: Measure of the degree of prey selection by a predator in relationship to the prey available (*cf* coarse-grain exploitation, fine-grain exploitation).

electromorph

electromorfo

Term designating a population (s) differing from another such population (s) in the electrophoretic mobility of one or more enzymes (*cf* allozymes).

Eltonian Pyramid

See ecological pyramid.

eluvium

A sand dune community (synonym: enaulium).

emersal

Applied to eggs and/or larvae, typically of fishes, where the parents may spawn on or near the bottom or in the water column but the eggs and smallest larvae and juveniles are typically near the surface, at the shallowest depth for the species (*cf* demersal).

emersed aquatic plants

plantas emergentes

Plants that are partially emergent, typically referring to freshwater aquatic plants.

emigration

emigración

Biogeography: Movement of an individual or group out of a geographical region (*cf* immigration).

enaulium

See eluvium.

endemism

endemismo

Confined to; occurring nowhere except in the place of reference. Situation in which a species or higher taxonomic group is restricted to a particular geographic region, reflecting history, ecology and opportunity (synonyms: exclusive, peculiar, precinctive, provincial).

endobenthic

endobéntico, infaunal

Organisms that live in the surface sediments on the sea floor (*cf* epibenthic, hyperbenthic, infauna).

endogenous rhythm (rhythm)

ritmo endógeno

A recurring behavior pattern, the cues for which arise or originate internally within the organism or system, *eg* the observation of daily activity patterns even when light is held constant; biological clock. (*cf* zeitgeber).

endolithic

endolítico

Of or pertaining to organisms that live in rocks (or hard substrata such as dead coral) (*cf* lithophagic).

endotherm

endotérmico

See homoiotherm.

engibenthic (engybenthic)

Of or pertaining to close association with the sea floor.

enrichment

enriquecimiento

Ecology: Addition of nutrient(s) to an ecological system.

ENSO event

fenómeno de El Niño

Oceanography: Acronym from El Niño - Southern Oscillation. A global coupled atmosphere-ocean event with El Niño (*qv*) as one effect. Caused by a weakening of the trade winds, especially the SE trades, in the Pacific, associated with anomalously high pressure over Indonesia, resulting in a considerable volume of warm mixed-layer water moving eastward along the equator in the Pacific in the form of a series of Kelvin waves.

entrainment

Oceanography: Energy driven incorporation of one parcel of water into the flow of another, as in the entrainment of deeper, more saline, denser water upward into outflowing fresher water (typically river discharge) at the mouth of a river, distributary or estuary.

environment

ambiente

Ecology: The complete range of external conditions, physical, chemical and biological, in which an organism lives.

environmental resistance

resistencia ambiental

The sum total of environmental limiting factors, both biotic and abiotic, which constrain the potential niche of an organism to its realized niche (*qv*).

epeiric sea

mar epicontinental

Epicontinental sea (*qv*).

epibenthic

epibéntico

Of or pertaining to organisms that live on the surface of the sea floor (*cf* endobenthic, hyperbenthic, infauna).

epibiota

An organism or group of organisms occurring commensally on the surface of another organism.

epicontinental sea

mar epicontinental

A shallow sea extending far into the interior of a continent, eg Hudson's Bay, Baltic Sea.

epiclysile

Pertaining to the tide pools of the upper shore.

epideictic

A specially timed communal aggregation within a population, possibly for interbreeding. For example one proposed function for diel vertical migration (*qv*) is social facilitation (*qv*) of interbreeding.

epifauna

Of or pertaining to animals that live on as contrasted to living within a substratum (living or nonliving) (*cf* benthos, infauna, phoresy).

epilimnion

epilimnio

Upper warm relatively thin (usually) mixed layer in a thermally stratified lake in summer - lying over the deeper usually considerably thicker cold hypolimnion (*qv*).

epineuston

Organisms living on the surface film of a body of water (*cf* hyponeuston).

epipelagic

epipelágico

- (1) Stratum between 0 - 200 m in the offshore ocean.
- (2) In the oceanic realm, the euphotic (*qv*) zone, where light levels permit positive net rates of photosynthesis.
- (3) Pelagic organisms found during daylight within these depth limits.

epipelic

epipélico

Growing on mud.

epiphyte

epifítico

Plant that uses another plant, such as a tree or giant kelp, for physical support, but does not draw nourishment from it.

epipleuston

Organisms which move over the surface film of water with most or all of their bodies above the water.

epipsammon

epipsammon

Microscopic flora and fauna found on the surface of and/or attached to sand grains.

epitokous

epitóquico

Reproductive; having or producing offspring.

epizoic

epizoico

An organism or group of organisms living commensally on the surface of an animal.

equatorial

ecuatorial

In reference to the area of one or more of the equatorial principal upper water masses or to the Atlantic equatorial area.

equatorial region

región ecuatorial

An area of sea surface underlain by one of the equatorial principal upper water masses (Eastern Tropical Pacific, Pacific Equatorial, Indian Equatorial, or, in the Atlantic, lying astride the equator, approximately 10° N to 10°S, but broader latitudinally in the east than in the west).

equatorial species

especie ecuatorial

A pelagic oceanic species found in or limited to one or more equatorial regions.

equatorial trough

zona de baja presión ecuatorial

See Intertropical Convergence Zone.

equilibrium hypothesis

hipótesis de equilibrio

Hypothesis that a community reaches maximum diversity when species richness and equitability are stabilized, and that, following a disturbance, the community will recover to pre-existing levels of species richness and equitability.

equitability

equitabilidad

Ecology: A measure of the proportional evenness of occurrence of individuals among all component species of a community. Mathematically: $E = H'_{\text{obs}}/H'_{\text{max}}$, where H' is the Shannon-Wiener information theory index of diversity, H'_{obs} is the value observed, and H'_{max} is the maximum value of H' for the number of taxa and individuals comprising the community (*cf* diversity index, species richness).

error

(1) Statistics: Deviation of observed value from expected value, as in Type I and Type II error;

(2) Taxonomy: In nomenclature an unintentional incorrect spelling, such as a typographical error.

estuary

estuario

A semienclosed coastal body of water which has a free connection with the open sea and in which typically seawater is measurably diluted with freshwater derived from land drainage (*cf* negative estuary, neutral estuary).

Eulerian measurement

medición euleriana

Oceanography: Measurement of currents in which the velocity (speed and direction) is stated at every point in the fluid (*cf* Lagrangian measurement). The classic method of Eulerian measurement is a simple propeller-type flowmeter.

eulittoral zone

zona eulitoral

In marine ecosystems the main area of the littoral (*qv*) zone lying below the littoral fringe and above the sublittoral.

euphotic zone

zona eufótica

Topmost stratum of water where daytime light intensity is sufficient to support a net positive rate of photosynthesis (primary production), above the compensation depth (*qv*).

eury -

uri-

Prefix, meaning wide.

euryhaline

eurihalino

Organisms with a broad range of tolerated salinities.

eurythermal

euritérmico

Organisms with tolerance to a wide temperature range.

eurytopic

euritópico

Able to withstand a wide variety of environmental situations and/or found in a wide variety of habitats.

eustatic

eustático

Applied to worldwide changes in sea level caused by tectonic movement or by the growth and decline of continental glaciers.

eutrophic
eutrófico

Rich in inorganic nutrients, capable of sustaining high levels of primary production in the presence of sufficient insolation and water column stability (*cf.* oligotrophic, dystrophic).

eutrophication
eutroficación, eutrofización

The process of enriching an environment with nutrients. Usually applied to the case of over-supply of nutrients by human activities.

even
regular

Ecology: One of three generally-used descriptors of the spatial distribution (dispersion) of a species. If the question is: "Given the location of one individual, what is the probability that another is nearby?"

- (1) Probability increased = aggregated;
- (2) Probability decreased = even;
- (3) Probability unaffected = random.

Even distributions are regular; at maximum evenness the distribution is like a planar crystal lattice.

evolution
evolución

Descent with modification. A permanent change in gene frequencies in a population. The cumulative effect of such change over time.

evolutionary systematics
sistemática evolutiva

A major "school" of phylogenetic reasoning: basically akin to cladistics but incorporating the belief that obtaining an estimate of genetic divergence is as or more important than propinquity of descent in assessing relationships. (*cf.* phenetics, cladistics).

exclusive species
especie exclusiva

Species limited to a specific community (*cf.* accidental, indifferent, preferential, selective species).

excursion
excursión

Oceanography: The range of variation in a physical, chemical or biological parameter over a stated time period. Usually recurrent (*eg.* seasonal), as in the annual excursion of mixed layer temperatures at a stated position (*eg.* about 5^o C to 14^o C at 50^o N, 145^o W).

exogenous rythms (rhythms)
ritmo exógeno

Recurring behavior patterns whose behaviors are cued and maintained by external factors (*cf.* endogenous rythms, zeitgeber).

expatriation
expatriación

Export of members of a population to an area(s) in which continuous immigration is required to sustain the population (*cf.* allogenic plankton, waifs).

exponential growth
crecimiento exponencial

A model of population growth explicitly stated as $dN/dt = rN$ where N is the number of individuals alive at any time t and r is the intrinsic rate of population increase (which in this, the simplest case, is constant for all values of N).

extinction
extinción

The elimination of all individuals of a taxon, such that no living individuals remain.

extirpation

The elimination of all individuals of a taxon from a specific geographic region or area.

F

facies

Paleontology: Sum total of features that reflect the specific environmental conditions under which a given rock formation was formed or deposited - conditions may be lithological, sedimentological, or faunal.

facultative
facultativo

Contingent; assuming a particular role or mode of life but not restricted to that condition (*cf* obligate); *eg* facultative cleaning symbiont.

fall overturn
mezcla de otoño

Condition that occurs in the autumn in temperate regions when surface waters cool and become dense enough to sink and displace deeper waters, used especially with reference to lakes.

family
familia

Taxonomy: Category including one genus or a group of genera or tribes of common phylogenetic origin which is separated from related similar units (families) by a decided gap, the size of the gap being in inverse ratio (sometimes) to the size of the family .

fauna

The animal life of a given region (*cf* flora, biota) or geological period.

faunal boundary
límite faunístico

See barrier, boundary region.

faunal province
provincia faunística

A large geographical area that is a biological division of the earth's surface containing a fauna more or less peculiar to it. Endemism is the most commonly used criterion in defining such provinces although both evolutionary (area cladograms, etc.) and ecological (comparative dominance hierarchies) criteria may be used. The distinction between faunal (or floral) province *vs* region *vs* realm, etc., is nowhere rigorously defined (or at least not widely accepted).

faunal stratification
estratificación faunística

Faunal classification by estimate of antiquity of faunal group membership.

faunistics
faunística

The study of fauna's or faunal assemblages

feeding guild
gremio alimentario

A group of heterotrophic (*qv*) species, not necessarily taxonomically related, that feed in similar ways on similar organisms or nutrient sources (*cf.* dispensatory compensation).

Ferrell Cell

See Hadley Cell.

fidelity
fidelidad

Ecology: The degree of restriction of a particular species to a particular habitat, community or association.

filter
filtro

Biogeography: Route along which dispersal is likely for some groups but not others; a semibarrier.

fine-grain exploitation
alimentación no selectiva

Use of resources, particularly food resources, nonelectively but harvesting them in direct proportion to their occurrence in the environment (*cf* coarse-grain exploitation, electivity).

finfish *vs* shellfish

Fisheries biology: Unforgivable fisheries jargon distinguishing vertebrate fishable species from invertebrate fishable species.

firth
ría

Scottish name for a sea inlet, generally relatively deep and narrow.

fisheries biology
biología pesquera

Study of the biology of exploited populations of fishes and other aquatic organisms, and of exploitation and management techniques (*cf* ichthyology).

fitness

aptitud, adecuación

Evolution: Relative probability of survival and reproduction of a given genotype within a population. Sometimes referred to as Darwinian fitness.

fjord

fiordo

Long narrow U-shaped coastal inlet usually representing the seaward edge of a glaciated valley that has been partially submerged.

floating aquatic plants

plantas acuáticas flotantes

Aquatic plants that float on or just below the surface of the water. May refer to marine or freshwater plants including algae.

flood tide

marea creciente

Incoming tide or rising tide in the tidal cycle (*cf* ebb tide).

flora

The plant life of a given region (*cf* fauna, biota) or geological period.

floristics

florística

The biogeography of plants (*cf* phytogeography).

flotsam

Debris floating at sea surface or washed onshore, usually derived from the wreckage of a vessel or lost from a vessel at sea (*cf* jetsam).

fluvial

Of or referring to rivers or river valley ecosystems (*cf* rhithron).

fluviatile

lótico

Lotic (*qv*); inhabiting rivers and streams (*cf* rhithron).

food chain/food web

cadena alimentaria, red alimentaria

Ecology: conceptualization to illustrate the transfer of energy from primary producers (autotrophs) through a series of consumers (herbivores, carnivores). Termed a food chain when few or no side branches are represented and a food web as the complexity of the illustrated hierarchy increases.

food chain magnification

magnificación alimentaria

Usually refers to accumulation of non-excreted or metabolized compounds or materials, often toxic, in greater concentrations at each step of consumption in a food chain. Examples: ciguatera or DDT accumulation.

forage fish

Fisheries biology: General term for economically unimportant fish, usually of smaller size, considered to be food or forage for larger, economically important fish, either commercial or sportfish species.

foraminiferan ooze

fango de foraminíferos, cieno de foraminíferos

A calcareous deepsea sediment in which 30% or more of the material is composed of the tests of foraminifera.

forcing functions

función forzante

Functions that energize, control and canalize the outcome of a particular set of events, used particularly to refer to physical phenomena such as the effect of wind fields on ocean current systems. Originally referred to mathematical functions in the appropriate mathematical modeling efforts for the study of physical oceanographic forcing.

forma

forma

Systematics: Undefined infraspecific ranking where recognizable within species variation occurs, related to geography or ecology, but where available information does not allow informed supposition as to cause, whether genetic or ecotypic or both. The category "forma" has no formal recognition in the ICZN (*qv*) or ICBN (*qv*).

formation

formación

Geology: Fundamental unit used in lithostratigraphy. Specific features such as chemical composition, origin (sedimentary, volcanic, metamorphic), fossil content, etc., serve to distinguish rock formations. Formations may be subdivided into members and together several formations may constitute a group.

Formenkreis

círculo de formas

An aggregate of allopatric subspecies or species; superspecies.

founder effect

efecto fundador

The genetic effect of establishment of an isolated population by one or a very few individuals representing a very small fraction of the genetic pool from which it (they) are drawn. Selection may soon yield genetic combinations quite different from those found in the ancestral population.

fragility

fragilidad

Ecology: A measure of the difficulty or likelihood of restoration of a community or ecosystem to preexisting structure and function following a major perturbation (*cf* resilience).

free-swimming

libre nadador

The ability of an aquatic organism to move actively under its own locomotive efforts. Generally used to describe the motile stages of larger organisms such as fish or crustaceans which have demersal or planktonic eggs or larval stages. Implies some degree of independence from pure advection by water movements. (*cf* nekton)

freshwater

aguas dulces

Water having a salinity less than 0.5 ppt.

fringing reef

arrecife de orla, arrecife costanero

Geological structure, generally of biological origin (usually a coral reef (*qv*)) along the border of a land mass (continent or island), lacking a lagoon or substantially so.

front

frente

Oceanography/Meteorology: Boundary or boundary region separating water or air masses of different origins and characteristics.

fugitive species

especie fugitiva, especie oportunista

Ecology: Species typically found only in unstable or periodically extreme environments. Fugitive species typically have high "r" (*cf* r-selection) values, and can achieve initial high population abundances but tend to be displaced by competitively superior species early in succession (*qv*). Also called opportunistic species.

functional morphology

morfología funcional

Interpretation of the function of an organism or organ system by reference to its shape, form and structure.

functional response

respuesta funcional

Ecology: A change in the rate of predation by an individual predator in response to a change in density of the prey (*cf* numerical response).

fundamental niche

nicho fundamental

Ecology: Entire set of optimal conditions under which an organism is able to live and reproduce, in which the organism faces no negative coactive effects and in which the physical environment is optimal (*cf* realized niche).

furtile

Pertaining to any partially disjunct body of water that connects with the main body only during high water.

G

game fish**peces deportivos**

Fisheries biology: General term for those species of fishes that are taken by sportsmen via hook and line fishing as contrasted with nongame or commercial species.

gamma taxonomy**taxonomía gamma**

That aspect of taxonomy (*qv*) concerned with intraspecific populations as well as with phylogenetic trends.

Gause's principle**principio de Gause**

The concept of competitive exclusion (*qv*).

Gelbstoff

A complex mixture of natural compounds (including humic acid) dissolved in seawater, characterized by light absorbance that increases with decreasing wavelength, giving yellow color to the water.

gene flow**flujo génico**

Movement of genes within an interbreeding group that results from mating or gene exchange with immigrant individuals. Such an exchange may occur in one direction or in both directions.

gene frequency**frecuencia génica**

The proportion of one allele to the total of all alleles at the same locus in the gene pool.

generalist**generalista**

Ecology: A species having a broad habitat range or food preference (*cf* specialist).

generalized track**paso generalizado, rama generalizada**

The pattern formed by overlaying individual tracks (*cf* track) of OTU's (*qv*) on a map and noting the area(s) of concordance in distribution. Where concordant the pattern is said to form a generalized track. Derived from Croizat's Panbiogeography and utilized in vicariance biogeography, but in fact independently used in pelagic biogeography before and concurrently, minus the terminology.

generalized track/vicariance approach

The essential method of vicariance biogeography which is based on the following steps: (1) look for concordance in the distribution of organisms; (2) attempt to understand disjunctions between putatively continuous generalized tracks in light of vicariance (*qv*) events (*cf* center of origin / dispersal approach; cladistic biogeography).

generation

generación

(1) Biology: Formation of ...; production of ...

(2) Ecology: All of the individuals produced within a single life cycle.

genetic drift

deriva génica

(1) Genetic changes in populations caused by stochastic phenomena rather than by selection.

(2) Random fluctuations of gene frequencies in a population such that the

genes are not a perfectly representative sampling of the parental gene frequencies.

Effects are more marked in small (such as founder) populations in which drift gives rise to random fixation of alternative alleles (qv).

genetic equilibrium

equilibrio génico

Equilibrium in which the frequencies of two alleles (qv) at a given locus are maintained at the same values generation after generation. A tendency for the population to attain such equilibrium and resist genetic change (at that locus) is termed genetic homeostasis.

genetic polymorphism

polimorfismo génico

The co-occurrence of two or more alleles (qv) at the same locus in a population at frequencies that cannot be accounted for by recurrent mutation (qv) alone (*cf* balanced polymorphism).

genetics

genética

The study of heredity and variation.

genotype

genotipo

Genetic constitution of an organism as opposed to the expression of that constitution (phenotype) which may be developmentally or environmentally canalized.

genus

género

A category (qv) for a taxon including one species or a group of species, of common phylogenetic origin, separated from related similar units (genera) by a decided gap, the gap being in inverse ratio to the size of the unit (genus) (sometimes).

geographic isolate

población aislada geográficamente

A population that is separated by geographic barriers from the main body of the species.

geographic isolation

aislamiento geográfico

The separation of a gene pool by geographic barriers; the prevention of gene exchange between a population and others by geographic barriers. The usual starting point and requirement for the allopatric (qv) model of speciation (qv).

geographical race

raza geográfica

See subspecies.

geography

geografía

The study of areal differentiation of the earth's surface as shown in the character, arrangement and interrelationships over the world (or selected subarea) of such elements as climate, relief, soil, vegetation, surface currents, hydrographic properties, as well as the distribution of living organisms and their effects.

geostrophic current (flow)

corriente geostrófica

A macroscale (*qv*) current in the ocean or atmosphere that is the product of balance between gravitational forces (the pressure field) and the Earth's rotation (the Coriolis Effect). The geostrophic approximation ignores friction (as negligible) in the calculation of such currents.

geotropic

geotrópico

Directional response (geotaxis or growth) to the gravity field.

gigantism

gigantismo

The condition of being much larger than normal or exhibiting excessive growth; often associated with polyploidy (*qv*).

***Globigerina* ooze**

fango de globigerinas

A type of foraminiferan ooze (*qv*) with *Globigerina* tests a major constituent.

Gondwanaland

Gondwana

The southern supercontinent formed by the breakup of Pangaea in the Mesozoic (ca 150 million years BP) comprising the present South America, Africa, Arabia, Australia, Antarctica, India, and New Zealand (*cf* Laurasia).

gonochorism

gonocorismo

Pertaining to a population in which the sexes, male and female, are separate and usually occur in about equal numbers.

grade

grado

(1) A group of organisms similar in level of organization; an anagenetic advance (*cf* anagenesis).

(2) Distinctive functional or structural improvement in the organization of an organism.

Grades may occur within a single lineage or be achieved independently in different lineages (*eg* "warmbloodedness" in tunas, birds, mammals and certain fossil reptiles) (*cf* clade).

grallatorial

Adapted for wading.

grazing

pastoreo

Consumption of autotrophs by herbivores. Also applies to consumption of pseudoflora (sessile invertebrates) by carnivores. In most marine systems, unlike terrestrial systems, there is little attempt to distinguish between browsing and grazing.

greenhouse effect

efecto invernadero

Warming effect of retention of long wave length (infrared) radiation by the lower atmosphere with relative transparency to transmission of short wave length radiation (visible light).

gross primary production

producción primaria bruta

Rate of carbon fixation by autotrophs per unit area (or per unit volume) per unit time (*cf* primary production).

guild

gremio

Ecology: A group of species that utilizes one or more aspects of environmental resources in much the same way, *eg* a feeding guild contains species that feed in similar ways on similar organisms or nutrient sources (*cf* compensatory compensation).

gynochoric

ginocórico

Pertaining to organisms dispersed by motile females.

gyre

giro, vórtice

Circular or spiral motion of water or air, used to describe a semienclosed current system, such as the macroscale (*qv*) subtropical anticyclonic (*qv*) gyres or such cyclonic (*qv*) gyres as occur in regions such as the Pacific Subarctic.

H

habitat

hábitat

Ecology: Living place of an organism, defined by its location and physical, chemical and biological properties.

hadal zone

zona hadal

That part of the ocean that lies in the deep ocean trenches below the general (abyssal) level of the deep ocean floor.

Hadley Cell
célula de Hadley

Meteorology: Macroscale convective circulation in the lower atmosphere in which winds at the surface are equatorward and winds aloft are poleward, driven by differential latitudinal heating of the earth's surface by the sun. In the Northern Hemisphere the tropical Hadley Cell (trade wind zone) operates between the equator and approximately 30° N. The polar Hadley Cell (polar easterly zone) operates between the North Pole and roughly 60°N. In between, 30° to 60°N is the zone of the Ferrell Cell (zone of the westerlies). The Southern Hemisphere has a mirror image arrangement (approximately). This description is of the so-called Tricellular Model, which is descriptively useful but oversimplified.

hadopelagic
hadopelágico

Pelagic in depths greater than 6000 m (*cf* hadal zone; ultra-abyssopelagic).

halocline
haloclina

Any zone of rapid change of salinity, typically with depth as the principal independent axis.

halodrymium
manglar

A mangrove (mangal) community.

halophilic
halofílico

Thriving in (tolerant of) high salt concentrations in the environment.

halophyte
halofítico

Plant adapted morphologically and physiologically to grow in markedly saline environments, *eg Rhizophora, Salicornia, Spartina*.

halosere

Characteristic sequence of communities associated with developmental stages in plant succession in salt marshes.

