

COMMON ROOTS OF ZOOLOGICAL TERMS

Each root is followed by its meaning and example. The root is from Greek unless noted by (L) for Latin.

a, an – not, without (acoelomate, anaerobic)
ab (L) – off, from, away from (aboral)
acanth(o) – thorn, spine (acanthocephalan)
acti(no) – ray, radiation (Actinopterygii)
ad (L) – to, toward (adrenal)
alb (L) – white (albino)
all(o) – different, other (allele)
amphi – around, on both sides, double (amphibian)
ana – upward, again (anabolism)
annul (L) – ring
anti – counteracting, acting against (antibiotic)
aqua (L) – water (aquatic)
arch(e) – ancient, first (archenteron)
arthr(o) – joint, articulation (arthropod)
astr, aster – star (asteroidea)
audi(o) (L) – hearing (auditory nerve)
aut(o) – self (autotrophic)
axo, axi – axis (axial)

bi (L) – two, double (bilateral)
bio – life, living (biology)
blast(o) – bud, budding (blastulii)
brachi(o) (L) – arm (brachial artery)
branch – gill (nudibranch)

cardi(o) – heart (cardiac)
carn – meat (carnivore)
caud (L) – tail (caudal)
centr(o) – center (centromere)
cephal(o) – head (cephalopod)
cerat, cero – horn (rhinoceros)
chaet – bristle, hair (polychaete)
chord – string (notochord)
chondr(o) – cartilage (chondrichthyes)
chori – membrane (chorion)
chrom(ato) – color (chromatophore)
cide (L) – killing, destruction (bactericide)
circum – around, about (circumference)
clad – branch (cladoceran)
co(m), co(n) – together, with, joint (codominance)
coel – hollow (coelom)
contra – against (contralateral)
corn (L) – horn (unicorn)
cry(o) – cold (cryogenic)
cycl(e) – ring, circle (pericycle)
cyst – bladder (blastocyst)
cyt(o) – cell (cytoplasm)

dactyl – finger or toe (pentadactyl)
deca – ten (decapoda)
de (L) – from, down, out (defecate)
deci – a tenth (decimate)
dendr – tree (dendrite)
dent – tooth (dentition)
derm – skin (epidermis)
di – two, double, separate (dioecious)
dia – across, through (diaphragm)

diplo – two, double (diploblastic)
dis (L) – separation, reversal (disarticulate)
dist (L) – distant (distal)
dors – back (dorsal)
du(o) – two (duodenum)
dys – bad, difficult, disordered, ill (dystrophy)
echin – hedgehog, i.e. spiny (echinoderm)
eco – house (ecology)
ect(o) – outside, external (ectoparasite)
en, end, ent – inside, internal (endoderm)
enter(o) – intestine, gut (coelenterate)
epi – upon, over, beside (epidermis)
erythr(o) – red (erythrocyte)
eu – true, good, normal (eukaryotic)
eury – wide, broad (euryhaline)
ex (L) – out, away from (excrete)
extra (L) – outside, beyond the scope of (extracellular)

fer (L) – bear, produce (porifera)

gam – marriage (gamete)
gast – stomach, belly (gastrula)
gen – agent that produces (carcinogen)
gene – origin, birth (genetics)
gnath(o) – jaw (agnatha)
gon – seed, generation, offspring (gonad)
gyn – female (gynandromorph)

hem – blood (hemoglobin, uremia)
hemi – half (hemichordate)
hepat – liver (hepatic duct)
hetero – other, different (heterozygote)
hex(a) – six (hexactinellid)
hist – tissue (histology)
hol(o) – whole, entire (holoblastic)
homeo, homo – same, alike (homeostasis)
hydr – water (hydrostatic)
hyper – over, excessive (hyperosmotic)
hypo – under, beneath, deficient (hypotonic)

ichthy(o) – fish (osteichthyes)
im, in – not (immature)
in – in, within, into (infect)
inter (L) – between (intercellular)
intr (L) – inside of, within (intracellular)
iso – equal, alike, same (isotonic)

kerat – horn (keratin)
kilo – thousand (kilobases)
lact(o) (L) – milk (lactose)
leuc, leuk – white (leukocyte)
lith – stone (otolith)
logy – study of (biology)

macr(o) – large (macromolecule)
mamm – breast (mammal)
mega – large (megavitamin)

