Invertebrados

Árbol de la vida

REINO ANIMAL

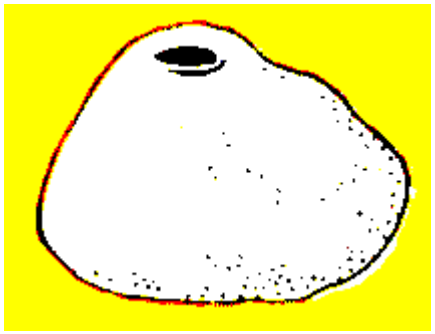
VERTEBRADOS

PECES

INVERTEBRADOS

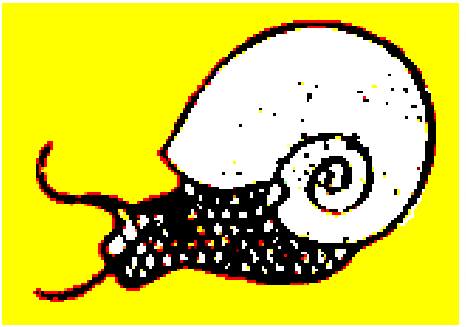
Invertebrados importantes en acuariofilia

Esponjas

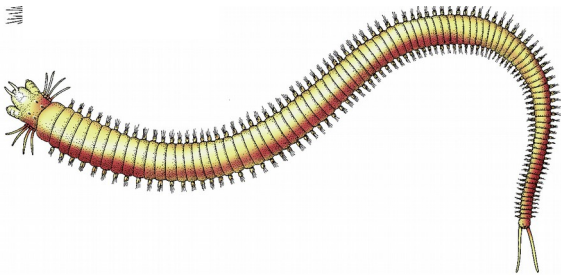


Cnidarios

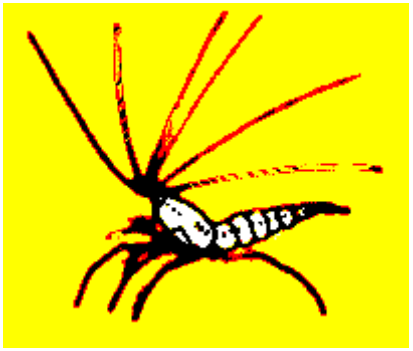
Moluscos



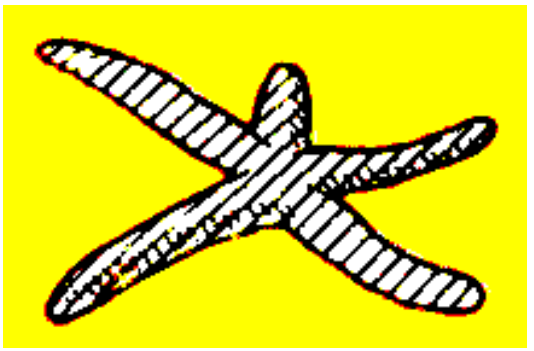
Anélidos



Crustáceos

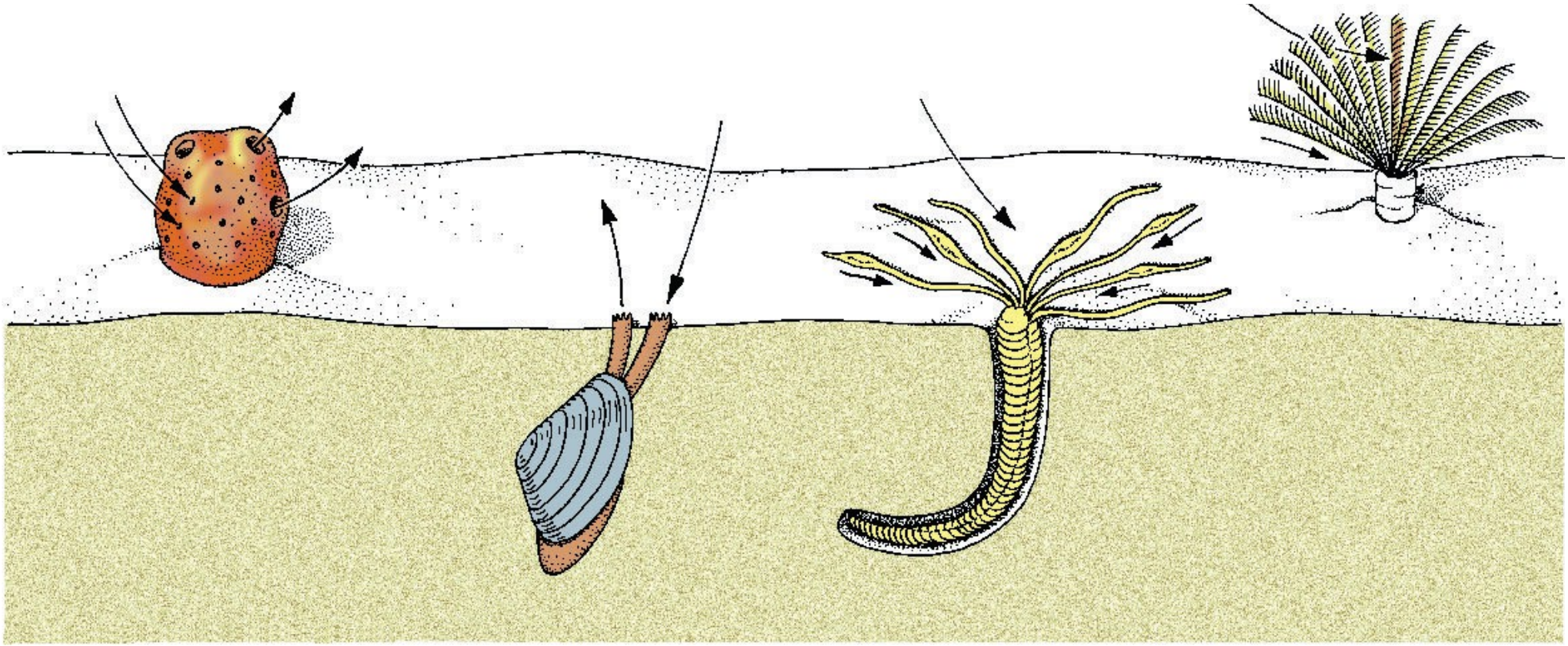


Equinodermos



Tunicados

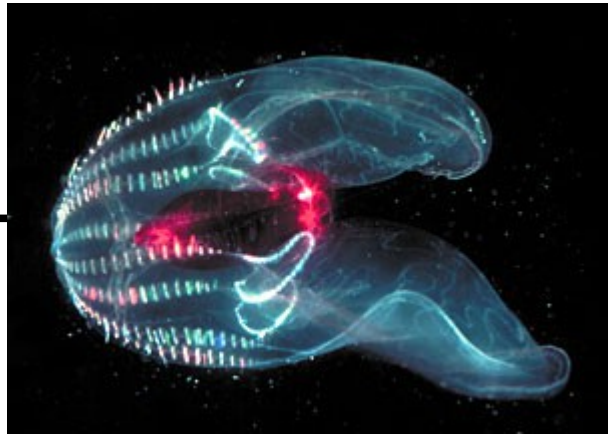
Muchos invertebrados son filtradores



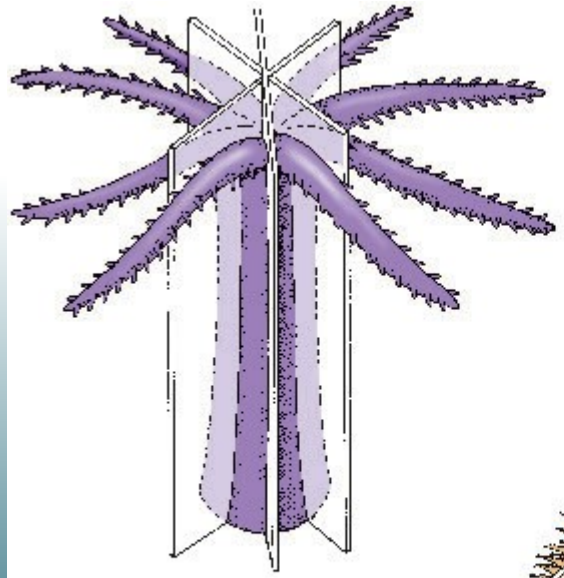
Bilateria resto animales (crustáceos, moluscos, vertebrados…)

Cnidaria medusas, anémonas, corales, pólipos

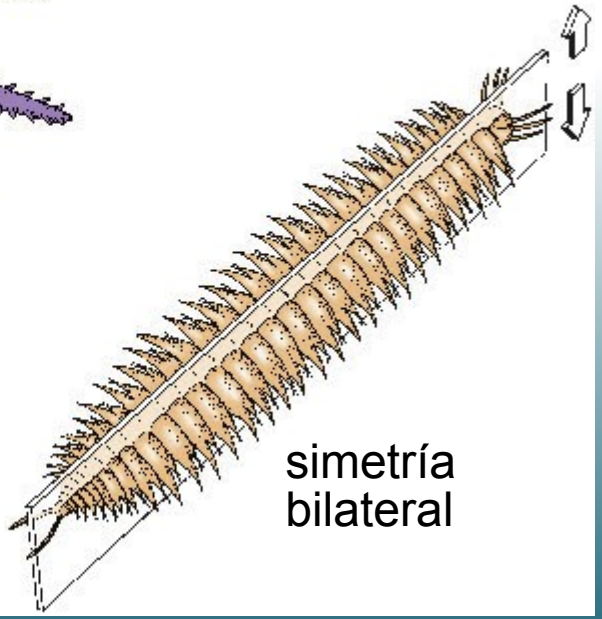
Ctenophora ctenóforos



Porifera esponjas

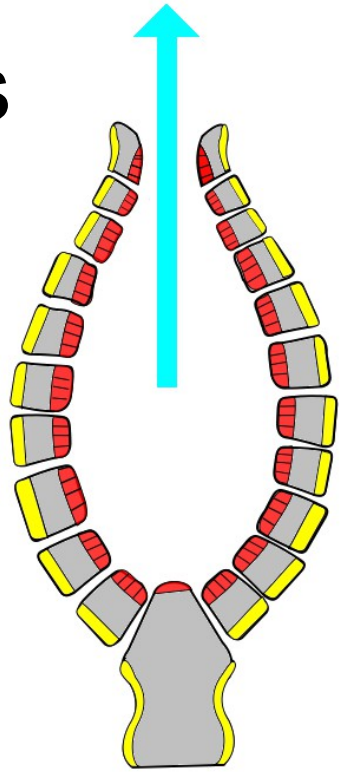


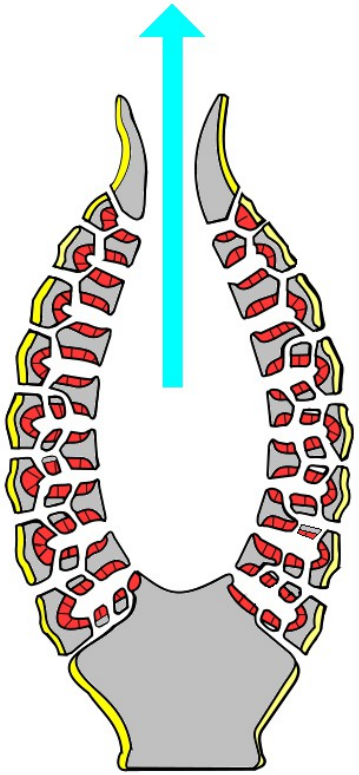
simetría radial

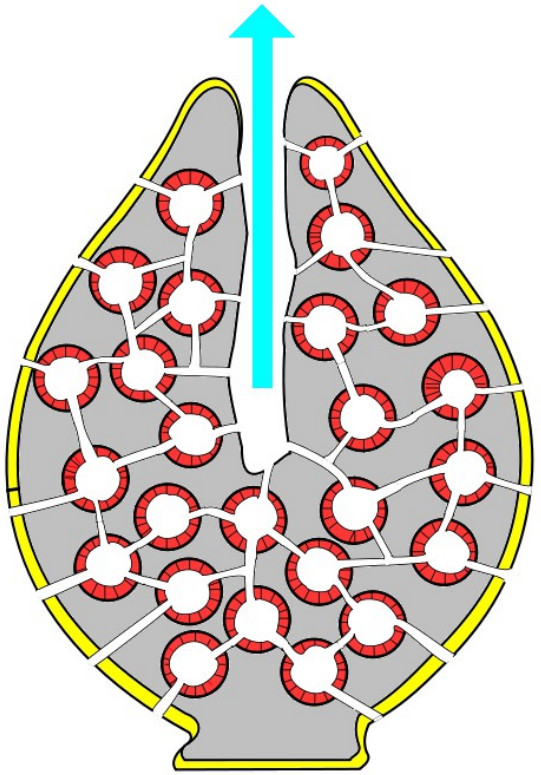


simetría bilateral

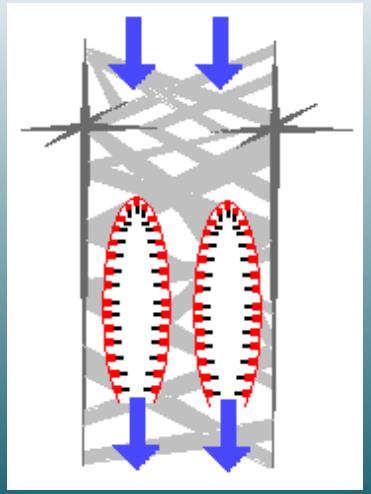
Esponjas



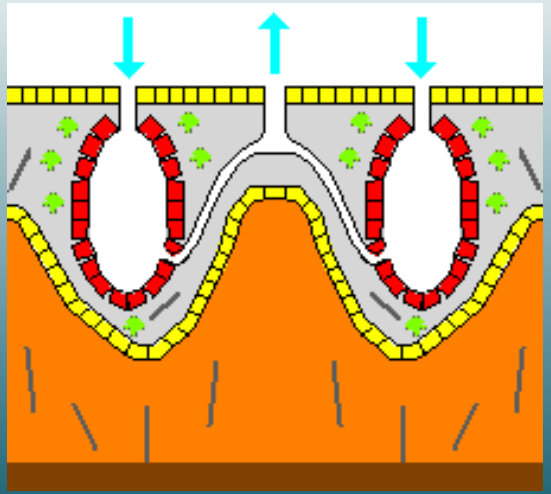


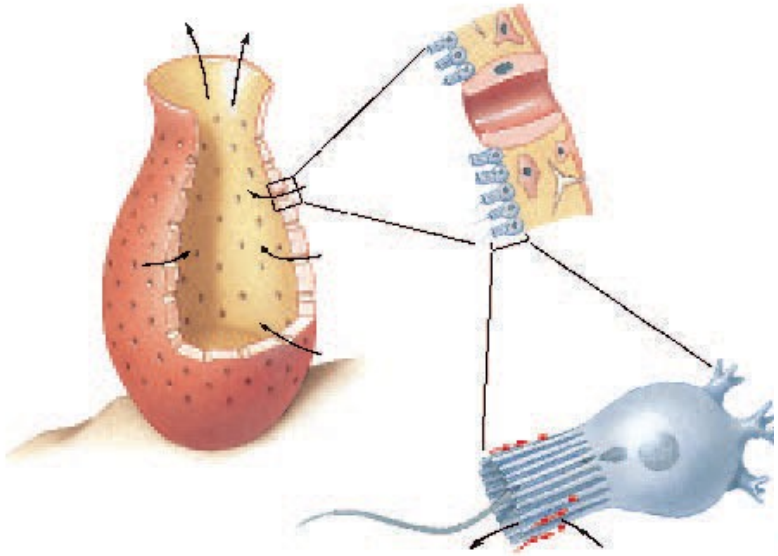


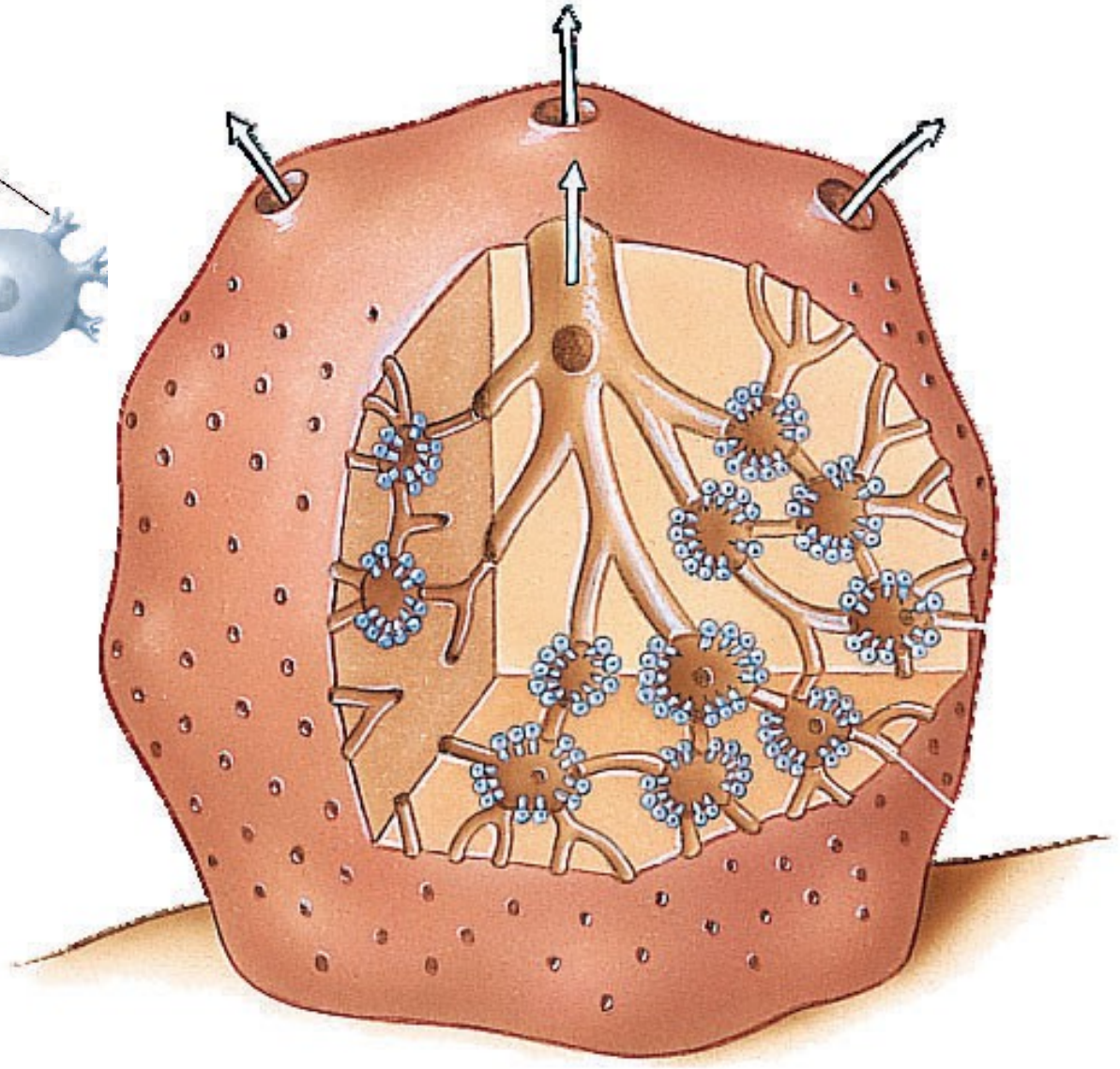
silícea



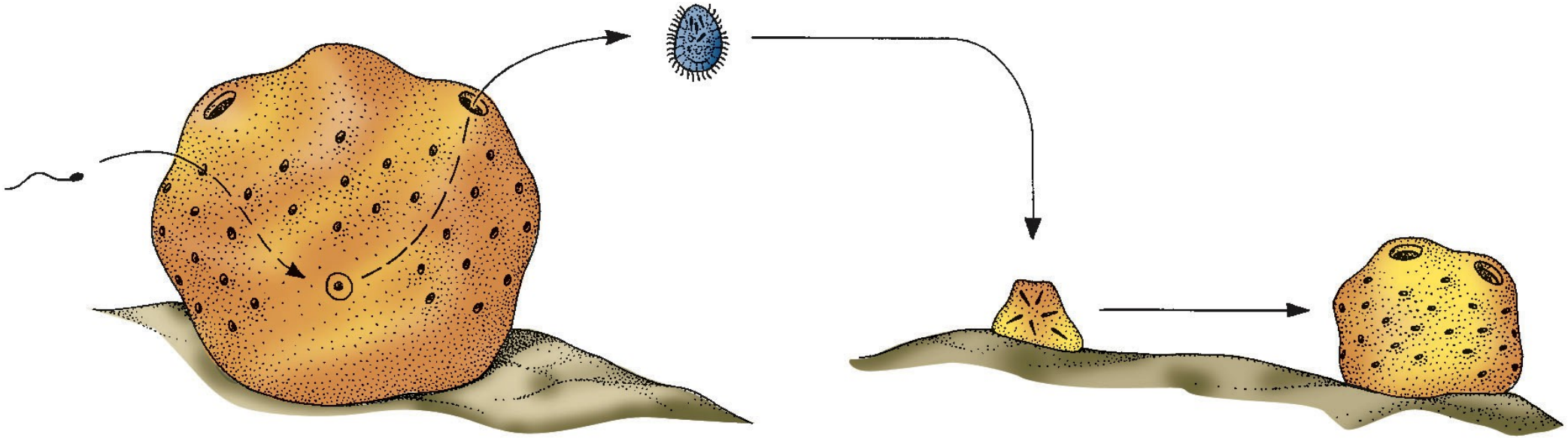
calcárea





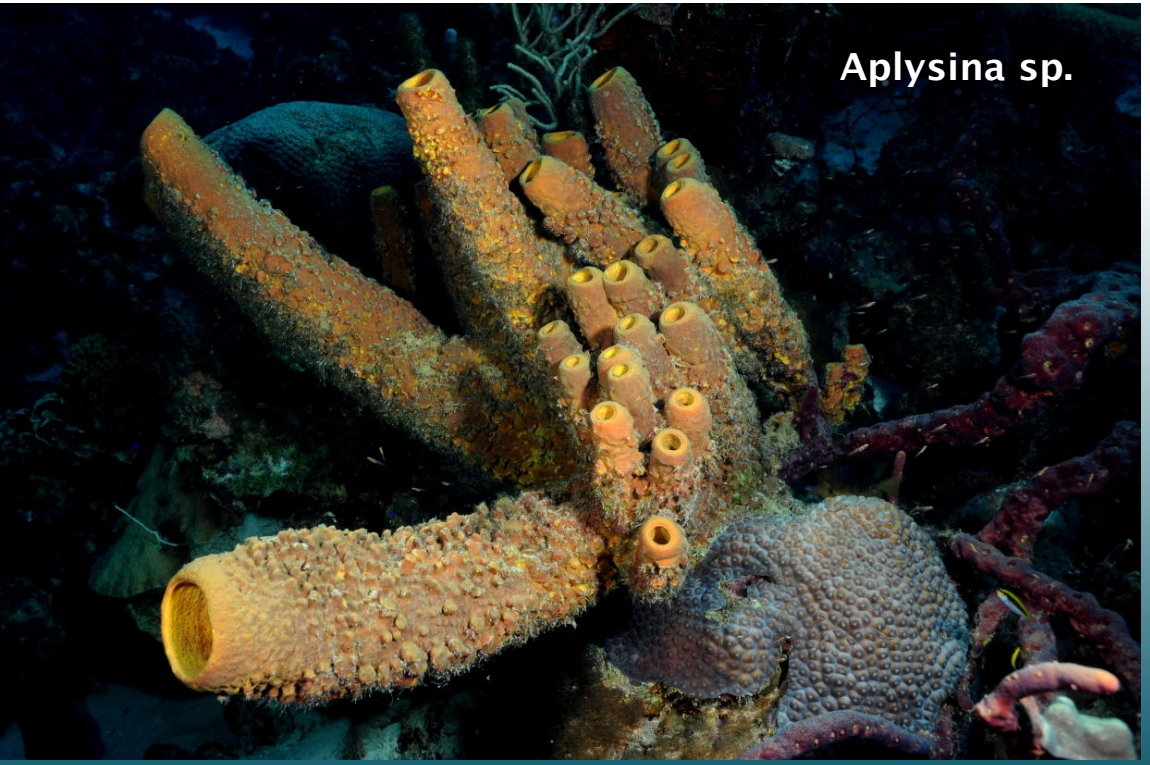


Reproducción de las esponjas



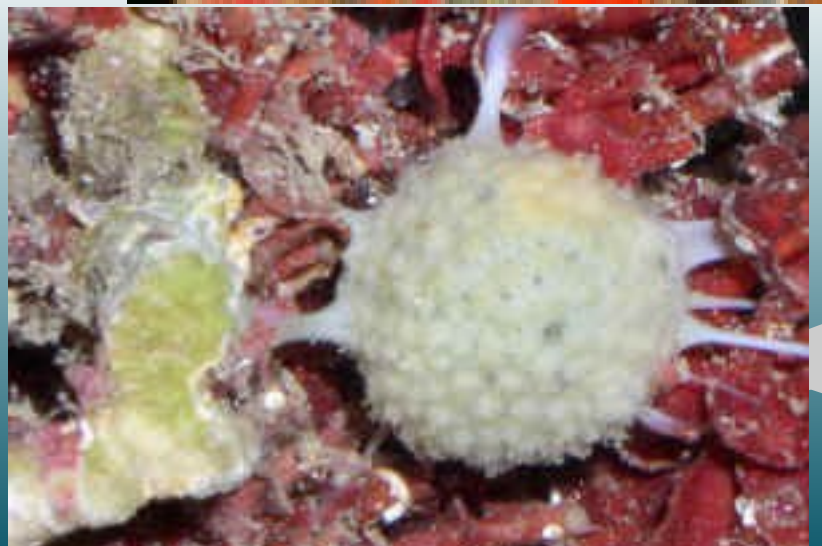
Atergia sp.