Hardy-Weinberg equilibrium
equilibrio de Hardy-Weinberg

Law that states that gene and genotype frequencies will remain constant from generation to generation given a sufficiently large panmictic (*qv*) population and in the absence of genetic drift, mutation pressure, migration, and selective breeding.

helic (helium)
de marjal, marisma, ciénaga

Ecology: Pertaining to marshes or marsh communities.

heliotropic
heliotrópico

See phototropic.

hemiplankton

hemiplancton

See meroplankton.

Hennig '86

A widely used package of computer programs for phylogenetic analysis developed by J. S. Farris, Department of Ecology and Evolution, State University of New York, Stony Brook.

herbivore

herbívoro

Heterotroph that consumes plants or living plant material (or autotrophic protists or procaryotes) (*cf* carnivore, detritovore, omnivore).

hermaphroditism

hermafroditismo

Bisexuality with both sexes present in the same individual. May be synchronous or sequential (*cf* protandry, protogyny).

heterochrony

heteroconismo

Dissociation during development of factors of shape, size and maturity, so that organisms mature in these and/or other respects at earlier or later growth stages. This leads to paedogenesis (*qv*) or recapitulation (*qv*).

heterograde

heterógrado

A non-uniform gradient of a factor in the water column, *eg* an oxygen minimum layer.

heterosis

Hybrid vigor; the selective superiority of heterozygous over homozygous individuals from either parental stock.

heterospecific

heterospecífico

Pertaining to a different species (*cf* conspecific).

heterotrophic

heterotrófico

(1) Required utilization of organic substrates (food) as a source of energy (*cf* autotrophic).
(2) Applied to consumer organisms, herbivores and carnivores, but may also be true of some plants capable of utilizing organic molecules as an energy source under certain conditions.

heuristic

heurístico

Serving to further investigation; any discovery, discourse or observation that tends to promote research or additional study, especially in a synthetic manner.

hidroplankton

hidroplancton

Plankton (*qv*) that achieve buoyancy by means of surface secretions.

hierarchical system

sistema jerárquico

Systematics: The grouping of individuals by a series of subdivisions or agglomerations to form a characteristic dendrogram (*cf* cladogram, phenogram) representative of relationships.

higher aquatic plants

plantas acuáticas superiores

General term for aquatic angiosperms, primarily freshwater.

historical biogeography

biogeografía histórica

The study of animal distribution with emphasis on evolution and over an evolutionary time scale, usually employing overlay of phylogenetic information on the distributional database (*cf* vicariance biogeography).

holobenthic

holobéntico, holobentónico

An organism that remains benthic throughout its entire life cycle.

holopelagic

holopelágico

Organisms that remain pelagic throughout their entire life cycle (*cf* meropelagic).

holophyletic

holofilético

See monophyletic.

holophytic

holofítico

Wholly plantlike in mode of nutrition, used of certain protists in opposition to holozoic (*qv*).

holoplankton

holoplancton

Organisms which are permanent (throughout their lifetime) members of the plankton (*qv*) (*cf* meroplankton).

holotype

holotipo

Taxonomy: The single specimen designated or indicated as "the type" ("name-bearer") by the original author at the time of publication of the original description in taxa at species-level rank (species, subspecies).

holozoic

holozoico

Wholly like an animal in mode of nutrition, used of certain protists in opposition to holophytic (*qv*).

homoiosmotic

homoiosmótico

Of or pertaining to organisms that are capable of regulation, to at least some degree, of internal salt/fluid content relative to the external milieu over the range of conditions specified.

homoiotherm (endotherm)

homeotermo (endotermo)

Organism that regulates body temperature by internal physiological and/or morphological mechanisms/processes (*cf* poikilotherm).

homologous

homólogo

Describes a feature or character state between two taxa when thought to have the same evolutionary origin, regardless of current function (*cf* analogous).

homology

homología

A feature or state in two or more taxa that can be traced back to the same feature in a common ancestor of the taxa, regardless of function.

homonym

homónimo

Taxonomy: One of two or more identical but independently proposed names for the same or different taxa.

homoplasy

homoplasia

Phylogeny: Apparent synapomorphy due to parallelism (*qv*) or convergence (*qv*).

homoscedasticity

homocedasia

Statistics: Of or referring to the equality or homogeneity of variances among all samples being compared.

horotelic

horotélico

Normal or average rate of evolution per million years within a given taxonomic group (*cf* bradytelic, tachytelic). "Normal" is empirically determined for each group and may lack global meaning.

host

huésped

See parasite

hybrid

híbrido

Genetics: Individual plant or animal resulting from a cross between parents of differing genotypes. Typically applied to the product(s) of outcrossing between species.

hybrid belt (zone)

zona de hibridación

A zone of interbreeding between two species, subspecies or other unlike populations; zone of secondary intergradation.

hybrid swarm

A series of highly variable forms produced by the crossing and backcrossing of hybrids.

hybridization

hibridación

The crossing (interbreeding) of individuals belonging to two distinct natural

populations (principally species).

hydatophytium

comunidad de plantas acuáticas sumergidas

A submerged plant community.

hydrarch succession

sucesión hidrarca

The natural progression of succeeding communities commencing in a habitat with abundant water; hydrosere. Typically refers to the succession from freshwater lake habitat to dry land.

hydric

hidrobios

A wet habitat or environment (*cf* xeric, mesic).

hydrochemical front

frente hidroquímico

An oceanic boundary (*qv*) region across which occur relatively sharp (change in value / change in distance) gradients in abiotic (*qv*) factors, often associated with a marked transition in oceanic community constituency and structure. For example the marked hydrochemical front at 10° S in the Indian Ocean.

hydrochoric

hidrocórico

Dispersed by the agency of water, used primarily of freshwater lotic (*qv*) habitats (*cf* advection).

hydrographic gate

puerta hidrográfica

A set of physical/chemical/biological conditions that may "toggle" a reference potential transport pathway (particularly for larval or juvenile forms) between barrier (*qv*) and corridor (*qv*). For example, coastal tide and meteorological conditions may interact to promote or prevent ingress of larval fishes from the coastal ocean to an otherwise suitable nearshore nursery area.

hydrography

hidrografía

Oceanography and Limnology: A branch of physical oceanography with emphasis on ocean currents, especially as they affect navigation, including preparation of navigation charts and of current and tide tables. The term is sometimes used more generally to refer to the study of ocean currents and associated phenomena *per se*.

hydrologic cycle

ciclo hidrológico

The water cycle; the global movement of water between atmosphere, hydrosphere and lithosphere.

hydrology

hidrología

Study of the flow of water in various states through the terrestrial and atmospheric environments and of interchange with sources and sinks in the sea.

hydrophyte

hidrófita

Plant that is adapted morphologically and/or physiologically to grow in water or very wet environments, used primarily of freshwater habitats.

hydrostatic pressure

presión hidrostática

The force per unit area exerted by a column of water; pressure increases by 1 atmosphere per 10 m vertically downward in a water column.

hydrotaxis

hidrotaxis

An orientational or movement response cued by the presence of a water or moisture stimulus.

hydrotectonics

hidrotectónica

Study of plate tectonics (*qv*) applied to ocean basins, principally from the standpoint of effects on ocean circulation, water mass formation and extent, and domain properties.

hypactile

Pertains to that part of the littoral zone exposed by the tide for less than one-quarter of the tidal cycle.

hyperbenthic

hiperbéntico

Living above but close to the substratum (suprabenthic) (*cf* epibenthic, endobenthic, engibenthic).

hyperosmotic

hiperosmótico

A solution that exerts a greater osmotic pressure than the solution of reference (*eg* sea water is hyperosmotic to teleost blood). (*cf* hypoosmotic, isosmotic).

hypersaline

hipersalino

Having a high salinity, well in excess of normal sea water; typical of isolated bodies of seawater with high evaporation rates (lacking or with restricted free access to the sea).

hypodigm

hipodigma

Taxonomy: The entire known material of a species available for study (not that uncommonly employed in work on deepsea organisms).

hypolimnion

hipolimnio

Lower, cooler, noncirculating water in a thermally stratified temperate lake in summer (*cf* epilimnion).

hyponeuston

hiponeuston

Organisms living immediately below the surface film of a body of water (*cf* epineuston).

hypoosmotic

hioposmótico

A solution that exerts a lower osmotic pressure than the solution of reference (*eg* freshwater is hypoosmotic to teleost blood). (*cf* hyperosmotic, isosmotic).

hypoxic

hipóxico

Waters undersaturated (low) in dissolved oxygen content, as in oceanic oxygen minimum layers (*cf* anoxic).

I

ICBN (International Code of Botanical Nomenclature)

(CINB) Código Internacional de Nomenclatura Botánica

See International Code of Botanical Nomenclature.

ichthyology

ictiología

The study of fishes, with emphasis on comparative and evolutionary biology, broadly defined, but including studies on all aspects of the biology of fishes as it relates to natural, unexploited populations (*cf* fisheries biology).

ichthyoplankton

ictioplancton

Fishes, typically larvae and juveniles, in the meroplankton (*qv*).

ICZN (International Code of Zoological Nomenclature)

(CINZ) Código Internacional de Nomenclatura Zoológica

See International Code of Zoological Nomenclature.

-idae

Suffix; ending of the name of a subclass in the botanical or of a family in the zoological literature.

immigration

inmigración

The movement of an individual or group into a different population or geographical region (*cf* emigration).

-inae

Suffix; the ending of the name of a subtribe in botanical nomenclature and of a subfamily in zoological nomenclature.

indeterminate growth

crecimiento indeterminado

Growth that continues throughout the life span of an individual (although commonly in differing proportion of total length or mass as a function of age) (*cf* determinate growth).

index species

especie indicadora

- (1) Ecology: Species characteristic of a particular community, ecosystem or habitat.
- (2) Paleontology: Species characteristic of a particular rock unit or time zone.

Indian Ocean

Océano Indico

Third largest of the main oceans of the world. Area =73,443,000 km². The northern Indian Ocean is dominated by intense monsoonal wind fields which cause dramatic surface current changes.

indicator species

especie indicadora

A species indicative of a particular environmental regime, organismal assemblage or biogeographic area. Usually used in the ecological sense to indicate (serve as an index of) a particular environmental regime.

indifferent species

especie indiferente

Species occurring in a given community but not showing strong fidelity (*qv*) to that community, occurring in one or more additional communities as well (*cf* accidental, exclusive, preferential, selective species).

indigenous

indígena

See endemic.

-ineae

Suffix; the ending of the name of a suborder in botanical nomenclature.

infauna

The total animal life within a sediment (*cf* epifauna, benthos).

infralittoral

infralitoral

Intertidal region exposed only at the lowest spring tides.

infraspecific
infraespecífico

Below (contained within) a taxon assigned the rank (*qv*) of species. Ranges from panmictic (*qv*) single populations to formae (*qv*) to subspecies (*qv*), but on a continuum, with any attempt to draw sharp definitional limits likely to fail. Intraspecific groupings are not accorded formal recognition in the ICZN (*qv*).

ingroup

Systematics: The collection of OTU's (*qv*) under study, for which an attempt at phylogenetic elucidation is being made.

-ini

Suffix; the ending of the name of a tribe in the zoological literature.

inland sea
mar interior

Extensive body of water that is largely or entirely surrounded by land, *eg* Black Sea, Baltic Sea, Caspian Sea (*cf* epeiric sea).

inlet
entrada

- (1) A recess, such as a bay or cove, along a coast.
- (2) A stream mouth or bay leading inland, as from the ocean; an estuary.
- (3) A narrow passage of water, as between two islands.

inquilinism
comensalismo

Symbiosis (*cf* commensalism) in which one organism (the inquiline) lives within another without causing damage to the host (*eg* crustaceans and fishes inquiline in sponges); also used to describe living within the burrow, nest or other domicile of another species.

inshore
hacia tierra

General term for ocean regions in close proximity to land (*cf* offshore).

insolation
insolación

The amount of incoming solar radiation received over a unit area of the Earth's surface per stated unit of time.

instantaneous species
especie instantánea

A species wherein a single individual is capable of establishing a new species population distinct from the parental species.

instar
estadio

Any intermolt stage in the development of an arthropod.

interannual

interanual

Pertaining to events that vary on a year-to-year basis, particularly seasonally-related events.

intermediate disturbance hypothesis

hipótesis de perturbación intermedia

Hypothesis that diversity in a community is greatest when disturbance (perturbation) is intermediate on scales of frequency and intensity.

intermediate water mass

masa de agua intermedia

Water mass lying between a principal upper water mass or water masses (*eg* South Atlantic Central Water) and a deep water mass (or masses; *eg* North Atlantic Deep Water), such as Antarctic Intermediate Water.

internal wave

onda interna

Wave that forms within a water column at the boundary interface between two water masses (layers) differing in density.

International Code of Botanical Nomenclature (ICBN)

Código Internacional de Nomenclatura Botánica (CINB)

The internationally adopted set of rules governing botanical nomenclature.

International Code of Zoological Nomenclature (ICZN)

Código Internacional de Nomenclatura Zoológica (CINZ)

Regulations governing the scientific naming of animals. The International Commission on Zoological Nomenclature is the international authority that establishes those regulations and supervises their application.

interspecific

interespecífico

Between species, interaction between or condition described for two or more species (*cf* intraspecific).

intertidal zone

zona intertidal, zona intermareal

Area between mean high-water level and mean low-water level in the coastal region.

Intertropical Convergence Zone (ITCZ)

Zona de Convergencia Intertropical

Low latitude zone of convergence (*qv*) between air masses flowing equatorward as part of the lower limb of the tropical Hadley Cell (*qv*). Zone of the doldrums (*qv*). The ITCZ moves latitudinally with the progression of the seasons.

interzonal

Between two zones; used of pelagic species inhabiting two or more defined depth zones.

intraspecific
intraespecífico

Within a species, interaction between conspecific individuals or condition described for a single species (or selected populations thereof). (*cf* interspecific).

intrinsic rate of increase
tasa intrínseca de crecimiento

The "little r" of the exponential (qv) and logistic (qv) models of population increase.

introduced species
especie introducida

A species transported to a new geographic area beyond the normal range of the species, usually through human agency or intervention, as contrasted with native (qv) species.

introgressive hybridization
hibridización introgresiva

The spread of one or more genes of one species into the gene pool of another species as a result of hybridization.

inverse estuary
See negative estuary (*cf* estuary).

inverted pyramid
pirámide invertida

Ecology: A situation where a rapid rate of turnover allows a small biomass of prey to support a larger biomass of predators with a slower turnover. Not uncommon in aquatic systems where primary producers (phytoplankton) are small and divide rapidly whereas zooplanktonic herbivores are larger and longer-lived (*cf* ecological pyramid).

irruption
irrupción

Sudden change or oscillation in the population density of an organism, often a rapid growth of population size followed by a crash.

island biogeography
biogeografía de islas

A quantitative approach to ecological biogeography (qv) based on an empirically determined and mathematically modeled relationship between island area, distance of island from mainland species source areas, and equilibrium species richness. The equilibrium is ultimately a balance between immigration and extinction. Applies to "habitat islands" as well as to geographic islands.

island effect
efecto de isla

Putative occurrence of large concentrations of meso- and bathypelagic organisms around island chains and submerged ridges in otherwise oligotrophic oceanic areas, reflecting the relatively higher productivity around these surface and subsurface features.

isobar
isobara

Line (isopleth) of equal pressure. Contours of isobaric surfaces are commonly drawn in weather charts to forecast winds and in oceanography to calculate geostrophic flow.

isobath

isobata

Line (isopleth) of equal depth, commonly used to represent depth contours on a chart of subsurface features.

isoenzyme

isoenzima

See isozyme.

isolating mechanism(s) 1. Definition

mecanismo de aislamiento 1. Definición

A property (ies) of individuals that prevents successful interbreeding or reproduction with individuals that belong to different populations (prezygotic vs postzygotic isolating mechanisms).

isolating mechanism(s) 2. Categories.

mecanismo de aislamiento. 2. Categorías

Premating (extrinsic): ecogeographical, habitat, seasonal, ethological, mechanical

Postmating (intrinsic): gametic, developmental, hybrid inviability, hybrid sterility, selective hybrid elimination.

isolation

aislamiento

Evolution: Separation of two populations so that they are prevented from interbreeding, whether by extrinsic (pre mating) or intrinsic (postmating) mechanisms.

isolume

isoluma

Line (isopleth) of equal light intensity.

isometry

isometría

Growth in which the relative proportions of body parts remain constant with change in total body size. (*cf* allometry).

isonome

A line on a chart or map connecting points of equal abundance of a species.

isoosmotic (isosmotic)

isoosmótico

Isotonic; having the same osmotic pressure (*cf* hypoosmotic, hyperosmotic).

isophene

isofena

(1) A line on a chart or map connecting points having the same frequency of occurrence of a given phenotype; phenocontour.

(2) A line on a chart or map connecting points at which seasonal events occur on the same date; isochronal line.

isopleth

isopleta

A line connecting equivalent values of physical, chemical or biological parameters, commonly used to construct contour charts.

isopycnal

isopicna

Line (isopleth) of equal density.

isostasy

isostasis

Concept that large masses of the earth's crust tend toward a "floating" equilibrium and that changes in the mass/position of one block will be compensated for by the uplifting or sinking of other blocks.

isotherm

isoterma

Line (isopleth) of equal temperature.

isozyme

isozima

Form of enzyme that exists in two or more structural forms easily separable and identifiable by electrophoretic methods. Widely used in studies of allelic frequency variation in populations (*cf* allozyme).

ITCZ

See Intertropical Convergence Zone.

iteroparity

iteroparidad

Situation in which a given individual normally reproduces more than once in its reproductive lifetime (*cf* semelparity).

J, K

jet

Oceanography, meteorology: Directed, concentrated, high-speed flow of water or air, such as the jet streams in the atmosphere or currents such as the Somali Current during peak Southwest Monsoon.

jetsam

Floating debris at sea surface or washed ashore, deliberately cast off from a vessel at sea (*cf* flotsam).

Jordan's laws

ley de Jordan, regla de Jordan

(1) Observation that the closest relatives of a species are found immediately adjacent to it but isolated from it by a geographical barrier.

(2) Observation that individuals of a given fish species develop more vertebrae in a cold climate than in a warm one (temperature during a critical phase of developmental determination appears to be controlling; true in general of serial meristic (*qv*) character values).

K-selection

K-selección

Selection for maximizing competitive ability, the "strategy" of equilibrium species, typically a response to stable and/or predictable environmental resources. Associated features: low fecundity, high juvenile survivorship, high parental investment per individual offspring, late maturity.

keystone predator

predador clave

A predator (*qv*) whose activities tend to maintain higher community diversity than would be true if the predator were absent. Predation is viewed as reducing competition between two or more target species below the point where competitive exclusion (*qv*) takes place.

kin selection

ortoselección

Form of natural selection in which the "altruism" of an individual benefits its own close relatives and thereby helps to ensure the survival of at least some of its own genes.

knot

nudo

Unit of velocity equal to one nautical mile per hour (0.515 m/sec).

kollaplankton

Plankton (*qv*) rendered buoyant by encasement in gelatinous envelopes; also spelled collaplankton.

krill

Euphausiid crustaceans occurring in dense swarms, especially *Euphausia superba* of the Southern Ocean, a principal food source for many Southern Ocean fishes, sea birds, and marine mammals.

kurtosis

curtosis

Statistics: One measure of departure of a frequency distribution from a normal distribution, quantified in terms of relative peakedness (leptokurtic) or flatness (platykurtic) (*cf* skewness).

L

labile

lábil

Plastic; readily modified.

lacustrine

lacustre

Pertaining to or living in lakes or ponds (*cf* lentic).

lagoon

albufera, laguna costera

Coastal body of shallow water characterized by a restricted connection with the sea or lake.

Lagrangian measurement

medición lagrangeana

Measurement of currents in which the path followed by each fluid particle is traced as a function of time (*cf* Eulerian measurement). Classic methods of Lagrangian measurement include passive drifters such as buoys, drogues or dye release (not to mention messages in bottles).

land bridge

conexión terrestre

Connection between two land masses, especially continents, forming a migrational corridor (*qv*). Before the widespread acceptance of continental drift, putative existence of former land bridges was invoked to explain faunal and floral similarities of now disjunct land areas.

Langmuir circulation

circulación de Langmuir, células de Langmuir

A surface system of vortices and antivortices resulting in lines or zones of upwelling and downwelling, divergences and convergences, often expressed at the surface in so-called drift lines. Set up by light but steady winds, a major source of near surface plankton patchiness.

latiphenic

latifénico

See monomorphic.

latitudinal diversity gradient

gradiente latitudinal de diversidad

The trend, widespread but not universal among groups of plants and animals, of exhibiting a monotonic increase in diversity when passing from polar regions toward the equator.

Laurasia

The northern supercontinent formed by the breakup of Pangaea in the Mesozoic (ca 150 million years B. P.), and comprising North America, Greenland, Europe, and Asia excluding India (*cf* Gondwanaland).

law of the minimum

ley del mínimo

Principle that productivity of an autotroph is determined by the availability of the scarcest required nutrient, such that different nutrients may be limiting depending upon the specific needs of the autotroph and the availability of all other requisite nutrients. More correctly, Liebig's law of the minimum.

league

An archaic unit of distance, equal to about 3 nautical miles.

lecithotrophic

lecitotrófico

Pertaining to developmental stages that depend upon eggs rich in yolk.

lectotype

lectotipo

Taxonomy: One of a series of syntypes (*qv*) which, subsequent to the publication of the original description (of a species), is selected and designated to serve as the "type" ("name-bearing") specimen.

leeward

barlovento

Pertaining to the side facing away from a wind or water current.

lentic

léntico, lenítico

Applied to a freshwater habitat characterized by calm or standing water, *eg* ponds, lakes, swamps and bogs (*cf* lotic, lacustrine).

leptopel

Large organic molecules or aggregates of colloidal proportions suspended in water.

leptophenic

leptofénico

See monophormic.

