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GLOSSARY

ABIOTIC = Devoid of life.

ABYSSAL = Deep-sea floor, as in abyssal plain; generally 2000 to 6000 m below sea level.

ACTIVE FILL = Material that was actively stuffed inside a burrow by an animal; same as backfill.

AEROBIC = Possessing abundant free oxygen; same as oxic.

AGGLUTINATED = Constructed of detrital material glued together by organic secretions, as in agglutinated dwelling tubes of various polychaete worms.

AGRICHNION (pl. AGRICHNIA) = Permanent dwelling burrow used as a "farm" or "trap" for obtaining food; same as graphoglyptid.

ANAEROBIC = Devoid of oxygen; same as anoxic.

ANNELID = Segmented worm belonging to Phylum Annelida; terrestrial, fresh water, brackish water and marine; includes many burrowing, boring and tube-building forms.

ANOXIC = Devoid of oxygen; same as anaerobic.

AUTOTROPHIC = Capable of manufacturing "food" directly from inorganic nutrients, as in photosynthesis.

BACKFILL = Material that was actively stuffed inside a burrow by an animal; same as active fill.

BATHYAL = Continental slope; generally 300 to 2000 m below sea level.

BATHYMETRY = Water depth.

BAY = Broad, open indentation in a coastline; along a marine coastline, it is permanently filled with water of normal marine salinity.

BENTHIC = Living on or within the sea floor.

BIOCOENOSIS (pl. BIOCOENOSES) = A community of organisms living together in a given habitat.

BIOEROSION = Process of penetrating or wearing away hard material by the activity of an animal or plant; bioerosion structures include borings, boreholes, gnawings, raspings, scrapings and bite traces.

BIOEROSION FABRIC = Ichnofabric produced in a rockground, hardground, woodground or skeletal substrate.

BIOGENIC = Biologically-produced; made by a living animal or plant.

- BIOGENIC GRADED BEDDING** = Vertical gradient in sediment texture resulting directly from bioturbation.
- BIOGENIC SEDIMENTARY STRUCTURE** = Structure produced in sediment by the activity of an animal or plant; same as trace.
- BIOGENIC STRUCTURE** = Biologically produced structure of any type; includes bioturbation structures, biostratification structures, bioerosion structures and excrement.
- BIOGLYPH** = Ornament imparted to the wall of a trace fossil by the burrowing or boring activity of an organism; biogenic sculpture.
- BIOKARST** = Sharply irregular topography of intertidal and supratidal rockgrounds caused by bioerosion.
- BIOSTRATIFICATION** = Process by which organisms create or alter the layering of sediment; biostratification structures include stromatolites, biogenic graded bedding and burrow mottling.
- BIOSTRATIGRAPHY** = Age-determination and regional correlation of strata based on fossils.
- BIOTAXONOMY** = Formal system of classification of living and fossil animals and plants, based on biological taxa, such as species, genus, family, etc.
- BIOTURBATE TEXTURE** = Totally burrowed ichnofabric in which individually distinct and identifiable burrows cannot be seen.
- BIOTURBATION** = Process of sediment-mixing by organisms; bioturbation structures include burrows, tracks and trails.
- BIOTURBATION FABRIC** = Ichnofabric produced in a soupground, softground or firmground.
- BITE TRACE** = Trace left on a rock, shell or bone by the teeth of an animal; same as a gnawing.
- BODY FOSSIL** = Preserved representation of all or part of the body of an animal or plant.
- BOG** = A lowlying wet area where sphagnum moss accumulates.
- BORING** = Biogenic structure excavated into a hard substrate (e.g., rock, shell or wood), usually to serve as a dwelling.
- BOUMA SEQUENCE (BOUMA CYCLE)** = Vertical transition of microfacies commonly observed in turbidites; one cycle typically consists of a basal graded or massive sand layer (T_a), parallel-laminated sand layer (T_b), ripple cross-laminated fine sand layer (T_c), parallel-laminated siltstone or silty mudstone (T_d), and finely laminated, bioturbated or structureless hemipelagic mudstone (T_e).