Agelas conifera


Aplysina sp.

Cliona

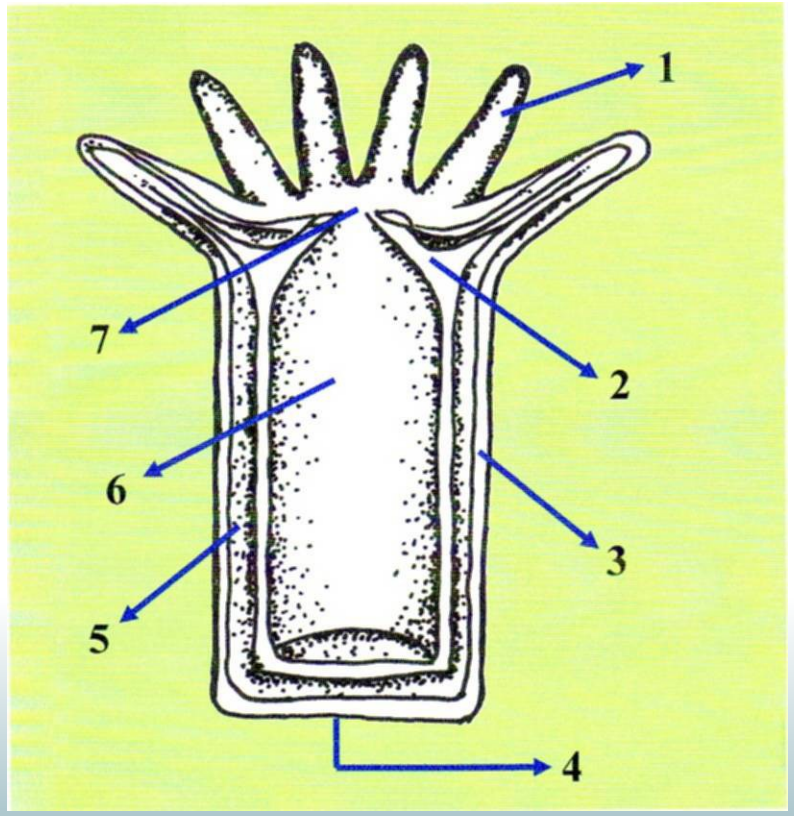
Spirastrella coccinea



Cnidarios

pólipo

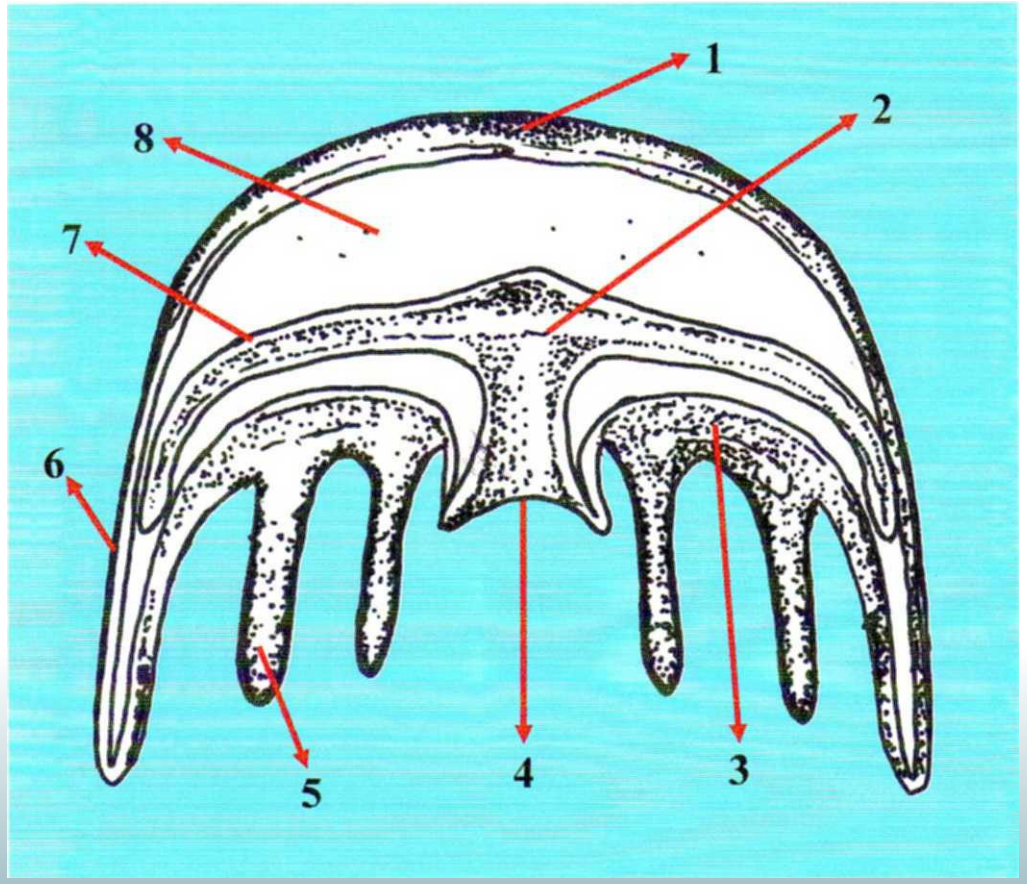
se encuentra fijo a un substrato



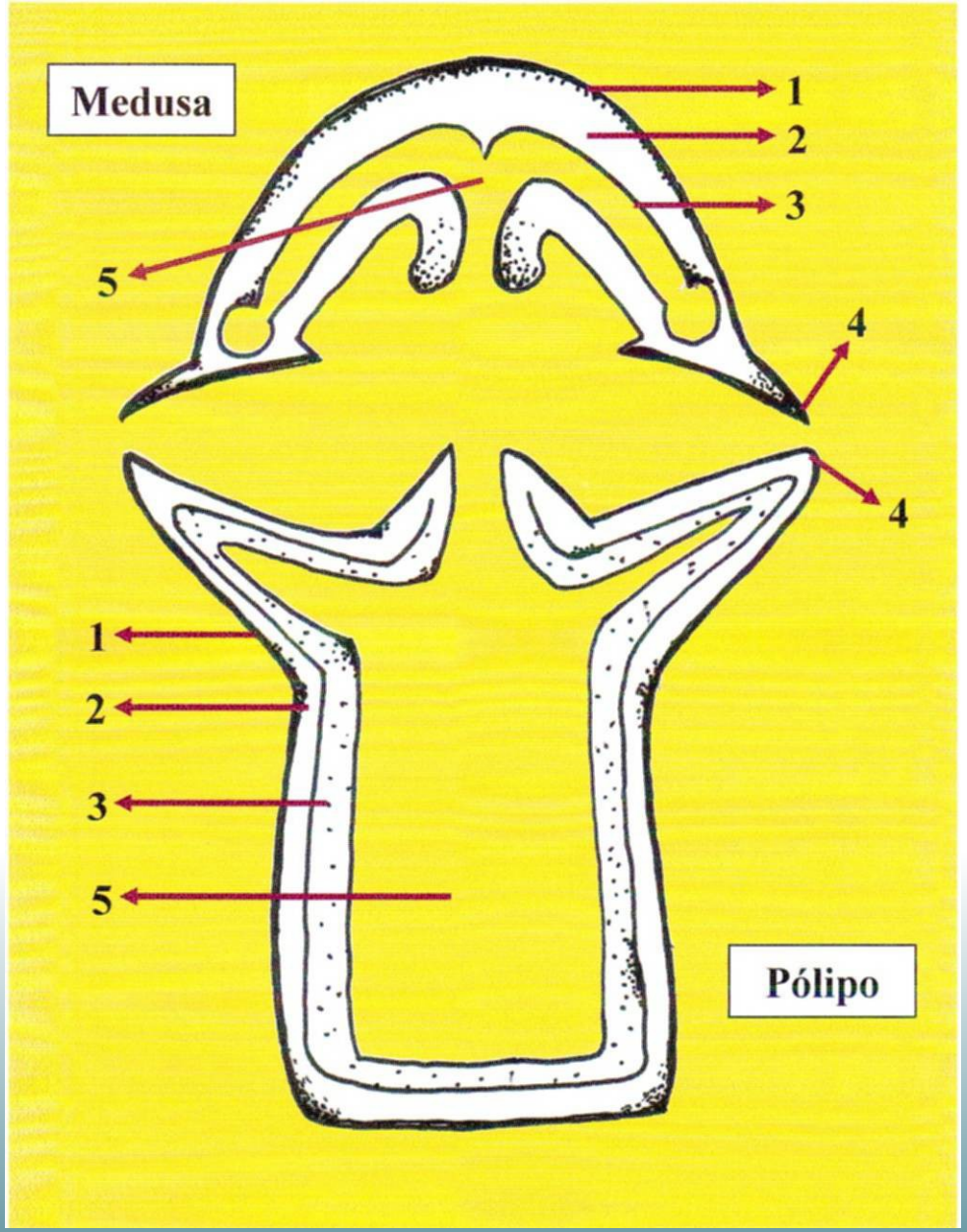
(1) Tentáculo, (2) Gastrodermis, (3) Epidermis, (4) Disco pedal, (5) Mesoglea, (6) Cavidad gastrovascular, (7) Boca

medusa

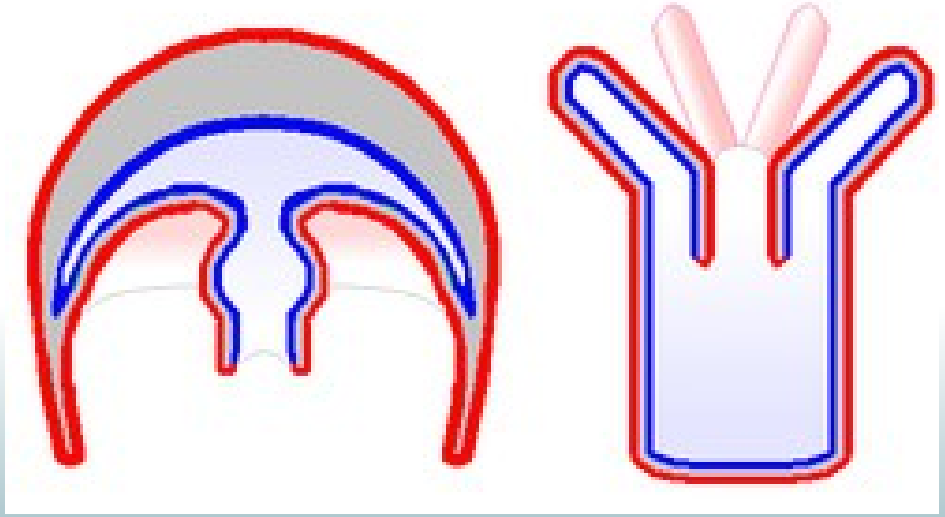
forma de vida libre

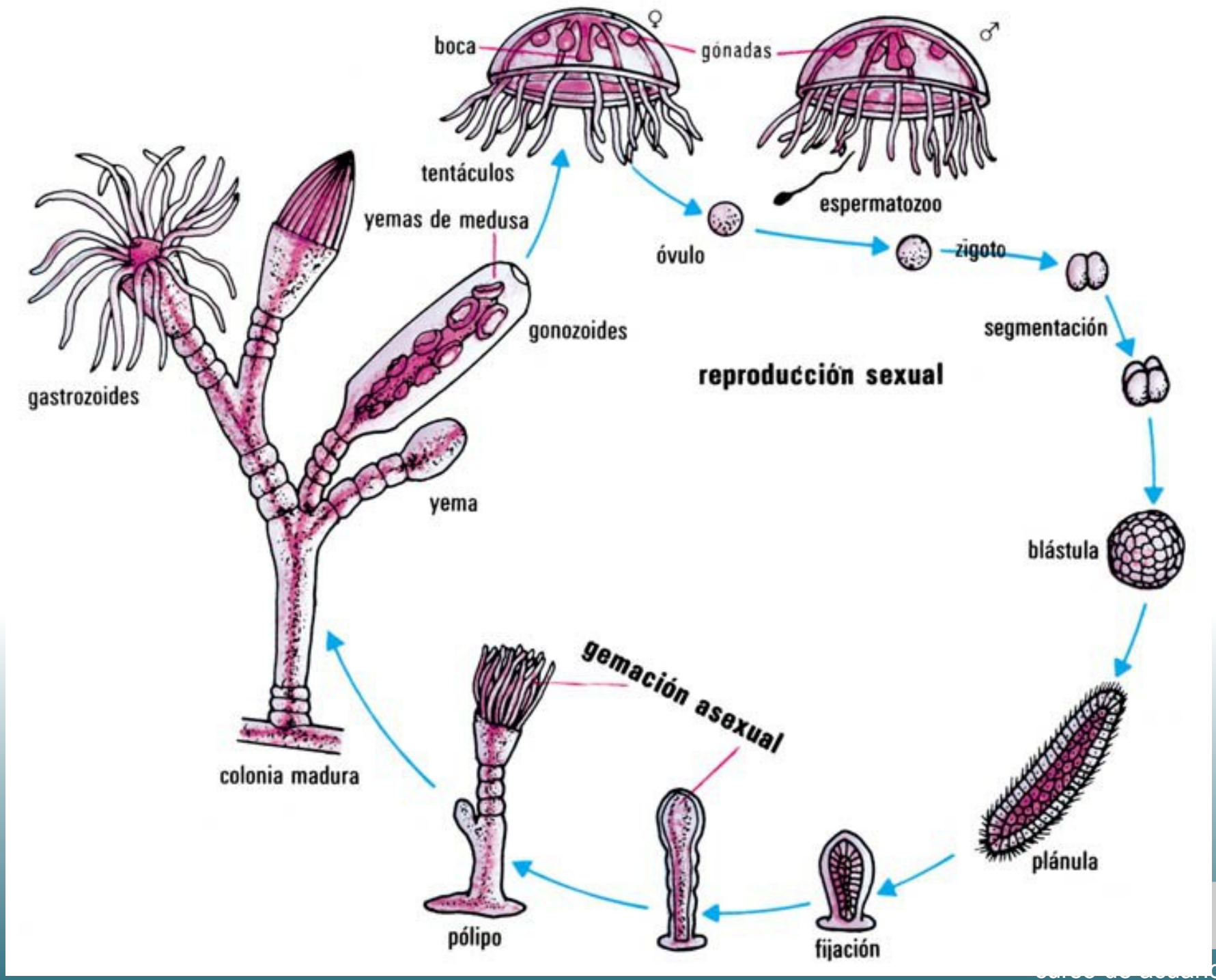


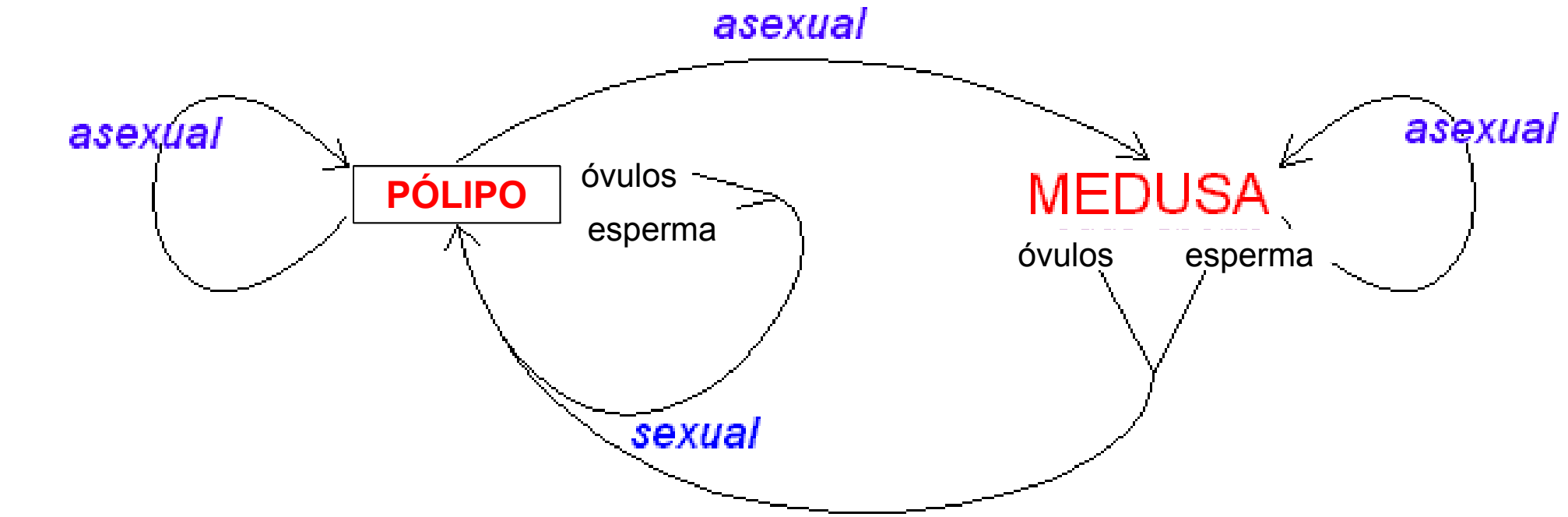
(1) Exumbrela, (2) Cavidad gastrovascular, (3) Subumbrela, (4) Boca, (5) Tentáculo, (6) Epidermis, (7) Gastrodermis, (8) Mesoglea