Liebig's law of the minimum

ley del mínimo de Liebig

See law of the minimum.

life cycle

ciclo de vida

Ecology: Series of developmental changes undergone by individuals comprising a population including fertilization, reproduction, death, and replacement. The life "cycle" is linear with respect to individuals but cyclical with respect to populations.

life history strategy

estrategia del ciclo vital

The complex interreactions between life (*qv*) cycles and environments that allow the individual (and therefore the species) to survive and reproduce.

limicolous

limícola

Inhabiting mud.

limiting factor

factor limitante

Ecology: In the sense of the law of the minimum (*qv*), that factor which limits a population, especially used in application to that factor limiting phytoplankton growth under stated conditions.

limivorous

iliófago

Feeding on mud; limophagous.

limnetic zone
zona limnética

The area in deeper and/or more extensive freshwater ecosystems that lies above the compensation depth but beyond the littoral zone. The limnetic and littoral zones together comprise the euphotic zone.

limnium
limnobios

A lake community.

limnodic

Pertaining to salt marshes.

limnodium

limnodio

A salt marsh community.

limnology

limnología

The study of freshwater ecosystems, especially lakes.

limophagous

iliófago

Feeding on mud; limivorous.

linkage

ligamiento

- (1) The dependency of one function or event upon the occurrence of another event or function.
- (2) Genetics: Association of genes on the same chromosome.

lithophagic

Pertaining to organisms that erode or bore into rock (*cf* endolithic).

littoral

litoral

Ecology: In marine systems the shoreline or intertidal zone. In lakes and shallow freshwater ecosystems the zone where light penetration to the bottom allows the growth of rooted plants.

littoral fringe

The landward edge of the littoral (*qv*) zone.

locus

Genetics: Specific place on a chromosome where a gene is located. At each locus is one gene, which, if it can occur in several different forms (alleles), is represented at a given locus by only one of those alleles (*qv*).

logistic growth
crecimiento logístico

A model of population growth explicitly stated as $dN/dt = rN ((K-N)/K)$ where N is the number of individuals at time t, r is the intrinsic rate of population increase (here a constant, independent of N, as in the exponential model (*qv*)), and K is a special and limiting value of N, the so-called carrying capacity of the environment at which $dN/dt=0$.

longevity
longevidad

- (1) Biology: The life span (duration, persistence) of an individual.
- (2) Paleontology: Applied to the persistence of a taxon, species, genus, family, over time.

longshore
a lo largo de la costa

Referring to currents or movement parallel to the coastline.

lotic
lótico

Referring to a freshwater habitat characterized by running water, *eg* springs, streams, and rivers (*cf* fluvial, rhithron, lentic).

Lotka-Volterra equations
ecuaciones de Lotka-Volterra

Based on the logistic model (*qv*), simple equations predicting results of predator-prey interaction in two-species competition.

luciferous
bioluminiscente

Light-producing, bioluminescent.

luminescence
luminiscencia

Production of light. Biological luminescence (bioluminescence) involves chemical reactions (luciferin, luciferase) to produce light by living organisms. Bioluminescence has evolved independently in a variety of organisms.

luticolous
lutícola

Inhabiting mud.

M

macroevolution
macroevolución

Evolution (*qv*) above the species level, the development of new higher taxa, genera, families, orders, etc.

macronutrient
macronutriente

An inorganic or organic nutrient compound or element needed in relatively large amounts for autotrophic productivity. Nitrate and phosphate are the most commonly limiting macronutrients in oceanic systems.

macroorganisms
macroorganismos

General term for large organisms, typically visible to the naked eye, as contrasted with microorganisms (*qv*).

macrophyte
macrofita

A large macroscopic plant or alga, used especially in reference to aquatic forms, especially algae, such as kelps.

macroplankton
macroplancton

Plankton (*qv*) with maximum dimension on the order of 2 - 20 cm.

macroscale feature
macroescala

Periodic variation in order of years to millennia and/or many hundreds to thousands of kilometers (*cf* mesoscale feature).

macrosmatic

Pertaining to an organism possessing a highly developed sense of smell.

macrozooplankton
macrozooplancton

Large zooplankton (*qv*), 2 to 20 cm in maximum dimension.

malacology
malacología

Study of the biology of mollusks, most commonly used in reference to studies of bivalves and gastropods.

map
mapa, carta

A graphic representation of part or all of the earth's surface including depiction of features of interest to the cartographer and the intended audience.

marine biology
biología marina

Study of the biology of marine organisms (*ie* physiology, biochemistry, etc) apart from their roles in marine ecosystems as contrasted with biological oceanography (*qv*).

marine ecology
ecología marina

Ecology (*qv*) of marine organisms.

marine mammal

mamífero marino

A mammal that carries out all or virtually all life history functions in the marine environment. All except cetaceans and sirenians come ashore for courtship, breeding, birthing and early care of the young. Includes mammals in the orders Cetacea, Sirenia, Pinnipedia, and Carnivora (*Enhydra*, and, considered by some, *Ursus maritimus*).

marine snow

nieve marina

Organic aggregates formed by micro-organisms in association with detritus.

maximum sustained yield

cosecha máxima sostenible

The maximum yield or crop which may be harvested year after year without damage to the system; applied to agriculture, husbandry, and exploitation of natural populations by humans; commonly employed abbreviation: MSY.

megaplankton

megaplacton

Plankton (*qv*) with maximum dimension on the order of 20 - 200 cm.

meiobenthos

meiobentos

Benthic organisms such as foraminifera, small nematodes and juvenile macroinvertebrates, 100 - 1000 mm in maximum dimension.

meridional

Term used to describe objects or events mainly in a latitudinal (north-south) direction, *eg* the meridional flow of eastern and western boundary currents (*cf* zonal).

meristic character

caracter merístico

A character that can be counted, such as number of vertebrae, number of fin rays, number of setae, etc.

meromictic

meromítico

Pertaining to a permanently stratified lake, usually resulting from a significant temperature or salinity difference (and hence density difference) between the epilimnion (*qv*) and hypolimnion (*qv*).

meropelagic

meropelágico

Aquatic organisms that are only temporary members of the pelagic (*qv*) community (*cf* holopelagic).

meroplankton

meroplancton

Invertebrate larvae inhabiting the plankton (*qv*) only prior to metamorphosis, adults being benthic; also termed hemiplanktonic (*cf* holoplankton).

mesic

See xeric.

mesopelagic
mesopelágico

- (1) The stratum between 200 and about 1000 m.
- (2) Corresponds to the disphotic (*qv*) zone where light cues result in diel behavioral responses such as diel vertical migration but in which light is insufficient to support net positive productivity.

mesophenic
See monomorphic.

mesoplankton
mesoplancton

Plankton (*qv*) with maximum dimension on the order of 0.2 - 20.0 mm

mesoscale eddy
torbellino de mesoescala

An eddy (*qv*) with a diameter on the order of a few tens to a few hundreds of kilometers, *eg* warm and cold core rings, persisting over a period of weeks to months (sometimes longer).

mesoscale feature
mesoescala

Periodic variation on the order of weeks to months and/or tens to a few hundreds of kilometers (*cf* macroscale feature).

metapopulation
metapoblación

A set of partially isolated populations belonging to the same species. The populations are able to exchange individuals and recolonize sites where the species has recently been extirpated (*qv*).

microclimate
microclima

The atmospheric characteristics prevailing within a small space, usually in the layer near the ground, affected by diel surface temperature changes and by vegetation or lack thereof.

microevolution
microevolución

Evolutionary change within species (as opposed to macroevolution, the origin of higher taxa), may involve anagenesis (*qv*) or cladogenesis (*qv*).

microhabitat
microhábitat

The topographic analogue of microclimate (*qv*) - a spatially definable subunit of a much larger habitat presenting organisms with a particular subset of resource and physiological opportunities and limitations.

micronekton

micronecton

Animals at the interface between plankton and nekton, able to sustain considerable mobility but incapable of maintaining horizontal position against continuous advection. Includes most mesopelagic migratory and nonmigratory fishes, *eg* Myctophidae, as well as such large zooplankton as euphausiid and sergestid crustaceans.

micronutrient

micronutriente

Organic or inorganic element or compound needed only in relatively small amounts by living organisms for autotrophy (*cf* macronutrient).

microorganism

microorganismo

An organism of microscopic or submicroscopic size, especially a bacterium or protozoan (*cf* macroorganism).

microplankton

microplancton

Plankton (*qv*) with maximum dimensions on the order of 20 - 200 microns.

mictic

míctico

Pertaining to the pattern of water circulation in a lake, *eg* holomictic (*qv*), meromictic (*qv*), etc.

mid-depth species

especie de profundidades medias

See midwater species.

mid-ocean ridge

cresta centro-oceánica

A topographical feature of the deep ocean floor comprising mountain ridges, rift valleys, and so forth, presumed to be sites of formation and spreading of new ocean floor, *eg* the Mid-Atlantic Ridge, Carlsberg Ridge, East Pacific Rise, etc.

midwater species

especie de profundidades medias

For oceanic species, a catchall term applied to meso- and bathypelagic species.

migration

migración

- (1) Nonrecurrent directional movement or recurrent seasonal movement (as by tuna).
- (2) Recurrent daily movement for feeding and for shelter-seeking or other purposes, *eg* diel vertical migration or (coastal) daily on/off reef migration by fishes such as squirrelfishes, grunts and some snappers.

milky seas
mar lechoso

Seas in which surface waters are brilliantly lit (visible at night) by bioluminescent organisms (presumably bacteria or protists). Milky seas may extend (in shipboard perspective) from horizon to horizon. They have been most commonly reported in the equatorial and north Indian Ocean.

mixed layer
capa de mezcla

Surface layer of the sea in which essentially isothermal conditions (above the main or seasonal thermocline) result in virtually isopycnal (qv) conditions throughout the layer, allowing complete mixing and overturn within the layer by the wind.

molecular clock
reloj molecular

The hypothesis that point mutations occur at a sufficiently regular interval to permit the dating of phylogenetic dichotomies (cladogenesis, qv). It assumes a direct relationship between the extent of molecular divergence and the time of ancestral separation of the two branches.

monomictic
monomíctico

Applied to lakes in which only one seasonal period of free circulation (turnover) occurs each year. Typical of high latitude lakes.

monomorphic
monomórfico

Pertaining to a population or taxon showing no genetically fixed discontinuous variation, therefore comprising a single discrete morph. Continuous (unimodal) variation may occur within the population with an extremely broad (latiphenic), moderately broad (mesophenic), or narrow (leptophenic) range of expressed variation.

monophyletic
monofilético

Phylogeny: A group based on propinquity of descent, includes only branches meeting the cladistic definition of relationship (qv) and includes all such branches for the level of the cladogram in reference (holophyletic).

monothetic
monotético

Applied to a taxon defined uniquely by autapomorphy, *ie* by one or more uniquely diagnostic derived feature(s) shared by all members of that taxon but not with members of any other taxon (except via homoplasy (qv)).

monotopic
monotópico

Occurring in a single locality or geographic area (*cf* polytopic).

monotypic
monotípico

A taxon containing only one immediately subordinate taxon, as a genus containing only one species.

monotypic species

especie monotípica

A species not divided into recognizably different subspecies or genetically different populations (*cf* polytypic species).

monsoon

monsón

A seasonal change of wind field direction and associated climatic properties (especially rainfall) resulting from widespread temperature changes over land and water in the subtropics.

monsoon gyre

giro monsonico

Refers to complete reversals of current flow in the equatorial Indian Ocean associated with the alternation of the Southwest and Northeast Monsoons.

morphocline

morfoclina

Morphological transformation series - a graded series of character states of a homologous character.

morphotype

morfotipo

(1) Taxonomy - A specimen selected to represent a given intrapopulation variant (morph); has no official ICZN status.

(2) Evolution - A list of the morphological character states presumed present in an ancestral species.

mosaic evolution

evolución en mosaico

Differential rates of evolution of various adaptive attributes within the same evolutionary lineage.

motile

móvil

Moving or having the power to move spontaneously.

MSY

See maximum sustained yield .

multivariate

multivariado

Statistical techniques or approaches using more than one variable simultaneously to describe similarities and differences between the groups or factors of reference.

mutation

mutación

Genetics: Process by which a gene or chromosome undergoes structural change.

mutualism

mutualismo

A form of symbiosis (*qv*) in which both parties (species, individuals) benefit from the association. Facultative mutualism is sometimes considered a coordinate alternative category: protooperation (*qv*) (*cf* amensalism, commensalism).

N

n. sp.

Abbreviation of the Latin *species nova*, new species.

nanoplankton

nanoplancton

Plankton (*qv*) with maximum dimension on the order of 2.0 - 20.0 microns

nascence

The origin or commencement of a community in a previously barren area.

natatorial

natatorio

Adapted for swimming.

native species

especie nativa

A species considered to occur naturally in a given geographic area, as contrasted with an introduced (*qv*) species.

natural classification

clasificación natural

A hierarchical classification based on hypothetical phylogenetic relationships such that the members of each category in the classification share a single common ancestor (*cf* artificial classification).

natural selection

selección natural

Differential survival and reproduction in which the total environment determines which individuals (on average) survive to reproduce and pass their genes to the next generation.

nautical mile

milla náutica

(1) International: a secondary SI unit equal to 1,852 m, the average distance on Earth's surface subtended by one minute of latitude.

(2). A secondary fps unit, 6080 feet (UK) or 6080.27 feet (U. S.), the average distance (approx.) on Earth's surface subtended by one minute of latitude.

NE monsoon

monsón NE

A seasonal wind field associated with cold temperatures and high pressure over the Asiatic mainland, in the northwestern Indian Ocean; the Northeast Monsoon blows from northeast to southwest during the period November to March.

neap tides

mareas de cuadratura

Lower than average tides (*qv*) associated with quadrature (*qv*) of sun and moon.

nearshore

costero, nerítico

Areas of inner neritic (*qv*) zone.

negative binomial distribution

distribución binomial negativa

A mathematical distribution used to model aggregated or contagiously dispersed populations (*qv*).

negative estuary

estuario negativo

An estuary whose waters have salinities greater than the adjacent sea, as contrasted with a normal estuary of lower salinity (*cf* estuary, neutral estuary).

nekton

necton

Animals capable of maintaining position and even moving against local water currents, *eg* migratory fishes such as tunas.

neontology

neontología

Science dealing with the life of Recent organisms (*cf* paleontology).

neoteny

neotenia

Attainment of sexual maturity in an immature or larval stage.

neotype

neotipo

Taxonomy: A specimen selected as type subsequent to the original description in cases where the original type(s) (holotype, syntype(s)) are known to have been destroyed.

nepheloid layer

capa nefeloide

A turbid layer of ocean water, usually at or near the bottom of the deep ocean, carrying very fine suspended particulate matter.

neritic

nerítico

The coastal zone of the ocean, extending from the shoreline, over the continental shelf, to the shelf break (covers 8% of the total ocean floor). Both benthic and pelagic organisms comprise the neritic flora and fauna.

neritopelagic

nerítico-pelágico

Inhabiting the shallow coastal water column over the continental shelf.

net plankton

plancton de red

General term for planktonic organisms large enough and strong enough to be retained by a net of given mesh size.

net primary production

producción primaria neta

See primary productivity.

neuston

Pelagic organisms in the uppermost surface or near-surface layer of the sea; "euneuston" - organisms with maximum abundance at the surface day and night; "facultative neuston" - concentrate at the surface only during feeding; "pseudoneuston" - reach the surface layers at least during certain hours, but do not exhibit maximum abundance at the surface.

neutral estuary

estuario neutral

A semienclosed body of water with salinity neither substantially higher or lower than the adjacent sea, with which it is connected by a restricted opening (*cf* estuary, negative estuary).

neutralism

neutralismo

Situation in which two species populations coexist with neither population measurably affected by association with the other.

New World Land Barrier

barrera terrestre del Nuevo Mundo

The present barrier to east-west travel/transport/dispersal of tropical and temperate marine organisms imposed by interposition of the North, Central and South American land masses between the Atlantic and Pacific Oceans.

niche

nicho

Ecology: The functional position of an organism in a community including its interaction with all physical, chemical and biological parameters of the environment that impact that position.

niche breadth

amplitud del nicho

Range of resources used by a species in its local situation.

niche diversification

diversificación del nicho

The hypothesis that diversity grows with time in a community as finer and finer division of resources (niches) allows more "packing" of species into a community.

Concomitants are increased species richness (qv), increased equitability (qv) (lower dominance), and a closer approach to an "equilibrium" (qv) view of species composition (*cf* biological accommodation).

niche overlap

superposición de nichos

Joint use of resources or environmental variables by two species - not necessarily related to competition.

niche shift
cambio del nicho

Change in resource use patterns by one species when another species (usually a competitor) is added to or removed from a system.

noctilucent
bioluminiscente
Bioluminescent.

nocturnal
nocturno
Active at night (*cf* diurnal, crepuscular).

node
nodo

(1) Systematics: A branching point in a dendrogram (*qv*).
(2) Biogeography: In vicariance biogeography, the location where two "tracks" (*qv*) (which represent the probable paths of ancestral geographic translocation) intersect (*cf* panbiogeography).

nomen nudum
Taxonomy: Name that as originally published fails to meet all of the mandatory requirements of ICZN and is thus lacking status in zoological nomenclature.

nomen oblitum
Taxonomy: Forgotten name. A name that has not been used in the zoological literature for at least 50 years. Such names, even if available senior synonyms, should not be used without prior ICZN permission.

nomenclature
nomeclatura
Taxonomy: The system of scientific names applied to taxa or the process of application of these names.

nomenifer
Taxonomy: A specimen acting as a name-bearer (*cf* onomatophore).

nominate
nominado
Taxonomy: Used of a subordinate taxon (subspecies or subgenus) containing the type of the higher taxon and bearing the same name.

nomograph
A graph on which temperature and density contours are plotted against salinity for given field data. Used in the depiction of T-S curves (*qv*) and T-S envelopes (*qv*), and for water mass identification and description.

nonconservative property
propiedad no conservativa

Properties of sea water changed *in situ*, not just at major hydrosphere interfaces, by some nearshore and sedimentary processes but mainly by the activities of living organisms. Such properties include alkalinity, nutrient content, organic content, dissolved oxygen content, pH, and the extinction coefficient, among others (*cf* conservative property).

nonparametric statistic
estadística no paramétrica

A so-called "distribution-free" statistic (*qv*), one that does not involve assumptions of an underlying normal distribution, homoscedascity (*qv*) of variances among groups, etc., that are prerequisite to use of parametric statistics such as Analysis of Variance (ANOVA).

normalizing selection
selección normalizante

Stabilizing selection (*qv*).

Northeast Monsoon
See NE Monsoon.

NTSYS (NTSYS-PC)

NTSYS (mainframes), NTSYS-PC (IBM compatible microcomputers). A widely used package of programs for phenetic analyses, developed by J. Rohlf, Exeter Publishing Ltd.

null hypothesis
hipótesis nula

Statistics: The hypothesis that no real difference or association exists between two populations or between observed values and an underlying expected distribution, and that therefore any deviation observed is due to chance alone. Denoted by H_0 .

numerical response
respuesta numérica

Ecology: A change in the number of predators in a predator population as a result of a change in prey density (*cf* functional response).

numerical taxonomy
taxonomía numérica

Phylogeny: Also called phenetics. Grouping is based on relationship defined as unweighted overall similarity. As many characters as practicable are utilized as well as a variety of measures of similarity/distance and grouping algorithms.

nutricline
nutriclina

Zone of rapid change of nutrient concentration with distance (typically with depth).

nutrient

nutriente

Any chemical compound or element in sufficiently short supply that it limits or potentially limits autotrophic productivity and whose addition to a system (under defined circumstances) will enhance that productivity (*cf* biogeochemical cycle, micronutrients, macronutrients).

nyctipelagic

nictipelágico

Pertaining to organisms that migrate into surface waters at night.

O

obex

Any barrier separating populations (obices).

obligate

obligado

Essential; necessary; unable to exist in any other state, mode or relationship (*cf* facultative); *eg* obligate cleaning symbiont.

occidental

Western; westerly (*cf* oriental).

ocean color

color del océano

Division of reflection of visible light from the sea surface into a number of frequency (wave length) bands corresponding to what we perceive as different colors. A number of processes, including biological productivity are closely indexed by color at the sea surface. Detection outside the visible portion of the spectrum, especially in the infrared, may be used in similar fashion.

oceanic

oceánico

The environment of the open sea beyond the neritic zone, *ie* seaward of the shelf break. Both pelagic and benthic components comprise the oceanic environment, although most commonly used with reference to the pelagic system.

oceanic common water

The largest water mass in the world, forming deepwater in the Indian and Pacific Oceans, with mean temperature about 1.5° C and mean salinity about 34.7 ppt.

oceanic island

isla oceánica

A volcanic island formed independently of and never connected to any continental land mass.

oceanodromous
talasódromo

Pertaining to organisms that migrate only within the marine environment (*cf* diadromous, potamodromous).

oceanography
oceanografía

Study of the physics, chemistry, geology and biology of the oceans.

oecesis

See ecesis.

offshore
mar adentro

General term for ocean regions not in close proximity to land (*cf* inshore)

-oidea

Suffix; ending of a name of a superfamily in the zoological literature.

-oideae

Suffix; ending of a name of a subfamily in the botanical literature.

oike

Habitat (*qv*).

Old World Land Barrier
barrera terrestre del Viejo Mundo

The barrier to free interchange of tropical and subtropical marine organisms between the Atlantic and Indian Oceans caused by the interposition of Africa and southwest Asia.

oligomictic
oligomíctico

Applied to lakes that are seasonally stable, only rarely (if at all) exhibiting overturn. True of most tropical lakes with very warm surface waters.

oligotrophic
oligotrófico

Poor in inorganic nutrients, primary production will be nutrient limited even where other conditions for sustained high levels of productivity are favorable. Often applied to the so-called "blue-water areas" of exceedingly low productivity most strongly characterized by the central portions of the subtropical anticyclones. Also applied to poorly productive lakes which are often (in various combinations) temperate, alpine, cold, deep (*cf* eutrophic, dystrophic).

omnivorous
omnívoro

Heterotrophic consumption of live plant and animal material (*cf* carnivorous, herbivore, detritovore).

onomatophore
onomatóforo, portador de nombre

Taxonomy: A nomenclatural type (holotype, syntype, lectotype, neotype, *qv*); a specimen acting as the name bearer (*cf* nomenifer),

ontogeny

ontogenia

The developmental history of an individual organism from egg (zygote, spore, etc.) to adult.

ooze

fango

Fine-grained deepsea sediments (siliceous or calcareous) of biological origin (containing greater than 30% of the naming constituent; *cf* diatom ooze, foraminiferan ooze, *Globigerina* ooze, pteropod ooze, radiolarian ooze).

open net haul

lance con red sin apertura-cierre

A net fished open (lacking or not employing discrete depth sampling capabilities) typically from depth to surface (*cf* discrete depth sampling).

opportunistic species

especie oportunista

Fugitive species (*qv*).

-opsida

Suffix. The ending of the name of a class in the botanical literature.

optimal

óptimo

Most favorable; pertaining to the levels of environmental factors best suited for growth and reproduction (*cf* pessimal, optimal foraging, optimal yield, etc).

optimal foraging theory

teoría de aprovisionamiento óptimo, teoría de forrajeo óptimo

Idea that selection favors prey utilization that maximizes net energy gain per unit of predator feeding time and/or effort.

optimal yield

cosecha óptima

Fisheries: The MSY (*cf* maximum sustained yield) under a given set of environmental conditions.

ordination

ordenamiento

Numerical methods for arranging individuals or attributes along one or more lines. Commonly used in ecology to represent distance in multidimensional space in coordinates of 2 or 3 dimensions (2-space or 3-space).

oriental

Eastern, easterly (*cf* occidental).

orogeny

orogenia

The process of mountain formation.

orthogenesis

ortogénesis

- (1) Evolution of phyletic lines following a predetermined rectilinear pathway, the direction not being determined by natural selection (*cf* directional selection, anagenesis).
- (2) The result of directional selection or "orthoselection" where directionality of selective forces is maintained over evolutionary time.

osmoregulation

osmoregulación

Physiologically, the process whereby marine or freshwater organisms maintain their osmotic balance at an osmotic pressure different than that of the ambient waters (*cf* hyperosmotic, hypoosmotic, isosmotic).