- BOUNDARY RELIEF** = Trace fossil preserved along a bed junction; same as semirelief.
- BOX CORER** = Relatively large (several decimeters square) but short (less than one meter long) coring device.
- BOXWORK** = Burrow system of interconnected shafts and tunnels in a three-dimensional configuration.
- BRACKISH WATER** = Salinity appreciably lower than normal marine (i.e., salty, but much less than 35 ppm), as in estuaries, some coastal lagoons or the Baltic Sea.
- BURROW** = Biogenic sedimentary structure emplaced in soft sediment below the sediment surface, usually for the purpose of feeding, dwelling and/or locomotion.
- BURROW CAST** = Material that fills a burrow; same as burrow fill.
- BURROW FILL** = Material that fills a burrow; same as burrow cast.
- BURROW MOTTLING** = Ichnofabric in which individually distinct burrows are apparent but are not sufficiently well-preserved to be identified.
- BURROW SYSTEM** = Complex unit of branched burrows.
- CAN CORER** = Makeshift coring device consisting of an empty can with one or both ends removed.
- CARNIVORE** = Meat-eating animal.
- CARRYING CAPACITY** = Maximum number of individuals of a particular species that a given environment can support.
- CASTING MEDIUM** = The more resistant substance in which a trace fossil is preserved in a lithologically heterogeneous deposit (e.g., sand in an alternating sand/mud sequence).
- CHALK** = Firm, partly indurated, calcareous ooze or friable limestone, typically composed almost entirely of calcareous nannofossils (coccoliths).
- CHALKSTONE** = Fully indurated equivalent of chalk.
- CHASMOENDOLITH** = Endolithic organism that occupies a pre-existing boring, which it did not create; same as nestler.
- CHIMNEY** = Sturdy tube (or portion of a tube) that extends above the sediment surface.
- CAUSATIVE BURROW** = A burrow, the movement of which causes production of a spreite.
- CLEAVAGE RELIEF** = Seilacher's (1964) term for trace fossil preserved in semirelief as an undertrack of an original exogenic trace that depressed internal laminae in the sediment.

- CONCEALED SUBSTRATE** = A substrate that is not exposed directly to the water or air, as in a compacted firmground that lies beneath a surficial softground.
- CONCRETION** = Chemically precipitated mass of inorganic origin; typically composed of siderite, pyrite, chert or some other secondary mineral; may be hollow or solid, laminated or massive, spherical or irregular in shape.
- COPROLITE** = Large lump of fossilized excrement; generally much greater than one centimeter in length or diameter.
- CORE** = A sample of a vertical sequence of sediment obtained by means of some type of corer, such as a box, can, gravity or piston corer.
- CORER** = A device used to obtain a sediment core.
- CRUZIANA ICHNOFACIES** = Trace fossil association characterizing soft-sediment habitats in the sublittoral (shallow subtidal) zone.
- CRYPTOBIOTURBATION** = Production of a structureless, homogeneous ichnofabric, usually by burrowing meiofauna.
- CRYPTOENDOLITH** = Endolithic organism that occupies a non-biogenic cavity or fissure.
- CUBICHNION** (pl. CUBICHNIA) = Temporary resting trace.
- DEATH MARK** = Physical (non-biogenic) sedimentary structure produced by an animal or plant body after death but prior to burial.
- DEBRIS FLOW** = Gravity-driven flow of matrix-supported sediment, usually down a low-angle, subaqueous slope.
- DEEP-SEA ICHNOFACIES** = Trace fossil association characterizing soft-sediment habitats in abyssal water depths; preservation is best in unbedded pelagic deposits.
- DEPOSIT FEEDER** = Animal that feeds on detrital material deposited on or in the sea bottom; may be selective (i.e., a scavenger) or non-selective (i.e., a sediment-ingestor); same as detritus feeder.
- DETRITUS FEEDER** = Animal that feeds on detrital material deposited on or in the sea bottom; may be selective (i.e., a scavenger) or non-selective (i.e., a sediment-ingestor); same as deposit feeder.
- DISTAL TURBIDITE** = Fine-grained turbidity current deposit ($T_{d,e}$) that was deposited far from the sediment source.
- DOMICHNION** (pl. DOMICHNIA) = Permanent dwelling structure.
- DRILL HOLE** = Hole drilled into a shell, usually by a carnivorous gastropod, as a means of feeding upon the soft parts of the organism inside.