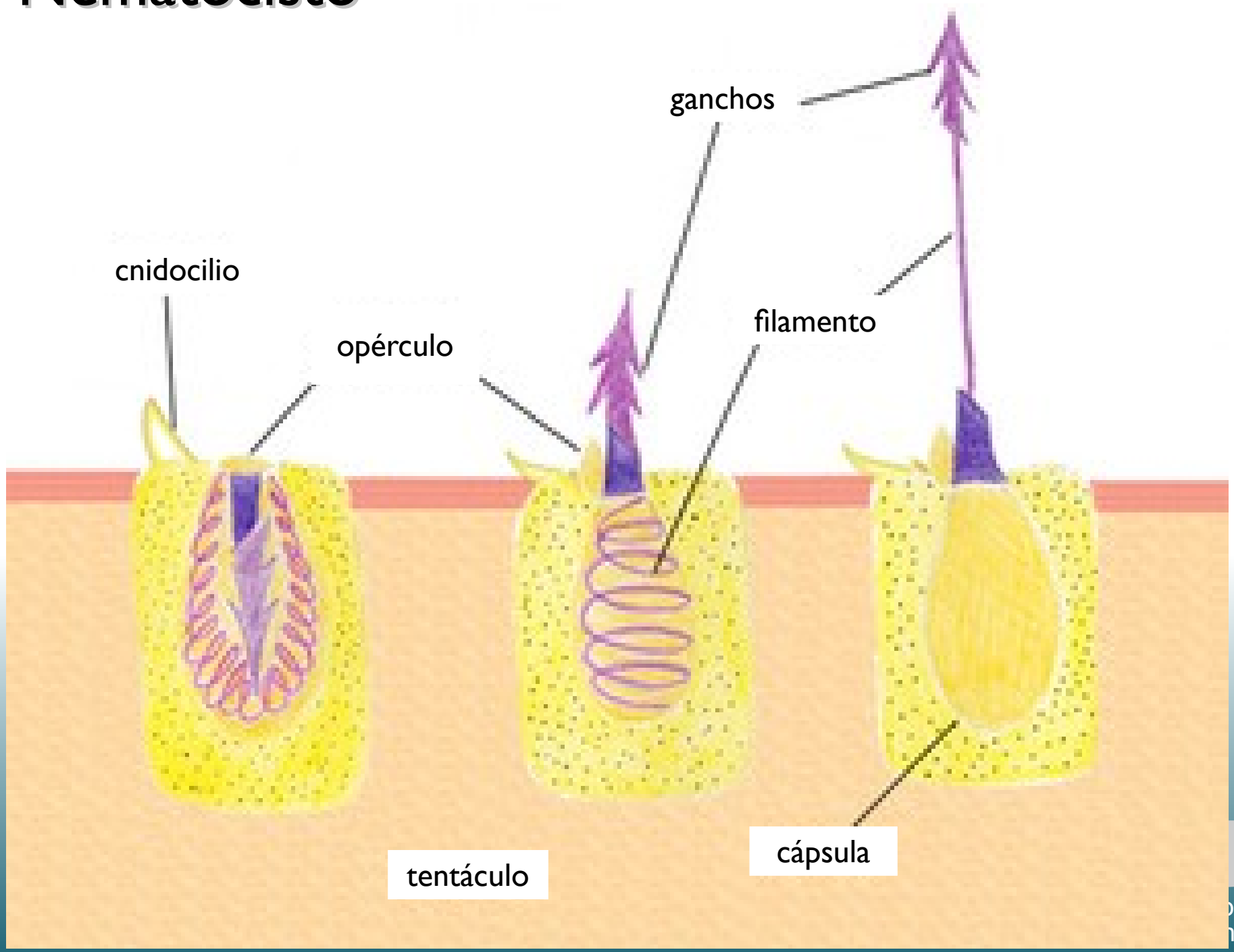
(1) Epidermis,
(2) Mesoglea,
(3) Gastrodermis,
(4) Tentáculo,
(5) Cavidad gástrica




boca
gónadas
♀
♂
tentáculos
espermatozoo
yemas de medusa
óvulo
zigoto
gastrozoides
gonozoides
segmentación
reproducción sexual
yema
blástula
gemación asexual
colonia madura
plánula
pólipo
fijación


asexual
asexual
asexual
PÓLIPO
óvulos
esperma
MEDUSA
óvulos
esperma
sexual

Nematocisto



Cnidarios

Anthozoa anémonas, corales, corales blandos

sólo pólipo

Hydrozoa

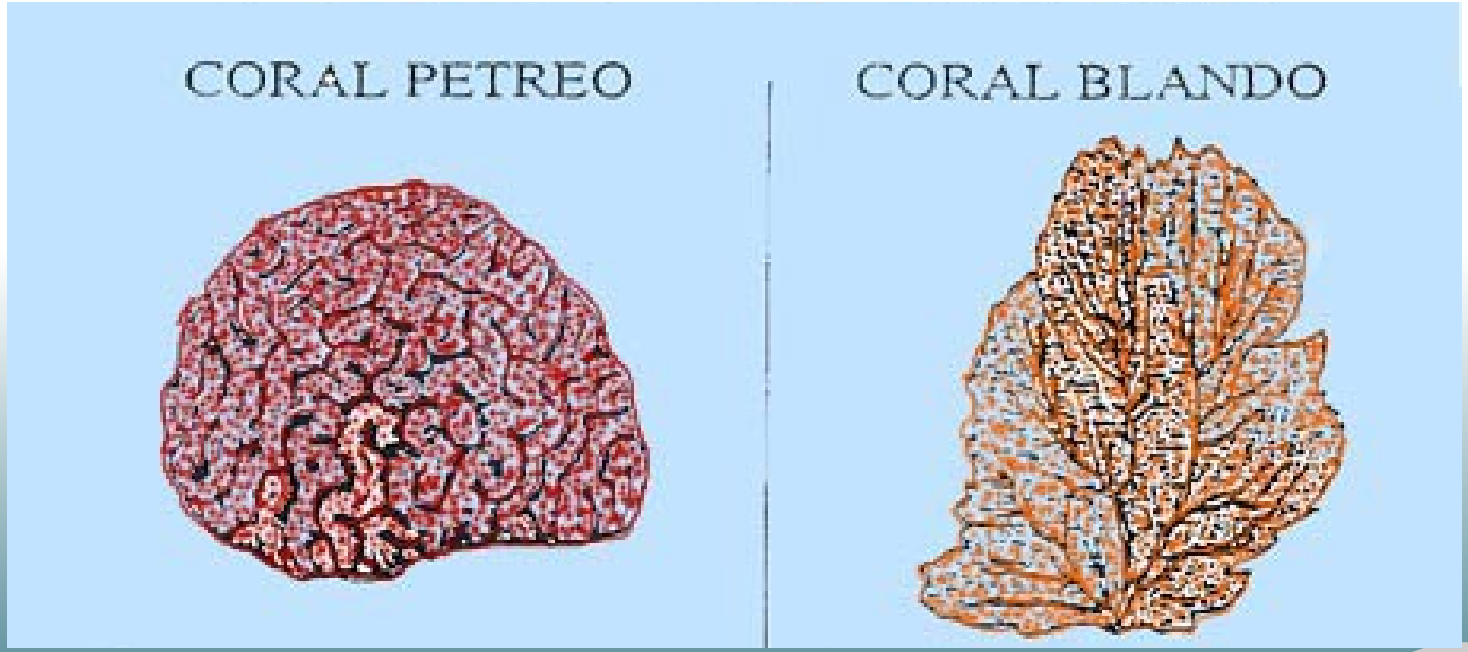
pólipo+medusa

Scyphozoa

pólipo+medusa
o sólo medusa

Anthozoa

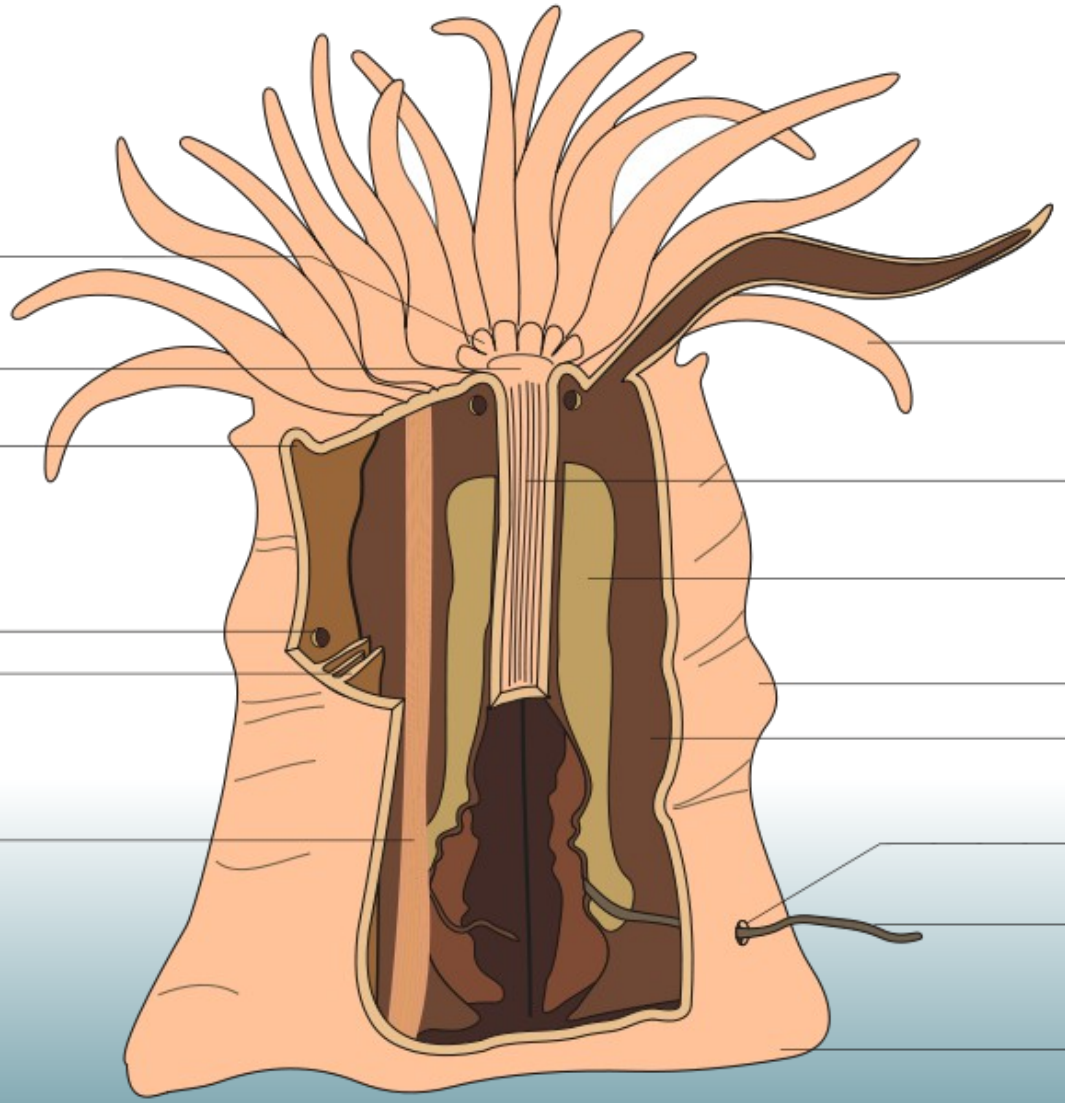
- **Zoantharia** — anémonas y corales pétreos
- **Alcyonaria** — corales blandos y gorgonias



coral pétreo

coral blando

Anémona


disco oral
14
boca
13
12
11
10
músculo retractor
9
1 tentáculo
2 faringe
3 gónada
4
5 septo completo
6
7
8 disco pedal

Cnidaria

Antozoa

Zoantharia

Entacmaea quadricolor

riofilia
anismos

Cnidaria

Antozoa

Zoantharia

Heteractis crispa

Cnidaria

Antozoa

Zoantharia

Heteractis magnifica

Cnidaria

Antozoa

Zoantharia

Macrodactyla doreensis

Cnidaria

Antozoa

Zoantharia

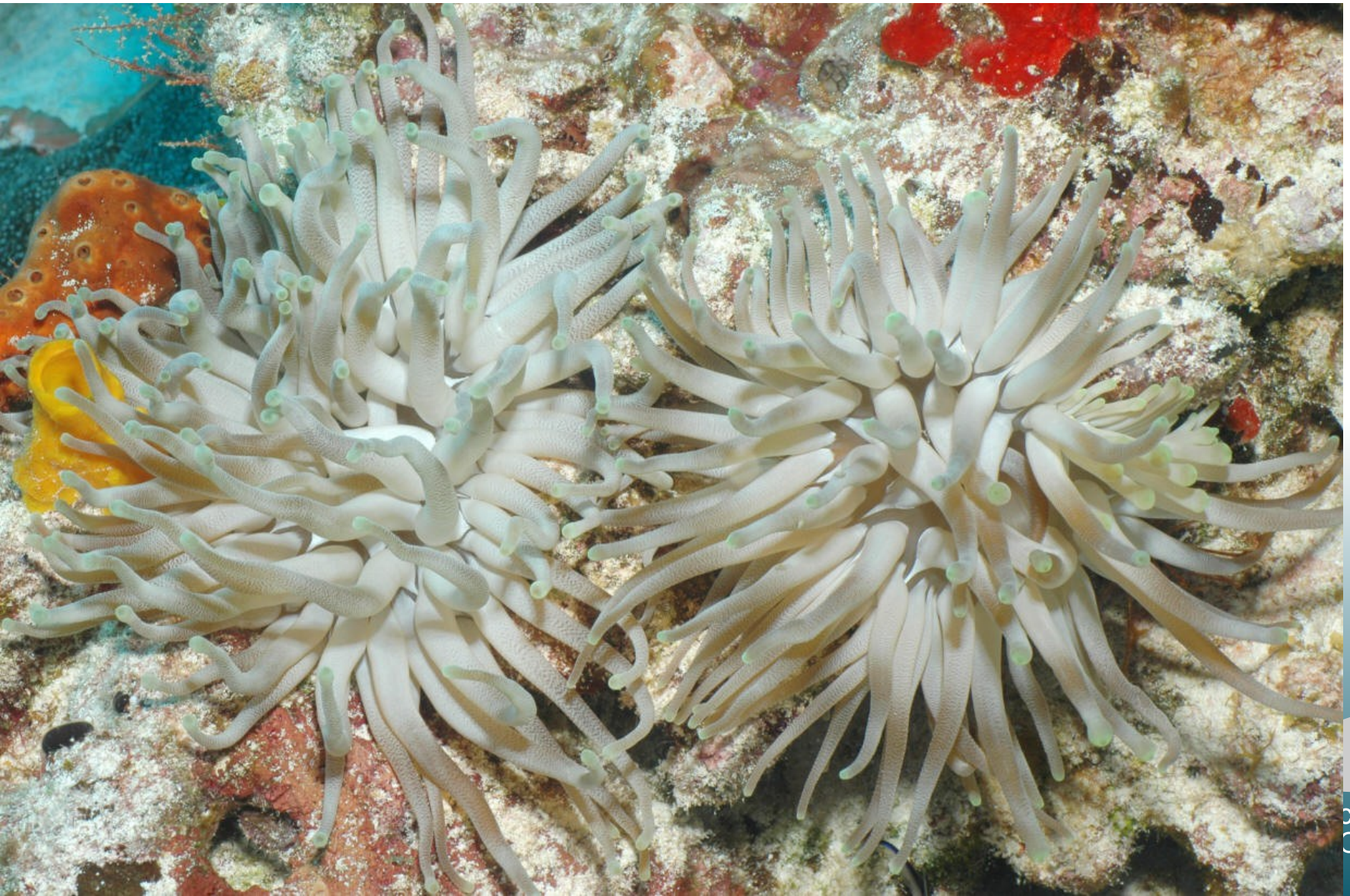
Stichodactyla mertensii

Cnidaria

Antozoa

Zoantharia

Condylactis gigantea



Cnidaria

Antozoa

Zoantharia

Cerianthus membranaceus

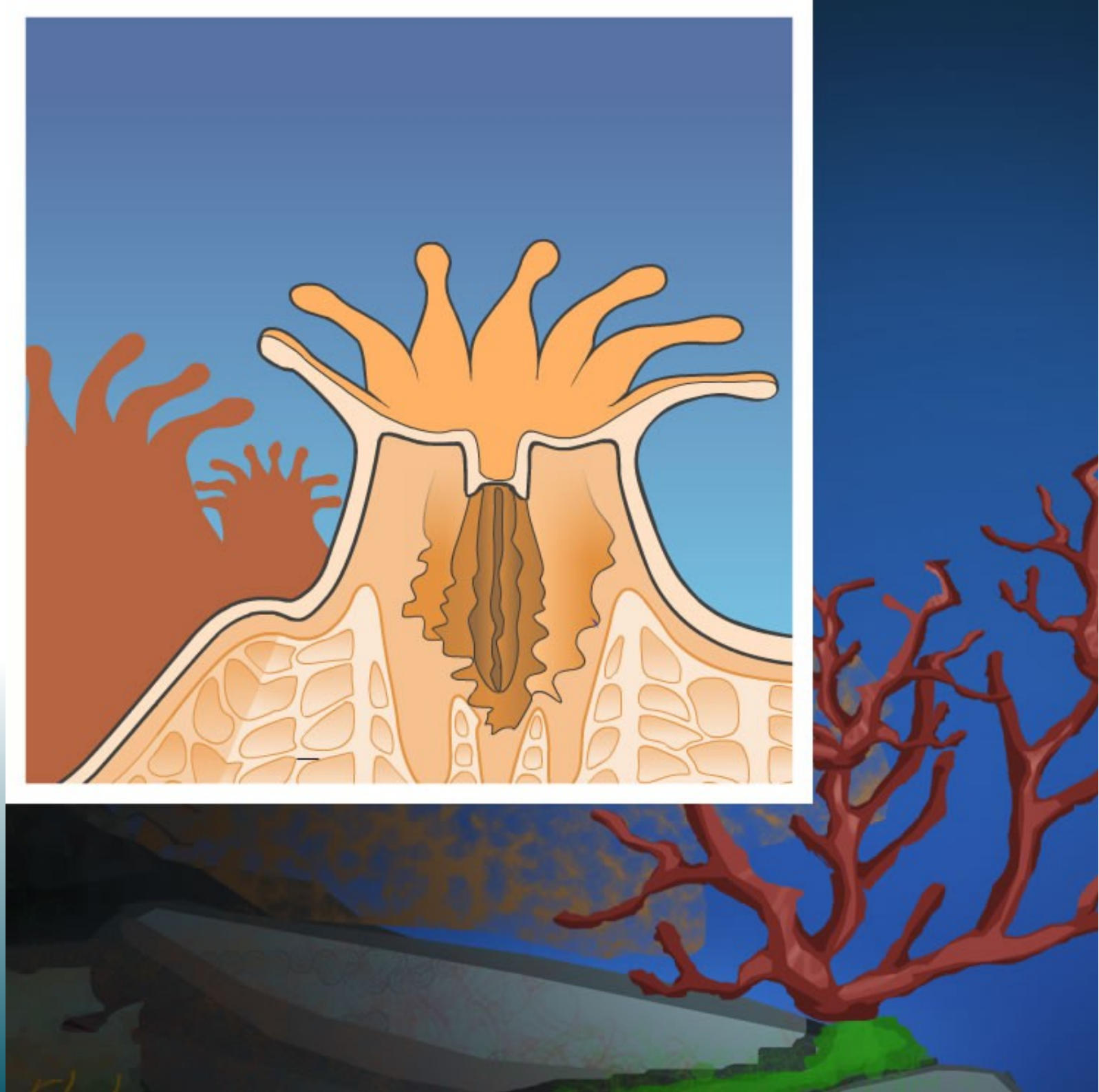
Cnidaria

Antozoa

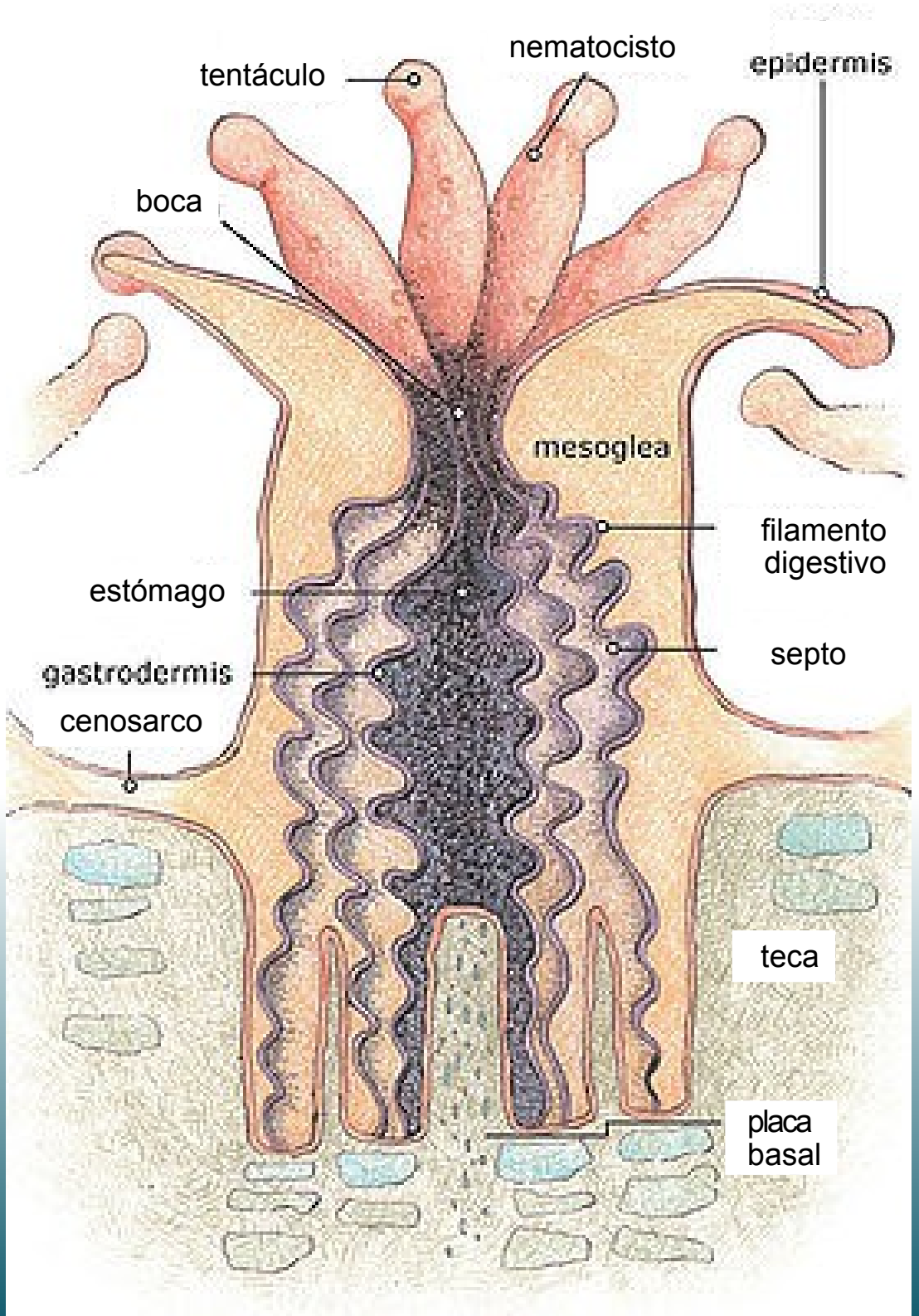
Zoantharia

Aiptasia sp.