OTU

Operational taxonomic unit. Jargon first put forward by the pheneticists in their search for objectivity, but now used almost universally. Each of the taxa of whatever rank (typically species or genera) that form the elements of an attempt at classification. *N. B.* it takes at least three OTU's to meaningfully discuss taxonomic relationship, however one chooses to define and estimate relationship.

outgroup

Phylogeny: The taxon (taxa) selected for comparison with the study taxon (ingroup) for purposes of developing transformation series hypotheses (basically primitive ==> derived). Use is expressed by the so-called Outgroup Rule: Given two characters (states) that are homologous and found within a single phylogenetic group, the character (state) that is also found in the sister-group (outgroup) is the plesiomorphic state.

outwelling

Enrichment of coastal waters by flushing of nutrient materials from coastal estuaries and embayments (*cf* upwelling).

overdispersion

sobredispersión

A situation where individuals in a population do not occur randomly with respect to one another but exhibit clumping, such that the presence of one is associated with enhanced probability of another nearby (*cf* even, random). In overdispersion samples tend to have either a large number of individuals per sample or none at all (*cf.* Aggregated, dispersion).

overturn

mezcla

Thorough (vertical as well as horizontal) water circulation in the sea or in fresh water, often occurring seasonally, and often caused by density differentials induced by seasonally changing temperatures.

oxygen debt

deficiencia de oxígeno

Physiologically, the result of oxygen being utilized more rapidly (usually through extensive or rapid muscular exertion) than can be replaced by the normal oxygen delivery system. Organisms typically employ various anoxic metabolic mechanisms until the oxygen debt can be repaid.

oxygen deficit layer

See oxygen minimum layer.

oxygen isotope ratio

relación entre los isótopos del oxígeno

The ratio of $^{18}\text{O}_2$ to $^{16}\text{O}_2$, used to estimate temperatures that existed at particular periods in earth history, *eg* from the ratio of these isotopes in fossil marine shells (from the oxygen in the CaCO_3). Enhancement of $^{18}\text{O}_2$ indicates warmer temperatures.

oxygen-minimum layer

capa de mínimo oxígeno

A markedly hypoxic, in some areas thick (hundreds of meters vertically), layer of oxygen poor water, typically between 100 and 1000 m below the surface. Oxygen minimum layers are especially pronounced in the eastern tropical Pacific, the northern Indian Ocean, and the eastern tropical Atlantic.

P, Q

P/B ratio

relación producción/biomasa

Production / biomass ratio. In mass terms the ratio between net primary production and standing stock (living and dead) of autotroph biomass. Typically P/B values are very high for oceanic communities and very low for terrestrial communities such as forests.

Pacific Ocean

Océano Pacífico

Largest of the world's oceans ($179.7 \times 10^6 \text{ km}^2$). It is also (on average) the coldest (3.36° C), deepest (4,028 m) and least saline (34.62 ppt).

paedogenesis

paidogénesis

Heterochrony (*qv*) that results in reproduction by forms that have larval or other immature characteristics.

paedomorphosis

paidomorfosis

Evolutionary change that results in retention of juvenile characters in adults.

paleocirculation

paleocirculación

Pre-existent patterns of oceanic circulation detected by sedimentary, isotopic and fossil analyses, amongst other clues.

paleontology

paleontología

Science dealing with the life of past geological periods, in time preceding Recent (*cf* neontology).

palingenetic

palingenético

Ancestral; of remote or ancient origin.

paludal

palustre

Pertaining to marshes (*cf* helic, palustrine).

palustrine

palustre

Pertaining to wet or marshy habitats. Lentic habitats substantially filled with aquatic vegetation.

panbiogeography

panbiogeografía

Term coined by L. Croizat to describe a new synthesis of plant and animal biogeography. Central features include the recognition of "tracks" (= generalized tracks (*qv*)) and "nodes" (where different tracks intersect). These and other of Croizat's ideas formed the basis for vicariance biogeography (*qv*).

panchestron

An explanation of such ambiguity that it can be taken to explain almost anything.

pandemic

pandémico

Very widely distributed; ubiquitous; cosmopolitan.

Pangea

A single supercontinent which came into being in late Permian times and persisted about 40 million years, until it began to break up at the end of the Triassic Period. Its division resulted in the northern Laurasia (ultimately much of North America, Europe, and Asia) and the southern Gondwanaland (ultimately South America, Africa, south Asia, Australia and Antarctica).

panmixis

Random mating of individuals in a population (as opposed to assortative mating where mate preference based on morphological, behavioral or other features is expressed).

Panthalassa

Pantalasia

The universal ocean surrounding Pangea (*qv*).

pantropical

Circumtropical (*qv*).

paradigm

paradigma

Essentially a large-scale and generalized model providing the current viewpoint from which the real world is perceived and studied. Scientific progress is measured by a succession of reigning paradigms.

paradox of the plankton

paradoja del plancton

Phrase coined by the limnologist G. E. Hutchinson: the observation that recognizable niche axes available to planktonic organisms (especially phytoplankton) appear to be too few to account for existing diversity in light of the competitive exclusion (*qv*) principle.

parallelism

paralelismo

The independent acquisition of similar character states in related evolutionary lines [(*cf* convergence); parallelism and convergence are continuous on a gradient of degree of "relatedness", a concept almost never rigorously defined] (*cf* homoplasy).

parameter

parámetro

Statistics: A characteristic of the distribution of a variable or population, such as the mean or variance, usually denoted by Greek letters (*cf* statistic).

parametric statistic

estadística paramétrica

A body of statistical techniques based on similar assumptions about underlying distributions and properties - normality, homoscedasticity (*qv*) of group variances, etc.

parapatric speciation

especiación parapátrica

(1) Speciation in which geographical isolation between presumptive daughter species (*qv*) is incomplete. In the sea viewed as a consequence of very large species-range sizes with differing selective pressures, due to ecological differences, resulting in discontinuous variation and disruptive changes in characters.

(2) Speciation that occurs despite minor gene flow between demes (*qv*). Selective pressures are sufficiently strong to prevent homogenization of the immigrant genes by interbreeding.

parapatry

parapatría

The condition where populations or species in nonoverlapping distributions make contact without interbreeding.

paraphyletic

parafilético

Phylogeny: (1) An artificial grouping based on symplesiomorphy, ie sharing of primitive character states. (2) Pertaining to a taxon including some but not all descendents of the common ancestor.

parasite

parásito

An organism, usually markedly smaller in size, that gains benefit from another organism, the host, to the detriment of the host.

parasitism

parasitismo

Interaction of species populations where one derives benefits to the detriment (even to the death) of the other. Similar to predation except: (1) it is usually slow (by degree); (2) the species benefiting (the parasite) is often much smaller than the host, living on it or in it; and (3) in many cases the parasite may weaken but not kill the host.

paratype

paratipo

Taxonomy: A specimen or specimens other than the holotype before the author at the time of preparation of the original description of a species and so designated or indicated by the original author. Paratypes have no "name-bearing" status (are not onomatophores (*qv*)) in the ICZN.

parsimony

parsimonia

The search for the simplest explanation not contradicted by the facts. Parsimony is the holy grail of cladistic methodology, one sometimes feels that cladists think they invented it.

particle spectrum

espectro de partículas

Distribution of biomass in different size categories determined by the diameter of a sphere equivalent in volume (*v*) to the original particle multiplied by the number of particles (*n*).

patchiness

agregación

The tendency of many organisms, especially plankton to co-occur in dense swarms or clumps or aggregates (*qv*), or nekton, primarily fish, to co-occur in schools or other aggregations.

pathogen

patógeno

An organism that is the causative agent of a disease. Pathogens are usually microbes (viruses, bacteria, fungi, etc.).

pathway

ruta, camino, vía

Possible route or path by which organisms were distributed or spread; synonymous with corridor (*qv*) or "track" (*qv*) (*cf* barrier, node).

patristic distance

distancia patristica

A measure of the amount of genetically determined change that has occurred between any two points of a phylogenetic tree (*cf* cladistic distance, phenetic distance).

pattern

patrón, modelo

Dispersion (*qv*) or distribution of organisms, materials or phenomena in space and/or time.

PAUP

Phylogenetic Analysis Using Parsimony (PAUP). A widely used package of computer programs for phylogenetic analysis, developed by D. Swofford, Illinois Natural History Survey.

PCA

See principal components analysis.

pedonic

Pertaining to an inhabitant of the bottom community of a freshwater lake.

pelagic

pelágico

- (1) In aquatic systems applied to organisms, materials or processes found in the water column, removed or essentially so, from influence by contact with the bottom or the nearshore.
(2) In ornithology, applied to seabirds that come to land only to breed.

pelagic biogeography

biogeografía pelágica

Study of the distribution of pelagic (*qv*) organisms incorporating both historical and ecological approaches to biogeography.

pelagic clupeoid

clupéido pelágico

A member of the fish families Clupeidae or Engraulidae inhabiting pelagic coastal systems. Certain species are very important in the ecology and fisheries of major eastern boundary current ecosystems. In many important respects pelagic clupeoids exhibit parallels in their ecology with some important mesopelagic fish groups.

pelagic region

región pelágica

A biogeographically definable subdivision of the global pelagic environment.

pelagium

pelagobios

A sea-surface community of the open ocean (*cf* neuston).

pelochthium

A mud-bank community.

penetrance

penetrancia

Genetics: The proportion of individuals of a specified genotype who manifest that genotype as phenotype under a defined set of environmental conditions.

perigean tides

mareas de perigeo

The tides (*qv*) of increasing amplitude occurring at the time when the moon is nearest the earth.

periodicity

periodicidad

Events exhibiting cyclicity, recurring either regularly (predictably) or irregularly.

periphyton

perifiton

Organisms attached to or clinging to stems and leaves of plants or other objects projecting above the bottom sediments of freshwater ecosystems.

perturbation

perturbación

Any disturbance. Physical, chemical or biological in origin, a perturbation produces measurable change in a community. The permanent effects of perturbation on a community, if any, are the subject of equilibrium vs nonequilibrium models of community structure.

pessimal

pésimo

Least favorable; used to refer to values of environmental factors that are close to the tolerance limits of the organism, farthest from the optimal (*qv*).

pesticide

pesticida

Any material, usually a chemical of human manufacture, that is used against undesirable organisms (generally animals referred to in the vernacular as pests (*qv*)).

pest

plaga

Any organism, usually an animal, with undesirable characteristics from the human perspective.

- phagous

Suffix; meaning feeding on, eating; *eg* ichthyophagous, saprophagous, scatophagous, etc.

phaoplankton

epiplankton superficial

The surface plankton (*qv*) of the upper photic zone, within the top 30 m of the water column.

phenetic distance

distancia fenética

A measure of the difference in phenotype between any two points on a phylogenetic tree (*cf* cladistic distance, patristic distance).

phenetics

fenética

Phylogeny: Estimation of relationship by calculation of an overall, unweighted similarity value; a purely typological (*qv*) approach to determining and expressing "relationship" (*cf* cladistics, evolutionary systematics).

phenocopy

fenocopia

An environmentally induced phenotypic variant that resembles the effect of a known genetically-based variant, *eg* from gene mutation.

phenocritical period

período fenocrítico

That phase during development at which the expression of a gene is most easily or visibly affected by externally applied factors.

phenogram

fenograma

A dendrogram (*qv*) expressing phenetic relationship (unweighted overall similarity) (*cf* cladogram).

phenology

fenología

The study of the impact of climate on the seasonal occurrence of floral and faunal elements.

phenon

fenón

A sample or group of phenotypically similar organisms; used in numerical taxonomy to replace the term "taxon".

phenotype

fenotipo

The totality of expressed characteristics of an individual (whether observed or measured), as a result of interaction between the genotype (qv) and the environment (*cf* ecophenotypic).

phenotypic plasticity

plasticidad fenotípica

The capacity for marked variation in phenotype as a result of environmental influences on expression of the genotype during development.

philopatry

filopatría

(1) The tendency of an individual to return to or stay in its home area.

(2) The tendency of members of a stock (qv) or population to return to the natal breeding/spawning grounds to reproduce as in salmon or Atlantic herring.

- philous

Suffix; meaning loving, thriving in; *eg* dendrophilous, helophilous, pelagophilus.

phoresy

foresis

Method of dispersal in which an animal clings to the body of a much larger animal of another species and is carried some distance before releasing its grasp.

photic zone

zona fótica

Zone in which organisms exhibit behavioral or physiological response to day/night changes in light level. (*cf* euphotic).

photoperiodism

fotoperíodo

The response of an organism to periodic often rhythmic changes in either the intensity of light, or, more usually, to increasing or decreasing daylength.

photophore

fotóforo

Luminous organ - a discrete morphological structure which contains all of the necessary chemistry for bioluminescence, normally neuronally controlled - found in a variety of deepsea (and some coastal marine) fishes and other organisms.

phototrophic
fototrófico

Of or pertaining to organisms that obtain their energy from light reactions; autotrophs (*qv*) (*cf* chemotrophs, heterotrophs).

phototropic
fototrópico

Tropic response (directional orientation and/or movement) of an organism to the stimulus of light; also termed heliotropic (*qv*) in more direct reference to the sun.

phreatic
freático

Pertaining to ground water.

- phyceae

Suffix; the ending of a name of a class in botanical nomenclature.

- phycidae

Suffix; the ending of the name of a subclass in botanical nomenclature.

phycocoenology
ficocenología

Study of algal communities.

phyletic gradualism
graduismo filético

New species (forms, series, taxa) arise over time through gradual and continuous phyletic transformation, believed to proceed at a slow and constant rate; (*cf* anagenesis).

phylogenetic tree
árbol filogenético

Dendrogram (*qv*) representing a hypothesis of phylogeny (*qv*).

phylogeny
filogenia

Evolutionary relationships within and between taxonomic levels, especially the patterns of lines of descent.

physics
física

Oceanography: Applies to physical oceanography and oceanographers ("physicists"). Essentially the study of the forcing functions (*qv*) helping to explain dynamic processes in the oceanic hydrosphere and the distribution of oceanic physical properties (temperature, light, pressure, flow fields, etc).

physiognomy
fisionomía

- (1) Ecology: The form and structure of natural communities.
- (2) Systematics: The body form and appearance of individual organisms.

physiological ecology

ecología fisiológica, ecofisiología

The study of the functioning of organisms in relationship to their environment.

phytobenthos

fitobentos

Autotrophic benthic organisms.

phytogeography

fitogeografía

The biogeography of autotrophs, especially plants. This branch of biogeography is also known as floristics.

phytoplankton

fitoplancton

Autotrophic (cyanobacteria, protists, plants) plankton (*qv*).

phytosociology

fitosociología

Description of plant communities, especially their classification based on floristic rather than life form or other physiognomic criteria.

phytotelmic

fitotélmico

Used of organisms that inhabit small pools of water within or upon plants (phytotelmata).

picoplankton

picoplancton

Plankton (*qv*) with maximum dimensions on the order of 0.2 - 2.0 microns

pioneer

pionero

Ecology: The first species or assemblage to colonize or recolonize a barren or disturbed area, thereby commencing a new ecological succession.

plagio -

Prefix meaning oblique, as in plagiotropism, an orientation response at an oblique angle to the vertical.

planetic

Motile; possessing motile or swarming stages.

plankter

plancter

An individual planktonic organism; phytoplankter; zooplankter.

plankton

plancton

Pelagic organisms incapable of maintaining their distribution against the movement of water masses (*cf.* nekton). Commonly viewed as passive drifters although many are capable of considerable vertical migration.

plasticity

plasticidad

The capacity of an organism to vary morphologically, physiologically or behaviorally in response to environmental fluctuations.

plate tectonics

tectónica de placas

Unifying concept encompassing continental drift (*qv*), seafloor spreading, and other major dynamic geophysical process including volcanism and seismic events. The concept is one of a lithosphere of rigid plates of crust and upper mantle material "riding" upon a deformable æsthenosphere. The driving force is presumed to be heat derived through decay of radioactive elements within the earth.

pleio -

Prefix meaning more.

pleiotropy

pleitropía

The phenomenon of a single gene being responsible for a number of different phenotypic effects.

plenary power

Taxonomy: The authority of the ICZN to suspend the provisions of the Code.

plesiomorphous

plesiomórfico

Phylogeny: Primitive (ancestral) state of a character (as opposed to apomorphous (*qv*) or derived)(*cf* derivative).

pleuston

Organisms permanently found at the sea surface, limited to the surface by their own buoyancy, often or typically extending into the air, and subject to wind drift (*eg Sargassum, Physalia, Velella*).

pluvial

- (1) Pertaining to or resulting from the action of rain or precipitation.
- (2) Used of a geological period or of a climate characterized by abundant rainfall.

POC

COP

Particulate organic carbon. Nonliving detrital suspended material in seawater, part of the seston (*qv*), which also includes living particulate matter (*cf* DOC).

poikilo -

Prefix meaning various, variable.

poikilosmotic

poiquiloscsmótico

Refers to organisms that do not exhibit regulation of internal salt/fluid content relative to the external milieu over the range of conditions specified; osmotic conformers.

poikilotherm (ectotherm)

poiquilotérmico

Organism that regulates body temperature by behavioral means only, if at all. In the vernacular termed "cold-blooded" (*cf.* homoiotherm).

polar

polarOceanic zone, at high latitudes, where sea surface temperatures exhibit an annual excursion from below 0°C to about 5° C.

poly -

Prefix meaning many.

polygamy

poligamia

In animals a pattern of mating in which an individual has more than one sexual partner (includes polyandry and polygyny).

polygenic character

caracter poligénico

Quantitatively variable character (as expressed phenotypically) which is the result of interaction of a number of genes.

polyhaline

polihalino

(1) euryhaline (*qv*).

(2) The second most saline zone of an estuary based on the Venice System (*qv*) of classification of brackish waters.

polymictic

polimíctico

Applied to lakes where waters are circulating (overturning) virtually continuously (*eg* in high altitudes in the tropics).

polymorphism

polimorfismo

The existence of two or more forms (differing in phenotypic expression) that are genetically distinct but contained and maintained within the same interbreeding population.

polynya

polinya

An expanse of open water in the middle of sea ice, often permanent or semipermanent.

polyphyletic
polifilético

Phylogeny: An artificial grouping of taxa based on homoplasy (*qv*), convergently acquired apparent synapomorphy (*qv*), but not true synapomorphy.

polyploidy
poliploidía

Genetics: A condition in which the number of chromosome sets in the nucleus is a multiple (greater than 2) of the haploid numbers.

polythetic
politético

A taxon of whatever rank that is not uniquely diagnosed by one or more autapomorphic (*qv*) character states but is defined by a combination of character states, a large proportion of which occur in most of the members but no single feature is uniquely possessed by all of the members.

polytopic
politóptico

Occurring in many localities or geographic areas (*cf* monotypic, syntopic).

polytypic species
especie polítípica

Divided into subspecies or genetically distinct populations, varying geographically (*cf* monotypic species).

polytypy
politípia

The occurrence of phenotypic variation (*cf* phenotype) between populations or subgroups within a species that are geographically distinct. The main problem in studying the variation between such groups is distinguishing between ecophenotypic (*qv*) *vs* underlying genetic difference.

pontic
póntico

Pertaining to the deep sea.

pool
existencia

Ecology: The total or partial quantity of a component, compound, material, etc. (*cf* active pool, reservoir pool).

population
población

An infraspecific subdivision: an assemblage of organisms regarded as members of the same species, differing from other such assemblages, if any, in relatively panmictic gene exchange and in local differentiation. Unrigorously defined in most cases, the concept of population lies on the continuum between deme (panmictic) and species (reproductively isolated from other species) (*cf* stock).

population biology
biología poblacional

The intersect of population ecology (qv) and population genetics (qv).

population ecology
ecología poblacional

The study of populations (qv) in an environmental context, ie the study of physical and biological environmental parameters and their effects on the growth, age-structure and reproduction of populations.

population genetics
genética poblacional

The study of gene frequencies and selection pressures in populations.

population structure
estructura poblacional

The age and sex composition of a population, principally products of survivorship (l_x) and age-specific fecundity (m_x).

positive estuary
estuario positivo

A "normal" estuary (qv) whose waters are of lower salinity than the adjacent sea (*cf* negative estuary, neutral estuary).

post -

Ecology: The total or partial quantity of a component, compound, material, etc. (*cf* active pool, reservoir pool).

Prefix meaning after, behind, succeeding, later than.

potamodromous
potamódromo

Reproductively migrating from a lake or lentic body of freshwater into a tributary stream or lotic body of freshwater, *eg* sea lamprey stocks in the North American Great Lakes.

potamoplankton
potamoplancton

Planktonic organisms of slow-moving rivers and streams.

potamous
potámico

Pertaining to the lower reaches of rivers and streams

potential niche
nicho potencial

See fundamental niche.

pre -

Ecology: The total or partial quantity of a component, compound, material, etc. (*cf* active pool, reservoir pool).