- DUBIOFOSSIL = Possible fossil; it is impossible to determine with certainty whether the structure is a trace fossil, body fossil or pseudofossil.
- DUROPHAGY = Destruction of shells by crushing or penetration of shells by drilling by carnivores attempting to feed upon the soft parts of the animal inside.
- DYSAEROBIC = Possessing very little free oxygen; generally only 0.1 to 1.0 ml O₂ per liter of water.
- ECHIURAN = Unsegmented "spoon worm" belonging to the Phylum Echiura; exclusively marine; includes many burrowing forms.
- ECOLOGY = The study of the relationships between organisms and the physical and biological environment in which they live.
- EMBEDMENT STRUCTURE = Dwelling of an endolithic organism formed as a substrate-producing host organism grew around and enveloped the endolith in hard skeletal material.
- ENDICHNION (pl. ENDICHNIA) = Martinsson's (1970) term for a burrow preserved in three dimensions and contained totally within the sediment; same as full relief.
- ENDOBENTHIC = Living within the sea floor.
- ENDOGENE = Trace produced within the sediment.
- ENDOLITH = Organism that lives within a rocky or shelly substrate.
- EOLIANITE = Sedimentary rock that formed originally in a subaerial dune environment.
- EPIBENTHIC = Living on the sea floor.
- EPICHNION (pl. EPICHNIA) = Martinsson's (1970) term for a trace fossil preserved on the top of a bed, either as a "ridge" or "groove"; same as epirelief.
- EPIFAUNA = Animals living on the substrate surface.
- EPI LITH = Organism that lives on a rocky or shelly substrate.
- EPIRELIEF = Seilacher's (1964) term for a trace fossil preserved in either "concave" or "convex" semirelief on the top of a bed; same as epichnion.
- ESTUARINE = Pertaining to a transitional environment from a fluvial system to a marine setting; salinity typically brackish and variable.
- ESTUARY = Transitional environment at the mouth of a river, where fluvial and tidal processes oppose each other; salinity typically grades from fresh to brackish to normal marine along the length of the estuary.
- ETCHING = Microscopic bioerosion trace produced on the surface of a rock or shell.

- ETHOLOGY** = The study of animal behavior.
- EUENDOLITH** = Endolithic organism that bores the cavity in which it dwells.
- EUKARYOTIC** = Advanced type of cell that contains a nucleus and other organelles, as in multicellular plants, animals and fungi.
- EUPHOTIC ZONE** = Upper portion of the photic zone, into which abundant light penetrates; generally the upper 50 m in the open ocean, although may be only a few meters in shallow water.
- EURYHALINE** = Type of organism that can tolerate a wide range of salinities, from brackish to marine to perhaps even hypersaline conditions.
- EUXINIC SEDIMENT** = Black, often laminated sediment deposited in anoxic conditions.
- EXCAVATION PELLET** = Regular shaped lump of sediment that is produced during the digging of an open burrow and usually is removed from the burrow by the digging organism.
- EXICHNION** (pl. EXICHNIA) = Martinsson's (1970) term for a burrow preserved in three dimensions and weathered out of the sediment as an isolated piece.
- EXOGENE** = Trace produced on the surface of the sediment.
- FACIES-BREAKING TRACE** = Biogenic structure whose distribution is seemingly independent of sediment type and depositional environment.
- FAUNA** = Assemblage of animals.
- FECAL CASTING** = Continuous string of excrement.
- FECAL PELLET** = Small spherical, ovoid or cylindrical lump of excrement; maximum dimension generally less than one centimeter.
- FILTER FEEDER** = Animal that feeds by filtering suspended food particles out of the water column; same as suspension feeder.
- FIRMGROUND** = Substrate composed of stiff, but uncemented, sediment.
- FLORA** = Assemblage of plants.
- FLUVIAL** = Pertaining to a subaqueous stream or river environment.
- FLYSCH** = Thick sequence of spasmodically deposited, rhythmically bedded sediments deposited on or at the base of basin-margin slopes.
- FODINICHNION** (pl. FODINICHNIA) = Deposit-feeding burrow.
- FORESHORE** = Intertidal zone of a beach, from low tideline to high tideline.