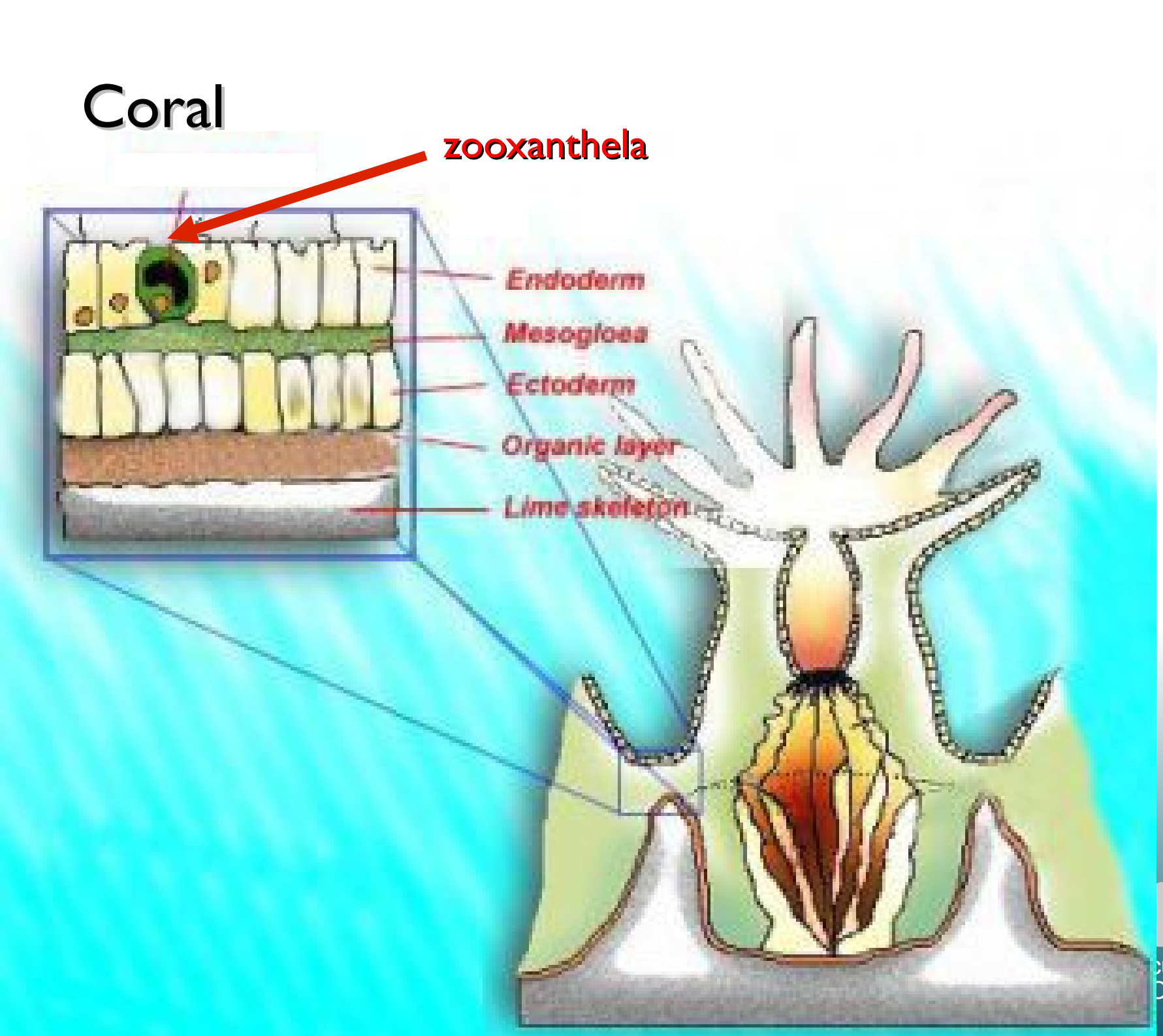
Coral



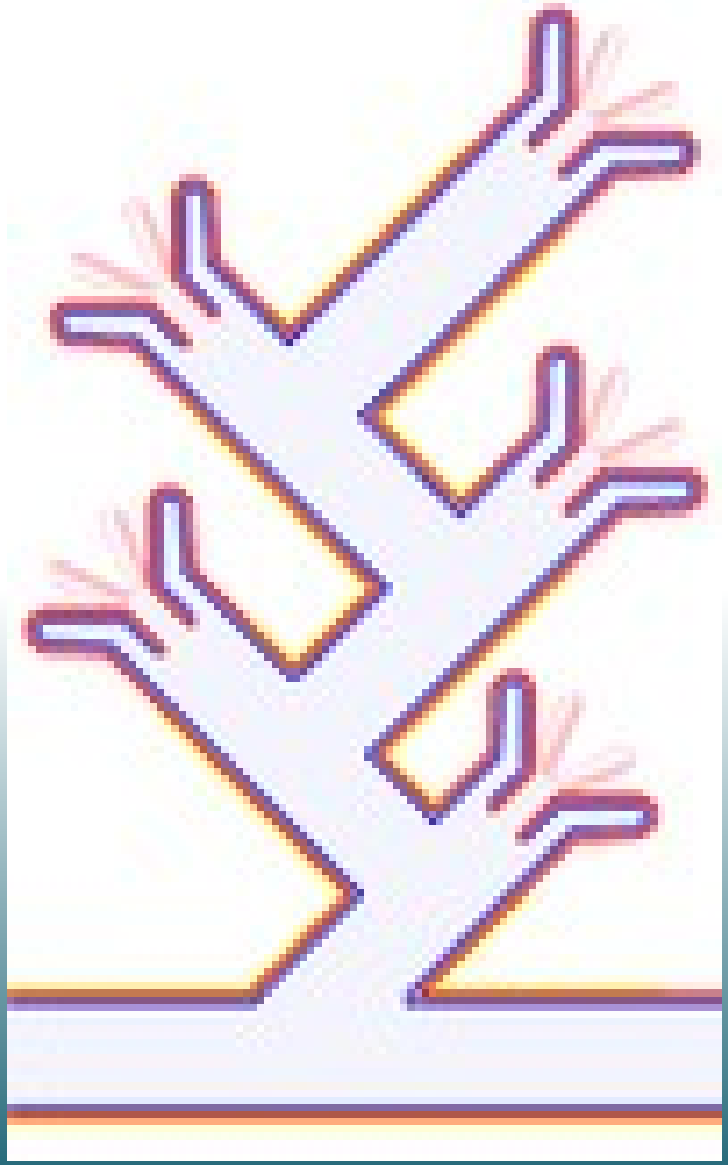
Coral

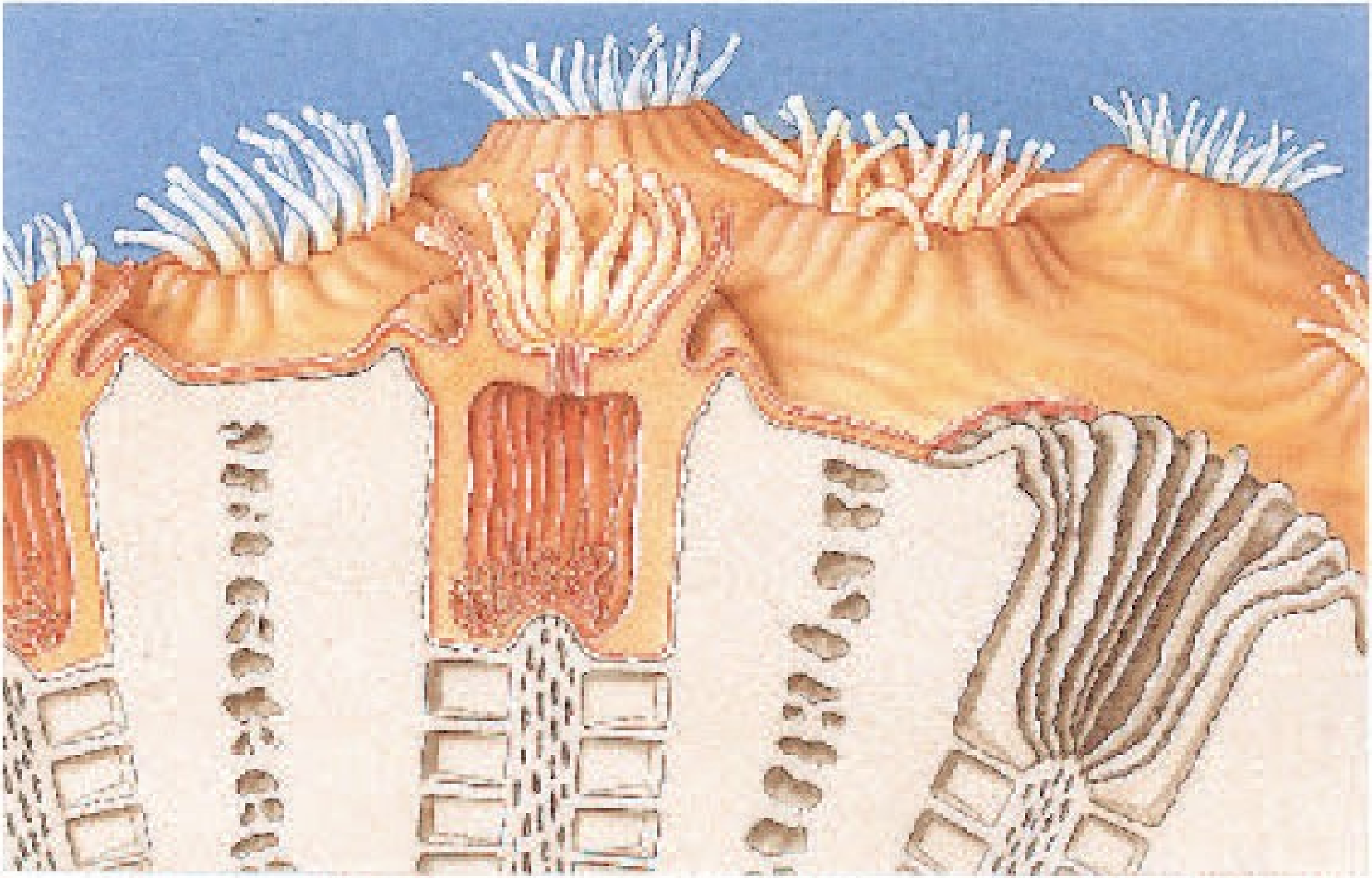

tentáculo
nematocisto
epidermis
boca
mesoglea
filamento digestivo
estómago
septo
gastrodermis
cenosarco
teca
placa basal