Prefix meaning before, in front of, prior to, earlier than.

preadaptation

preadaptación

Adaptation (*qv*) evolved in one adaptive zone (*qv*) (habitat, environment) which proves fortuitously advantageous in a different adaptive zone, allowing the organism to radiate into it. No selection for the alternate adaptive zone is implied.

precedence

precedencia

Taxonomy: The order of seniority of available names or nomenclatural acts.

precocial

precoz

Used of offspring or species that develop rapidly in obtaining independent self-maintenance (*cf* altricial).

predation

predación

Interaction between species populations in which one organism, the predator, obtains energy (as food) by consuming, usually killing, another organism, the prey. Almost always refers to the consumption of one animal by another (*cf* grazing).

predator

pradador

The consumer in predation (*qv*) coaction (*qv*).

preferential species

especie preferencial

A species that is present in varying abundance in several communities (*cf* Braun-Blanquet classification), but especially abundant in one particular community (*cf* accidental, exclusive, indifferent, or selective species).

prey

presa

The consumed in predation (*qv*) coaction (*qv*).

primary production

producción primaria

The autotrophic fixation of carbon dioxide by photosynthesis, expressed as a rate per unit volume or per unitary area of sea surface per unit time. (typical oceanic units: mg-C/m²/day or g-C/m²/year). Gross primary production is rate of carbon fixation per unit volume per unit time. Net primary production is gross primary production minus respiration, and represents the fraction of captured and converted energy available for population growth of the autotroph and for herbivore consumption.

primary succession

sucesión primaria

Succession initiated on a newly-produced bare area, with no living remnants of a previously-existing community (if any) (*cf* secondary succession).

primitive

primitivo

Phylogeny: Preserving the character state(s) of an ancestral stage (taxon). The term may be applied to a single character (as a synonym of plesiomorphic) or to the whole organism or to a taxon.

primordial

Primitive; original; used of the earliest stage in the ontogeny or development of an organ or system.

principal component analysis (PCA)

análisis de componentes principales (ACP)

A method of transforming the axes of multidimensional space in which observations occur such that the first axis explains the maximum amount of variance; the second axis (orthogonal to the first) explains the maximum of the remaining variance, and so on. The first 2 or 3 axes explain most of the variance.

pro -

Prefix meaning before, in front of, forward.

probability

probabilidad

Statistics: The chance that a given event will occur. The probability of an impossible event is zero, the probability of an inevitable event is unity (ie $0 \leq p \leq 1$).

production

producción

See primary productivity, secondary productivity.

profundal

de profundidad

Pertaining to the deep zone of a lake, below the level of effective light penetration.

progression rule

regla de la progresión

In cladistic biogeography (*qv*), the idea that, in general, the most plesiomorphous (*qv*) members of a monophyletic lineage will be found in that area at or closest to the area of origin of the group, the most apomorphous (*qv*) will be found in those areas most distant.

prolific

prolífico

Abundant; able to produce large numbers of offspring.

promunturium

A rocky seashore community.

pros (pro) -

Prefix denoting the positive condition.

prospective

potencial, posible, probable

Potential; possible; probable (*cf* realized).

protandry

protandria

Sequential hermaphroditism in which individuals are initially functional as males and later switch to being functional females.

protocooperation

protocooperación

An interaction of species populations (*qv*) in which both populations benefit but neither is dependent on the relationship (*cf* mutualism, amensalism, commensalism).

protogyny

protoginia

Sequential hermaphroditism in which individuals are initially functional as females and later switch to being functional males.

provenance

origen

Biogeography: The place of origin.

province

provincia

See biogeographical province.

provincialism

provincialismo

See endemism.

psamathium

A strandline community of a sandy seashore.

psammon

The microscopic flora and fauna of interstitial species between sand grains.

pseudo -

Prefix meaning false.

pseudo-oceanic

pseudo-oceánico

Species that are members of otherwise pelagic and oceanic groups that are obligatory or facultative in their strong association with bottom communities. Commonly associated with continental slopes or island margins.

pseudopelagic

pseudopelágico

Synonym of pseudo-oceanic (*qv*).

pseudoplankton

pseudoplancton

Organisms not normally planktonic occurring accidentally in the pelagic realm (*cf* tychopelagic) .

pseudovicars

pseudovicariantes

"Ecologically equivalent species" (*qv*); Unrelated or distantly related but ecologically equivalent species occupying separate and disjunct geographic areas.

pteropod ooze

fango de pterópodos

Calcareous deepsea biogenic fine-grain sediment in which at least 30% of the sediment consists of shells / shell fragments of the small planktonic gastropods known as pteropods.

pulsed forcing

Forcing functions (*qv*) which cycle off and on (or weaken / intensify) in cyclic or rhythmic progression, *eg* the effects on ocean circulation of seasonally occurring monsoonal wind fields.

punctuated equilibria

equilibrio puntuados

Evolution of new species (forms, varieties, taxa) concentrated in very rapid events, considered nearly instantaneous in terms of geologic time.

pycnocline

picnoclina

Zone of rapid change of density per unit distance (usually vertically).

pyramids

pirámide

So-called Eltonian pyramids (*qv*) depict material/energy flow in a community. Commonly cited transfer rates (producer ==> herbivore ==> carnivore, etc) center on 10%, with the rest expressed as entropy or transferred to the decomposer chain (*cf* inverted pyramid).

Q-mode

modo Q

Methods for analyzing data in which the observations (N) (records) form the columns and the variables or attributes (n) (fields) form the rows in a table or matrix (*cf* R-technique).

quadrat

cuadrado

A delimited area for sampling flora or fauna, usually placed randomly, haphazardly or arbitrarily within the study area. A one meter square frame is a typical size. Quadrat may also refer to the physical sampling frame itself.

quadrature

cuadratura

The time at which the sun and moon are approximately at right angles with respect to the earth, associated with neap tides (*cf* syzygy).

qualitative

cualitativo

Descriptive, non-numerical.

quantitative

cuantitativo

Numerical; based on counts, measurements, ratios or other values.

quantum evolution

quantum evolutivo

A "burst" of evolution (*cf* punctuated equilibria).

quiescent

quiescente

Being quiet, still, or at rest; inactive.

Q10

Ratio of the speed of a reaction at a given temperature to that of the same reaction at a temperature 10° C lower. This ratio is approximately 2.0 for most biological reactions.

R

r vs K

Basic terms of the exponential (*qv*) and (K) logistic (*qv*) models of population growth. In ecology a common oversimplification is an attempt to categorize species as either "r-selected" or "K-selected" (*qv*).

R-MODE

modo R

Methods for analyzing data in which the observations (N) (records) form the rows and the variables or attributes (n) (fields) form the columns in a table or matrix (*cf* Q-technique). This is the more typical method of data organization.

r-selection

selección r

Selection for maximizing the intrinsic rate of increase of an organism (*r*), so that when favorable conditions occur, *eg* dispersal into a newly opened habitat, the species is able to expand its numbers rapidly to colonize the area (*cf* K-selection).

R-strategist

R-estratega

An r-selected species (*cf* r-selection; C-S-R triangle).

race

raza

Interbreeding group of individuals genetically distinct from the members of other such groups of the same species. Usually these groups are geographically isolated (*cf* allopatry) from one another so that there are barriers to intergroup gene flow.

radiation

radiación

(1) Ecology: any portion of the electromagnetic spectrum impacting life.

(2) Evolution: The evolution of many different forms with many different adaptations within a single lineage (*cf* adaptive radiation).

radiolarian ooze

fango de radiolarios

Siliceous deepsea fine-grain sediment in which at least 30% of the sediment consists of tests of the protists known as radiolarians.

rafting

Passive transport of organisms by solid nonliving objects, ranging from rafts of floating, downed vegetation at the sea surface to transport of entire floras and faunas via continental drift.

random

al azar, aleatorio

A pattern of distribution where individual organisms are sparse in relationship to the total area (volume) and in relationship to the total number of samples, and where every possible sample locality has the same (low) probability of being occupied by the organism. In other words capture or noncapture in one sample is nonpredictive of capture or noncapture in a second sample from the same area. This distribution is well-approximated by a Poisson Distribution (*cf* even, aggregated)

random assemblage

conjunto aleatorio

The concept that a community (*qv*) of organisms is found together on a random basis (*cf* superorganism concept).

random numbers

números aleatorios

Statistics: A table of numbers in which the probability of any number occurring at any one time is constant and independent of all preceding numbers.

range

área

The particular area occupied by an organism or group of organisms or included within its (their) ambit (*qv*).

rank

rango

A product of ordinal scaling (*cf* scale), the assignment of relative position (first, second, third, fourth,..., last) irrespective of absolute quantitative difference.

rank-abundance

rango de abundancia

Relative abundance of organisms within a community ordered by rank, with the most abundant species assigned rank=1, the next most rank=2, and so forth. A common measure of community similarity in open ocean studies involves comparisons of rank-abundance.

rare

raro

- (1) Very seldom occurring; typical sampling distribution fits a Poisson.
- (2) Refers to a species known to exist in a community but that is often absent from a series of samples from that community.

Rassenkreis

circulo de razas

A polytypic species, especially when the populations are naturally arranged in a zonal or meridional trend line, reflecting gene exchange and/or barriers thereto.

realized

realizado

Actual or observed (*cf* prospective).

realized niche

nicho realizado, nicho efectivo

Ecology: The actual constraints under which an organism operates - negative coaction such as competition or predation, suboptimal physical environmental conditions, etc. - ensure that the niche (*qv*) in which the organism operates in the real world has less breadth (*qv*) than that in which it could operate if the only limits were its own physiological tolerances and intraspecific interactive effects (*cf* fundamental niche).

realm

zona, área

Major biogeographic region, *eg* Nearctic, Ethiopian (terrestrial); Antarctic, tropical or equatorial (marine). Also used for major ecological regions (*eg* pelagic, oceanic).

recapitulation

recapitulación

Heterochrony (*qv*) that results in the appearance during ontogeny of development mirroring presumed rectilinear evolutionary change in a lineage.

recruitment

reclutamiento

Fisheries Biology: First appearance of individuals of a fishable stock in the fishery - younger individuals are not taken due to size or location or both.

rectilinear

rectilíneo

Used of growth or movement that follows a straight line trajectory, also orthogenesis (*qv*).

recurrent group

grupo recurrente

A group of species that consistently co-occurs in samples from an environment, area or community. Consistency of co-occurrence is determined by pairwise calculation of similarity indices using presence/absence data from field samples.

red clay

fango rojo

A pelagic (oceanic) sediment containing less than 30% material of biogenic origin (*cf* ooze); extremely fine clay mineral particles, accumulating very slowly, typically underlying the most oligotrophic areas of the subtropical anticyclones, covering about 38% of the deep ocean floor.

red tide

marea roja

A marked bloom of aquatic plants, protists or procaryotes; typified by dinoflagellate blooms discoloring the water a reddish brown coloration, often with concomitant production of toxins and bioluminescence phenomena. (*cf* milky seas)

reducers

reducidores

Ecology: Organisms, principally bacteria, that gain nutrition chemolithotrophically in anoxic environments using principally nitrate or sulfate ions as electron receptors, thereby reducing those compounds (*eg* denitrifying bacteria , sulfate-reducing bacteria).

refugium

refugio

Small isolated area where extensive changes in environmental conditions, most typically changes in climate, have not occurred. Plants and animals formerly widespread in the region now find a refuge from the new and unfavorable conditions in such an unaltered location. Alternatively an area or environment in which a species otherwise displaced by competitive exclusion survives.

region

región

See biogeographical region or realm.

regression

regresión

Paleontology/ historical geology: the withdrawal of the sea from a land area (*cf* transgression).

relationship (phylogenetic)

relación (filogenética)

- (1) Evolutionary systematics: the relative closeness of two taxa in an evolutionary sense.
- (2) Cladistics: two taxa are each others closest relative (sister taxa) if and only if each shares with the other a more recent common ancestor than does either with any other taxon.

relictual distribution

distribución relictual

Applied to the distribution of organisms or taxa, perhaps formerly widespread, now surviving in a fraction of their former range or in an environment generally more specialized or less favorable than previously occupied.

remote sensing
monitoreo remoto

Use of aircraft, spacecraft, satellites, and other platforms to detect from afar electromagnetic cues (typically involving sensing of light, heat, uv emissions or reflections) concerning environmental conditions at the sea or land surface.

reproductive potential
potencial reproductivo

Population biology: the expected average per capita production of offspring per female.

reservoir pool
fondo de reserva

In the biogeochemical cycle, that portion of the nutrient or active substance that is not actively in exchange but may be available to the organisms involved (*cf* active pool).

residence time
tiempo de residencia

A measure of the chemical or biological reactivity of a substance in seawater and its rate of removal (typically to the sediments). Residence time is the ratio of the input/output flux of the material (assumed to be in equilibrium) to the total amount.

resilience
resiliencia

Ecology: A stability metric, the rate at which a community or ecosystem returns to an original state following a perturbation (*cf* fragility).

resource partitioning
partición de recursos

Subdivision of a resource between or among coexisting organisms, often assumed to be related to or the result of competition.

reticulate evolution
evolución reticulada

Creation of a network of closely related taxa within and at the species level, particularly by chromosome doubling or by polyploidy.

reverse vertical migration
migración vertical inversa

Diel vertical migration (*qv*) in which the shallowest depths are occupied during hours of daylight, the deepest depths are occupied during hours of darkness, best exemplified by dinoflagellates.

rheo -

Evolution of new species (forms, varieties, taxa) concentrated in very rapid events, considered nearly instantaneous in terms of geologic time.

Prefix meaning current, flowing.

rheology
reología

That aspect of limnology devoted to the study of lotic (*qv*) systems.

rheotaxis

reotaxis

Change in orientation or direction of movement associated with the stimulus of a current, usually a current of water.

rhithrous (rhithron)

ritron

Pertaining to the upper reaches of a stream or river.

rhoium

A creek community.

rhyacium

comunidad de torrente

A torrent community.

ribbon distribution

distribución en banda

In the sea a distribution in which the variance of two of the three possible Cartesian coordinates (latitude, longitude, depth) is much restricted compared to the third, *eg* the upper slope benthic and pseudoceanic (*qv*) groups of species, with relatively narrow bathymetric (and therefore usually narrow inshore to offshore) limits. Usual sense is bathymetric restriction.

riparian

ripario

Pertaining to, living or situated on, the banks of rivers and streams.

rhithron

ritron

Of or pertaining to the organisms that inhabit a fluvial (*qv*) habitat.

riverine

fluvial

Pertaining to a river; formed by the action of a river.

rooted tree

Cladistics: usually involves a numerical method of determining the most parsimonious tree (branching sequence) based on evidence of (or assumptions about) character state polarity (ancestral ==> derived).

rough fish

Fisheries biology: vernacular term for a species of finfish (*qv*) of little or no commercial value.

ruderal species

See R-strategist.

rule of deviation

regla de la desviación

Cladistics: An essential tenant in cladistic methodology as espoused by Hennig and Brundin: in dichotomous splitting (cladogenesis) one daughter species will be relatively plesiomorphous (*qv*), the other relatively apomorphous (*qv*).

S

S-strategist

estratega S

Within the C-S-R triangle (*qv*) a species with small body size, slow growth, long to very long life span, low dispersal capability, strong physiological tolerance to environmental stress, devoting a small proportion of its metabolic energy to the production of offspring - a stress tolerant species.

salinity

salinidad

A measure of the total concentration of dissolved salts in sea water. More precisely the total amount of dissolved solids in parts per thousand (ppt) by weight when all the bromide and iodide has been converted to chloride, all the carbonate to oxide, and all organic matter completely oxidized (*cf* chlorinity). SI units for salinity: kg/m³.

salsuginous

Pertaining to or living in coastal habitats episodically inundated by salt or brackish water.

salt lake

lago salado, lago hipersalino

An inland water body having a high salinity due to loss through evaporation, not drainage.

salt marsh

marjal salino, marisma salina, ciénaga salina

A flat poorly drained coastal swamp typically inundated by high tides.

saltation

saltación (evolución saltatoria)

- (1) Evolution: A drastic and sudden mutational change; an abrupt evolutionary change; macrogenesis.
- (2) Behavior: To move by leaping or bounding.
- (3) Geology: The bouncing movement of sand grains advected by winds.

sapro -

Prefix meaning rotten, decaying.

sapropel

sapropel

Term applied to organisms inhabiting muds rich in decaying organic matter (sapropelic).

saproplankton

saproplancton

Saprophagous plankton, feeding on nonliving particulate materials in the water column (*eg Noctiluca*).

saturation

saturación

(1) Ecology: No more room, full utilization of available resources. Based on the notion that in any closed system in equilibrium all of the net energy produced is utilized by consumers and decomposers for there to be a balanced energy budget. Seen as true for individual species as well as the whole assemblage. But almost no system is truly closed which begs the question of how species K or community "K" might be determined. In fact populations and communities probably seldom reach equilibrium although in very K-selected species in K-selective environments (highly stable and/or predictable), it may be approached.

(2) Meteorology: A condition in which air at a specific temperature contains all the water vapor it can hold; 100 percent relative humidity.

(3) Physics: Vividness of hue of color; degree of difference from a gray of the same lightness or brightness. Also called intensity.

scale

escala

The system of measurement and expression of a variable. Scale systems commonly employed in biology include: (1) ratio scale (true zero, *eg* length, mass, time); (2) interval scale (constant interval, no true zero; *eg* Celsius or Fahrenheit temperature scales); (3) ordinal scale (ranked values; relative not absolute quantitative difference); (4) nominal scale (coded; qualitative; *eg* male *vs* female, red *vs* blue, etc.)

scattering layer

capa difusora

An acoustically dense or opaque layer of organisms in the pelagic water column detected by back-reflection of a transmitted acoustic impulse (*cf* deep scattering layer).

scavenger

detritívoro

An animal that feeds on dead or decaying matter.

school

cardúmen

An aggregation of marine or freshwater organisms, usually nektonic fish, exhibiting coordinated (and related) movements.

sea bird

ave marina

Birds which spend most of their lives at sea, deriving virtually all of their food resources from the marine environment; possessing salt glands allowing drinking of sea water and processing of ion-rich food. True sea birds are limited to four avian orders: Sphenisciformes, Procellariiformes, Pelecaniformes, and Charadriiformes (true sea birds are much in the minority in the latter order).

secondary production

producción secundaria

The production (*cf* primary production) of herbivores, or of herbivores and carnivores, in a community food web.

secondary succession

sucesión secundaria

Succession initiated by the disruption of a previously existing seral or climax community by a major perturbation, leading to marked change in community structure, usually initially expressed as greatly reduced diversity (*cf* primary succession).

seiche

seca

A standing wave oscillation of an enclosed or partially enclosed water body that continues after the cessation of the original generating force (*eg* wind or other meteorological condition).

selection

selección

Evolution: Differential survival of genotypes. Process that determines through action upon and through differential fitness (*qv*) the relative proportion of different genotypes within a population (*cf* stabilizing selection).

selective species

especie selectiva

A species found most frequently in a particular community (*cf* Braun-Blanquet classification), but also present occasionally in other communities (*cf* accidental, exclusive, indifferent, or preferential species).

selfing

autofecundación

Self-fertilizing or self-pollinating; usually used in reference to flowering plants.

semelparity

semelparidad

Organism which breeds but once during its reproductive lifetime (*cf* iteroparity).

semestrial

semianual, hemianual

Pertaining to periods of six months; half-yearly.

semi -

Prefix meaning half or partly.

semi-enclosed system

sistema semi-cerrado

A system with restricted but still open access to a usually much larger outside system or reservoir, *eg* an estuary (*qv*) as classically defined.

semidiurnal tide

marea semi-diurna

A tidal cycle exhibiting two high water and two low water periods each lunar day.

semispecies

semi-especie

Group of organisms that are taxonomically or functionally intermediate between a race (*qv*) and a species (*qv*).

senescence

senescencia

The complex deteriorative processes that terminate naturally the functional life of an organ or organism; aging.

sensitive organisms

organismos sensitivo

Organisms whose biology, physiology, behavior, etc., are markedly changed by relatively minor environmental changes. [Obviously a highly subjective term.]

sensu

Latin, ablative, meaning "in the sense of." Used in expressions such as *sensu lato* (*qv*) as well as in phrases such as *sensu* Van der Spoel 1982, meaning in the sense used or meant by Van der Spoel in the 1982 work referenced.

sensu lato (s. l.)

Taxonomy: In the broad or wide sense, when speaking of a taxon meaning in the broadest possible interpretation (usually of the contained OTU's of that taxon).

sensu stricto (s. s.)

Taxonomy: In the strict sense, the narrowest or most rigid interpretation of a taxon (usually in terms of its contents, *cf sensu lato*).

seral stage

estado seral

Phase in the sequential development of a climax community (*cf* succession).

sere

(1) Developmental biology: Characteristic sequence of developmental stages occurring in succession.
(2) Ecology: Of a habitat, severe, usually tolerable only to a few highly-adapted organisms (eg extreme desert, bare rock, arctic-alpine).

series

serie

Taxonomy: The sample (usually of a given taxon) which the collector takes in the field or the sample of the taxon available for taxonomic study.

serotinal

estival tardío

Pertaining to late summer.

sessile

sésil

Applied to an organism fixed in position, attached, unfree to move about (*cf* vagile).

seston

The total weight of all particulate materials in sea water, both living and non living, that can be collected on a filter of specified pore size (eg 0.45mm).

shelf break

borde de plataforma

The outer edge of the continental shelf; the zone of interface between the continental shelf and the continental slope.

shellfish

mariscos

See finfish vs shellfish.

sial

The granitic lighter layer of crust, associated with continents, containing relatively high concentrations of silica and aluminum, (*cf* sima).

sibling species

especie gemela

Pairs or groups of closely related species which are reproductively isolated but morphologically identical or nearly so (synonym: "cryptic species")

sidereal day

día sidéreo

The mean time taken for one rotation of the Earth; each year comprises 365.256 sidereal days.

signal

señal

Oceanography: Widely-used jargon, meaning an environmental (physical, chemical, biological) cue or forcing function (*qv*) eliciting an observed response.

sill depth

profundidad umbral

Water depth of the deepest channel connecting an oceanic basin to another or to the global ocean beyond.

sima

The layer of the earth's crust lying below the sial, denser, associated with the deep ocean floor, composed of basaltic rocks rich in silica and magnesium (*cf* sial).

sink

reservorio, depósito

A buffering reservoir; any large reservoir that is capable of absorbing or receiving energy or matter without undergoing significant change.

sister group

grupo hermano

Cladistics: Two OTU's that are hypothesized to be the immediate product of cladogenesis.

A sister group is therefore the OTU (*qv*) sharing a more recent common ancestor with the OTU of reference than does either OTU share with any other taxon. Cladistics is for the most part the search for sister groups. Cladistical procedure requires that such groups be assigned the same (coordinate) rank.

skewness

asimetría

Statistics: One measure of departure of a frequency distribution from a normal distribution, involving an asymmetric distribution of values around the mean (*cf* kurtosis).

slack water

estoa

An interval of low velocity tidal current, usually the period of reversal between ebb and flow.

slick

An aggregation of floating matter resulting in reduced wave activity and a smooth and shiny water surface.

slime

moco, sustancia mucosa

(1) A thick, sticky, slippery substance.

(2) A mucous substance secreted by certain organisms (*eg* various bacteria produce extracellular mucopolysaccharides).

Slope Water

agua de talúd

Discrete water mass region off eastern North America, a transition zone (*qv*) bound by the 15° C isotherm contour at the 200 m surface and the edge of the continental shelf.

smooth cline

cline gradual

A monotonic relationship between two variables. Biological clines typically express infraspecific variation where the variables are usually phenotypic expression *vs* distance or environmental variable. In a smooth cline there are no evident sharp discontinuities as in a stepped cline. Discontinuities suggest sharper barriers to gene interchange or a discontinuity (*eg* a front) in the environment.

social facilitation

facilitación social

The requirement for a minimum number of conspecifics to be present to elicit a certain behavior, usually reproductive behavior, (*eg* breeding in the North American passenger pigeon).

solar day

día solar

The mean time interval between consecutive sunrises or any other given position of the sun (*eg* zenith); nominally 24 hrs (*cf* sidereal day).

source-sink model

modelo fuente-sumidero

The hypothesis that species diversity, especially in the tropics, builds up when restricted localities favorable to certain species allow them to produce a surplus of emigrants, hence to be a source of new individuals dispersing to less favorable sites nearby, the sinks (*qv*).

Southern Ocean (Antarctic Ocean)

Used to describe oceanic waters surrounding Antarctica, extending to about 40° S, the northern limit of drift ice, or to the southern Subtropical Convergence (*qv*).