- FOSSORIAL = Digging or burrowing.
- FRESH WATER = Salinity essentially equal to zero, as in streams, rivers and most lakes.
- FUCOID = Obsolete term for trace fossil, which originated in the Nineteenth Century when many biogenic structures were misidentified as body fossils of plants.
- FUGICHNION (pl. FUGICHNIA) = Escape traces.
- FULL RELIEF = Seilacher's (1964) term for a trace fossil preserved in three dimensions and contained totally within the sediment; same as endichnion.
- GALLERY = Dominantly horizontal burrow system of interconnected tunnels.
- GLIDE = Translational transport of a cohesive mass downslope; sliding (shear failure) occurs along flat shear planes that lie subparallel to the underlying beds.
- GLOSSIFUNGITES ICHNOFACIES = Trace fossil association characterizing shallow-marine (littoral or sublittoral) firmgrounds.
- GNAWING = Trace left on a rock, shell or bone by the teeth of an animal; same as bite trace.
- GRAIN FLOW = Gravity-driven flow of grain-supported sediment, usually down a high-angle subaqueous slope.
- GRAPHOGLYPTID = Complex horizontal tunnel system that apparently served as both a permanent dwelling and a "farm" or "trap" for obtaining food; same as agrichnion.
- GRAVITY CORER = A long, cylindrical pipe used as a coring device; usually a heavy weight is attached to one end, the corer is lowered from a ship, and the pipe enters the sediment by virtue of its own weight when it hits the sea bottom.
- GRAZER = Mobile animal that feeds along a path; in the strict sense it is an herbivore, but in the broad sense it may be a sediment-ingesting deposit feeder.
- HADAL = Deep-sea trench; generally 6000 to 10,000 m below sea level.
- HALO BURROW = Burrow, typically in deep-sea sediment, which is surrounded by a bleached halo produced by the leaching of soluble, reduced iron away from the margin of the burrow.
- HARDGROUND = Substrate composed of indurated rock at an omission surface, in which borings may be produced.
- HEMPELAGIC SEDIMENT = Fine-grained microfacies (T_e) of a distal turbidite.
- HERBIVORE = Plant-eating animal.
- HETEROTROPHIC = Pertaining to organisms that cannot perform photosynthesis and thus must "eat" organic compounds; includes animals and fungi.

- HISTORICAL LAYER** = Zone of pelagic sediment immediately below the Transition Layer, in which no burrowing takes place.
- HYPERSALINE** = Salinity appreciably greater than normal marine (i.e., much greater than 35 ppm).
- HYPICHNION** (pl. HYPICHNIA) = Martinsson's (1970) term for a trace fossil preserved on the sole of a bed, either as a "ridge" or "groove"; same as hyporelief.
- HYPORELIEF** = Seilacher's (1964) term for a trace fossil preserved in either "concave" or "convex" semirelief on the sole of a bed; same as hypichnion.
- I.C.Z.N.** = International Code of Zoological Nomenclature; the established rules for classifying living and fossil animals.
- ICHNOCOENOSIS** (pl. ICHNOCOENOSES) = Suite of trace fossils representing the work of a particular benthic community; note that this implies simultaneous occupation of the substrate by the community members, whereas a total assemblage of trace fossils may include several ichnocoenoses juxtaposed upon each other.
- ICHNOFABRIC** = All aspects of the texture and internal structure of a sediment that result from bioturbation and bioerosion at all scales; includes both bioturbation fabric and bioerosion fabric.
- ICHNOFAUNA** = Assemblage of traces.
- ICHNOFOSSIL** = Ancient trace preserved in lithified sediment; same as trace fossil.
- ICHNOGENUS** (pl. ICHNOGENERA) = General (genus) name formally assigned to a particular type of trace fossil; name is always capitalized and italicized (or underlined).
- ICHNOLOGY** = The study of post-depositional biological effects on sedimentary deposits, including the processes of bioturbation and bioerosion and the production of biogenic structures and fabrics.
- ICHNOSPECIES** (pl. ICHNOSPECIES) = Specific (species) name formally assigned to a particular type of trace fossil; name is always italicized (underlined) but never capitalized, and it must be used in conjunction with ichnogenus name.
- ICHNOTAXON** (pl. ICHNOTAXA) = Category of classification of trace fossils, such as ichnospecies or ichnogenus.
- ICHNOTAXONOMY** = Formal system of classification of trace fossils, based on ichnotaxa, such ichnospecies and ichnogenus.
- IDIOMORPH** = Trace fossil showing full, uninhibited morphologic development; opposite of stenomorph.
- INCERTAE SEDIS** = Uncertain position, in a taxonomic sense; refers to a fossil whose biologic affinities are in doubt.