Coral

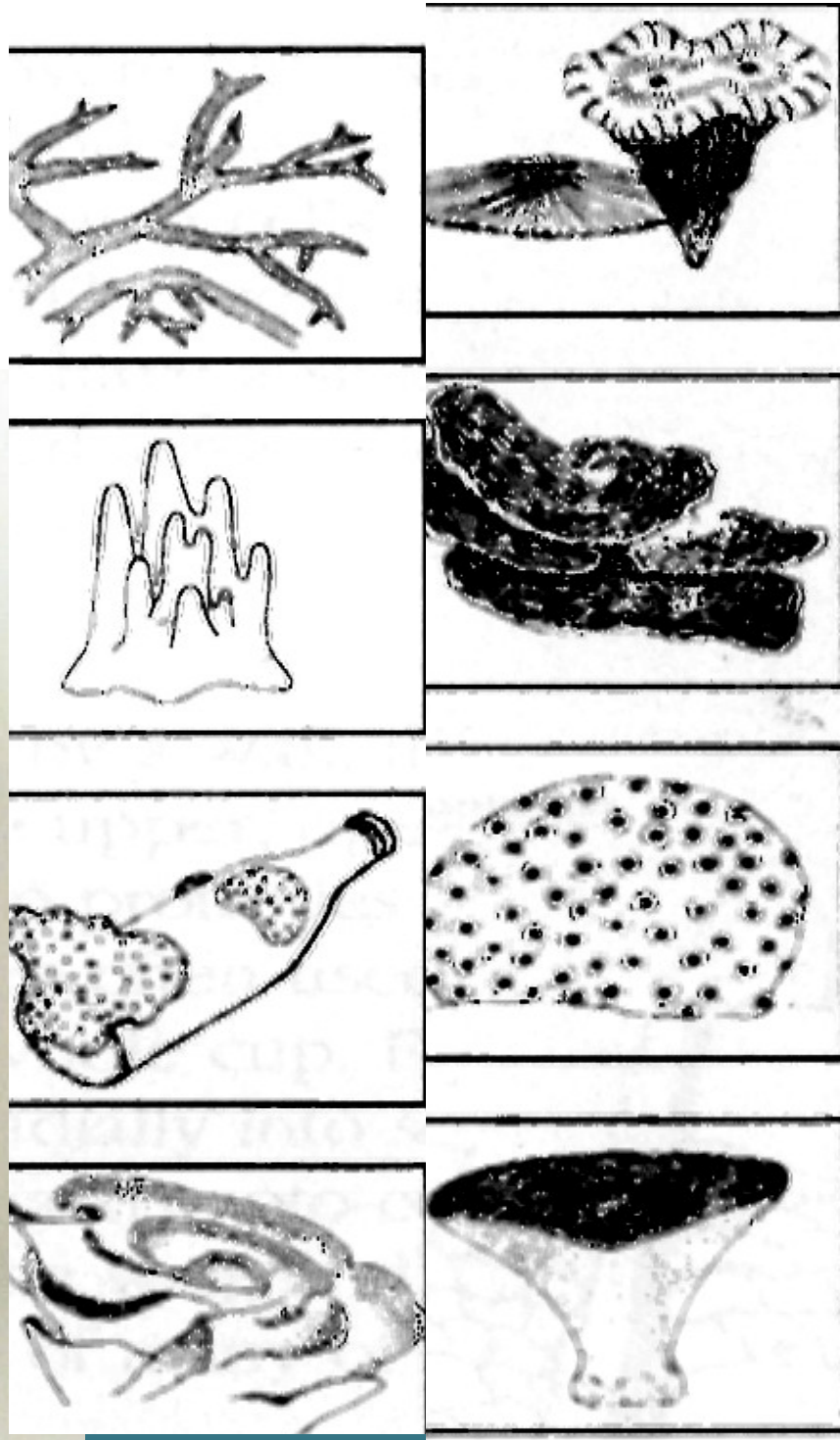

zooxanthela
Endoderm
Mesoglaea
Ectoderm
Organic layer
Lime skeleton

Coral

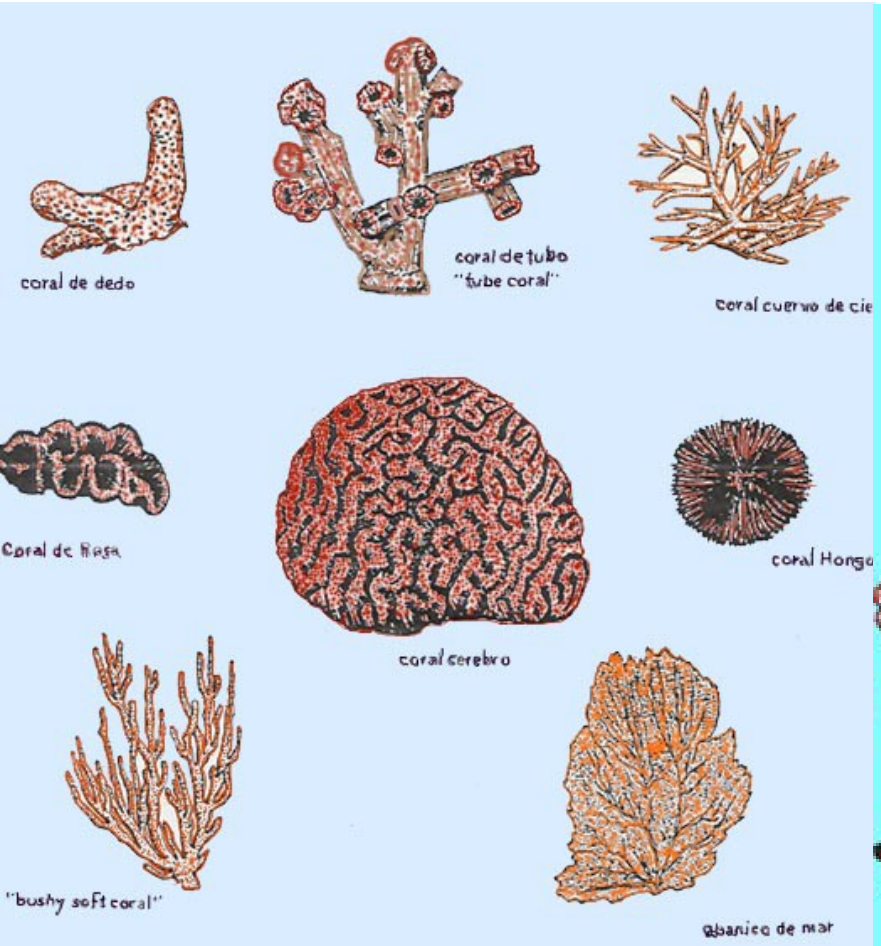


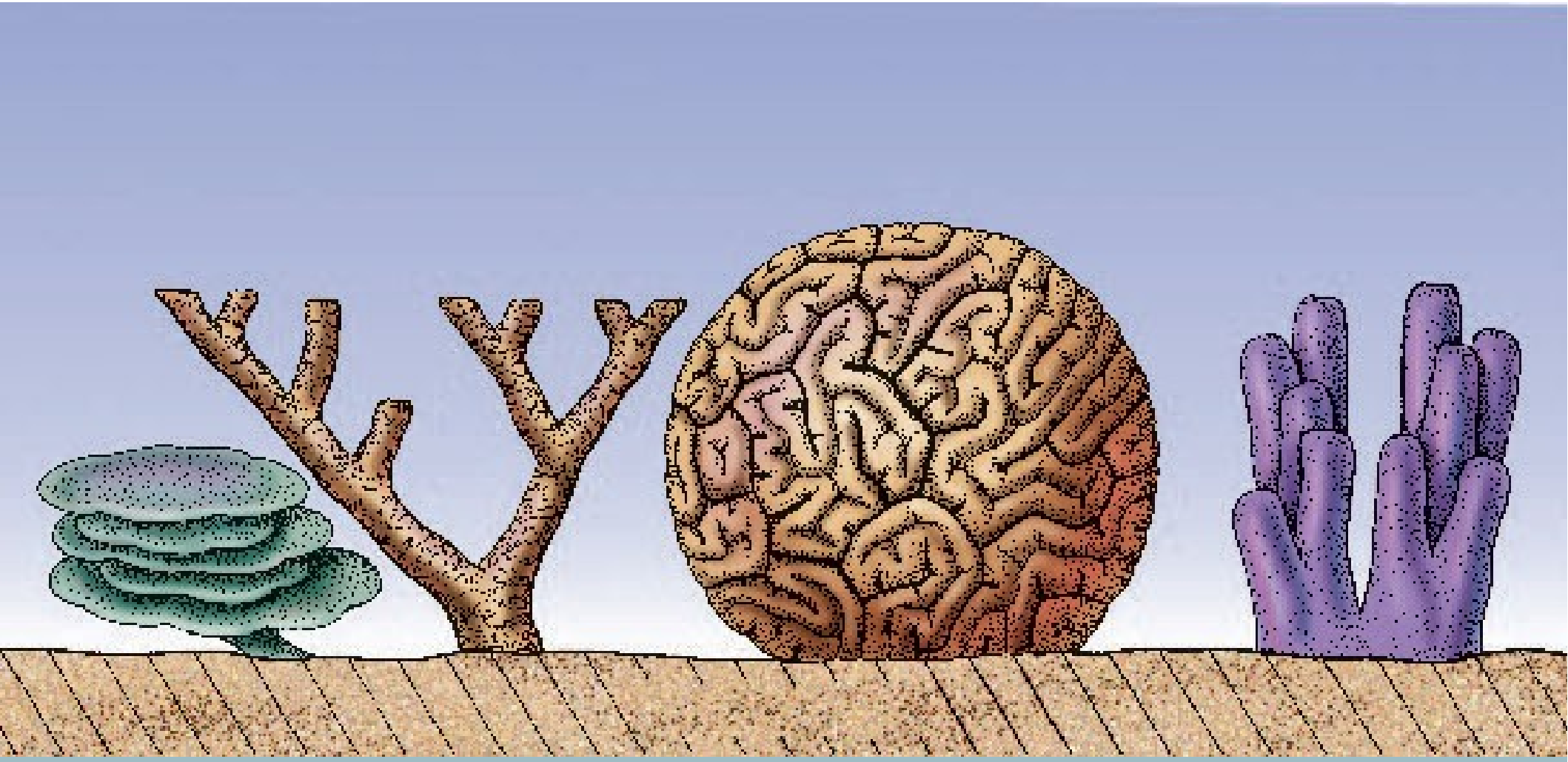


Coral

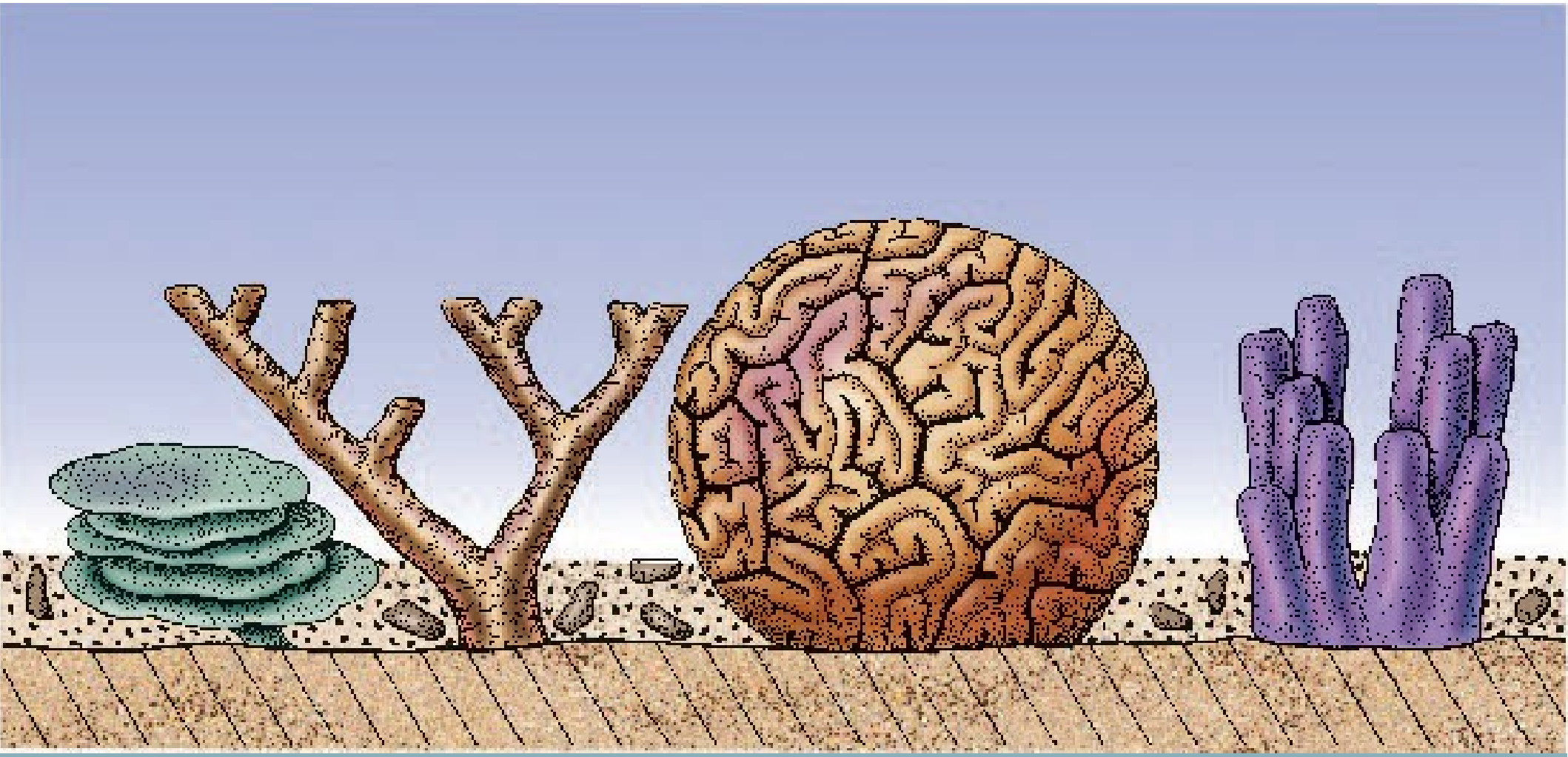


Coral

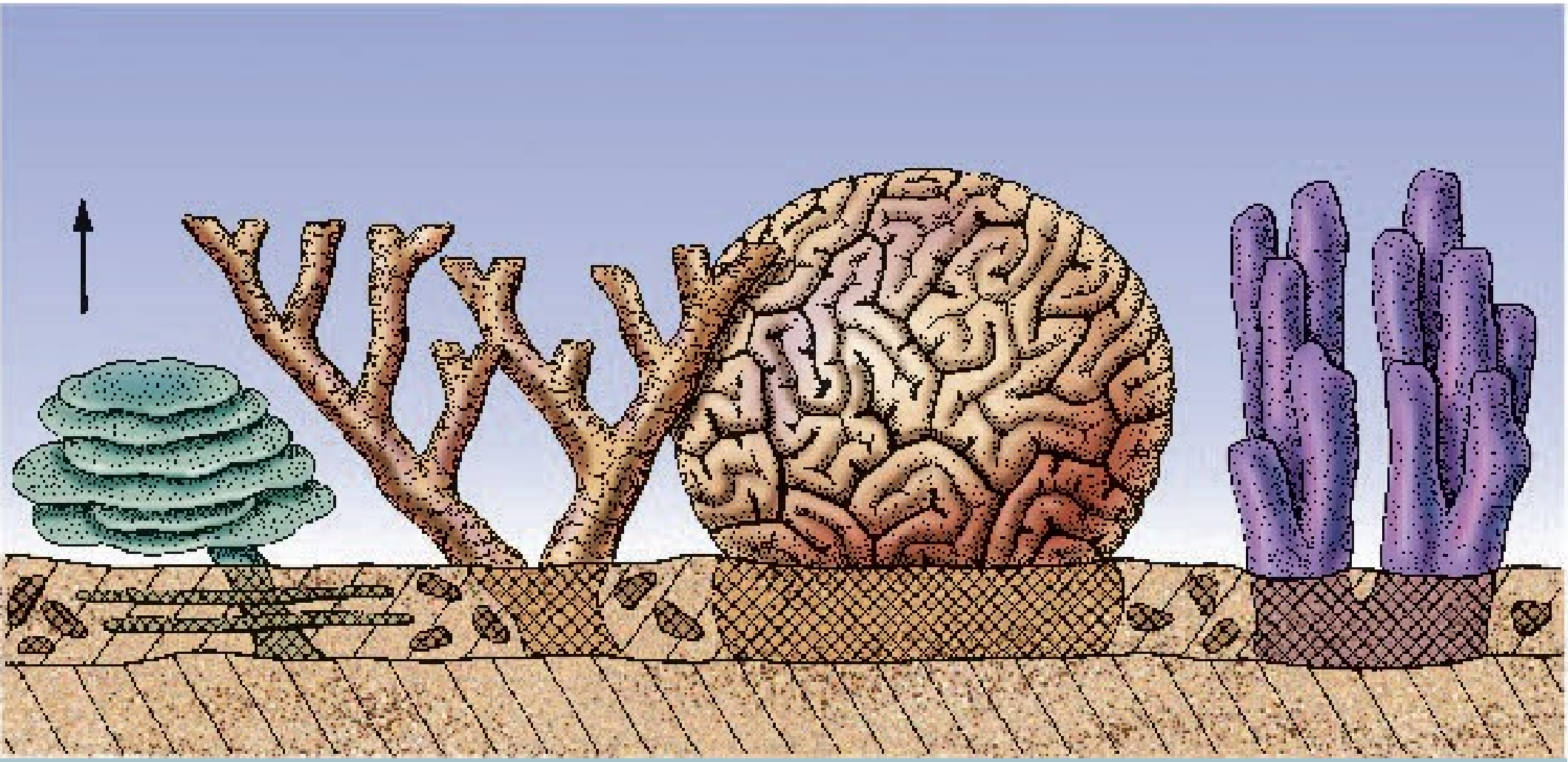

coral de dedo
coral de tubo
"tube coral"
Coral cuerno de cie
Coral de lasa
coral Hongo
coral cerebro
"bushy soft coral"
abanico de mar

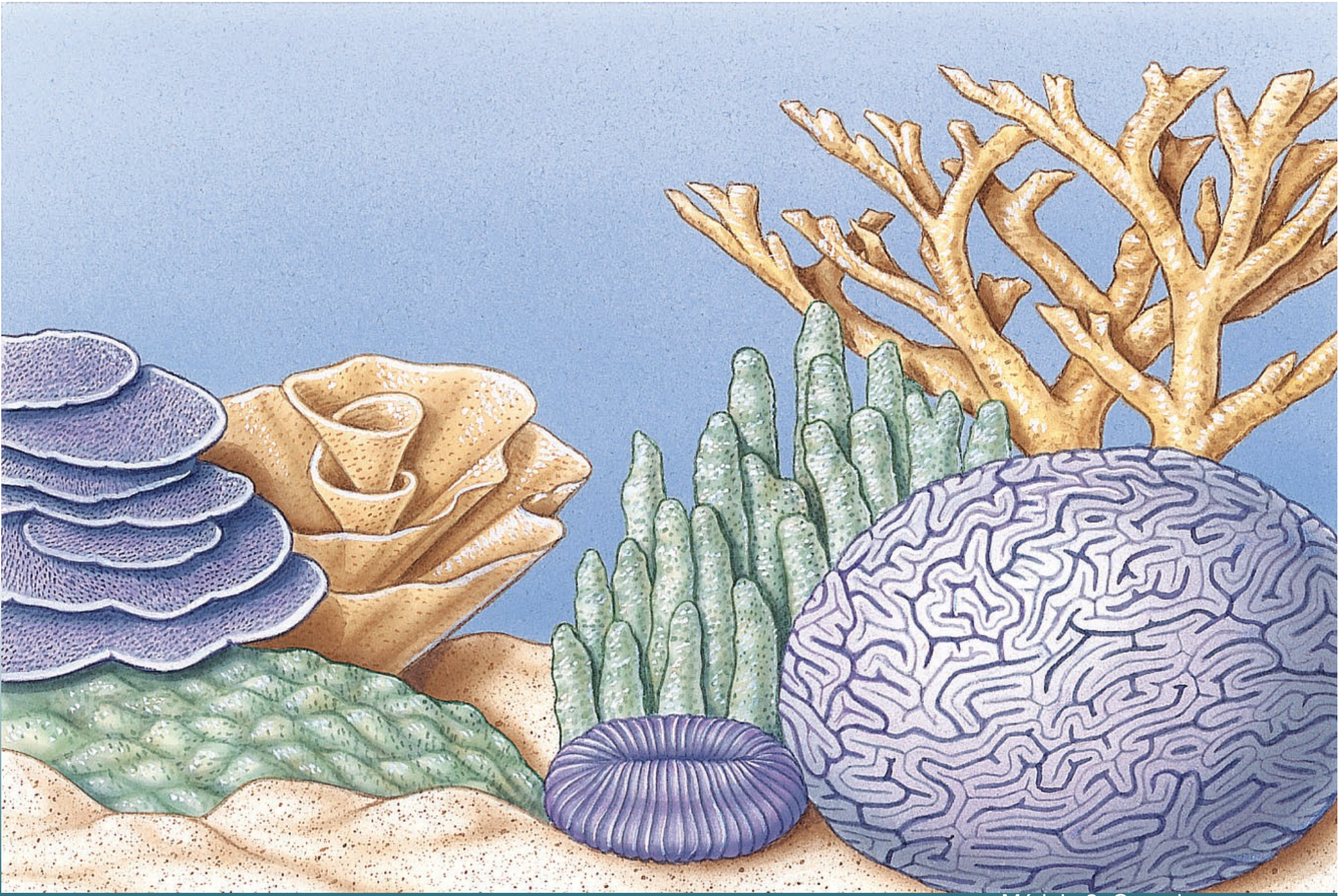


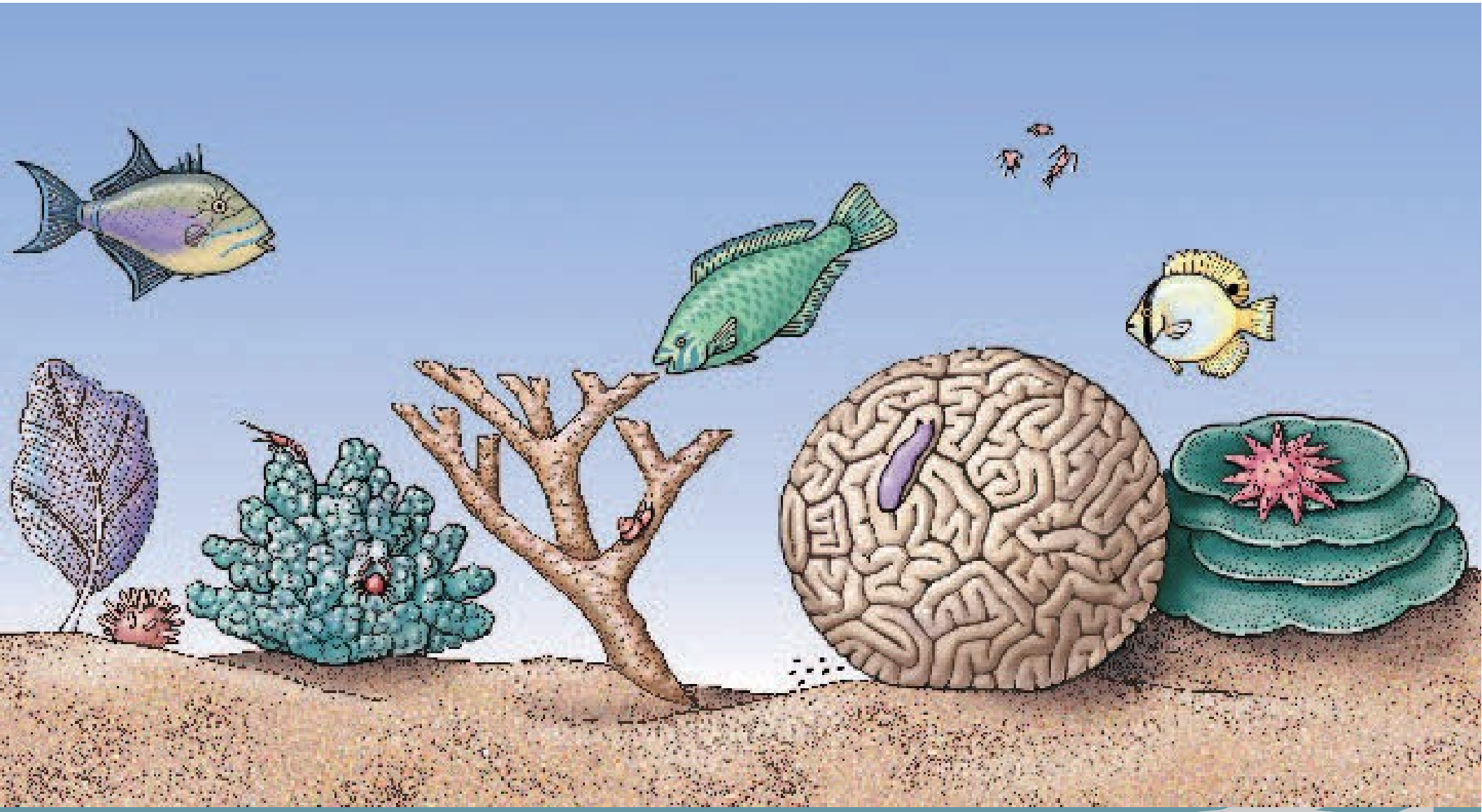
curso de acuariofilia
Módulo 2: Organismos



