

ETYMOLOGY
FOR
PALAEOBIOLOGISTS

Etymology is the study of the roots of words. All words in English and every other modern language, have a history that can be traced back by the parts that make them up. These prefixes, suffixes and other word roots are usually derived from Latin and Greek, but can come from the Germanic and other languages as well.

The biological sciences, which includes palaeobiology, are actively constructing words to this day, in the almost endless task of classifying organisms and fossils. There is a certain precedent that a scientific name for an organism is descriptive, and so is constructed from prefixes, suffixes and other word roots, usually in Latin and Ancient Greek. Until recently, it was mandatory that taxonomic names have Latin or Greek roots, but these restrictions have now been lifted.

Understanding the meanings of these roots of words can help us to understand what the whole word means, and in the case of scientific names, what the organism or fossil is, what it looks like, or what it does. Given just a name but no specimen, it allows an educated guess at what the creature is. Given just a fossil, as you will be in the exam, you can remember the descriptive name from the Latin and Greek roots.

This guide is intended as an introduction to common roots used in Palaeobiology, and while not comprehensive, can be a first port of call for the meanings of word parts. If there is a root not included here, then try googling it, or a very useful online resource is the Online Etymology Dictionary (www.etymonline.com).

Leila Battison 2009

NUMBERS

uni/mono	one	uniserial/monograptid
diplo/bi	two	diplodocus/biserial
tri	three	triceratops
quadra/tetra	four	quadriceps/tetrapod
quinta/penta	five	quineloculina/pentamerid
hexa	six	hexacoral
septa	seven	September
octo	eight	octocoral
nona	nine	nonagon
deca	ten	decade
hemi/demi/semi	half	hemisphere/semicolon
centi	one hundredth	centimetre
milli	one thousandth	millimetre
micro	small (10^{-6})	microscope, micrometre
nano	one billionth	nanometre
pico	one trillionth	picometre
macro	large	macrofossil
kilo	one thousand	kilometre
mega	giant, one million (10^6)	megasphaeric
giga	one billion	Giga-annum (Ga)

TIMES AND AMOUNTS

chrono	time	chronography
proto	early/primitive	prototype
phanero	visible/revealed	Phanerozoic
neo	new	neolithic
eo	dawn	eoleptonema
palaeo/archaeo	ancient	palaeontology/archaeology
cen	recent	cenozoic
plio	more	Pliocene
pleisto	most	Pleistocene
holo	whole, all	Holocene
mio	less	Miocene
oligo	few	Oligocene, oligotrophic

BODY PARTS

opti	eye	optician
dent/dont	tooth	taxident/ orthodont
pod	foot/leg	cephalopod
gastro	stomach	gastropod
cephalos	head	cephalopod
derma	skin	mesoderm
coela	hollow	coelom

SHAPES

oidal	shaped like	ooidal
morpho	shape	morphospace
ortho	straight, regular	orthocone
brevi	short	brevicone
longi	long	longicone
helico	coiled	helicoplacus
sphaera	globe/ball	hemisphaera
theca/calyx	cup, receptacle	epitheca

ELEMENTALS

bio	life	biology
chemo	chemical	chemosynthesis
geo/terra	relating to the earth	geology/terraforming
hydro	water	hydrosphere
litho	stone	lithograph
atmo	vapour	atmosphere
baro	pressure	barometer
thermo	heat	thermophile
halo	salt	halides
photo	light	photosynthesis
cyt	in relation to cell	cytoplasm
saur	lizard	pterosaur
zoion	animal	zooplankton
phyton	plant	epiphyte
phycus	algae	phycology
trophy	food, nutrients	eutrophic
soma/mass	body	metasomatism

RELATIONSHIPS

im	not	imperforate
syn/sym	same	synchronous/sympatry
ex	outside, not	ex-military
plankton	floats	planktonic
nekton	swims	nektonic
benthos	sits on bottom	benthic
allo	different	allopatry
para	similar	parapatry
peri	edge	perimeter
ology	study of	geology
meter	to measure	thermometer
graphy	written	lithograph
auto	self	autotrophic
homo	same	homozygotic
hetero	different	heterozygotic
in/endo	within/inside	infaunal/endoderm
epi	ontop of	epitheca
meso	middle	mesoproterozoic
meta/tropo	change	metamorphism/troposphere
philia	attracted to	hydrophilia
phobia	repelled	hydrophobia

strato	spreading out	stratosphere
necro/morti	death	necrophilia/mortician
vivo	life	vivacious
iso	same	isobar
hypo	low, under	hypostome
hyper	high, above	hypertension
dino	terrible	dinoflagellates
ichnus	track	ichnology
scleros	hardened	scleractinian
patri	father	parapatry
matri	mother	matriarchal
ferre	to bear	foraminifera
fenestrae	window	fenestra
foramen	hole	foraminifera

COLOURS

chloro	green	chloroplast
cyano	blue-green	cyanobacteria
chryso	yellow-brown, golden	chrysophyte
rhodo	red	rhodophyte

Globigerina (Foraminiferid)

L. *globulus* – globule + L. *-erina* – feminine suffix

Nummulites (Foraminiferid)

L. *nummus* – coin + L. *-lite* – stone

Fusilina (Foraminiferid)

L. *fusil* – musket + *-ina* – feminine suffix

Pseudonodosaria (Foraminiferid)

Gr. *pseudes* – false + L. *nodus* – knot + L. *-aria* – related to

Lagena (Foraminiferid)

L. *lagena* – bottle/flagon

Porifera (sponges)