Southwest Monsoon

monsón sudoeste

The monsoon (*qv*) in the north Indian Ocean that blows from southwest to northeast during the summer months of May through August (*cf* NE Monsoon).

spawn

desove, desovar

- (1) The eggs of aquatic animals such as bivalve mollusks, fishes, and amphibians.
- (2) To deposit or release eggs.

sp. nov.

nueva especie

An abbreviation of the Latin *species nova*.

specialist

especialista

Ecology: A species having a narrow or restricted habitat range or food preference (*cf* generalist).

specialization

especialización

Degree of adaptation of an organism to its environment. A high degree of specialization normally suggests a narrow niche breadth (*qv*) or narrowness of habitat.

speciation

especiación

The splitting of a phyletic line; the process of the multiplication of species; the origin of discontinuities between populations caused by the development of reproductive isolating mechanisms. As used the term normally implies cladogenetic change (*cf* anagenesis, cladogenesis).

species

especie

Groups of natural populations which potentially or actually interbreed (reproduce) but which do not reproduce with other such groups, from which they usually differ in consistent (even if slight) morphological or meristic characteristics.

species assemblage

conjunto de especie

See assemblage.

species equilibrium

equilibrio entre especies

In island biogeography, the steady state number of species as a measure of biodiversity found on an island or isolated patch of habitat due to a balance between the immigration of new species and the extinction of old residents.

species flock

A group of several ecologically diverse and closely related species that have evolved within a single macrohabitat, such as a particular lake basin.

species richness
riqueza específica

A component of diversity - the length of the species list, ie the number of species actually present in an assemblage or community (*cf* diversity index, equitability).

species-area curve
curva de especies-área

An empirically derived relationship between the number of species (usually limited to a single large taxon, *eg* "birds" or "herpetofauna") and the area occupied. Often applied to islands. Similar considerations have been used in comparing sample size (*eg* volume water filtered) with species richness - on average a larger to much larger sample size is required to observe very rare species.

spontaneous generation
generación espontánea

The long discredited theory that living organisms can arise spontaneously from an appropriate mix of nonliving chemicals in aqueous solution.

sporadic
esporádico

Scattered; occasional.

sport fish
peces deportivos

Fisheries biology: In the vernacular, a finfish (*qv*) species commonly sought by recreational anglers.

spring tide
marea de sicigia

The exceptionally high and low tides that occur at the time of the new moon or the full moon when the sun, moon, and earth are approximately aligned (in syzygy, *qv*), on average about 20% higher than normal (mean) tides.

stability
estabilidad

(1) Ecology: Of a community - resilience (*qv*) to perturbation (*qv*), tendency to recover after perturbation.

(2) Oceanography: Expression of energy required for vertical movement of water parcels; defined as the rate of change of density with depth. Stability is typically maximum at the main thermocline.

stabilizing selection
selección estabilizante

Selection for the mean or intermediate phenotype with consequent elimination of peripheral variants or extreme phenotypes [expression of extreme (unusual, maladaptive) genotypes]. Maintaining an existing state of adaptation in a stable environment. Also known as normalizing selection (*cf* disruptive selection, directional selection).

stagnicolous

Living in stagnant water.

standing crop
existencia, cosecha

In whatever units (cells/liter; chl-A concentration, shoots per m⁻²), a measure of the biomass actually present at a stated point in time for a stated area or volume. (equivalent to standing stock).

standing stock
existencia

The number, biomass or concentration of a given organism actually present at the time of reference. Commonly used in describing assemblages of autotrophic organisms and zooplankton (also called standing crop, see P/B ratio).

stasipatric speciation
especiación estasipátrica

See parapatric speciation.

statics
estática

Description of objects in place in instantaneous time without measurement of the forces or phenomena that caused them to be there or help to understand where they will be in the future (*cf* dynamics). Much of open ocean biogeography has been descriptive and static in nature, in part because of lack of sufficient time series (*qv*).

station
estación

The site at which an observation or collection was made.

statistic
estadística

Any function of a sample drawn from a larger population or universe; often used as an estimate of the corresponding parameter (*qv*) of the population from which the sample was drawn; commonly denoted by Roman letters.

steno -
Prefix meaning narrow.

stenohaline
estenohalino

Organisms with a narrow range of tolerated salinities.

stenophagy
estenofagia

Having a very specialized diet.

stenothermal
estenotérmico

Organisms with a narrow range of tolerated temperatures (*cf* eurythermal).

stenotopic
estenotípico

An organism with narrow habitat requirements or environmental tolerances (*cf* eurytopic).

stepped cline

cline escalado

See smooth cline.

stereotaxis

estéreotaxis

See thigmotaxis.

stimulus

estímulo

(1) Something causing or regarded as causing a response.

(2) An agent, an action, or a condition that elicits or accelerates a physiological or behavioral activity or response.

stochastic process

proceso estocástico

Processes that result from the influence of one or more random variables, with the outcome probabilistic (*cf* deterministic processes).

stock

existencias

Fisheries biology: An identifiable subgroup within a fishable species that may or may not be congruent with the concepts of population (*qv*) or deme (*qv*). Typically the concept of stock implies greater gene flow between stocks than might be true for identifiable populations or especially demes.

stratification

estratificación

Oceanography: layering of water masses with pycnoclinal interfaces separating the layers.

stratified net haul

lance de red estratificado

See discrete depth sampling.

stratigraphy

estratigrafía

Geology: dealing with the study of stratified (layered) rocks in terms of distribution, composition and origin. It also deals with correlation (in the sense of time) of rocks from different localities.

stratocoenosis

estratocenosis

The community of a particular vegetational or physical habitat layer, *eg* the canopy layer of a forest or the hypolimnion of a stratified lake.

subantarctic

subantártico

Referring to a pelagic oceanic species occurring in the Southern Ocean West Wind Drift zone between the Subtropical Convergence and the Antarctic Convergence.

subarctic

subártico

Referring to a pelagic oceanic species occurring in the area of the Pacific Subarctic Water Mass or in the Atlantic north of the northern subtropical convergence.

sublittoral zone

zona sublitoral

The neritic coastal zone extending from immediately below the littoral (*qv*) to the shelf break.

submergence

submersión

A tendency for shallow-dwelling coastal cold temperate marine organisms to follow isotherms in any equatorward extension of range, thus occurring at greater depths when closer to the equator. Has been applied, with very limited evidence, to certain pelagic forms.

submergent

submergente

Pertaining to a plant or plant structure growing entirely under water; submersed.

subpolar

Oceanic zone where surface temperatures exhibit an annual excursion between (about) 5 - 15°C.

subspecies

subespecie

A geographically defined aggregate of local populations which differs taxonomically (is assigned a name) from other such aggregations of populations within a single species. The only infraspecific taxon recognized within the ICZN to be accorded the status of rank and allowed to receive an available name.

substrate

sustrato

- (1) The material or substance on which an enzyme acts.
- (2) A surface on which an organism grows or is attached [preferred use in this context is substratum (*qv*)].
- (3) An underlying layer; a substratum (*qv*).

substratum

sustrato

The solid surface on which a benthic organism grows or is attached (*cf* substrate).

subsurface intrusion

intrusión subsuperficial

A tendency for countercurrent flow at middepth below a boundary current. In the eastern Pacific this results in poleward intrusion (flow) of eastern Pacific equatorial water below the California Current and the Peru Current.

subtropical

Oceanic zone where surface temperatures exhibit an annual excursion between (about) 15 to 30° C during the year.

subtropical anticyclone

anticiclón subtropical

One of the seven major patterns of wind-driven current flow in the world ocean - the five subtropical anticyclones (*qv*) are in the North and South Atlantic, South Indian, and North and South Pacific. The two other major patterns are the Monsoon Gyre System of the North Indian Ocean and the West Wind Drift of the Southern Ocean.

subtropical convergence
convergencia subtropical

Convergence zones in both the northern and southern hemispheres between the principal upper water mass area of the central gyre and the subarctic or subantarctic zone poleward.

subtropical species
especie subtropical

Pelagic oceanic species occurring in the water mass area of one or more of the central principal upper water masses.

succession
sucesión

Ecology: sequential change in a community (classically in vegetation) in response to environmental changes such as perturbation, seasonal inducement (such as Spring bloom succession in the phytoplankton), or the maturation of a community (as in climax biome).

sudd

A floating mass of plant material.

summer kill
mortalidad masiva estival

The death, usually of notably large numbers of organisms, usually in lakes and slow-moving streams, due to low oxygen tensions during warm summer conditions. Summer kills typically occur when eutrophic conditions result in super-abundant growth of phytoplankton and micro-organisms that deplete the already low levels of dissolved oxygen.

super-organism concept
concepto de superorganismo

The idea that biological accommodation and the strong ties of species interaction cause a community to behave in some senses as an organism, with homeostatic properties expressed as a tendency (resilience) to restoration of the pre-existing state following perturbation.

superspecies
superespecie

An aggregate of allopatric species or semi-species; *formenkreis*.

suprabenthic
suprabéntico

Living above but close to the substratum; hyperbenthic. (*cf* epibenthic, endobenthic).

supralithion

Aquatic organisms swimming above a rocky substratum but deriving their food from the surface of that substratum.

supralittoral zone
zona supralitoral

The seashore zone immediately above the littoral and above the range of tidal submergence

although still affected by sea spray.

suprapelos

Aquatic organisms swimming above a soft mud substratum but deriving their food from the surface of that substratum.

suprapsammon

Aquatic organisms swimming above a sand substratum but deriving their food from the surface of that substratum.

surface aquatic plants

plantas acuáticas flotantes

Plants, typically freshwater flowering plants, that float on the surface of the water (*eg* water lilies, water hyacinths).

surface layer

capa superficial

See mixed layer.

survey

reconocimiento, estudio, investigación

A sampling effort carried out in systematic fashion, classically with enumeration of flora and fauna and/or other environmental constituents as the major goal.

survivorship curve

curva de supervivencia

Graphical description of the survival (longevity) of individuals in a population from birth to the maximum age attained by any one member. Usually plotted as the logarithm of the number of survivors as a function of age, such that a constant mortality rate is illustrated.

suspension feeder

consumidor de material en suspensión

Any organism that feeds on particulate organic matter suspended in water (*cf* deposit feeder).

sweepstakes route

Route along which dispersal is unlikely for most groups but does occur for some [*eg* waif (*qv*) dispersal].

symbiosis

simbiosis

Living together in close proximity of two dissimilar organisms. The relationship is classified according to effect(s) on each member. Includes amensalism (*qv*), commensalism (*qv*), mutualism (*qv*), and parasitism (*qv*), among other categories.

sympatric speciation
especiación simpátrica

Speciation without geographic isolation; the acquisition of isolating mechanisms within a deme (*cf* allopatric speciation).

sympatry
simpatria

The occurrence of two or more populations in the same area, ie the existence of a population in breeding condition within the cruising range of individuals in breeding condition of another population (*cf* allopatry).

symplesiomorphy
simplesiomorfía

The sharing of "ancestral character states" (*qv*) by different but "coordinate taxa" (*qv*).

synapomorphy
sinapomorfía

The sharing of derived (*cf* derivative) character states by different but "coordinate taxa" (*qv*).

synchronic species
especie sincrónica

Paleontology: species occurring at the same time level (*cf* allochronic species).

synchronous hermaphroditism
hermafroditismo sincrónico

Occurrence of functional male and female gonadal tissue at the same time in the same individual, with synchronous maturation of eggs and sperm. Particularly for the deepsea, the possibility of self-fertilization may exist but has not been demonstrated.

synecology
sinecología

Ecology: The study of whole plant and animal communities including the physical and chemical as well as the biological environment (*cf* autecology).

synergism
sinergismo

Situation where two factors operate in tandem to produce a result more noteworthy, or more extreme, or more beneficial, or just plain different from the operation of the two factors independently.

synonym
sinónimo

Taxonomy: each of two or more different names for the same taxon.

synthesis
síntesis

- (1) The act of assembly of parts or constituents to form a whole.
- (2) Philosophy: the process of deductive reasoning from first principles to a conclusion.

syntopic
sinóptico

Used of populations or species that occupy the same or similar macrohabitats within a given geographic area. (*cf* sympatry). Syntopy sometimes implies closer approximation (within same habitat) than sympatry (within same geographic area).

syntype
sintipo

Taxonomy: Every specimen in a type-series in which no holotype (*qv*) was designated by the original author of the name in a species-level taxon.

systematics
sistemática

The study of the diversity of organisms, in space and in time (*cf* taxonomy).

systems ecology
ecología de sistemas

Ecology: Study of entire systems of interacting populations in a complex and dynamic physical, chemical and biological environmental setting. Often such studies involve construction of complex models (still much simpler than reality) in order to predict responses to inputs.

syzygy
sicigia

The time at which the sun and the moon are in line with the earth and each other, either in conjunction or in opposition, associated with spring tides (*cf* quadrature).

T

T-S curve
curva T-S

The relationship between temperature and salinity over a specified depth range (the depth of sampling), commonly plotted on a nomograph (*qv*).

T-S envelope
área T-S

Plots of T-S curves from samples drawn from the same water mass (throughout its depth and over the area of its occurrence) produce very similar plots forming a water mass envelope. The characteristic signature and identifying feature of a water mass envelope (for the principal subsurface water masses) a restricted zone of origin, typically at high latitude, at or near the surface, in winter.

tacheion

Actively moving aquatic organisms comprising both crawling (herpon) and free-swimming (natatory) forms.

tachytelic
taquitélico

Rate of evolution within a group that is much faster than the (empirically determined) average or horotelic rate (*qv*), usually occurring during adaptive radiation (*qv*) of a lineage but also may reflect on punctuated equilibria (*qv*) (*cf* bradytelic).

tang line

The highest continuous line on the shore along which a particular seaweed grows; applied mostly to kelps including laminarians but to other algal groups as well.

taphonomy

tafonomía

Study of the environmental processes and phenomena that affect organic remains after death, including fossilization and the assemblage of fossil "communities" (taphocoenoses).

taxis

Generalized behavioral reaction to an environmental stimulus (*qv*), such as light, temperature, pressure, gravity, etc.

taxon

taxón

Population or group of populations sufficiently distinct to be named, be ranked, and establish a geographic distribution.

taxon cycle

ciclo del taxón

Theory that a species spreads while adapted to one habitat, then becomes more restricted in its range (often splitting into two or more species) while adapting to another habitat. For example in island species widespread low-elevation taxa are commonly the most recent colonists whilst the taxa restricted to montane rain forest are the older taxa on the island.

taxonomic (Linnean) hierarchy

jerarquía taxonómica (linneana)

A hierarchical system of taxonomic categories arranged in ascending series of ranks:

Botany (12 ranks): Kingdom, Division, Class, Order, Family, Tribe, Genus, Section, Series, Species, Variety, Form. Zoology (7 ranks): Kingdom, Phylum, Class, Order, Family, Genus, Species. Any of a number of additional categories can be introduced subject to peer review and review by the Editor, for example, by prefixing with sub-, supra- or infra-. Cladists like a lot of them.

taxonomy

taxonomía

The theory and practice of classifying and naming organisms (*cf* systematics).

tectonics

tectónica

See plate tectonics.

teleology

teleología

The doctrine that natural phenomena result from or are shaped by design or purpose.

teleplanic

teleplánico

Meroplanktonic (*qv*) larvae capable of spending long periods of time in the plankton, in many cases capable of very long distance dispersal via advection, and exhibiting special adaptations for a long planktonic life.

telmatium

A wet meadow or marsh community.

terrigenous mud
fango terrígeno

A marine sediment composed of at least 30% silt and sand derived from the land.

territory
territorio

The local geographic area inhabited, controlled or defended by an animal.

tertiary production
producción terciaria

The production (see primary production) of carnivorous animals preying on the herbivore population in the system of reference.

Tethys Sea
mar de Tethys

The sea that more or less separated the two Mesozoic supercontinents of Laurasia in the north and Gondwana in the south.

thalassic
talásico

Pertaining to the seas or deep ocean waters.

thanatocoenosis
tanatocenosis

An assemblage of organisms brought together after death (taphocoenosis, see taphonomy).

thermal stratification
estratificación térmica

Oceanography: The layering or vertical division of the water column based on temperature differences.

thermium
termobios

A hot spring community.

thermocline
termoclina

A zone of rapid change of temperature with distance, usually in the vertical dimension.

thermohaline circulation
circulación termohalina

Oceanic circulation caused by induction of density differences between water masses; usually such processes result in the cooling (and sometimes, through freezing of sea ice, increasing the salinity) of water at the surface at high latitudes(eg North Atlantic Deep Water, Antarctic Bottom Water) or an increase in salinity (and therefore density) through evaporation (eg Red Sea, Mediterranean Sea outflows).

thermoregulation

termoregulaci3n

See homoiotherm.

thermotaxis

termotaxis

Orientation or movement induced by a heat stimulus.

thigmotaxis (stereotaxis)

tigmotaxis

Change in orientation or in direction of locomotion in response to a tactile (touch) stimulus.

thiobios

Organisms inhabiting anaerobic sulfur-rich environments.

threshold

umbral

A minimum quantity or value needed to produce a given effect.

tidal day

día mareal

The period between two consecutive higher high waters at a given place, averaging 24 hr 51 min.

tidal flat

planicie de marea

Shallow smooth areas of sea bottom (frequently in estuaries) that are exposed at low tides, usually barren of macroscopic vegetation.

tidal marsh

marisma de marea

Tidal flats covered with pasture-like vegetation, always dominated by halophytic angiosperms (*eg Spartina, Juncus, Salicornia*).

tidal zone

zona de mareas

The zone along the shoreline directly affected by the rise and fall of the tides, between the level of the highest high tide and lowest low tide.

tide

marea

Rise and fall of sea level in response to the gravitational attraction of the moon and sun.

time series

serie de tiempo

Repetitive sampling and/or observation of a population over a duration of time sufficient to allow meaningful inferences about demographic and life history parameters.

time-stability hypothesis

hipótesis del tiempo-estabilidad

Hypothesis that diversity in a community will increase if stable conditions persist over time. Concomitant hypothesized consequences include increased specialization, increased diversity, increased equitability, decreased dominance, niche diversification.

tiphic

Pertaining to ponds.

tolerance

tolerancia

Ecology: The ability of an organism to function in suboptimal environmental conditions.

tolerance polygon

polígono de tolerancia

Graphic representation of upper and lower tolerance limits with respect to any physical or chemical environmental variable (ordinate; *eg* temperature, salinity, etc.) vs conditions of acclimation (*qv*) (abscissa).

topotype

topotipo

Taxonomy: A specimen collected at the type locality; has no official ICZN standing.

torrenticulous

de torrente

Living in river torrents.

totipotency

totipotente

In development a measure of the retention of the ability of cells or tissues to differentiate freely into any cell or tissue end-product, typically in response to positional or environmental control. (*cf* differentiation).

toxicant

tóxico

Any material, usually a chemical compound, capable of inducing death or other incapacitation in an organism.

toxicity

toxicidad

Of or referring to the death or other debilitating effect produced in an organism by a toxicant (*qv*).

tracer

trazador

Property or substance used in advection/diffusion method of Lagrangian (*qv*) measurement (*cf* biological tracer, core method).

track

Map depicting the range limits of a particular organism, population, species or higher category OTU (*qv*) (*cf* node).

trade wind

viento alisio

Meteorology: Essentially uniform tropical wind blowing towards the equator from the northeast in the northern hemisphere and from the southeast in the southern hemisphere; the at-surface manifestation of the tropical Hadley cell (*cf* convection).

**trait
character**

Any detectable phenotypic property of an organism; a character or character state.

**transect
transecta**

Linear sampling design most commonly used to investigate an environmental gradient (*eg* of salinity in a salt marsh). Originally employed in vegetation analysis, now widely used for both plant and animal population and community ecology.

**transformation series
serie de transformación**

The sequenced series of homologous character states representing an evolutionary trend in a character (and in a lineage), typically from plesiomorphous (*qv*) to apomorphous (*qv*).

**transgression
transgresión**

Paleontology/ historical geology: The spread of the sea over a land area (*cf* regression).

**transition region
reión de transición**

Biogeography: An ecotonal zone separating two or more water mass regions (or any other similarly-defined ecosystem-assemblage areas), typically characterized, in the case of water mass transition by an intermediate and variable hydrography and by mixed floras and faunas.

**transition region species
especie transicional**

A species endemic to a transition region (*qv*).

**transition zone
zona de transición**

Oceanography: Areas with mixed water mass properties. Classic examples include boundary current extensions and the boundary between the subtropical gyres and high latitude circulation systems.

**transport
transporte**

Volume of water (or air) advected per unit time by a major oceanic (atmospheric) current. In the case of major ocean currents one common unit of transport description is $10^6 \text{ m}^3 \text{ sec}^{-1}$ (= 1 Sverdrup, Sv).

**Tricellular Model
modelo tricelular**

See Hadley Cell.

tripton

Non-living particulate matter suspended in water, a component of seston (*qv*).

trophic level
nivel trófico

Literally feeding level, in a food web or chain, *eg* primary producer, primary consumer (herbivore), secondary consumer (carnivore 1), tertiary consumer (carnivore 2), and so forth. Organisms are assigned to the highest trophic level at which they are currently functioning but such assignment is normally ontogenetically variable in the case of consumers.

trophodynamics
trofodinámica

Study and description of mass and energy flow in a food web or chain, including input of solar energy, and output via the decomposer chain and into the sediments.

tropical

(1) Oceanic zone where surface waters are at or in excess of 25° C throughout the year.
(2) Pertaining to the zone between the Tropic of Cancer (23° 27' N) and the Tropic of Capricorn (23° 27' S).

tropical species
especie tropical

A species limited to the tropical zone (*cf* tropical).

tropical submergence
submersión tropical

Hypothesis that amphitropical populations are continuous (in deeper water), following temperature isotherms (*cf* antitropical).

tropical-subtropical species
especie tropical-subtropical

A species occurring in both the tropical and subtropical zones; for oceanic pelagic species, occurring in both central and equatorial water mass regions (*qv*) of one, two or all three warmwater oceans (*cf* warmwater species).

tropism
tropismo

Change in directional orientation or movement, or (plant) growth, due to an external stimulus.

tubicolous
tubícola

Tube-dwelling.

turbid
turbio

Of or pertaining to water this is not clear, usually because it contains fine suspended particulate matter (*cf* nepheloid layer).

turbidity current
corriente de turbidez

A form of density current. A downflow of water made more dense relative to surrounding waters by suspended particulate materials. Commonly initiated on a slope by strong wave action, seismic events or slumping. Such flows may reach the deepsea and indeed are credited with creating the peneplain-like abyssal topography of the western North Atlantic.

turbulence
turbulencia

Eddy generation by a moving fluid or by an object moving through a fluid; dissipates energy.

turnover rate
tasa de renovación

Measure of the velocity of movement of an element or compound in a biogeochemical cycle (*cf* residence time).

tychopelagic
ticopelágico

Used of organisms that are normally benthic but have been carried up into the water column by chance factors, such as storm events.

type
tipo

A zoological or botanical object (specimen, indication, etc.) which serves as the basis for the name of a taxon.

type genus
género tipo

The genus that is the type of a family level taxon.

type species
especie tipo

The species that is the type of a genus level taxon.

type-locality
localidad tipo

The locality at which a holotype, syntype, lectotype or neotype was collected.

typological
tipológico

A classification approach based on the assumption of an idealized uniform body plan (type) with any variation representing imperfections in the expression of this form, AKA "pigeon-holing" (comparable concepts include eidos; essentialism; gestalt).