- INDEX FOSSIL** = A taxon with a fairly restricted geologic range, which renders it useful for biostratigraphic correlations and age-determinations.
- INFAUNA** = Animals living within the substrate.
- LACUSTRINE** = Pertaining to a subaqueous pond or lake environment.
- LAGOON** = Body of water isolated from the ocean by means of a barrier island or barrier reef; salinity usually is normal marine, but it may be brackish, hypersaline or highly variable.
- LATEX MOLD** = Artificial reproduction of a trace fossil produced by applying liquid latex to the trace, allowing it to harden and then removing the resultant external mold.
- LEBENSSPUR** (pl. **LEBENSSPUREN**) = German term meaning the same thing as trace.
- LENTIC** = Low-energy aquatic, as in quiet ponds or lakes.
- LITHIC** = Rocky or shelly.
- LITHOTURBATION** = Process of successive episodes of bioerosion-sedimentation-cementation-bioerosion, resulting in a complex bioerosion fabric.
- LITTORAL** = Intertidal; shore zone between high high tideline and low low tideline.
- LOTIC** = High-energy aquatic, as in rivers, streams or lacustrine beaches.
- MACROFAUNA** = Relatively large animals, such as anything that can be picked up easily between the fingers and studied with the naked eye.
- MARK** = Non-biogenic structure produced by physical means, as in ripplemarks or death marks (thus, for example, it is incorrect to refer to bite traces as "toothmarks").
- MARKER BED** = Informal stratigraphic unit, which may be easily recognized in the field and used for general correlation within a particular basin.
- MARSH** = A lowlying area with standing water and abundant grass (but no trees).
- MEANDERING TRACE** = Trail (or trackway) that wanders back-and-forth in fairly regular sinusoidal fashion, somewhat resembling the course of a meandering stream.
- MEIOFAUNA** = Tiny animals, such as worms and crustaceans, with maximum dimensions in the range of 1 to 5 mm.
- MICRITE** = Microcrystalline calcite; calcitic lime mud.
- MICRITE ENVELOPE** = Superficial layer of micrite on a carbonate grain that results from microlithoturbation.
- MICROFAUNA** = Microscopic animals, such as foraminifera and radiolarians.

MICROCOPROLITE = Fossilized fecal pellet.

MICROLITHOTURBATION = Process of successive episodes of bioerosion-sedimentation-cementation-bioerosion by microscopic borers, such as endolithic algae.

MIXED LAYER = Surficial layer of pelagic sediment (usually the top 5 to 8 cm), which is homogenized by shallow-burrowing organisms.

MENISCATE FILL = Active burrow fill in the form of thin, dish-shaped packages of sediment (crescent-shaped in cross-section) that are stuffed inside a burrow by an animal.

NEOICHOLOGY = The study of biogenic structures produced in modern environments by extant taxa.

NEREITES ICHNOFACIES = Trace fossil association characterizing soft-sediment habitats in abyssal water depths; preservation is best in rhythmically bedded turbidites.

NESTLER = Endolithic organism that occupies a pre-existing boring, which it did not create; same as chasmoendolith.

NORMAL MARINE = Salinity of the open ocean (i.e., 35 ppm).

OLIGOCHAETE = Segmented worm belonging to the Class Oligochaeta, Phylum Annelida; mainly non-marine; includes terrestrial "earthworms" and fresh-water tubificid worms, both of which burrow in soft sediment.

OMISSION SUITE = Trace fossil association created at an omission surface during the period of non-deposition.

OMISSION SURFACE = A minor depositional hiatus or erosion surface at which part of the sedimentary record is missing.

OMNIVORE = Animal that eats both meat and plant material.

OPPORTUNIST = Animal or plant species that is characterized by broad environmental tolerances, generalized feeding habits and a rapid reproductive rate.

OXIC = Possessing abundant free oxygen; same as aerobic.