LSC 370 – Vertebrate Zoology

melan – black (melanin)
mer – part (sarcomere, meroblastic)
mes(o) – middle (mesoderm)
meta – after, change (metazoan)
meter – measure, instrument for measuring
micro – small (microtubule)
milli – thousandth (millimole)
mono – one, single (monecious)
morph – shape, form (metamorphosis)
mort – death (mortality)
multi (L) – many (multicellular)
myo – muscle (myofibril)
myria – many (myriapoda)

nas(o) (L) – nose (nasal)
naut – ship, sail (nautiloid)
neo – new, recent (neo-Darwinism)
nephro – kidney (nephron)
neur(o) – nerve (neurobiology)
noci (L) – harm, injury (nociceptor)
noct – night (nocturnal)
node – knot (node of Ranvier)
non – not (nondisjunction)
nuc (L) – center (nucleus)

ob (L) – against, in front of, toward (obligate)
oct(o) – eight (octopod)
odont(o) – tooth (conodont)
oid – similar in shape or form (anthropoid)
oligo – few, little, scanty (oligochaete)
omni – all (omnivorous)
oo – egg (oocyte) [pronounced OH-oh]
opisth – behind (opisthobranch)
orth(o) – straight, correct, right (orthodontist)
oste(o) – bone (osteoblast)
ov (L) – egg (ovum)
oxy – quick, sharp, sour, oxygen present

pale(o) – old, ancient (paleontology)
pan – all (pandemic)
para – beside, beyond, apart from (parasympathetic)
pent – five (pentadactyl)
per (L) – throughout, completely (perfusion)
peri – around, near (pericardium)
phag – eat (macrophage)
pheno – show (phenotype)
phil – affinity for, fondness of (neutrophil)
phob – fear of, aversion to (hydrophobic)
phor – carrier, bearer (spermatophore)
phot(o) – light (phototropic)
phyt(o) – plant (phytoplankton)
placo – plate, flat (placoderm)
plasm – something moldable (cytoplasm)
platy – flat, wide (platypus)
pleur – side, rib (pleura)
pneum(o) – air, gas, lung (pneumonia)
pod – foot (arthropod)
poly – many, much (polymorphic)
por (L) – pore (blastopore)
post (L) – after, behind (postsynaptic)

pre (L) – before (premolar)
pro – before, in front of (prokaryote)
proto – first, original (protozoa)
pseud(o) – false (pseudocoel)
pter – wing, feather, fin (pteridine, diptera)
pulmo (L) – lung (pulmonary artery)
pyro – fire, heat (pyrogen)
radi(o) – (L) – radius, ray, radiation (radial)
re (L) – again, back, contrary (regurgitate)
ren – kidney (renal artery)
ret, reticul (L) – network (reticulum)
rhin(o) – nose (rhinoceros)
rhynch – snout (rhynchocoel)

sarc – flesh (sarcomere)
saur – lizard (dinosaur)
schist(o), schiz(o) – split (schizocoel)
scler(o) – hard (arteriosclerosis)
semi (L) – half (semilunar)
sept (L) – partition, seven (septum)
sperm – seed, semen (angiosperm)
stasis – maintenance of a constant level (homeostasis)
stat – standing, position (statocyst)
stell – stars (stellate)
steno – narrow, constricted (stenohaline)
stom(ato) – mouth (peristomium)
strat – layer (stratum germinativum)
styl(o) – stake, pole (stylet)
sub (L) – under, near, almost (subcutaneous)
super, supra, sur (L) – over, above, excessive
sym, syn – with, together (symbiosis, synapse)

tachy – rapid, swift (tachycardia)
tars – ankle (tarsus)
tax – arrangement (taxonomy)
tele – far away, operating at a distance (telencephalon)
telo – end (telophase)
ter (L) – three, threefold (tertiary structure)
tetr – four (tetraploid)
thec (L) – case, box, chest, cup (spermatheca)
therm – heat (poikilotherm)
tomo, tomy – a section, incision, cutting (tomography)
top(o) – particular place or area (topical)
tox(o), toxic(o) – poison, toxin, poisonous (toxemia)
trans (L) – across, through, beyond (transport)
tri (L) – three (triploblastic)
trich(o) – hair (trichocyst)
trop – turn, change (phototropic)
troph – nourish, food (heterotrophic)

ultra (L) – beyond, excess (ultraviolet)
uni (L) – one (unicellular)
ur – tail (anuran)
uresis, uretic – urinary excretion of (diuretic)

vas(o) (L) – vessel, duct (vasoconstriction)
ven (L) – vein (vena cava)
ventr – belly (ventral)

zo – animal (zoology)
zyg(o) – yoked, joined, a junction (zygote)