U

ubiquitous**ubícuo, omnipresente**

Meaning "to occur everywhere", actually true of virtually no organism. Applied to the distribution of very broadly-distributed species.

ultra-abyssal zone**zona ultraabisal**

Hadal zone (*qv*)

ultra-abyssopelagic**ultraabisopelágico**

See hadopelagic.

underdispersion (regular distribution)**subdispersión (distribución regular)**

See even.

unicellular**unicelular**

Of or pertaining to single-celled organisms.

universe**universo**

Statistics: The entire statistical population.

unweighted pair group method

Phenetics: clustering OTU's joining the smallest branches of the dendrogram first and the two largest last; each step groups together that pair of OTU's showing the greatest overall similarity (without averaging) to each other.

upper water masses**masas de agua superficiales**

Principal tropical and subtropical water masses lying below the main thermocline and above intermediate water, typically between depths of 200 - 800 m.

upwelling**afloramiento**

Wind-driven upward movement of subsurface waters caused by displacement of surface waters by prevailing winds and Ekman surface drift (*cf* Ekman layer). Upwelling is an important source of nutrient replenishment in tropical and subtropical waters where it occurs (*eg* in eastern boundary current regions, equatorial divergence zones, in association with monsoonal wind fields, etc.) (*cf* coastal upwelling).

V

vadal

Floating close to shore.

vagile**errante**

Applied to an organism free to move about (*cf* sessile).

vagility**movilidad**

(1) Freedom of motility of an organism.

(2) The tolerance of an organism to a wide range of environmental conditions, may be qualified as "high" or "low".

valid**válido**

Taxonomy: Used of a name or nomenclatural act that is correct according to the provisions of the Code. (*cf* ICZN; ICBN)

validation**validación**

The confirmation by data or a specialist that information is correct

Venice System**sistema de Venecia**

System for the classification of brackish water based on the chlorinity.

vernacular name**nombre vernáculo**

Taxonomy: The common name of a species or group; not used in accord with ICZN naming rules.

vernal**primaveral**

Of or pertaining to the spring season of the year, that period between the vernal equinox and the summer solstice, in the northern hemisphere from about March 21 to June 21 (*cf* autumnal).

vertebrate**vertebrado**

Organisms with backbones or vertebrae.

vespertine**vespertino**

Pertaining to evening; the civilized part of crepuscular (*qv*).

vicariance biogeography
biogeografía vicariante

A "school" of biogeographical thought derived from Croizat's Panbiogeography. Supporters believe that disjunctions in ranges much more commonly derive from interposition of new barriers in formerly continuous ranges (dividing whole floras and faunas) than from chance dispersal events (affecting single species and populations (usually)). They basically reject sweepstakes routes and land bridges in biogeographic explanation.

Two other major schools are the center of origin/dispersal approach (*qv*) and cladistic biogeography (*qv*). With respect to predicted location of plesiomorph taxa, the former predicts extinction of such species within the evolutionary centers, and their occurrence in sites / habitats peripheral to such centers. Cladistic biogeography predicts the reverse. Vicariance biogeography takes no position in this debate. (*cf* historical biogeography)

vicariant event
evento vicariante

The geographical separation of a species by interposition of a new barrier, with allopatric speciation a quite likely consequence. Also the separation of formerly continuous floras and/or faunas.

vitality
vitalidad

The condition or vigor of organisms in a community, mainly their capacity to live and complete their life cycle within the community.

W

waif
expatriado

(1) A single organism or small group of organisms found outside of its (their) normal range, presumably thereto advected by unusual current or weather conditions.

(2) Members of a population which are predictably transported to a "sink", outside of their normal reproductive range where they do not reproduce (*cf* allogenic plankton, expatriation).

Wallacea

Wallacea encompasses the eastern Indonesian seas, the major tropical seaway connecting the Indian and Pacific Oceans and their only tropical connection during Pleistocene glaciation. Wallacea lies between Wallace's Line (east of the Philippines and south to between Bali and Lombok) and Lydecker's Line (west of New Guinea, east of Ceram and the Kai and Tanimbar Islands).

warm core ring
anillo de centro cálido

A mesoscale (*cf* mesoscale feature)(anticyclonic gyre with downwelling at the center of the system, typically formed as an eddy from a western boundary current such as the Gulf Stream.

May entrain localized populations for periods lasting weeks to months.

warm-water species
especie de aguas cálidas

Species occurring in the open ocean between the subtropical convergences (ca 40° N to 40° S).

warmwater cosmopolitan

cosmopolita de aguas cálidas

A species very broadly distributed in the warmwater ocean *ie* that fraction of the global oceanic environment between (about) 40° N and 40° S.

water mass

masa de agua

Here meant as principal water mass defined by a near constant and predictable envelope of temperature and salinity relationships (*cf* T-S curve, T-S envelope). Water mass properties imply a restricted locality or zone of origin, typically at or near the surface, at high latitude, in winter.

water pollution

contaminación acuática

Any detrimental changes in water quality (temperature, chemical composition, etc) usually due to human activities.

water-mass boundary

límite de la masa de agua

The (typically) ecotonal zone separating core regions underlain by the principal upper water masses (*qv*). The water mass boundary may affect the distribution of organisms, and does not extend to the surface of the ocean, although the vertical distribution of the organism may do so.

water-mass hypothesis

The concept that distributional boundaries of pelagic species and pelagic species assemblages are caused by ocean circulation, and associated with water mass boundaries. The cyclonic and anti-cyclonic gyres and boundary currents then form different biological provinces with climatic differences and different sets of nutrient and temperature characteristics .

water-mass region

A sea surface plot of the area underlain by the core (typical and diagnostic T-S envelope and other features) of one of the principal upper water masses.

West Wind Drift

Deriva Oceánica del Oeste

The largest and most important ocean current in the southern hemisphere, flowing in an easterly direction around Antarctica. The total transport of this system, ca 100 Sv. (*qv*) is roughly two orders of magnitude greater than the total output of all the rivers of the world.

Typified by low salinity (less than 34.7 ppt) cold temperatures (-1⁰ to 5⁰ C), and large sea waves and swell.

western boundary current

corriente de margen occidental

The relatively deep, fast, narrow, low productivity near-coastal limb of the great subtropical anticyclonic gyres found on the western margin of oceans (especially the Atlantic and Pacific); *eg* the Gulf Stream and Kuroshio Currents.

wind forcing

forzante de viento

An event or series of events driven by wind energy. Such phenomena occur over a wide variety of spatial and temporal scales, from short-lived and local, to major ENSO (*qv*) and monsoonal events (*cf* monsoon) that can affect significant portions of whole ocean basins.

winter kill

mortalidad masiva invernál

Death of large numbers of organisms due to adverse winter conditions.

X, Y, Z

x-axis

eje x

Horizontal axis of a two-dimensional graph -- the abscissa.

xenogenous

xenogénico

Allochthonous (*qv*).

xeric

xérico

A dry habitat, as opposed to wet (hydric) or intermediate (mesic) environments. Even environments with ample free water may be physiologically xeric, as in salt marshes and mangrove forests.

y-axis

eje y

Vertical axis of a two-dimensional graph -- the ordinate.

yellow matter

Gelbstoff (*qv*)

zeitgeber

Any external stimulus that acts to trigger or phase a biological rhythm; a synchronizer.

zenith

cenit

The highest point in the sun's daily traverse across the sky; position of the sun at local apparent noon.

zonal

Term used to describe objects or events mainly in a longitudinal (east-west) direction, *eg* the zonal flow of the equatorial currents and countercurrents (*cf* meridional).

zonation

zonación

The distribution of organisms in distinctive and sequential layers, zones or areas.

zoobenthos

zoobentos

Animals living on (epifauna(*qv*)) or in (infauna (*qv*)) the bottom.

zoogeographic region

región zoogeográfica

Biogeographic region (*qv*), pertaining specifically to animals.

zoogeography

zoogeografía

The study of the distribution of animals in all spatial and temporal scales,

including both historical and ecological approaches. The biogeography (*qv*) of animals.

zooplankton

zooplancton

Heterotrophic (protists and animals) plankton (*qv*).

zooxanthellae

zooxantelas

Endosymbiotic mutualistic dinoflagellates associated with hermatypic scleractinian corals and certain other marine invertebrate groups (*eg* tridacnid bivalves).

SPANISH LIST OF TERMS

(when the spelling of English and Spanish terms is the same they are not in this list so please check also the main Glossary)

A

a lo largo de la costa = longshore
 abisal = Abyssal
 abisobéntico = abyssobenthic
 abisopelágico = abyssopelagic
 abundancia = abundance
 aclimatación = Acclimation
 aclimatación transitoria = acclimatization
 acomodación biológica = biological accommodation
 adaptación = adaptation
 adecuación = fitness
 adnato = adnate
 advección = advection
 afloramiento = upwelling
 afloramiento costero = coastal upwelling
 agregación = aggregation
 agregación = patchiness
 agregado = aggregated
 agregados = aggregates
 agua central = central water
 agua de talúd = Slope Water
 aguas cálidas vs aguas frías = cold-water vs warm-water
 aguas costeras = coastal waters
 aguas dulces = freshwater
 aguas salobres = brackish waters
 aislamiento = isolation
 aislamiento geográfico = geographic isolation
 al azar = random
 albedo = albedo
 albufera = lagoon
 aleatorio = random
 alelopatía = allelopathy
 alelos = alleles
 algoritmo = algorithm
 alimentación no selectiva = fine-grain exploitation
 alocórico = allochoric
 alóctono = allochthonous
 alóctono = endemic
 alometría = allometry
 alopatria = allopatry
 alotipo = allotype
 alotópico = allotopic
 alozima = allozyme
 altricial = altricial
 ambiente = environment
 ámbito = ambit

amensalismo = amensalism
 amíctico = amictic
 amplitud del nicho = niche breadth
 amplitud ecológica = ecological amplitude
 anádromo = anadromous
 anagénesis = anagenesis
 análisis de componentes principales (ACP) = principal component analysis (PCA)
 análogo = analogous
 anfi- = amphi-
 anfitropical = amphitropical
 anillo de centro cálido = warm core ring
 anillo de centro frío = cold core ring
 anomalía = anomaly
 anóxico = anoxic
 antártico = antarctic
 anticiclón = anticyclone
 anticiclón subtropical = subtropical anticyclone
 apomorfo = apomorphous
 aptitud, adecuación = fitness
 árbol de estados de carácter = character state tree
 árbol filogenético = phylogenetic tree
 archipiélago = archipelago
 área = range
 área T-S = T-S envelope
 arenícola = arenicolous
 arquibéntico = archibenthic
 arrecife coralino = coral reef
 arrecife costanero = fringing reef
 arrecife de orla = fringing reef
 asimetría = skewness
 asociación = association
 atalón = atoll
 Australasia = Australasian Region
 autóctono = autochthonous
 autoecología = autecology
 autofecundación = selfing
 autogénico = authogenic
 autopomorfía = autapomorph
 autotrófico = autotrophic
 auxotrófico = auxotrophic
 ave marina = sea bird

B

bacterioneuston = bacterioneuston
 bacterioplancton = bacterioplankton
 barlovento = leeward
 baroclínico = baroclinic
 barotropismo = barotropism
 barrera = barrier
 barrera del Pacífico este = East Pacific Barrier
 barrera terrestre del Nuevo Mundo = New World Land Barrier
 barrera terrestre del Viejo Mundo = Old World Land Barrier

batimetría = bathymetry
 batipelágico = bathypelagic
 béntico = benthic
 bentónico = benthic
 bentopelágico = benthopelagic
 bentos = benthos
 bioacústica = bioacoustics
 biocenosis = biocoenosis
 bioestratigrafía = biostratigraphy
 biogénesis = biogenesis
 biogenia = biogeny
 biogeografía = biogeography
 biogeografía cladística = cladistic biogeography
 biogeografía de islas = island biogeography
 biogeografía dispersiva = dispersal biogeography
 biogeografía ecológica = ecological biogeography
 biogeografía histórica = historical biogeography
 biogeografía pelágica = pelagic biogeography
 biogeografía vicariante = vicariance biogeography
 bioherma = bioherm
 biología marina = marine biology
 biología pesquera = fisheries biology
 biología poblacional = population biology
 bioluminiscencia = bioluminescence
 bioluminiscente = luciferous
 bioluminiscente = noctilucent
 bioma = biome
 biomasa = biomass
 biometría = biometrics
 biomonitoreo = biomonitoring
 biota = biota
 biotopo = biotope
 bioturbación = bioturbation
 bipolaridad = bipolarity
 borde de plataforma = shelf break
 braditélico = bradytelic

C

cadena alimentaria = food chain/food web
 cambio del nicho = niche shift
 camino = pathway
 camuflaje = camouflage (crypsis)
 canalización = canalization
 capa de mezcla = mixed layer
 capa de mínimo de oxígeno = oxygen-minimum layer
 capa difusora = scattering layer
 capa difusora profunda (CDP) = DSL
 capa nefeloide = nepheloid layer
 capa superficial = surface layer
 capacidad de carga = carrying capacity
 capa de Ekman = Ekman layer

caracter = character
 caracter = trait
 caracter dicotómico = dichotomous character
 caracter merístico = meristic character
 caracteres correlacionados = correlated characters
 caracter poligénico = polygenic character
 carcinología = carcinology
 cardúmen = school
 carnívoro = carnivorous
 carta = map
 catádrómo = catadromous
 categoría = category
 célula de Hadley = Hadley Cell
 cenit = zenith
 cenoclina = coenocline
 centro de origen = center of origin
 cetología = cetology
 ciclo biogeoquímico = biogeochemical cycle
 ciclo de vida = life cycle
 ciclo del taxón = taxon cycle
 ciclo hidrológico = hydrologic cycle
 ciclomorfosis = cyclomorphosis
 ciclónico = cyclonic
 ciénaga = helic (helium)
 ciénaga salina = salt marsh
 cieno de foraminíferos = foraminiferan ooze
 (CINB) Código Internacional de Nomenclatura Botánica = ICBN
 (CINZ) Código Internacional de Nomenclatura Zoológica = ICZN
 circulación abisal = abyssal circulation
 circulación de Langmuir, células de Langmuir = Langmuir circulation
 circulación termohalina = thermohaline circulation
 círculo de especies = Artenkreis
 círculo de formas = Formenkreis
 círculo de razas = Rassenkreis
 cladística = cladistics
 clado = clade
 cladogénesis = cladogenesis
 cladograma = cladogram
 cladograma de área = area cladogram
 clase de edad = age class
 clasificación = classification
 clasificación artificial = artificial classification
 clasificación de Braun-Blanquet = Braun-Blanquet Classification
 clasificación natural = natural classification
 clave dicotómica = dichotomous key
 climatología = climatology
 cline escalado = stepped cline
 cline gradual = smooth cline
 clorinidad = chlorinity
 clupéido pelágico = pelagic clupeoid
 coadaptación = co-adaptation
 COD = DOC

Código Internacional de Nomenclatura Botánica (CINB) = International Code of Botanical Nomenclature (ICBN)

Código Internacional de Nomenclatura Zoológica (CINZ) = International Code of Zoological Nomenclature (ICZN)

coevolución = coevolution

cohorte = cohort

colonia = colony

color del océano = ocean color

comensalismo = commensalism

comensalismo = inquilinism

competencia = competition

comportamiento antagónico = antagonistic behavior

comunidad = community

comunidad climax = climax community

comunidad de plantas acuáticas sumergidas = hydatorphytium

comunidad de torrente = rhyacium

concepto de superorganismo = super-organism concept

conexión terrestre = land bridge

congenérico = congeneric

conjunto = assemblage

conjunto aleatorio = random assemblage

conjunto de especie = species assemblage

conspecífico = conspecific

consumidor de material depositado

consumidor de material en suspensión = suspension feeder

consumidores = consumers

contaminación acuática = water pollution

continuo = continuum

convergencia = convergence

convergencia subtropical = subtropical convergence

convexión = convection

COP = POC

corología = chorology

corredor = corridor

correlación = correlation

corriente de densidad = density current

corriente de margen = boundary current

corriente de margen occidental = western boundary current

corriente de margen oriental = eastern boundary current

corriente de turbidez = turbidity current

corriente geostrófica = geostrophic current (flow)

cosecha = standing crop

cosecha máxima sostenible = maximum sustained yield

cosecha óptima = optimal yield

cosmopolita = cosmopolitan

cosmopolita de aguas cálidas = warmwater cosmopolitan

costero = nearshore, coastal

coterminal = coterminous

crecimiento determinado = determinate growth

crecimiento exponencial = exponential growth

crecimiento indeterminado = indeterminate growth

crecimiento logístico = logistic growth

cresta centro-oceánica = mid-ocean ridge
criopelágico = cryopelagic
crioplancton = cryoplankton
cripsis = crypsis, camouflage
cuadrado = quadrat
cuadratura = quadrature
cualitativo = qualitative
cuantitativo = quantitative
cuello de botella = bottleneck
cuenca = basin
curtosis = kurtosis
curva de especies-área = species-area curve
curva de supervivencia = survivorship curve
curva T-S = T-S curve

D

de marjal = helic (helium)
de torrente = torrenticulous
deficiencia de oxígeno = oxygen debt
degeneración = degeneration
dendrograma = dendrogram
densidad = density
denso-dependiente = density-dependent
denso-independiente = density-independent
depósito = sink
de profundidad = profunderal
deriva = drift
deriva continental = continental drift
deriva génica = genetic drift
Deriva Oceánica del Oeste = West Wind Drift
derivativo = derivative
descomponedor = decomposer
desovar = spawn
desove = spawn
desplazamiento de carácter = character displacement
detritívoro = detritivore, scavenger
detritos = detritus
día mareal = tidal day
día sidéreo = sidereal day
día solar = solar day
diádromo = diadromous
diapausa = diapause
diastrofismo = diastrophism
dicopátrico = dichopatric
diferenciación = differentiation
dimíctico = dimictic
dinámica = dynamics
disfótico = dysphotic
dispersión = dispersal
dispersión = dispersion
distancia = distance
distancia cladística = cladistic distance

distancia fenética = phenetic distance
distancia patristica = patristic distance
distribución = distribution
distribución binomial negativa = negative binomial distribution
distribución contagiosa = contagious distribution, patchiness
distribución en banda = ribbon distribution
distribución relictual = relictual distribution
distrófico = dystrophic
disyunto = disjunct
diurno = diurnal
divergencia = divergence
divergencia de Ekman = Ekman divergence
diversidad = diversity
diversificación = diversification
diversificación del nicho = niche diversification
dominancia = dominance
dominio = domain
domo = dome

E

ecléctico = eclectic
ecofeno = ecophene
ecofenotípico = ecophenotypic
ecofisiología = physiological ecology
ecología = ecology
ecología de sistemas = systems ecology
ecología fisiológica = physiological ecology
ecología marina = marine ecology
ecología poblacional = population ecology
ecosistema = ecosystem
ecotipo = ecotype
ecotono = ecotone
ectotérmico = ectotherm
ecuaciones de Lotka-Volterra = Lotka-Volterra equations
ecuatorial = equatorial
efecto de borde = edge effect
efecto de isla = island effect
efecto fundador = founder effect
efecto invernadero = greenhouse effect
eficiencia ecológica = ecological efficiency
eje x = x-axis
eje y = y-axis
electromorfo = electromorph
elevación continental = continental rise
emigración = emigration
enanismo = dwarfism
endemismo = endemism
endobéntico = endobenthic
endolítico = endolithic
endotérmico = endotherm
enriquecimiento = enrichment

entrada = inlet
 epibéntico = epibenthic
 epifítico = epiphyte
 epilimnio = epilimnion
 epipelágico = epipelagic
 epipélico = epipellic
 epiplancton superficial = phaeoplankton
 epitóquico = epitokous
 epizoico = epizoic
 equilibrio de Hardy-Weinberg = Hardy-Weinberg equilibrium
 equilibrio entre especies = species equilibrium
 equilibrio génico = genetic equilibrium
 equilibrio puntuado = punctuated equilibria
 equitabilidad = equitability
 errante = vagile
 escala = scale
 escala de Beaufort = Beaufort Scale
 especiación = speciation
 especiación alocrónica = allochronic speciation
 especiación alopátrica = allopatric speciation
 especiación centrífuga = centrifugal speciation
 especiación clinal = clinal speciation
 especiación estasiopátrica = stasipatric speciation
 especiación parapátrica = parapatric speciation
 especiación simpátrica = sympatric speciation
 especialista = specialist
 especialización = specialization
 especie = species
 especie accidental = accidental species
 especie agámica = agamospecies
 especie alocrónica = allochronic species
 especie antitropical = antitropical species
 especie competitivamente dominante = competitively dominant species
 especie complementaria = complementary species
 especie críptica = cryptic species
 especie de aguas cálidos = warm-waterspecies
 especie de borde = edge species
 especie de giro central = central water species
 especie de profundidades medias = mid-depth species
 especie de profundidades medias = midwater species
 especie dominante = dominant species
 especie ecológicamente equivalente = ecologically equivalent species
 especie ecuatorial = equatorial species
 especie exclusiva = exclusive species
 especie fugitiva = fugitive species
 especie gemela = sibling species
 especie hija = daughter species
 especie indicadora = index species
 especie indicadora = indicator species
 especie indiferente = indifferent species
 especie instantánea = instantaneous species
 especie introducida = introduced species

especie monotípica = monotypic species
 especie nativa = native species
 especie oportunista = opportunistic species, fugitive species
 especie politépica = polytypic species
 especie preferencial = preferential species
 especie selectiva = selective species
 especie sincrónica = synchronic species
 especie subtropical = subtropical species
 especie tipo = type species
 especie transicional = transition region species
 especie tropical = tropical species
 especie tropical-subtropical = tropical-subtropical species
 espectro de acción = action spectrum
 espectro de partículas = particle spectrum
 esporádico = sporadic
 estabilidad = stability
 estación = station
 estadio = instar
 estadística = statistic
 estadística no paramétrica = nonparametric statistic
 estadística paramétrica = parametric statistic
 estado de carácter = character state
 estado de carácter ancestral = ancestral character state
 estado seral = seral stage
 estática = statics
 estenofagia = stenophagy
 estenohalino = stenohaline
 estenotérmico = stenothermal
 estenotípico = stenotopic
 estéreotaxis = stereotaxis
 estímulo = stimulus
 estival tardío = serotinal
 estoa = slack water
 estrategia C = C-strategist
 estrategia competitivo = C-strategist
 estrategia S = S-strategist
 estrategia del ciclo vital = life history strategy
 estratificación = stratification
 estratificación faunística = faunal stratification
 estratificación química = chemical stratification
 estratificación térmica = thermal stratification
 estratigrafía = stratigraphy
 estratocenosis = stratocoenosis
 estructura poblacional = population structure
 estuarial = echronic
 estuario = estuary
 estuario negativo = negative estuary
 estuario neutral = neutral estuary
 estuario positivo = positive estuary
 estudio = survey
 euri- = eury -
 eurihalino = euryhaline

eurit mico = eurythermal
 eurit pico = eurytopic
 eust tico = eustatic
 eutroficiaci n cultural = cultural eutrophication
 eutroficiaci n = eutrophication
 eutrofizaci n = eutrophication
 eutr fico = eutrophic
 evento vicariante = vicariant event
 evoluci n = evolution
 evoluci n en mosaico = mosaic evolution
 evoluci n reticulada = reticulate evolution
 exclusi n competitiva = competitive exclusion
 excursi n = excursion
 existencia = standing crop
 existencia = pool
 existencia = standing stock
 existencia activa = active pool
 existencias = stock
 expatriaci n = expatriation
 expatriado = waif
 explotaci n de grano grueso = coarse-grain exploitation
 explotaci n selectivo = selective exploitation
 extinci n = extinction