PALEOECOLOGY = The study of the ecology of ancient organisms.

PALEOETHOLOGY = The study of behavior patterns of extinct organisms, especially as their activities are recorded in biogenic structures; approximately the same as palichnology.

PALEOICHOLOGY = The study of ancient biogenic structures preserved in lithified sediment; same as palichnology.

PALEOSOL = Ancient soil.

- PALICHNOLOGY** = The study of ancient biogenic structures preserved in lithified sediment; same as paleoichnology.
- PALIMPSEST** = Sediment in which the effects of several episodes of deposition, erosion, bioturbation and/or bioerosion are juxtaposed.
- PASCICHNION** (pl. **PASCHICHNIA**) = "Grazing" trail, in which the activities of feeding and locomotion both are represented.
- PASSIVE FILL** = Material that filled a burrow by physical sedimentation after its occupant departed.
- PEAT** = Organic-rich deposit of partially decomposed plant material, usually sphagnum moss.
- PEEL** = An essentially two-dimensional sediment sample obtained by applying lacquer, epoxy, polyester resin or some other binding agent to a vertical or horizontal face of unconsolidated sediment and allowing it to harden.
- PELAGIC SEDIMENT** = Fine-grained sediment derived from the water column (e.g., wind-blown clay and planktonic microfossil and nannofossil tests) rather than from turbidity currents.
- PHORONID** = Unsegmented "lophophorate worm" belonging to the Phylum Phoronida; exclusively marine; includes several burrowing and tube-building forms.
- PHOTIC ZONE** = Surficial zone of a body of water in which the water is shallow enough and clear enough to allow sunlight to penetrate and photosynthesis to occur; generally the upper 100 m in the open ocean.
- PHOTOAUTOTROPHIC** = Pertaining to autotrophic organisms that perform photosynthesis; includes the "green" plants.
- PISTON CORER** = A long, cylindrical pipe used as a coring device; similar to a gravity corer, except that it contains a piston inside the pipe to reduce friction and thus both increase the sediment-penetration depth and decrease the amount of deformation of the cored sediment.
- PLANKTIC** = Living in the water column, usually floating passively with the current.
- POLYCHAETE** = Segmented "bristle worm" belonging to the Class Polychaeta, Phylum Annelida; mainly marine; includes many burrowing, boring and tube-building forms.
- POST-DEPOSITIONAL BURROW** = Trace produced after deposition of a prominent sedimentary unit by an organism attempting to colonize (or escape from) the new sediment.
- PRE-DEPOSITIONAL BURROW** = Trace produced prior to the deposition of a prominent sedimentary unit and thus may be scoured out and cast by the new sediment.

- PROKARYOTIC** = Primitive type of cell that contains no well-defined nucleus, as in bacteria and blue-green "algae".
- PROTRUSIVE** = Type of spreite that represents lateral or downward expansion of the burrow through time, so that the spreite is contained inside the "U" portion of the causative burrow.
- PROXIMAL TURBIDITE** = Relatively coarse-grained turbidity current deposit ($T_{a,b,c}$) that was deposited close to the sediment source.
- PSEUDOFECES** = Undigested material that is discarded by an animal, usually in the form of pellets, during feeding.
- PSEUDOFOSSIL** = Object or structure that superficially resembles an organism or biogenic structure but in reality had an inorganic origin.
- RADIOGRAPHY** = The general technique of transmitting some type of radiation (e.g., x-rays or gamma rays) through a sample and recording the resultant image on special photographic film.
- RADULA** = Tongue-like, tooth-bearing structure in the mouth of gastropods, cephalopods and chitons.
- RASPING** = Trace left on a rock by the jaws of an echinoid or radula of a gastropod grazing on algae that grow on the rock.
- REDOX** = Pertaining to oxidation potential or to oxidation-reduction reactions.
- REGURGITATION PELLETT** = A lump of undigested material that was coughed out of the mouth of a reptile or bird as a normal part of its feeding program.
- REPICHNION** (pl. REPICHNIA) = Locomotion trace; trail or trackway.
- RESIN CAST** = Artificial cast of a burrow, produced by pouring plaster-of-paris, epoxy, fiberglass resin or some other casting medium down an open burrow and allowing it to harden.
- RETRUSIVE** = Type of spreite that represents a retreat or upward migration of the burrow through time, so that the spreite is on the outside of the "U" portion of the causative burrow.
- RHIZOCRETION** = Biogenic structure formed by diagenetic mineralization around a living or dead plant root.
- RHIZOLITH** = General term for a trace fossil or body fossil of plant roots; includes rhizcretions, root casts, root molds, root petrifications and root tubules.
- ROCKGROUND** = Substrate composed of indurated rock, in which borings may be produced.
- ROOT CAST** = Sediment-filled or cement-filled root mold.