L. *porus* – pore + L. *ferre* – to bear

Spicules (sponges)

L. *spicula* – head of spear

Siphonia (sponge)

Gr. *siphon* – pipe/tube + Gr. *-ia* – feminine suffix

Ventriculites (sponge)

L. *ventriculus* – stomach + L. *-lites* – stone

Halysites (coral)

Gr. *halys* – chain + Gr. *-ites* – connected with

Favosites (coral)

L. *favorem* – show support + Gr. *-ites* – connected with

Lithostrotion (coral)

Gr. *lithos* – stone + Dutch. *Strot* – throat

Palaeosmilia (coral)

Gr. *palaeo* – old, ancient + Gr. *smilē* – chisel

Calceola (coral)

L. *calcis* – heel + L. *-ola* – small

Zaphrentis (coral)

Gr. *za* – very, much + Gr. *phrenos* – mind

Isastrea (coral)

Gr. *iso* – equal + L. *astrum* – star

Thecosmilia (coral)

Gr. *theke* – case, receptacle + Gr. *smilē* – chisel

Fungia (coral)

L. *fungus* – mushroom

Hexacoral (coral)

Gr. *hex* – six + Gr. *korallion* – small stone

Bryozoan

Gr. *bryon* – moss + Gr. *zoion* – animal

Fenestella (bryozoan)

L. *fenest* – window + L. *-ella* – feminine suffix

Rotularia (polychaete worm)

L. *rota* – wheel + L. *-aria* – connected with

Serpula (possible worm)

L. *serpentem* – snake + L. *-ula* – small, little

Trigonia (bivalve)

Gr. *trios* – three + Gr. *gonia* – angle

Glycimeris (bivalve)

Gr. *glykys* – sweet + OE. *Mere* – sea

Pecten (bivalve)

L. *pectinare* – comb

Lopha (bivalve)

Gr. *lophos* – crest, tuft

Gryphaea (bivalve)

Gr. *grypos* – curved

Modiolus (bivalve)

L. *modius* – measure for grain

Ostrea (bivalve)

L. *ostreum* – oyster

Mya (bivalve)

Gr. *mys* – muscle

Arctica (bivalve)

L. *arctica* – of the Arctic

Euomphalus (gastropod)

Gr. *eu-* - well + Unknown. *omphalus* – navel, bellybutton

Athleta (gastropod)

Gr. *athlete* – contestant in games, champion

Neptunea (gastropod)

L. *Neptunus* – god of the sea

Turitella (gastropod)

L. *turris* – high structure, tower + L. *-ella* – feminine suffix

Clavilithes (gastropod)

L. *clavis* – key + Gk. *lithos* – stone

Viviparus (gastropod)

L. *vivanius* – living + Unknown. *-parus* – relative

Belemnites (cephalopod)

Gr. *belemnion* – dart or javelin shaped

Scaphites (cephalopod)

Gr. *skaphos* – boat + Gr. *-ite* – connected with

Baculites (cephalopod)

L. *baculum* – stick, staff + Gr. *lithos* – stone

Dactylioceras (cephalopod)

Gr. *dactylos* – finger + Gr. *keratos* – horn

Amaltheus (cephalopod)

German. *amal* – work + Gr. *theos* – god

Ceratites (cephalopod)

Gr. *keratos* – horn + Gr. *-ites* – connected with

Goniatites (cephalopod)

Gr. *gonia* – angle + Gr. *-ites* – connected with

Orthoceras (cephalopod)

Gr. *orthos* – straight, true + Gr. *keratos* – horn

Nautilus (cephalopod)

Gr. *nautes* – sailor

Lingula (brachiopod)

L. *lingula* – tongue, spoon

Orthis (brachiopod)

Gr. *orthos* – straight, regular

Spirifer (brachiopod)

L. *spira* – coil + L. *ferre* – to bear

Productus (brachiopod)

L. *productus* – to bring forth

Terebratula (brachiopod)

L. *terebra* – hole-borer + L. *-ula* – little

Rhynchonella (brachiopod)

Unknown. *rhyncha* – snout + L. *-ella* – feminine suffix

Micraster (echinoid)

Gr. *micros* – small + Gr. *aster* – star

Echinus (echinoid)

Gr. *ekhinos* – porcupine

Clypeus (echinoid)

L. *clypeus* – round shield

Clypeaster (echinoid)

L. *clypeus* – round shield + Gr. *aster* – star

Apiocrinus (crinoid)

Unknown. *apio* – dark + Gr. *krinoedes* – lily-like

Pentacrinites (crinoids)

Gr. *penta* – five + Gr. *krinoedes* – lily-like

Metopaster (starfish)

Gr. *meta* – change + Gr. *aster* – star

Dictyonema (graptolite)

Gr. *diktyon* – throw + Gr. *nematos* – thread

Didymograptus (graptolite)

Gr. *didymos* – twofold + Gr. *graptos* – written

Diplograptus (graptolite)

Gr. *diploes* – double over, fold + Gr. *graptos* – written

Monograptus (graptolite)

Gr. *monos* – single + Gr. *graptos* – written

Dalmanites (trilobite)

'Of Dalmatia' – area in Croatia

Paradoxides (trilobite)

Gr. *paradoxon* – contrary to expectations + Gr. *-ides* – son of

Agnostus (trilobite)

Gr. *agnostus* – unknown, unknowable

Trinucleus (trilobite)

L. *tria* – three + L. *nucleus* – kernel, nut

Calymene (trilobite)

Gr. *kalyptein* – covered + Gr. *mene* – moon