curso de acuariofilia
Módulo 2: Organismos





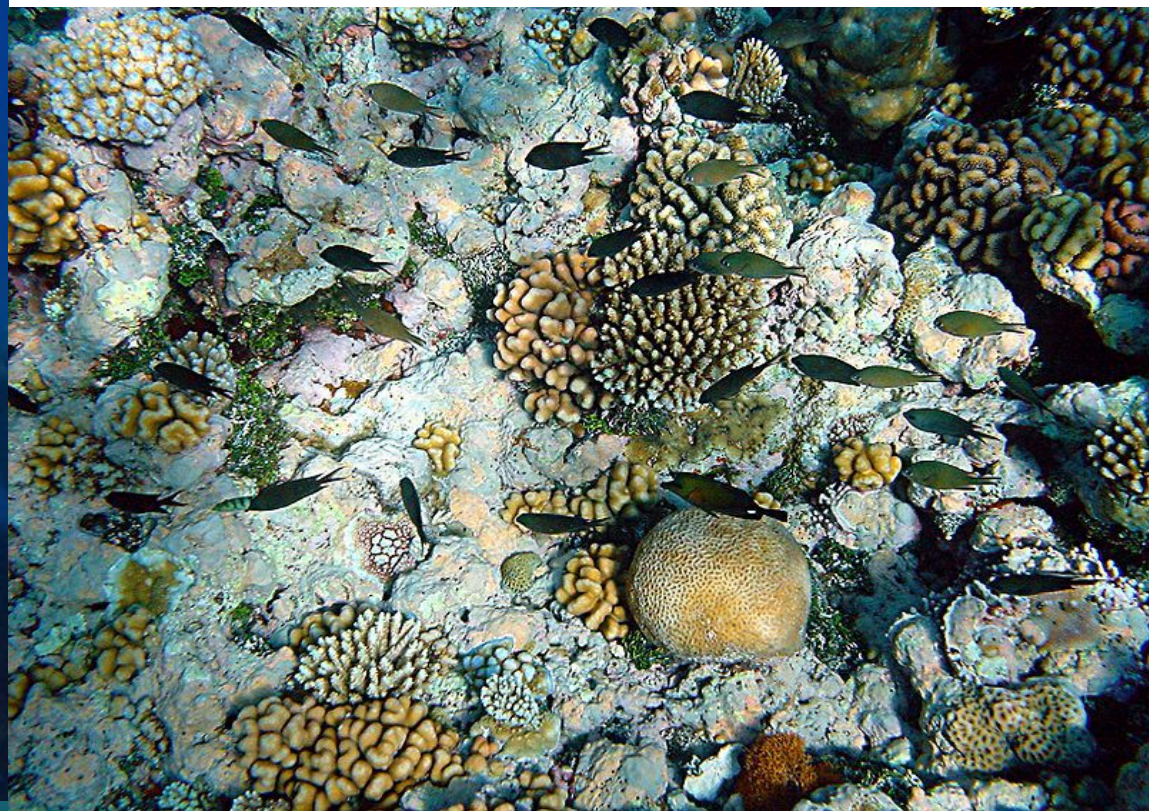


curso de acuariofilia
Módulo 2: Organismos

Coral

Coral

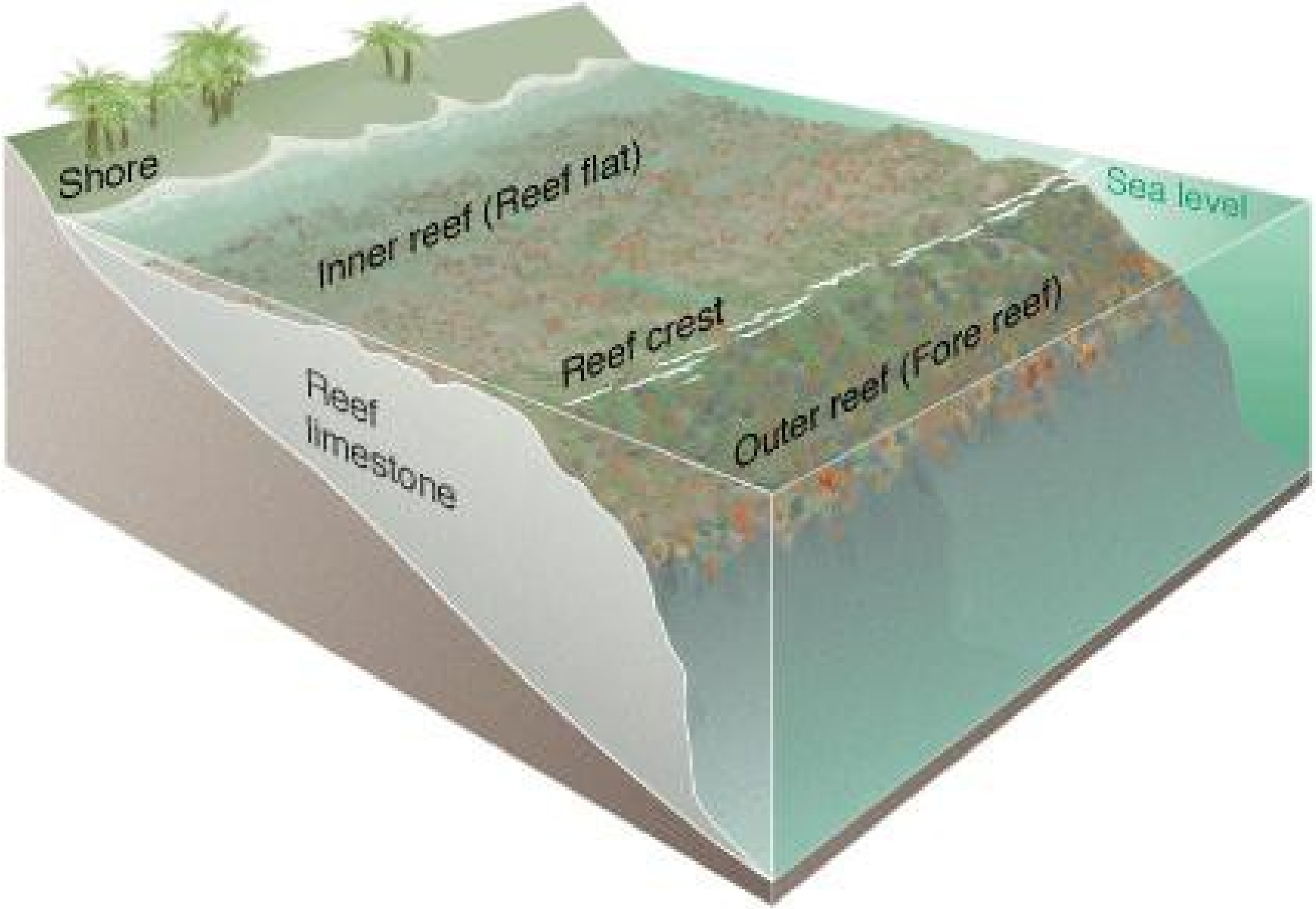
Coral

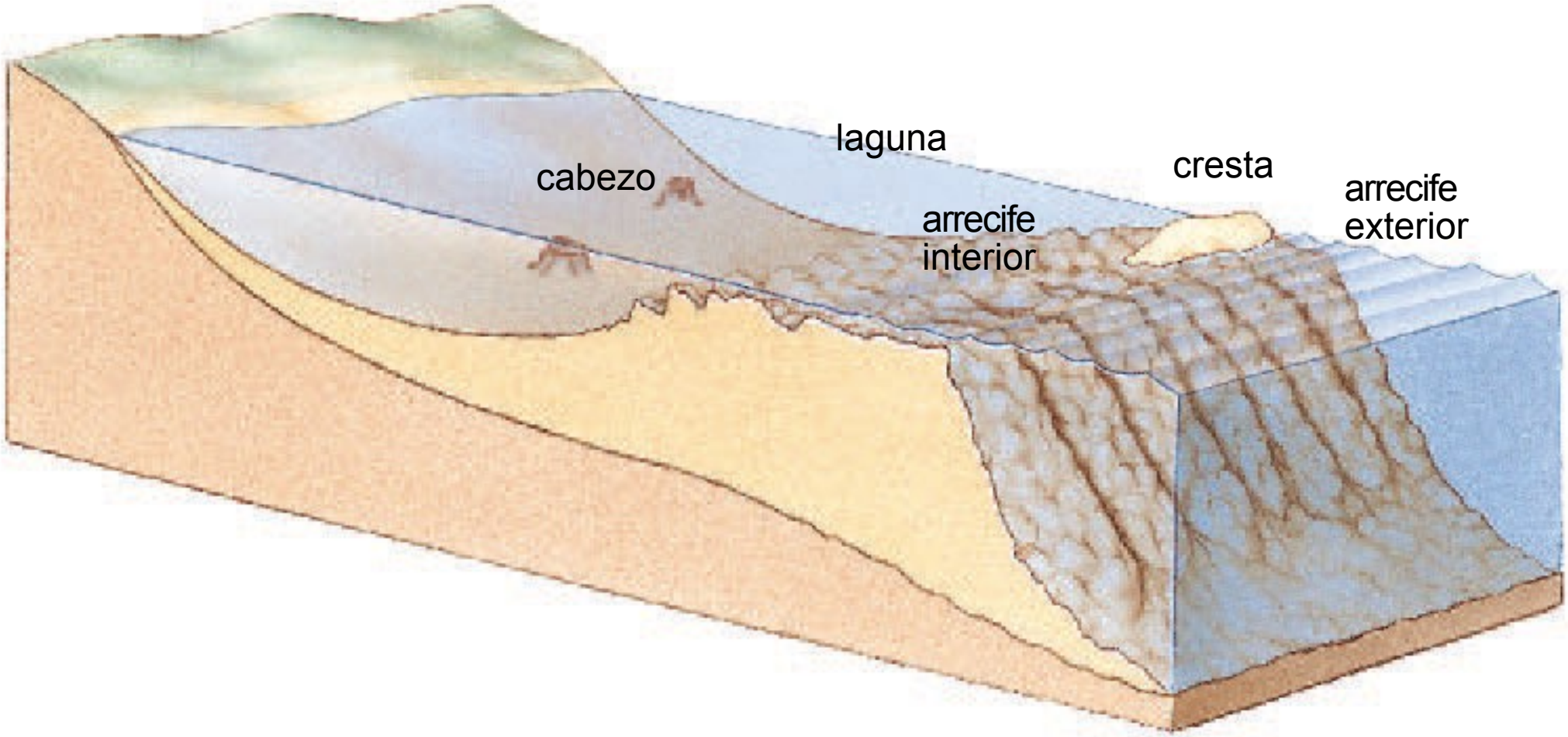


Coral

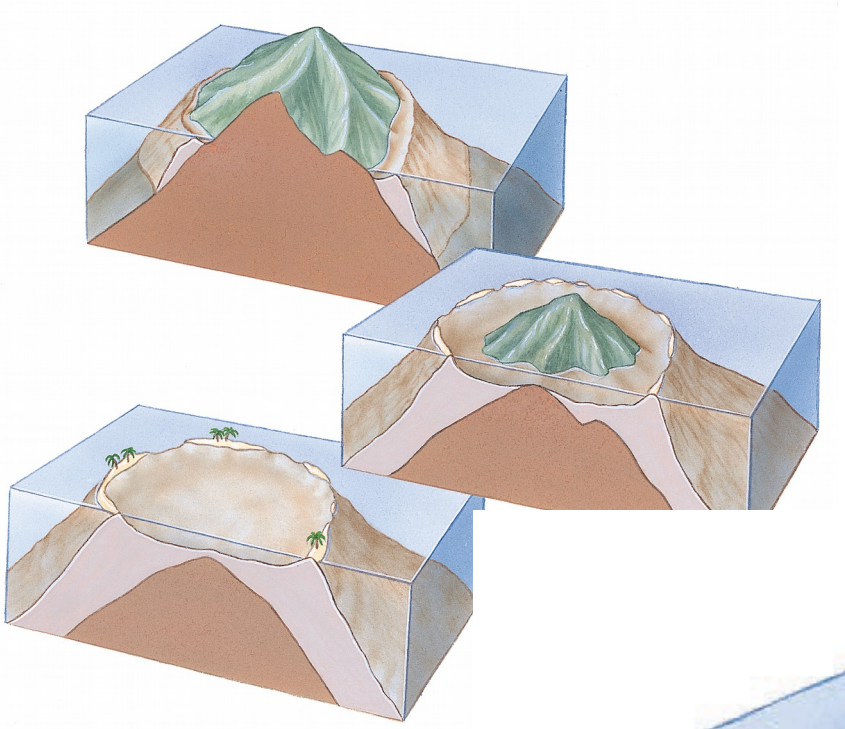
ariofilia
ganismos

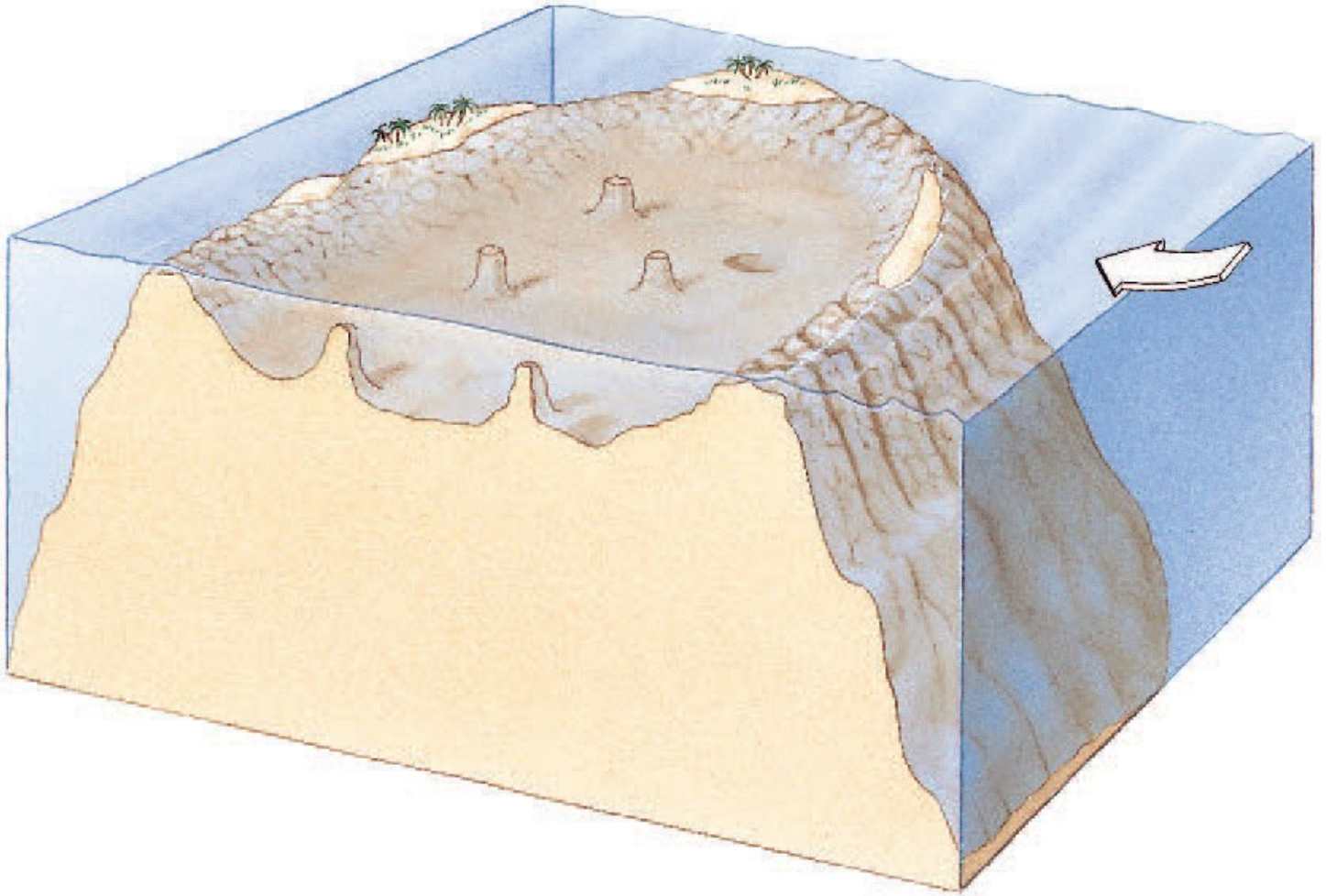
Coral


Shore
Inner reef (Reef flat)
Reef crest
Outer reef (Fore reef)
Sea level
Reef limestone

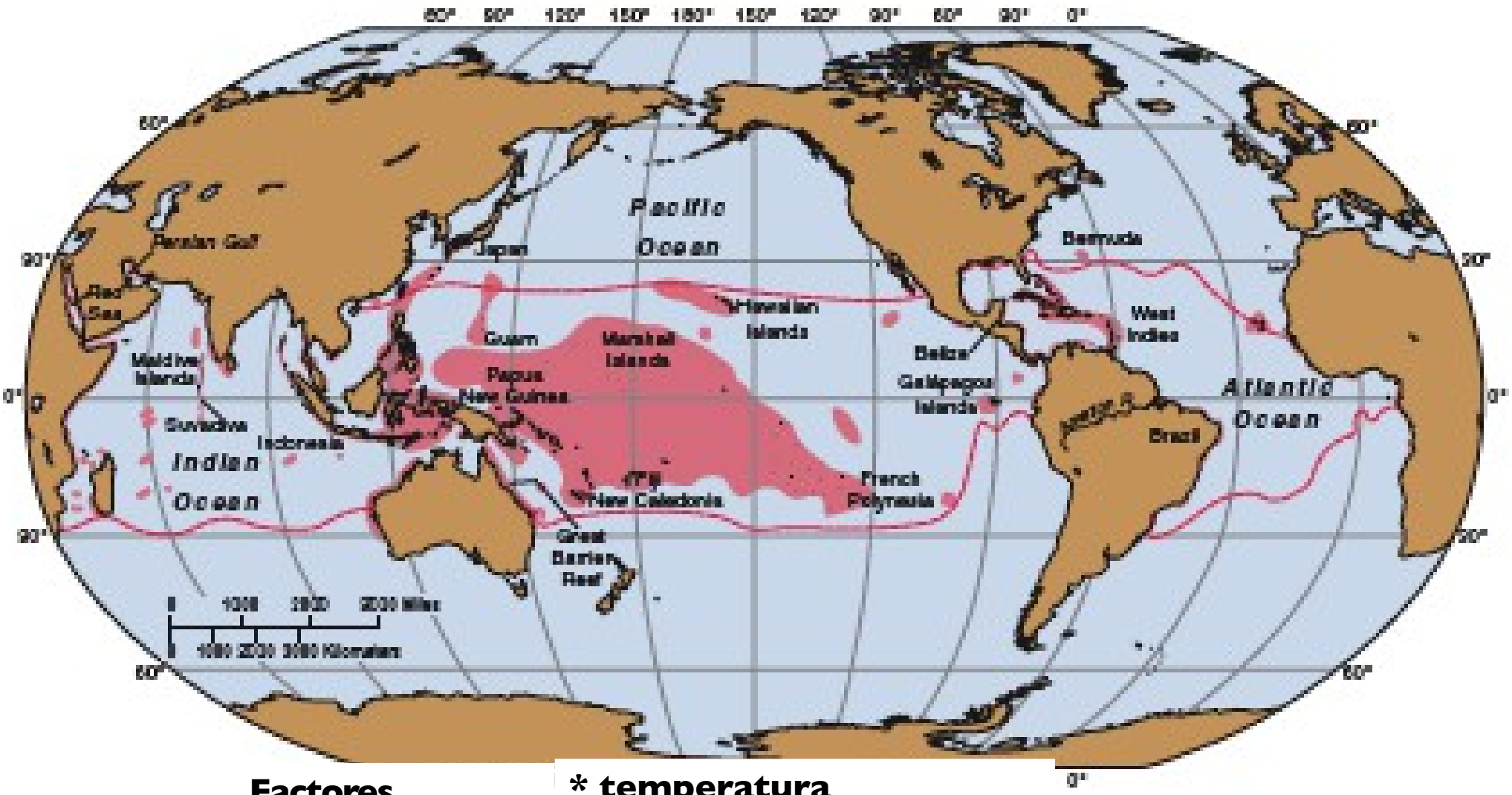

laguna
cresta
arrecife
exterior
cabezo
arrecife
interior

atolones





Distribución de los arrecifes de coral



Factores limitantes

*** temperatura**
***luz**
-abundante luz solar
-aguas claras
-poco profundas
***salinidad completa**
***pocos nutrientes**

Cnidaria

Antozoa

Zoantharia

Acropora spp.

Cnidaria

Antozoa

Zoantharia

Catalaphyllia jardinei

Cnidaria

Antozoa

Zoantharia

Euphyllia glabrescens

Cnidaria

Antozoa

Zoantharia

Nemenzophyllia turbida

Cnidaria

Antozoa

Zoantharia

Plerogyra sinuosa

Cnidaria

Antozoa

Zoantharia

Symphyllia sp.

Cnidaria

Antozoa

Zoantharia

Favia sp.

Cnidaria

Antozoa

Zoantharia

Fungia sp.

Cnidaria

Antozoa

Zoantharia

Fungia sp.

Cnidaria

Antozoa

Zoantharia

Goniopora sp.

Cnidaria

Antozoa

Zoantharia

Porites porites

Cnidaria

Antozoa

Zoantharia

Stylophora subseriata

Cnidaria

Antozoa

Zoantharia

Tubastrea spp.

Cnidaria

Antozoa

Alcyonaria

Scleronephthya spp.

Cnidaria

Antozoa

Alcyonaria

Sinularia spp.

Cnidaria

Antozoa

Alcyonaria

Sarcophyton spp.

Cnidaria

Antozoa

Alcyonaria

Plexaurella spp.

Cnidaria

Hydrozoa

Cnidaria

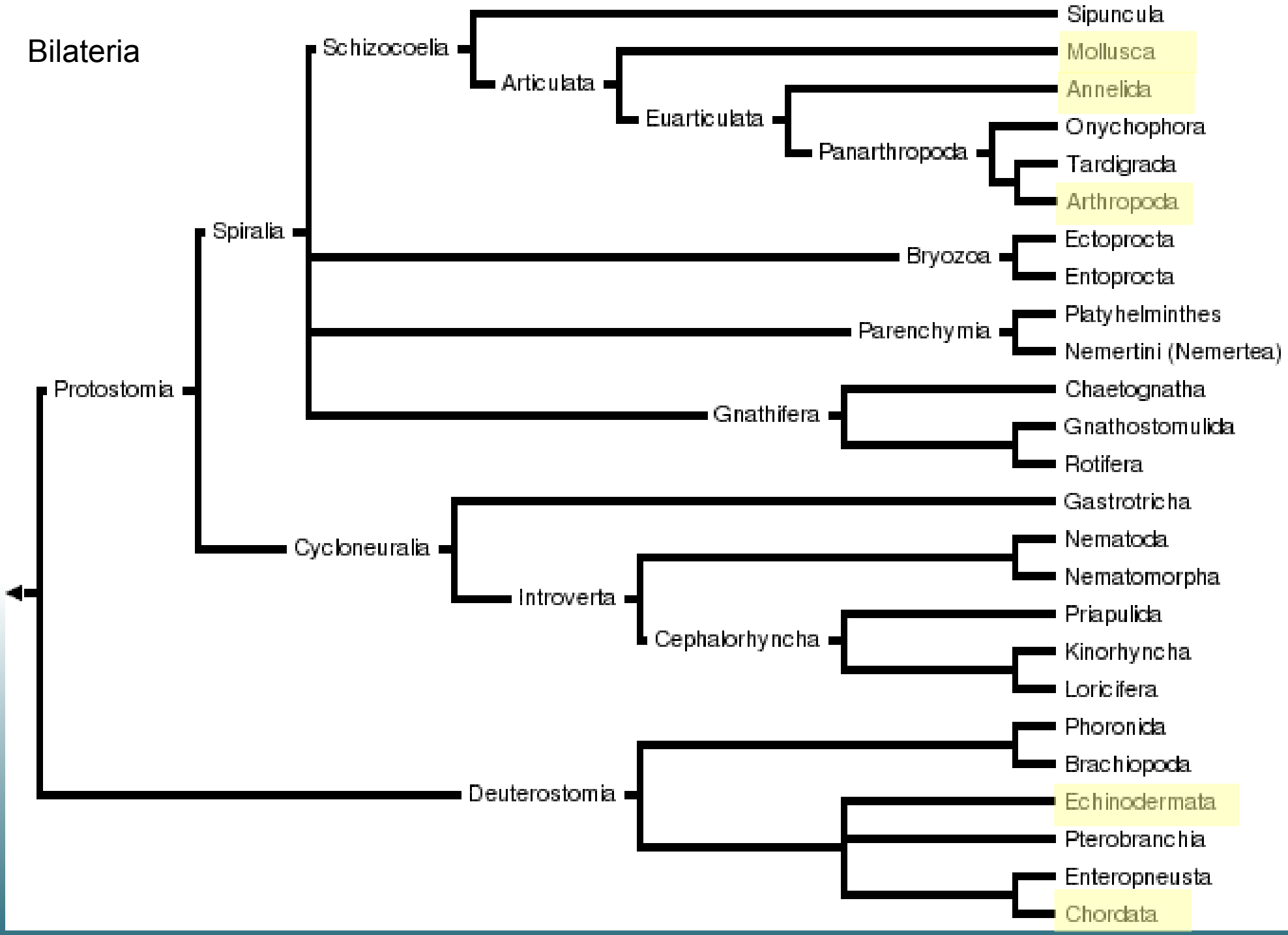
Hydrozoa

Cnidaria

Hydrozoa

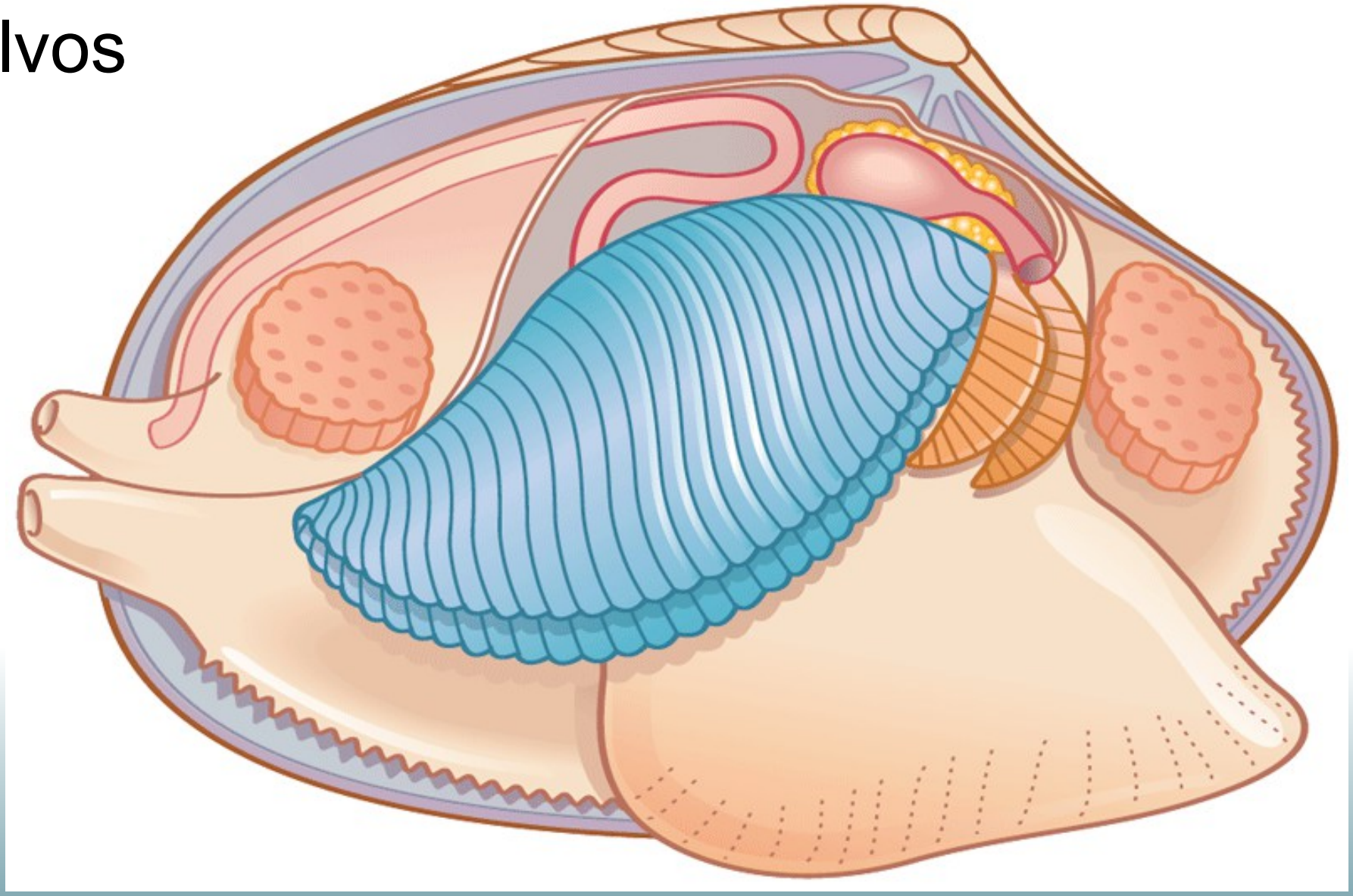
Hydridae

Hydra spp.


Bilateria
Schizocoelia
Articulata
Euarticulata
Panarthropoda
Sipuncula
Mollusca
Annelida
Onychophora
Tardigrada
Arthropoda
Spiralia
Bryozoa
Ectoprocta
Entoprocta
Parenchymia
Platyhelminthes
Nemertini (Nemertea)
Protostomia
Gnathifera
Chaetognatha
Gnathostomulida
Rotifera
Gastrotricha
Cycloneuralia
Nematoda
Nematomorpha
Introverta
Cephalorhyncha
Priapulida
Kinorhyncha
Loricifera
Phoronida
Brachiopoda
Deuterostomia
Echinodermata
Pterobranchia
Enteropneusta
Chordata

Moluscos

Bivalvos



Mollusca

Bivalvia

Tridacna crocea

Mollusca

Bivalvia

Hyotissa hyotis

Mollusca

Bivalvia

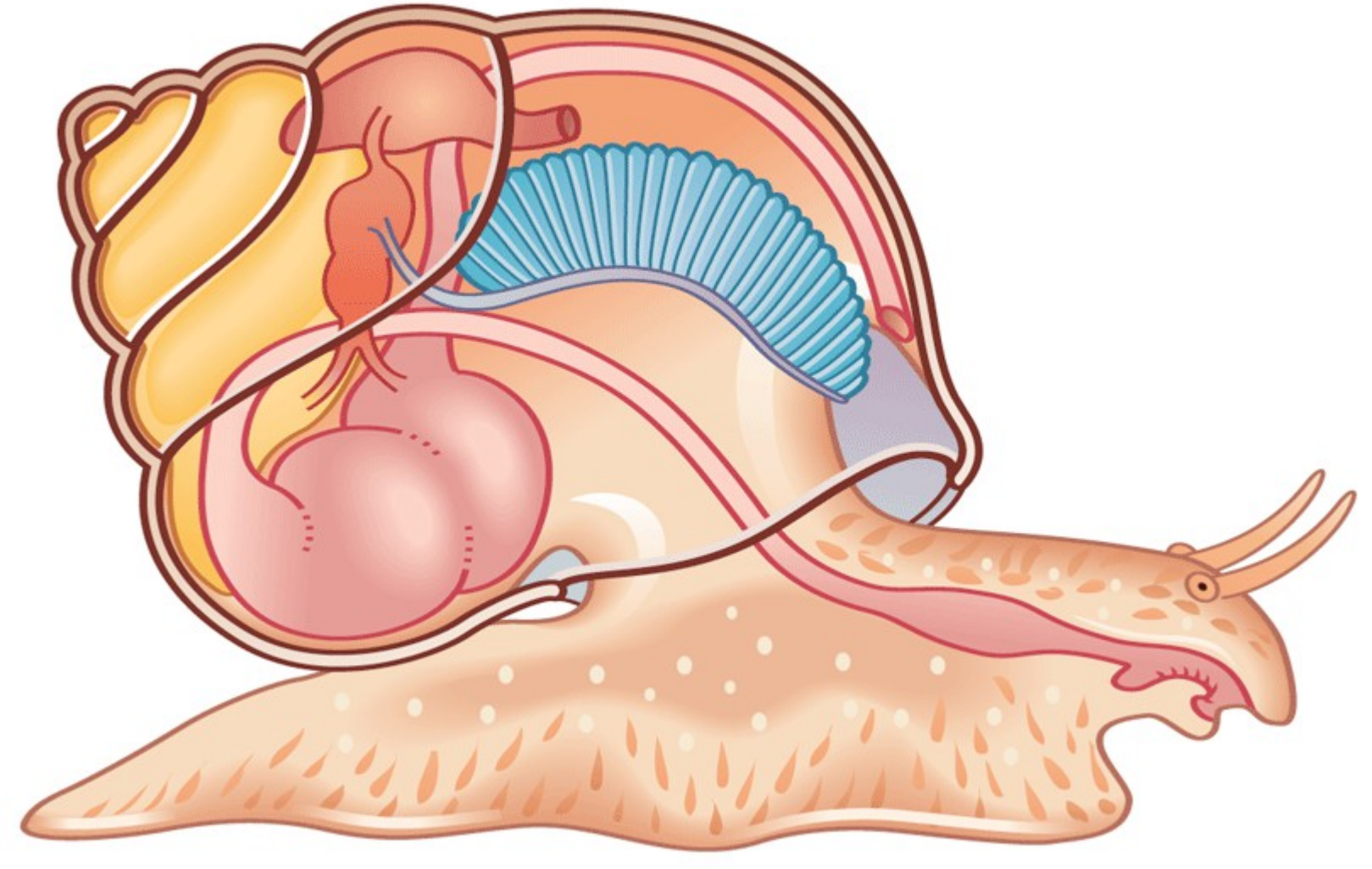
Lima scabra

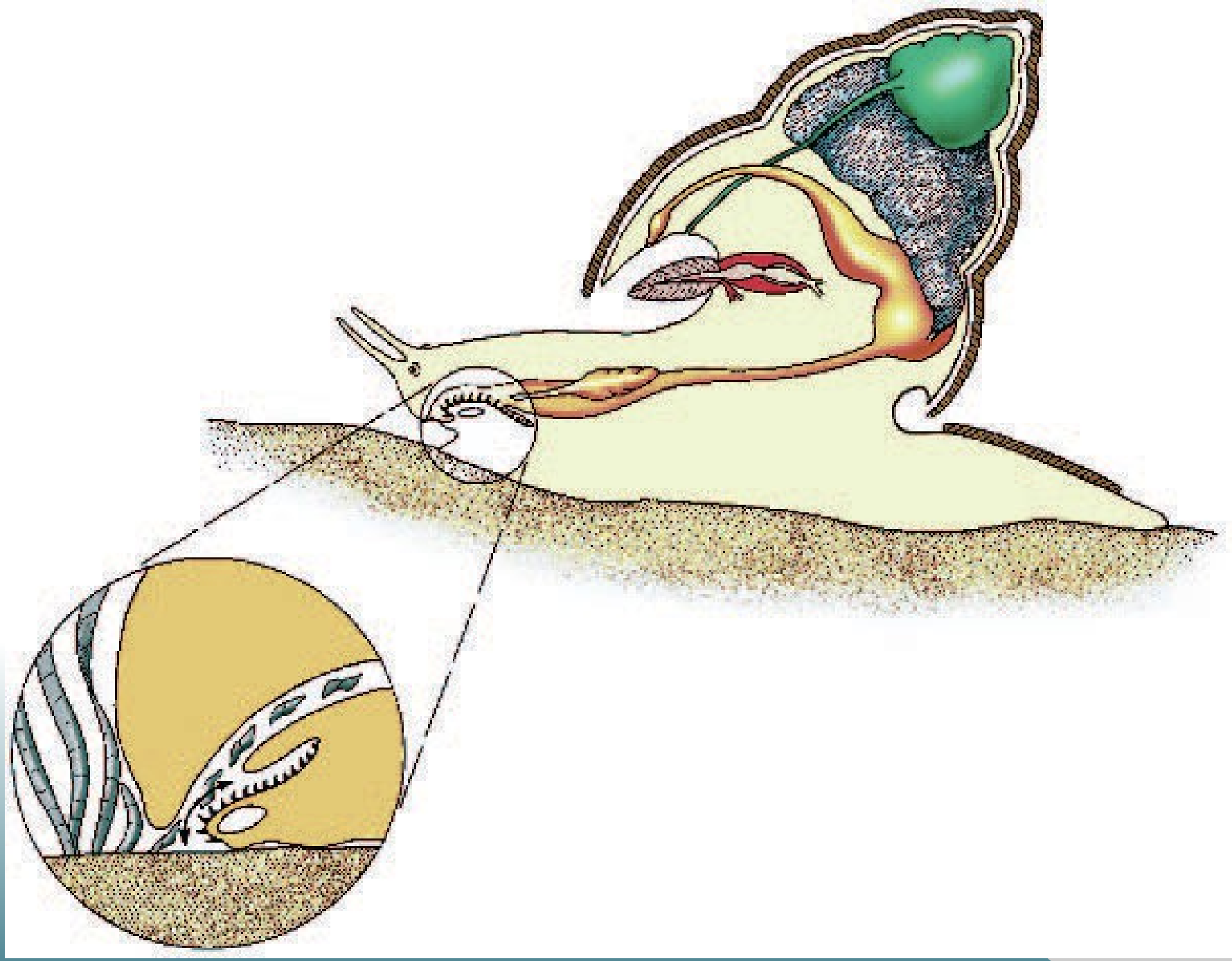
Mollusca

Bivalvia

Spondylus sp.