- ROOT MOLD** = Tubular void reflecting the external morphology of a plant root.
- ROOT PETRIFICATION** = Fossil plant root preserved by means of mineral replacement of the original organic matter.
- ROOT TUBULE** = Cemented cylinder surrounding a root mold.
- ROSETTED TRACE** = Biogenic structure exhibiting a radially symmetrical, flower-like geometry with radiating tunnels or spreiten.
- S.E.M.** = Scanning electron microscope.
- SALT MARSH** = Low-lying area covered with salt-tolerant plants that floods and drains during a tidal cycle.
- SCOYENIA ICHNOFACIES** = Trace fossil association characterizing soft-sediment habitats in a fresh-water depositional environment.
- SCRAPING** = Trace left on a rock or shell by the hard part of a bioeroding organism during feeding or construction of a boring.
- SCRIBBLE TRACE** = Trail (or trackway) that seems to wander aimlessly with no regular pattern.
- SECRETED** = Constructed of material produced within the cells of an organism, as in calcareous dwelling tubes secreted by serpulid polychaete worms.
- SEMIRELIEF** = Seilacher's (1964) term for a trace fossil preserved along a bed junction; same as boundary relief.
- SERIAL SECTIONS** = Set of parallel slices or slabs cut from an outcrop, core or large sediment sample in order to reconstruct the three-dimensional geometry of internal structures from a series of two-dimensional views.
- SHAFT** = Vertical burrow.
- SHOREFACE** = Subtidal zone of a beach, extending from low tideline seaward to effective wave base.
- SIPUNCULAN** = Unsegmented "peanut worm" belonging to the Phylum Sipuncula; exclusively marine; includes burrowing and boring forms.
- SKOLITHOS ICHNOFACIES** = Trace fossil association characterizing soft-sediment habitats in the littoral (intertidal) zone.
- SLUMP** = Rotational transport of a cohesive mass downslope; sliding (shear failure) occurs along concave-up shear planes, so that the mass rotates as it slides.
- SOFTGROUND** = Substrate composed of sediment soft enough to squeeze it through one's fingers.

SOUPGROUND = Substrate composed of sediment too water-laden to be held in one's hand without it running through his/her fingers.

SPREITE (pl. SPREITEN) = Biogenic structure composed of tightly joined remains of tunnel walls produced successively as a burrow was shifted broadside through the sediment by the burrower.

SPREITEN BURROW = Burrow containing one or more spreiten.

STENOHALINE = Type of organism that can tolerate only a very limited salinity range; usually refers to organisms that are restricted to normal marine environments.

STENOMORPH = Trace fossil whose morphology has been restricted or heavily influenced by the heterogeneous nature of the substrate, such as buried hardgrounds, conchiolin layers in shells, granite pebbles in beachrock or earlier coffins in the graveyard.

STROMATOLITE = Biostratification structure formed as a result of sediment-trapping by sheets of blue-green algae.

SUBAERIAL = Deposited on land, not underwater.

SUBAQUEOUS = Deposited underwater, irrespective of salinity.

SUBLITTORAL = Subtidal shelf; generally zero to 300 m below sea level.

SUBMARINE = Deposited underwater in normal marine conditions.

SUBSTRATE = Any material (e.g., sediment, rock, shell or wood) that serves as a habitat for benthic organisms.

SUSPENSION FEEDER = Animal that feeds by filtering suspended food particles out of the water column; same as filter feeder.

SWAMP = A lowlying area with standing water and abundant trees, such as mangroves or cypress.

T.E.M. = Transmission electron microscope.

TAXON (pl. TAXA) = Category of biological classification, such as species, genus, family, etc.