F

facilitaci n social = social facilitation
 factor limitante = limiting factor
 factores abi ticos = abiotic factors
 factores bi ticos = biotic factors
 facultativo = facultative
 familia = family
 fango = ooze
 fango de diatomeas = diatom ooze
 fango de foramin feros = foraminiferan ooze
 fango de globigerinas = *Globigerina* ooze
 fango de pter podos = pteropod ooze
 fango de radiolarios = radiolarian ooze
 fango rojo = red clay
 fango terr geno = terrigenous mud
 faun stica = faunistics
 fen tica = phenetics
 fenocopia = phenocopy
 fenograma = phenogram
 fenolog a = phenology
 fen meno de El Ni o = ENSO event
 fen n = phenon
 fenotipo = phenotype
 ficocenolog a = phycocoenology
 fidelidad = fidelity
 filogenia = phylogeny
 filopatria = philopatry

filtro = filter
fiordo = fjord
física = physics
fisionomía = physiognomy
fitobentos = phytobenthos
fitogeografía = phytogeography
fitoplancton = phytoplankton
fitosociología = phytosociology
fitotélmico = phytotelmic
floración = bloom
florística = floristics
flujo génico = gene flow
fluvial = riverine
fondo de reserva = reservoir pool
foresis = phoresy
formación = formation
forzante de viento = wind forcing
fotóforo = photophore
fotoperíodo = photoperiodism
fototrófico = phototrophic
fototrópico = phototropic
fragilidad = fragility
freático = phreatic
frecuencia alozímica = allozyme frequency
frecuencia génica = gene frequency
frente = front
frente hidroquímico = hydrochemical front
función forzante = forcing functions

G

generación = generation
generación espontánea = spontaneous generation
generalista = generalist
género = genus
género tipo = type genus
genética = genetics
genética poblacional = population genetics
genotipo = genotype
geografía = geography
geotrópico = geotropic
gigantismo = gigantism
ginocórico = gynochoric
giro monsonico = monsoon gyre
giro = eddy, gyre
giro central = central gyre
Gondwana = Gondwanaland
gonocorismo = gonochorism
gradiente latitudinal de diversidad = latitudinal diversity gradient
grado = grade
graduismo filético = phyletic gradualism
gremio = guild

gremio alimentario = feeding guild
 grupo hermano = sister group
 grupo recurrente = recurrent group

H

hábitat = habitat
 hacia tierra = inshore
 hadopelágico = hadopelagic
 haloclina = halocline
 halofílico = halophilic
 halofítico = halophyte
 heliotrópico = heliotropic
 hemianual = semestrial
 hemiplancton = hemiplankton
 herbívoro = herbivore
 hermafroditismo = hermaphroditism
 hermafroditismo sincrónico = synchronous hermaphroditism
 heteroconismo = heterochrony
 heterógrado = heterograde
 heterospecífico = heterospecific
 heterotrófico = heterotrophic
 heurístico = heuristic
 hibridación = hybridization
 hibridización introgresiva = introgressive hybridization
 híbrido = hybrid
 hidrobios = hydric
 hidrocórico = hydrochoric
 hidrófita = hydrophyte
 hidrografía = hydrography
 hidrología = hydrology
 hidropelágico = hydroplancton
 hidrotaxis = hydrotaxis
 hidrotectónica = hydrotectonics
 hiperbéntico = hyperbenthic
 hiperosmótico = hyperosmotic
 hipersalino = hypersaline
 hipodigma = hypodigm
 hipolimnio = hypolimnion
 hiponeuston = hyponeuston
 hipoosmótico = hypoosmotic
 hipótesis de equilibrio = equilibrium hypothesis
 hipótesis de perturbación intermedia = intermediate disturbance hypothesis
 hipótesis del centro de origen/dispersión = center-of-origin/dispersal approach
 hipótesis del tiempo-estabilidad = time-stability hypothesis
 hipótesis nula = null hypothesis
 hipóxico = hypoxic
 holobéntico = holobenthic
 holobentónico = holobenthic
 holofilético = holophyletic
 holofítico = holophytic
 holopelágico = holopelagic
 holoplancton = holoplankton

holotipo = holotype
holozoico = holozoic
homeotermo (endotermo) = homoiotherm (endotherm)
homocedasia = homoscedasticity
homoiosmótico = homoiosmotic
homología = homology
homólogo = homologous
homónimo = homonym
homoplasia = homoplasy
horotélico = horotelic
huésped = host
hundimiento (de masa de agua) = downwelling
hurgando = browsing

I

ictiología = ichthyology
ictioplancton = ichthyoplankton
iliófago = limivorous
iliófago = limophagous
índice de afinidad = affinity index
índice de diversidad = diversity index
indígena = indigenous
infaunal = endobenthic
infrasespecífico = infraspecific
infralitoral = infralittoral
inmigración = immigration
insolación = insolation
interacción = coaction
interanual = interannual
interespecífico = interspecific
interfase aire-agua = air-sea interface
intraespecífico = intraspecific
intrusión subsuperficial = subsurface intrusion
investigación = survey
irrupción = irruption
isla continental = continental island
isla oceánica = oceanic island
isobara = isobar
isobata = isobath
isoenzima = isoenzyme
isofena = isophene
isoluma = isolume
isometría = isometry
isoosmótico = isoosmotic (isosmotic)
isopicna = isopycnal
isopleta = isopleth
isostasis = isostasy
isoterma = isotherm
isozima = isozyme
iteroparidad = iteroparity

J

jerarquía de dominancia = dominance hierarchy
jerarquía taxonómica (linnea) = taxonomic (Linnean) hierarchy

K

K-selección = K-selection

L

lábil = labile
lacustre = lacustrine
lago hipersalino = salt lake
lago salado = salt lake
laguna costera = lagoon
lance con red de apertura y cierre = closed net haul
lance con red sin apertura-cierre = open net haul
lance de red estratificado = stratified net haul
latifénico = latiphenic
lecitotrófico = lecithotrophic
lectotipo = lectotype
lenítico = lentic
léntico = lentic
lenítico = lentic
leptofénico = leptophenic
ley de Bergmann = Bergmann's Rule
ley de Jordan, regla de Jordan = Jordan's laws
ley del mínimo = law of the minimum
ley del mínimo de Liebig = Liebig's law of the minimum
libre nadador = free-swimming
ligamiento = linkage
limícola = limicolous
límite biogeográfico = biogeographic boundary
límite de la masa de agua = water-mass boundary
límite faunístico = faunal boundary
limnobios = limnium
limnodio = limnodium
limnología = limnology
litoral = littoral
localidad tipo = type-locality
longevidad = longevity
lótico = fluviatile
lótico = lotic
luminiscencia = luminescence
lutícola = luticolous

M

macroescala = macroscale feature
macroevolución = macroevolution
macrófita = macrophyte
macronutriente = macronutrient
macroorganismos = macroorganisms

macroplancton = macroplankton
 macrozooplancton = macrozooplankton
 magnificación alimentaria = food chain magnification
 magnificación biológica = biological magnification
 malacología = malacology
 mamífero marino = marine mammal
 manglar = halodrymium
 mapa = map
 mar adentro = offshore
 mar de Tethys = Tethys Sea
 mar epicontinental = epeiric sea, epicontinental sea
 mar interior = inland sea
 mar lechoso = milky seas
 marea = tide
 marea bajante = ebb tide
 marea creciente = flood tide
 marea de sicigia = spring tide
 marea roja = red tide
 marea semi-diurna = semidiurnal tide
 mareas de cuadratura = neap tides
 mareas de perigeo = perigean tides
 margen continental = continental margin
 mariscos = shellfish
 marisma = helic (helium)
 marisma de marea = tidal marsh
 marisma salina = salt marsh
 marjal salino = salt marsh
 masa de agua = water mass
 masa de agua de fondo = bottom water mass
 masa de agua intermedia = intermediate water mass
 masa de agua profunda = deep water mass
 masas de agua superficiales = upper water masses
 matriz de datos = data matrix
 máximo de clorofila = chlorophyll maximum
 mecanismo de aislamiento 1. Definición = isolating mechanism(s) 1. Definition
 mecanismo de aislamiento. 2. Categorías = isolating mechanism(s) 2. Categories.
 medición euleriana = Eulerian measurement
 medición lagrangeana = Lagrangian measurement
 megaplacton = megaplankton
 meiobentos = meiobenthos
 meromíctico = meromictic
 meropelágico = meropelagic
 meroplancton = meroplankton
 mesoescala = mesoscale feature
 mesopelágico = mesopelagic
 mesoplancton = mesoplankton
 metapoblación = metapopulation
 método de núcleo de masa de agua = core method
 mezcla = overturn
 mezcla de otoño = fall overturn
 microclima = microclimate
 microevolución = microevolution

microhábitat = microhabitat
micronecton = micronekton
micronutriente = micronutrient
microorganismo = microorganism
microplancton = microplankton
míctico = mictic
migración = migration
migración vertical diaria = diel vertical migration
migración vertical diurna = diurnal vertical migration
migración vertical inversa = reverse vertical migration
milla náutica = nautical mile
multivariado = multivariate
mimetismo = camouflage (crypsis)
movilidad = vagility
moco = slime
modelo = pattern
modelo fuente-sumidero = source-sink model
modelo tricelular = Tricellular Model
modo Q = Q-mode
modo R = R-mode
monitoreo remoto = remote sensing
monofilético = monophyletic
monomíctico = monomictic
monomórfico = monomorphic
monotético = monothetic
monotípico = monotypic
monotópico = monotopic
monsón = monsoon
monsón NE = NE monsoon
monsón sudoeste = Southwest Monsoon
morfoclina = morphocline
morfología funcional = functional morphology
morfotipo = morphotype
mortalidad masiva estival = summer kill
mortalidad masiva invernal = winter kill
móvil = motile
muestreo de profundidades discretas = discrete depth sampling
mutación = mutation
mutualismo = mutualism

N

nanoplancton = nanoplankton
 natatorio = natatorial
 necton = nekton
 neontología = neontology
 neotenia = neoteny
 neotipo = neotype
 nerítico = neritic, coastal, nearshore
 nerítico-pelágico = neritopelagic
 neutralismo = neutralism
 nicho = niche
 nicho ecológico = ecological niche
 nicho efectivo = realized niche
 nicho fundamental = fundamental niche
 nicho potencial = potential niche
 nicho realizado = realized niche
 nictipelágico = nyctipelagic
 nieve marina = marine snow
 nivel trófico = trophic level
 nocturno = nocturnal
 nodo = node
 nomenclatura = nomenclature
 nombre aceptado = accepted name
 nombre vernáculo = vernacular name
 nominado = nominate
 nudo = knot
 nueva especie = sp. nov.
 números aleatorios = random numbers
 nutriclina = nutricline
 nutriente = nutrient

O

obligado = obligate
 occidental
 oceánico = oceanic
 Océano Artico = Arctic Ocean
 Océano Atlántico = Atlantic Ocean
 Océano Indico = Indian Ocean
 Océano Pacífico = Pacific Ocean
 oceanografía = oceanography
 oceanografía biológica = biological oceanography
 oligomíctico = oligomictic
 oligotrófico = oligotrophic
 omnipresente = ubiquitous
 omnívoro = omnivorous
 onda interna = internal wave
 onomatóforo, portador de nombre = onomatophore
 ontogenia = ontogeny
 óptimo = optimal
 ordenamiento = ordination
 organismos sensitivo = sensitive organisms
 origen = provenance

orogenia = orogeny
ortogénesis = orthogenesis
ortoselección = kin selection
osmoregulación = osmoregulation
otoñal = autumnal

P

paidogénesis = paedogenesis
paidomorfosis = paedomorphosis
paleocirculación = paleocirculation
paleontología = paleontology
palingenético = palingenetic
palustre = paludal
palustre = palustrine
panbiogeografía = panbiogeography
pandémico = pandemic
Pantasia = Panthalassa
paradigma = paradigm
paradoja del plancton = paradox of the plankton
parafilético = paraphyletic
paralelismo = parallelism
parámetro = parameter
parapatría = parapatry
parasitismo = parasitism
parásito = parasite
paratipo = paratype
parsimonia = parsimony
partición de recursos = resource partitioning
paso generalizado, rama generalizada = generalized track
pastoreo = grazing
patógeno = pathogen
patrón de distribución concordante = concordant distribution pattern
patrón = pattern
peces deportivos = game fish
peces deportivos = sport fish
pelágico = pelagic
pelagobios = pelagium
pelon = dyticon
penetrancia = penetrance
perifiton = AUFWUCHS
perifiton = periphyton
periodicidad = periodicity
período fenocrítico = phenocritical period
perturbación = perturbation
pésimo = pessimal
pesticida = pesticide
picoclina = pycnocline
picoplancton = picoplankton
pionero = pioneer
pirámide = pyramids
pirámide ecológica (de Elton) = ecological (Eltonian) pyramid

pirámide invertida = inverted pyramid
plaga = pest
plancter = plankter
plancton = plankton
plancton alogénico = allogenetic plankton
plancton de red = net plankton
planicie costera = coastal plain
planicie de marea = tidal flat
plantas acuáticas flotantes = floating aquatic plants
plantas acuáticas flotantes = surface aquatic plants
plantas acuáticas superiores = higher aquatic plants
plantas emergentes = emerged aquatic plants
plasticidad = plasticity
plasticidad fenotípica = phenotypic plasticity
plataforma continental = continental shelf
pleitropía = pleiotropy
plesiomórfico = plesiomorphous
población = population
población aislada geográficamente = geographic isolate
poiquilo - = poikilo -
poiquiloscópico = poikilosmotic
poiquilotérmico = poikilotherm (ectotherm)
polifilético = polyphyletic
poligamia = polygamy
polígono de tolerancia = tolerance polygon
polihalino = polyhaline
polimíctico = polymictic
polimorfismo = polymorphism
polimorfismo balanceado = balanced polymorphism
polimorfismo génico = genetic polymorphism
polinya = polynya
poliploidía = polyploidy
politético = polythetic
politipia = polytypy
politópico = polytopic
póntico = pontic
portador de nombre = onomatophore
posible = prospective
potámico = potamous
potamódromo = potamodromous
potamoplancton = potamoplankton
potencial reproductivo = reproductive potential
potencial = prospective
pradador = predator
preadaptación = preadaptation
precedencia = precedence
precoz = precocial
predación = predation
predador clave = keystone predator
presa = prey
presión hidrostática = hydrostatic pressure
primaveral = vernal

primitivo = primitive
principio de Gause = Gause's principle
probable = Prospective
probabilidad = probability
proceso determinístico = determinate growth
proceso estocástico = stochastic process
producción = production
producción primaria = primary production
producción primaria bruta = gross primary production
producción primaria neta = net primary production
producción secundaria = secondary production
producción terciaria = tertiary production
profundidad crítica = critical depth
profundidad de compensación = compensation depth
profundidad umbral = sill depth
prolífico = prolific
propiedad conservativa = conservative property
propiedad no conservativa = nonconservative property
protandria = protandry
protocooperación = protooperation
protoginia = protogyny
provincia = province
provincia biogeográfica = biogeographical province
provincia faunística = faunal province
provincialismo = provincialism
psammon = dyticon
pseudo-oceánico = pseudo-oceanic
pseudopelágico = pseudopelagic
pseudoplancton = pseudoplankton
pseudovicariantes = pseudovicars
puerta hidrográfica = hydrographic gate

Q

quantum evolutivo = quantum evolution
quiescente = quiescent
quimioheterótrofo = chemoheterotroph
quimiolitotrófico = chemolithotroph
quimiotrófico = chemotrophic
quimitaxis = chemotaxis

R

radiación = radiation
radiación adaptativa = adaptive radiation
rama generalizada = generalized track
rango = rank
rango de abundancia = rank-abundance
raro = rare
raza = race
raza ecológica = ecological race
raza geográfica = geographical race
recapitulación = recapitulation
reclutamiento = recruitment

reconocimiento = survey
 rectilíneo = rectilinear
 red alimentaria = food chain/food web
 reductores = reducers
 refugio = refugium
 región = region
 región biogeográfica (oceánica) = biogeographical region or realm (oceanic)
 región biogeográfica (terrestre) = biogeographical region or realm (terrestrial)
 región central = central region
 región ecuatorial = equatorial region
 región limítrofe = boundary region
 región pelágica = pelagic region
 región zoogeográfica = zoogeographic region
 regla de la desviación = rule of deviation
 regla de la progresión = progression rule
 regla ecogeográfica = ecogeographical rule
 regresión = regression
 regular = even
 región de transición = transition region
 relación (filogenética) = relationship (phylogenetic)
 relación entre los isótopos del oxígeno = oxygen isotope ratio
 relación producción/biomasa = P/B ratio
 reloj molecular = molecular clock
 reología = rheology
 reotaxis = rheotaxis
 reservorio = sink
 resiliencia = resilience
 resistencia ambiental = environmental resistance
 respuesta funcional = functional response
 respuesta numérica = numerical response
 R-estratega = R-strategist
 ría = firth
 ripario = riparian
 riqueza específica = species richness
 ritmo biológico = biological rhythm (rhythm)
 ritmo circadiano = circadian rhythm (rhythm)
 ritmo endógeno = endogenous rhythm (rhythm)
 ritmo exógeno = exogenous rhythms (rhythms)
 ritron = rhithron
 ritron = rhithrous (rhithron)
 rulo = eddy
 ruta = pathway

S

salinidad = salinity
 saltación (evolución saltatoria) only applies to evolution in
 Spanish = saltation (has more meanings in English)
 saproplancton = saproplankton
 saturación = saturation
 seca = seiche
 sedimento biogénico = biogenic sediment
 selección = selection

selección direccional = directional selection
 selección disruptiva = disruptive selection
 selección estabilizante = stabilizing selection
 selección natural = natural selection
 selección normalizante = normalizing selection
 selección r = r-selection
 selectividad = electivity
 semelparidad = semelparity
 semianual = semestrial
 semi-especie = semispecies
 señal = signal
 senescencia = senescence
 serie = series
 serie de tiempo = time series
 serie de transformación = transformation series
 sésil = sessile
 sicigia = syzygy
 simbiosis = symbiosis
 simpatria = sympatry
 simpátrico adyacente = adjacently sympatric
 simpliomorfía = symplesiomorphy
 sinapomorfía = synapomorphy
 sinecología = synecology
 sinergismo = synergism
 sinónimo = synonym
 sinóptico = syntopic
 síntesis = synthesis
 sintipo = syntype
 sistema de Venecia = Venice System
 sistema jerárquico = hierarchical system
 sistema semi-cerrado = semi-enclosed system
 sistemática = systematics
 sistemática evolutiva = evolutionary systematics
 sobredispersión = overdispersion
 subantártico = subantarctic
 subártico = subarctic
 subdispersión (distribución regular) = underdispersion (regular distribution)
 subespecie = subspecies
 submergente = submergent
 submersión = submergence
 submersión tropical = tropical submergence
 sucesión = succession
 sucesión hidrarcha = hydrarch succession
 sucesión primaria = primary succession
 sucesión secundaria = secondary succession
 superespecie = superspecies
 superposición de nichos = niche overlap
 suprabéntico = suprabenthic
 sustancia mucosa = mucose substance
 sustrato = substrate
 sustrato = substratum

T

tafonomía = taphonomy
 talásico = thalassic
 talasódromo = oceanodromous
 talud continental = continental slope
 tanatocenosis = thanatocoenosis
 taquitélico = tachytelic
 tasa de fecundidad específica = age-specific fecundity rate
 tasa de mortalidad específica = age-specific death rate
 tasa de renovación = turnover rate
 tasa intrínseca de crecimiento = intrinsic rate of increase
 taxón = taxon
 taxones coordinados = coordinate taxa
 taxonomía = taxonomy
 taxonomía beta = beta taxonomy
 taxonomía descriptiva = alpha taxonomy
 taxonomía gamma = gamma taxonomy
 taxonomía numérica = numerical taxonomy
 tectónica = tectonics
 tectónica de placas = plate tectonics
 teleología = teleology
 teleplánico = teleplanic
 teoría de aprovisionamiento óptimo = optimal foraging theory
 teoría de forrajeo óptimo = optimal foraging theory
 termobios = thermium
 termoclina = thermocline
 termoregulación = thermoregulation
 termotaxis = thermotaxis
 territorio = territory
 test biológico = bioassay
 ticopelágico = tychopelagic
 tiempo de residencia = residence time
 tigmotaxis = thigmotaxis (stereotaxis)
 tipo = type
 tipológico = typological
 tolerancia = tolerance
 topotipo = topotype
 torbellino de mesoescala = mesoscale eddy
 torbellino = eddy
 totipotente = totipotency
 toxicidad = toxicity
 tóxico = toxicant
 transecta = transect
 transgresión = transgression
 transporte = transport
 trazador = tracer
 trazador biológico = biological tracer
 triángulo C-R-S = C-S-R triangle
 trofodinámica = trophodynamics
 tropismo = tropism
 tubícola = tubiculous
 turbio = turbid

turbulencia = turbulence

U

ubícuo = ubiquitous

ultraabisopelágico = ultra-abyssopelagic

umbral = threshold

unicelular = unicellular

universo = universe

V, W

validación = validation

válido = valid

valles y picos adaptativos = adaptive peaks and valleys

variable continua = continuous variable

vertebrado = vertebrate

vespertino = vespertine

vía = pathway

viento alisio = trade wind

viente antialisio = anti trade wind

vitalidad = vitality

vórtice = eddy, gyre

vórtice central = central gyre

X, Y

xenogénico = xenogenous

xérico = xeric

Z

zona adaptativa = adaptive zone

zona afótica = aphotic zone

zona batial = bathyal zone

zona costera = coastal zone

zona de baja presión ecuatorial = equatorial trough

zona de calmas ecuatoriales = doldrums

zona de conjunto = assemblage zone

Zona de Convergencia Intertropical = Intertropical Convergence Zone (ITCZ)

zona de hibridación = hybrid belt (zone)

zona de mareas = tidal zone

zona de transición = transition zone

zona disfótica = dysphotic (dysphotic) zone

zona eufótica = euphotic zone

zona eulitoral = eulittoral zone

zona fótica = photic zone

zona hadal = hadal zone

zona intermareal = intertidal zone

zona intertidal = intertidal zone

zona limnética = limnetic zone

zona sublitoral = sublittoral zone

zona supralitoral = supralittoral zone

zona ultraabisal = ultra-abyssal zone

zona, área = realm

zonación = zonation

zoobentos = zoobenthos

zoogeografía = zoogeography

zooplancton = zooplankton

zooxantelas = zooxanthellae