Gasterópodos





Mollusca

Gastropoda

Cypraea tigris

Mollusca

Gastropoda

Turbo fluctuosus

Mollusca

Gastropoda

Cyphoma gibbosum

Mollusca

Gastropoda

Planorbis sp.

Mollusca

Gastropoda

Pomacea bridgesi

Mollusca

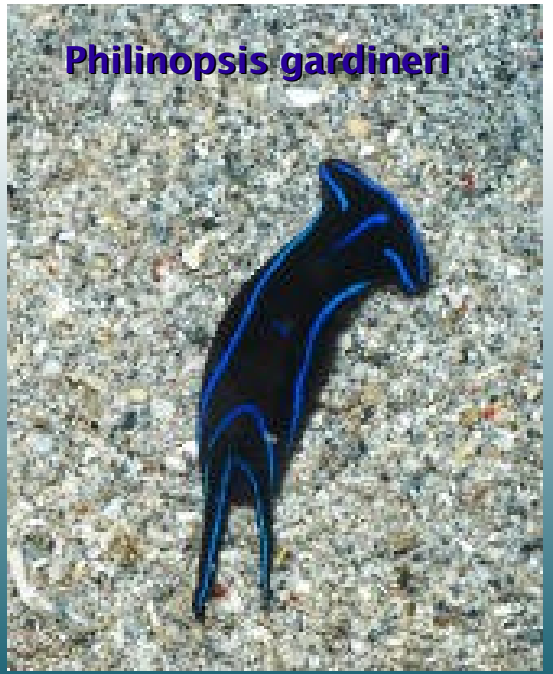
Gastropoda

Chromodoris quadricolor

Chelidonura inornata

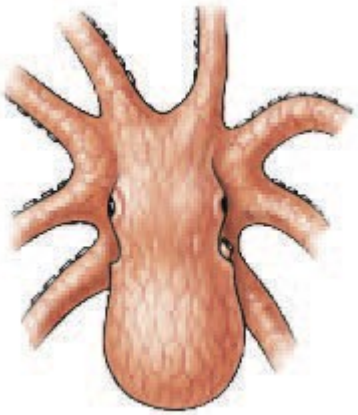
Thuridilla lineolata

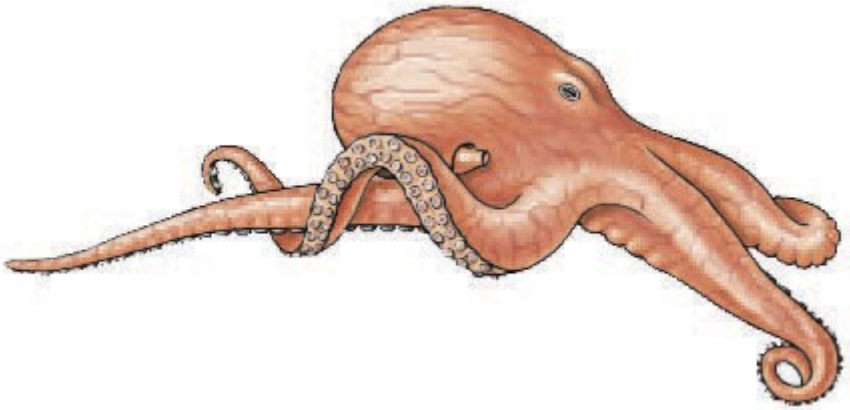
Thuridilla undula

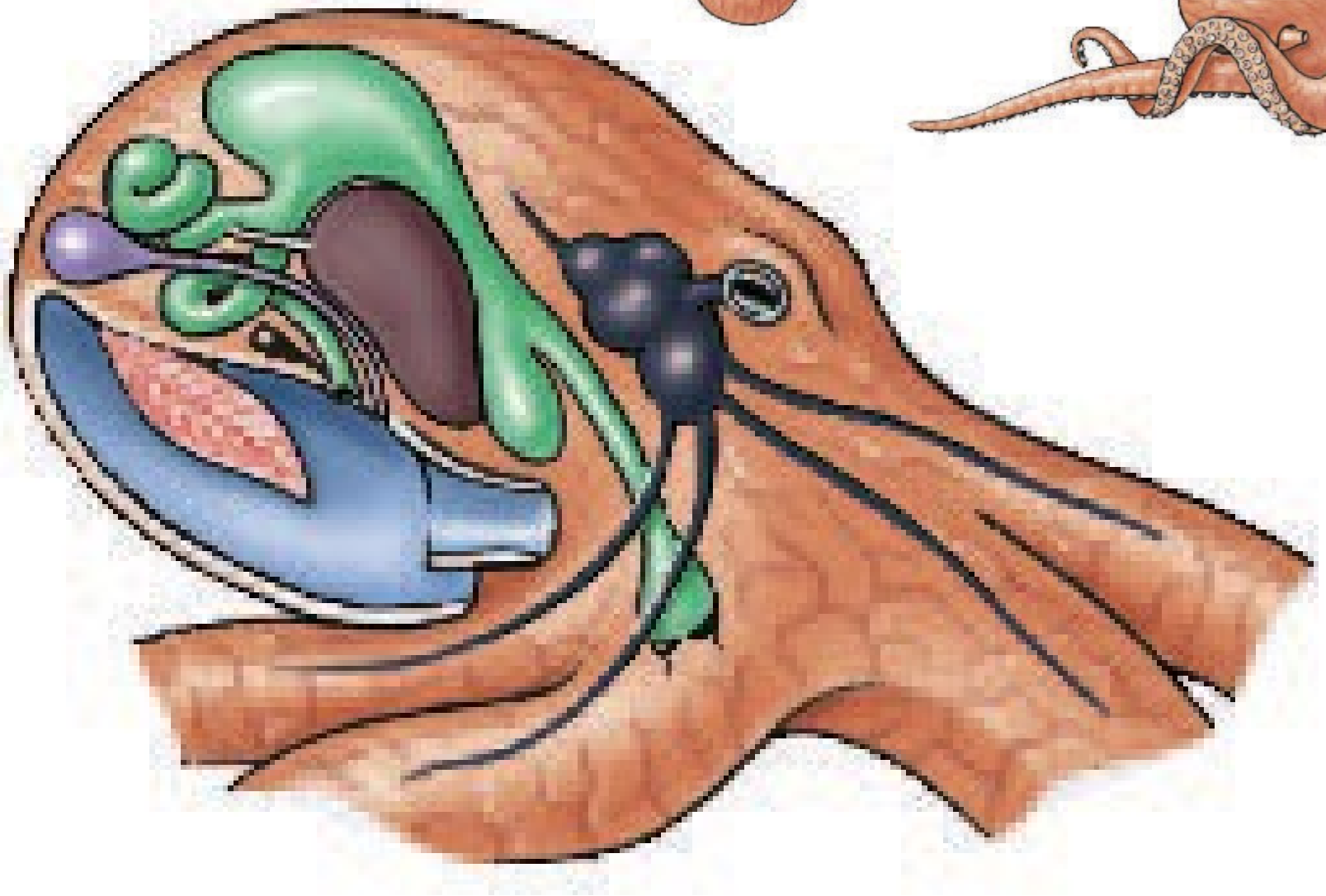

Philinopsis gardineri

Moluscos

Cefalópodos







Mollusca

Cephalopoda

Octopus marginatus

Mollusca

Cephalopoda

Wunderpus photogenicus

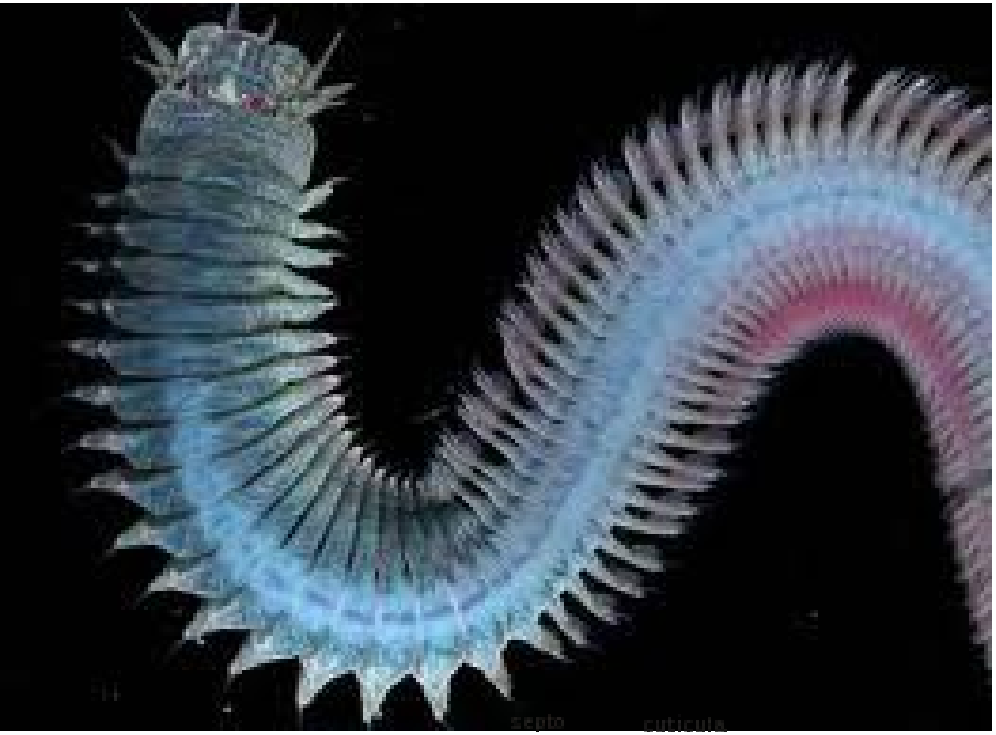
Mollusca

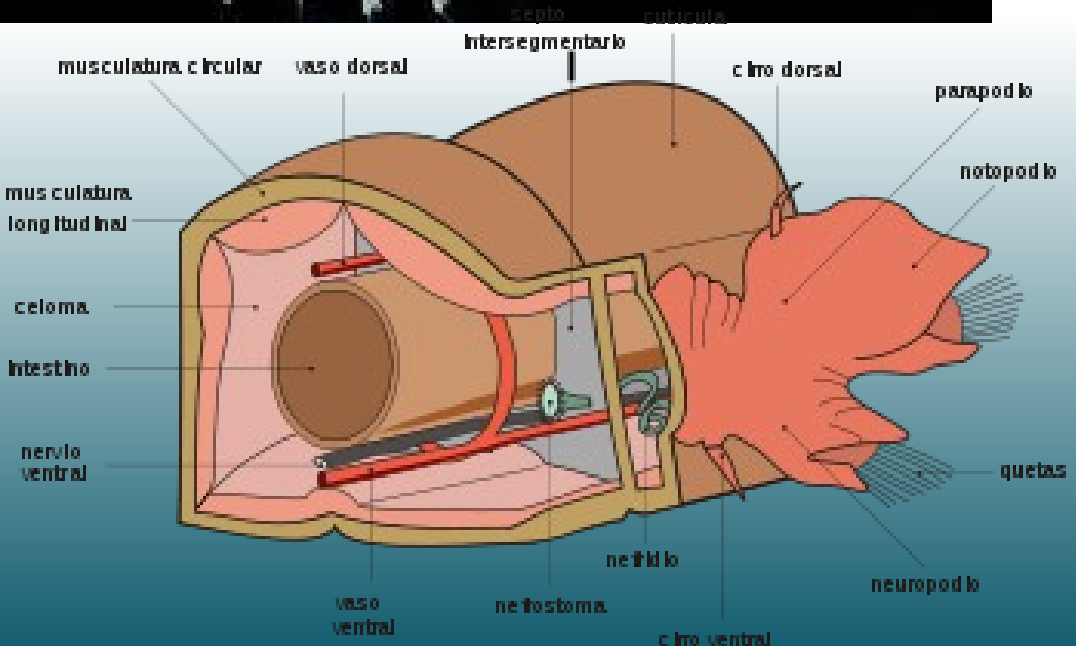
Cephalopoda

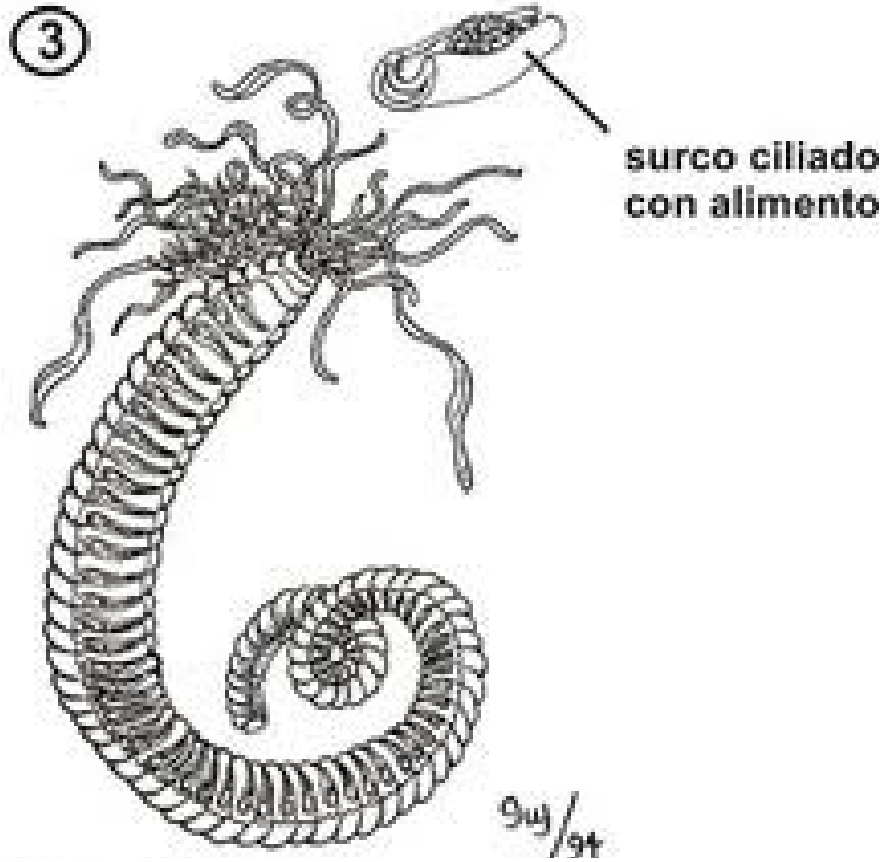
Sepia latimanus

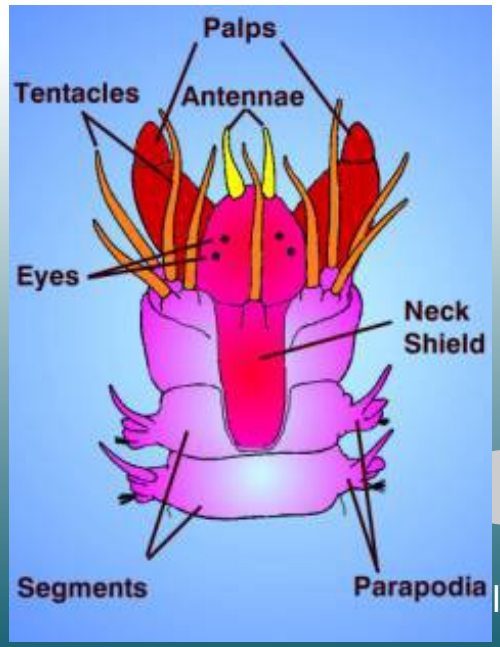
Anélidos

Poliquetos









de acuariofilia
lo 2: Organismos

Anelida

Polychaeta

Sabellastarte magnifica

uariofilia
rganismos

Anelida

Polychaeta

Anamobaea sp.