TEREDOLITES ICHNOFACIES = Trace fossil association, composed entirely of borings, characterizing marine woodgrounds.

THALASSINIDEAN SHRIMP = Decapod crustacean belonging to the Suborder Thalassinidea; mainly marine; includes the burrowing shrimps Axius, Callianassa and Upogebia.

TIDAL CHANNEL = Permanent channel in a salt marsh, tidal flat or barrier island, in which the water level and current direction fluctuate with the tide.

- TIDAL DELTA** = Small, lobate depositional complex located at the lagoon end and/or seaward end of a tidal inlet through a barrier island.
- TIDAL FLAT** = Area of low relief that lies between the low tide line and high tide line.
- TIDAL INLET** = Small, permanent tidal channel through a barrier island connecting the ocean with the lagoon.
- TOPONOMY** = Mode of occurrence and preservation of biogenic sedimentary structures.
- TRACE** = Structure produced in sediment by the activity of an animal or plant; same as biogenic sedimentary structure.
- TRACE D'ACTIVITE ANIMALE** = French term meaning the same thing as trace.
- TRACE FOSSIL** = Ancient trace preserved in lithified sediment; same as ichnofossil.
- TRACK** = Individual footprint.
- TRACKWAY** = Set of multiple, separate footprints that indicates movement.
- TRAIL** = Continuous locomotion trace without separate footprints.
- TRANSITION LAYER** = Zone of pelagic sediment immediately below the Mixed Layer, in which heterogeneous mixing of the sediment results from the activities of deep-burrowing organisms.
- TROPHIC** = Pertaining to feeding habits of animals or feeding relationships among organisms.
- TRYPANITES ICHNOFACIES** = Trace fossil association, composed entirely of borings, characterizing marine rockgrounds and hardgrounds.
- TUBE** = Burrow that possesses a distinct wall or lining.
- TUNNEL** = Horizontal burrow.
- TURBIDITE** = Cyclic sedimentary unit, consisting of several microfacies per cycle (T_{a-e}), deposited by a turbidity current.
- TURBIDITY CURRENT** = Sediment-laden, gravity-driven current in which grains are supported by fluid turbulence and transported a long distance down a subaqueous slope.
- U-SHAPED BURROW** = Burrow (lined or unlined) with two shafts that curve and join at depth in the sediment.
- U-TUBE** = Lined burrow with two shafts that curve and join at depth in the sediment.
- UNDERTRACK** = Biogenic structure produced by deformation of sediment laminae directly beneath a track and usually preserved in cleavage relief.

- VARVE** = A pair of thin sediment laminae that represents cyclic annual (seasonal) deposition, usually in a mid-latitude or high-latitude lake.
- VARVITE** = Thinly laminated lacustrine deposit composed of varves.
- VERMIFORM** = Worm-like; possessing a long, flexible, soft body or a long, thin, winding shape.
- VIBRA CORER** = Coring device that is coupled with an air compressor, which vibrates the corer in order to drive it into a stiff or semilithified substrate.
- WASHOVER FAN** = Lobate or sheet-like sand body deposited on the lagoon side of a barrier island by periodic storm surges.
- WAVE BASE** = Maximum water depth at which waves can disturb or move the surface sediment.
- WINDING TRACE** = Trail (or trackway) that pursues an arcuate, spiralling course.
- WOODGROUND** = Substrate composed of wood, in which borings may be produced.
- WORM** = General term for a long, flexible, soft-bodied animal, regardless of the phylum to which it belongs.
- X-RAY RADIOGRAPHY** = Quasi-photographic technique of studying biogenic and primary sedimentary structures in a sediment sample by transmitting x-rays through the sample and recording the resultant image on x-ray film.
- XENOGLYPH** = Ornament imparted to the wall of a trace fossil by structural characteristics of the substrate; primary non-biogenic sculpture.
- XENOMORPH** = Trace fossil having a morphology that is controlled to a large extent by that of another, previously existing trace fossil.
- XYLIC** = Woody.
- ZOOPHYCOS ICHNOFACIES** = Trace fossil association characterizing soft-sediment habitats in bathyal water depths in a submarine slope environment.

*An unexamined hump
at first of no
interest lifting out
of the beach at
last devoured us all.*

Robert Creeley (Pieces, 1969)