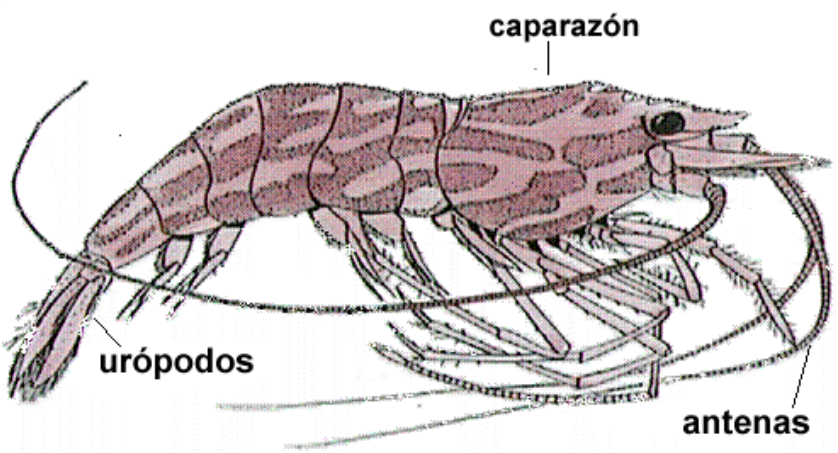
Anelida

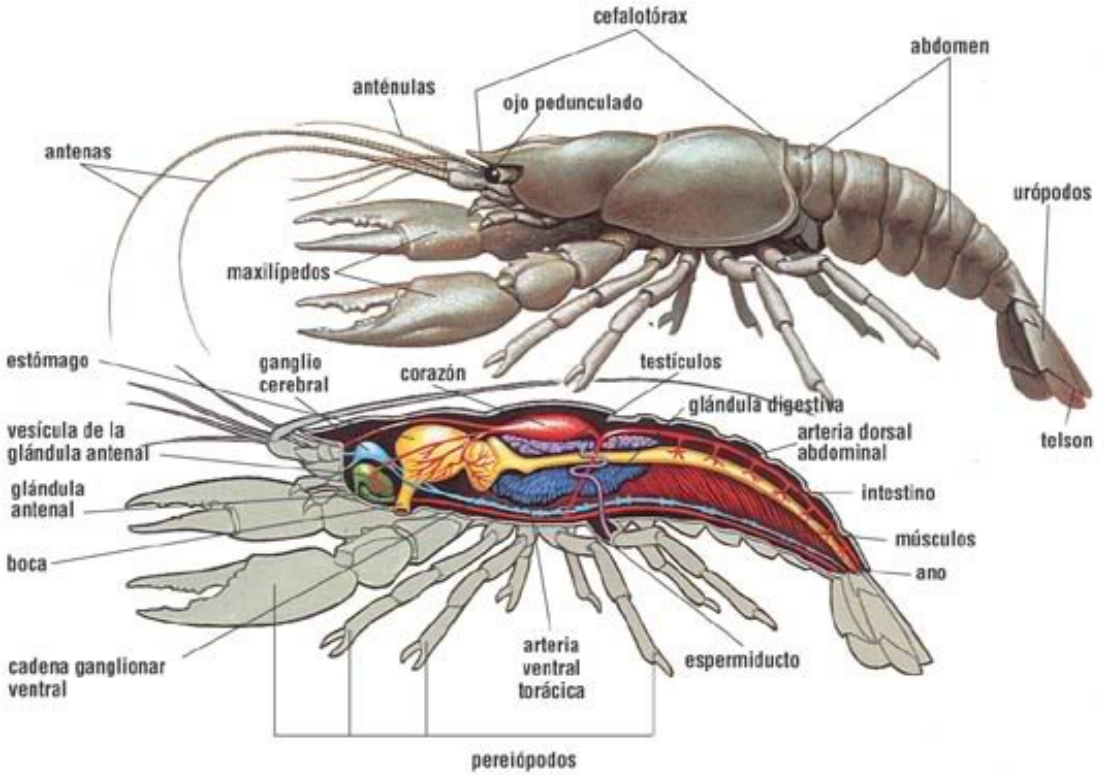
Polychaeta

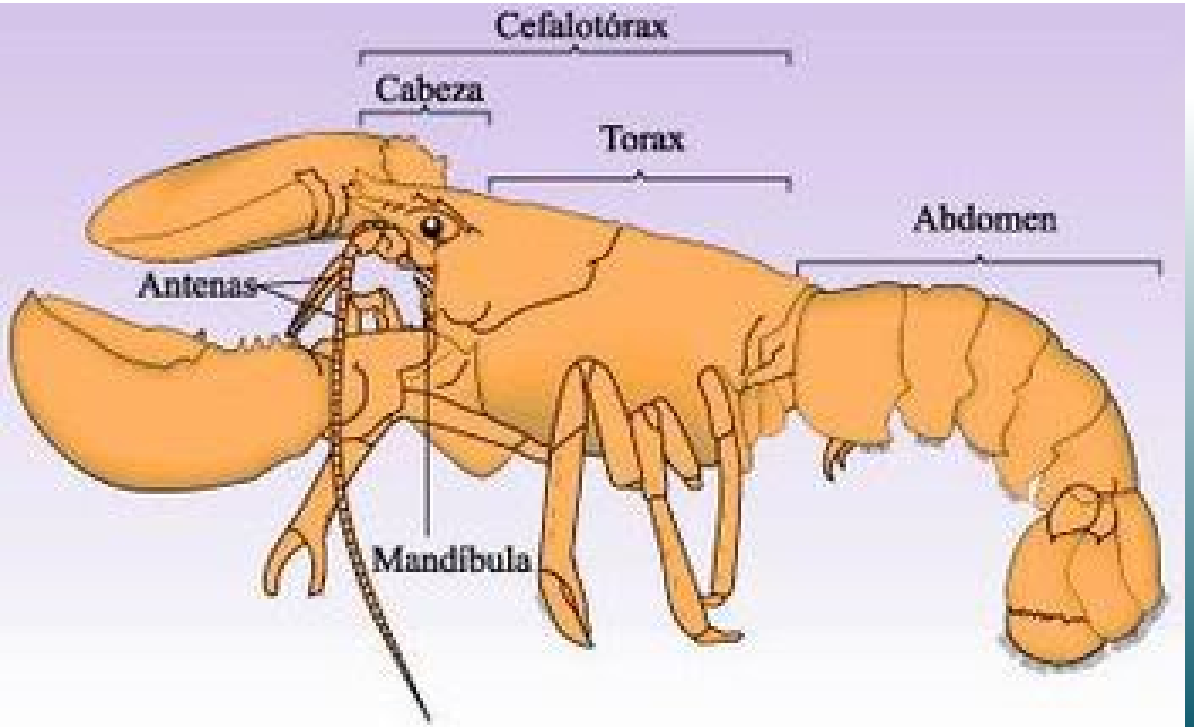
Hermodice canunculata

Crustáceos

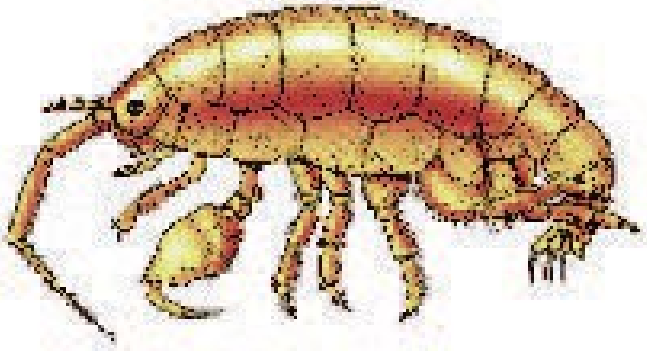
decápodos



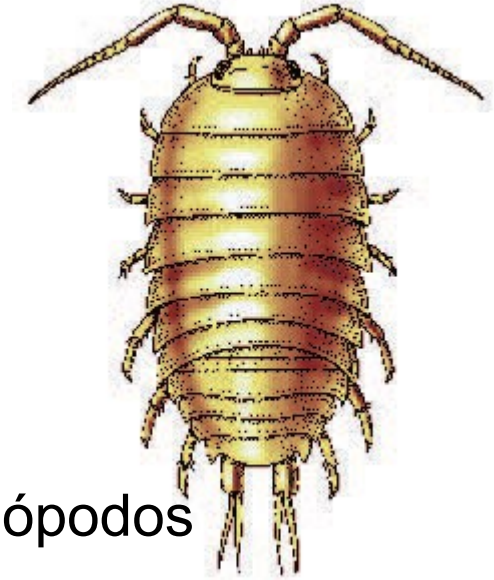




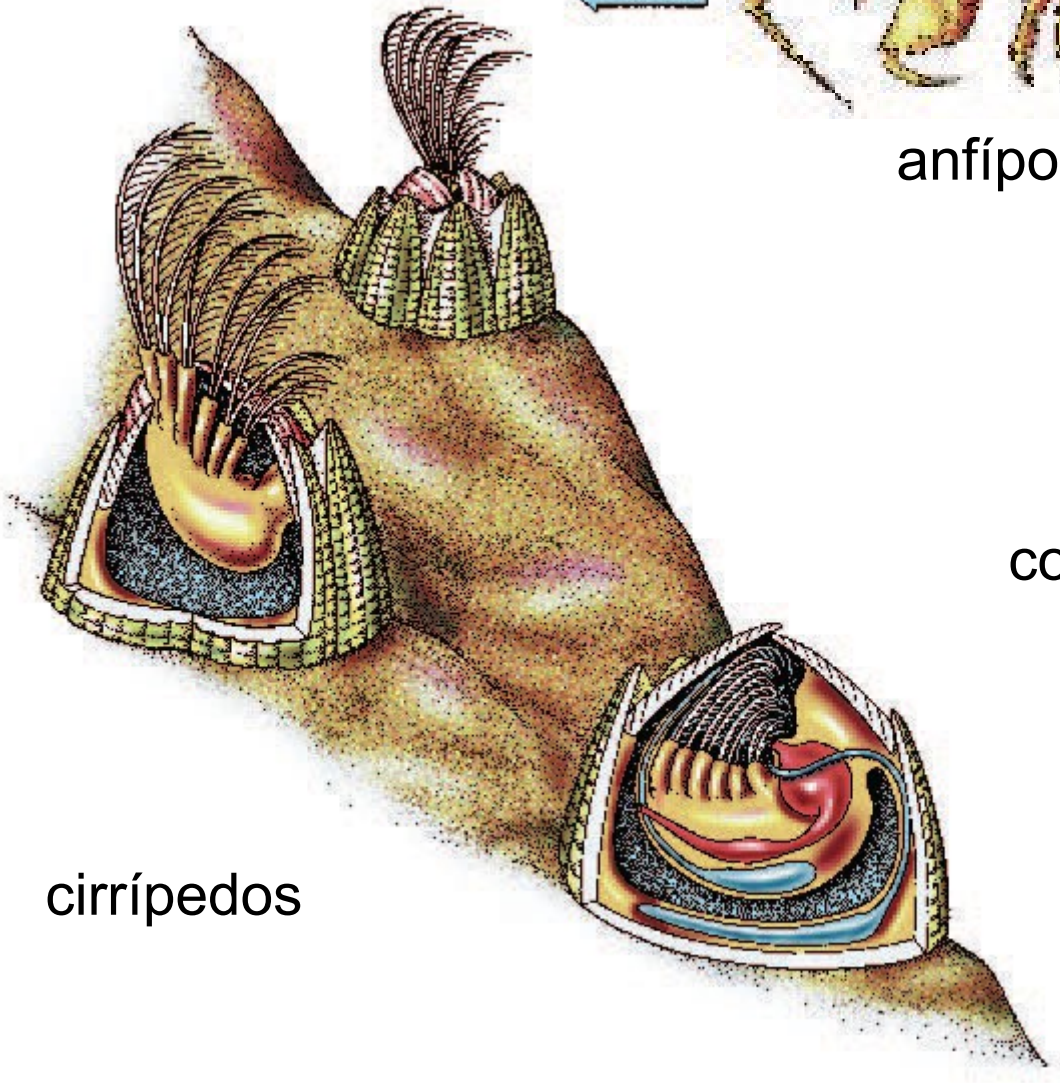
Crustáceos



anfípodos

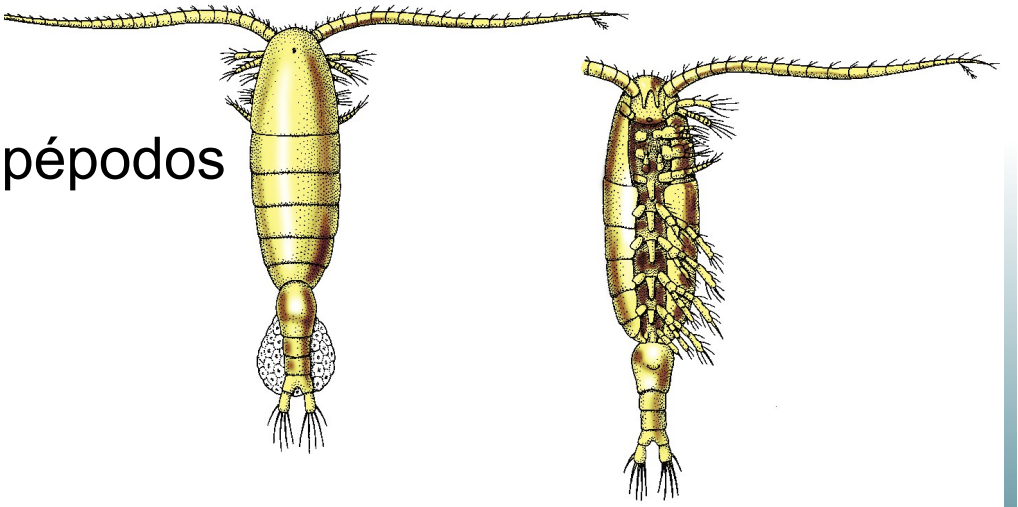


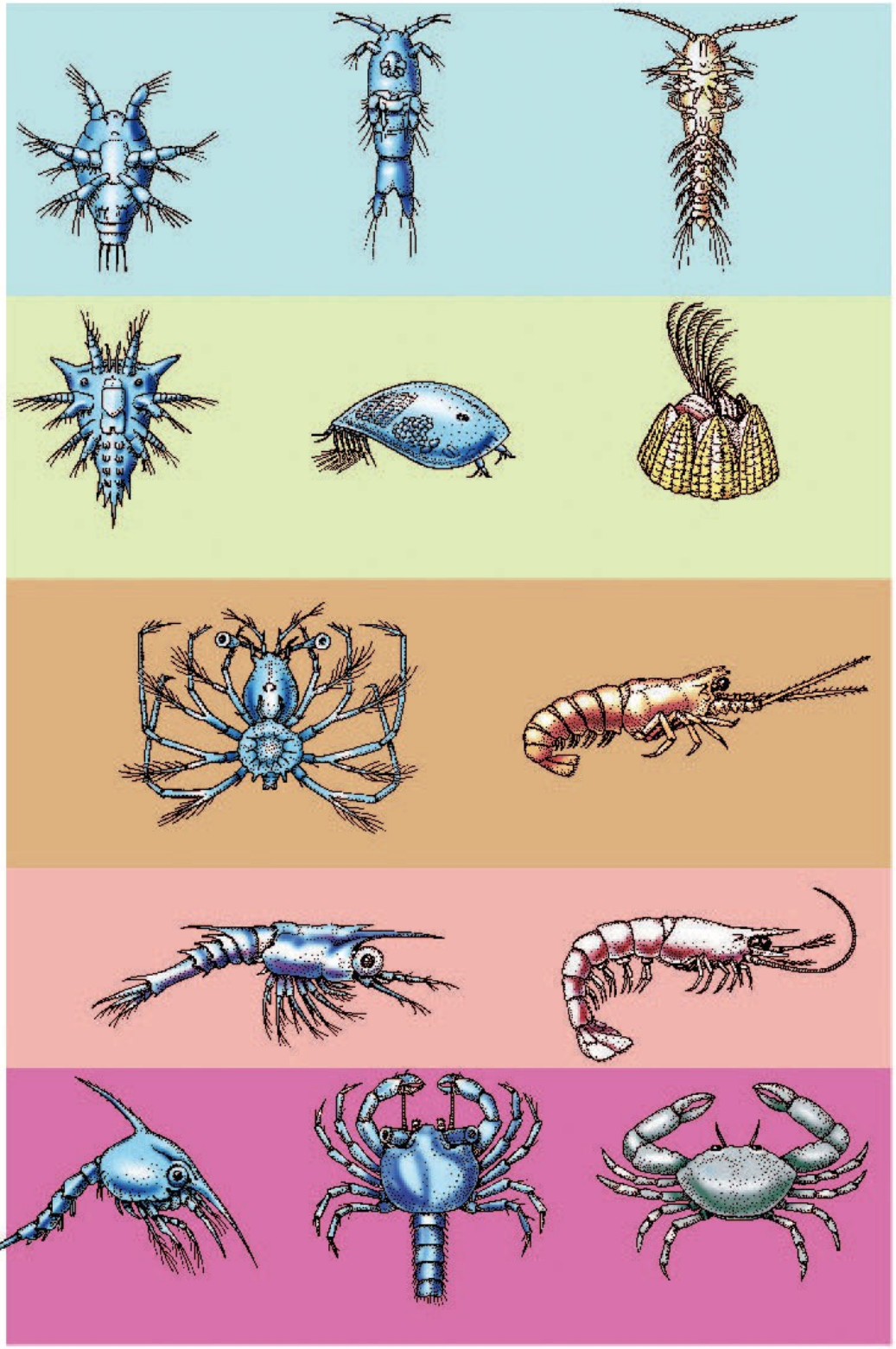
isópodos



cirrípedos

copépodos





larvas y adultos

Artropoda

Crustacea

Lysmata amboinensis

uariofilia
rganismos

Artropoda

Crustacea

Lysmata debelius

Artropoda

Crustacea

Stenopus hispidus

Artropoda

Crustacea

Paguristes spp.

Artropoda

Crustacea

Neopetrolisthes maculatus

Artropoda

Crustacea

Cardisoma sp.

Artropoda

Crustacea

Caridina multidentata

Artropoda

Crustacea

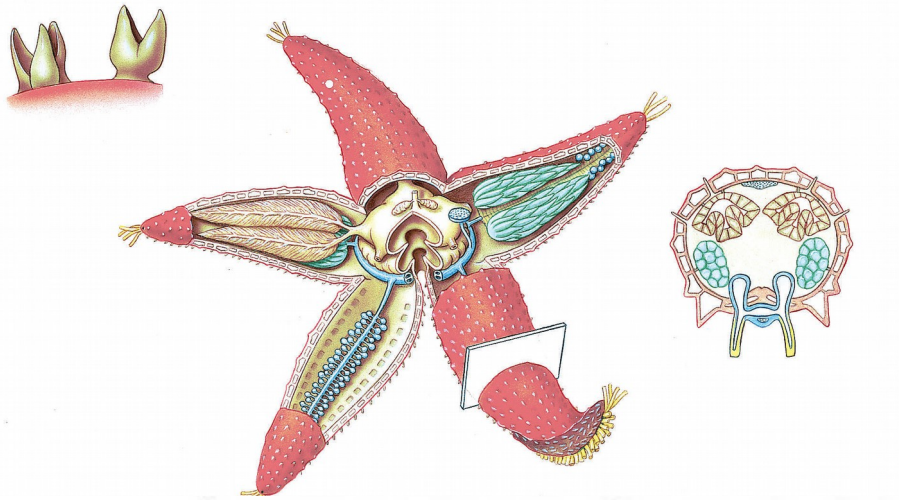
Caridina serrata

Artropoda

Crustacea

Cherax tenuimanus

Equinodermos



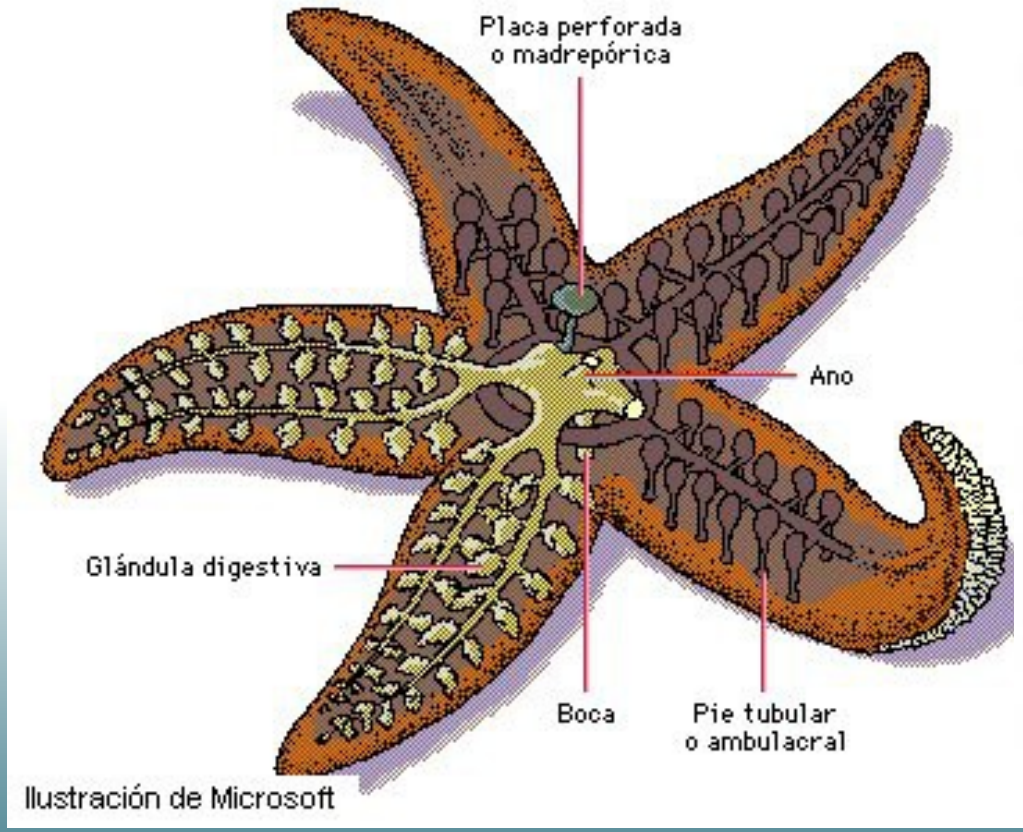
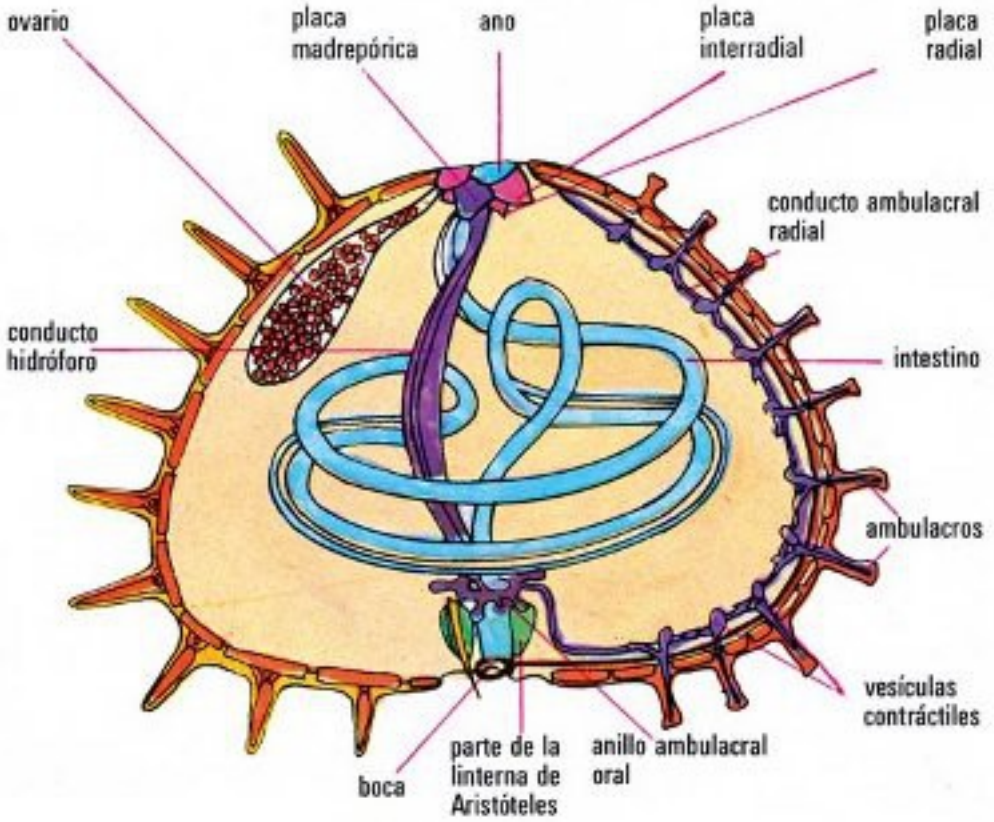
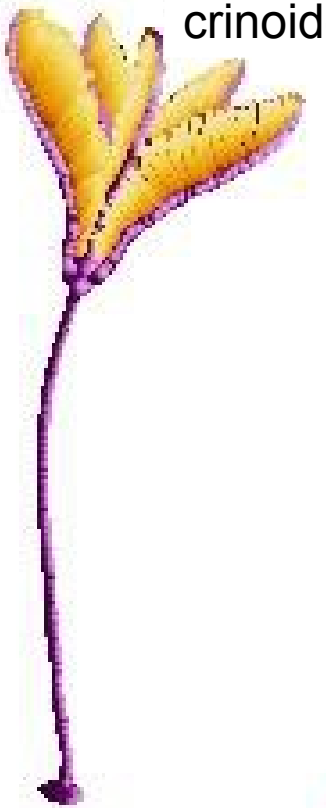


Ilustración de Microsoft

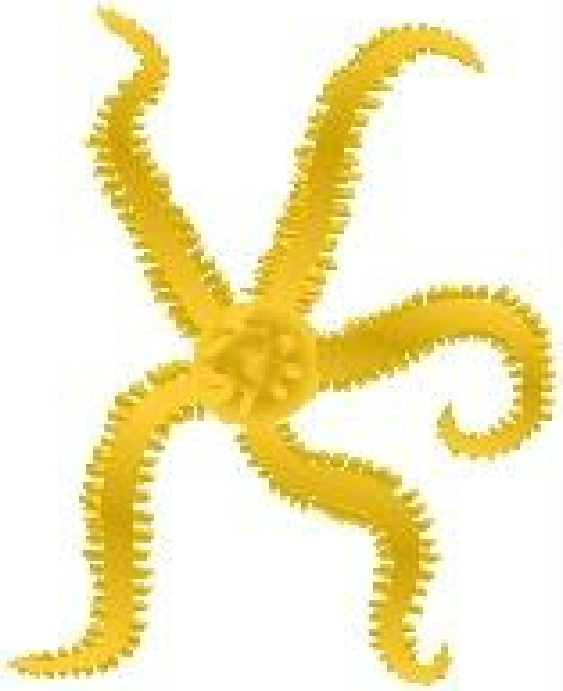


Equinodermos



crinoideo (lirio de mar)

asteroideo (estrella de mar)



ofiuroideo (ofiura)

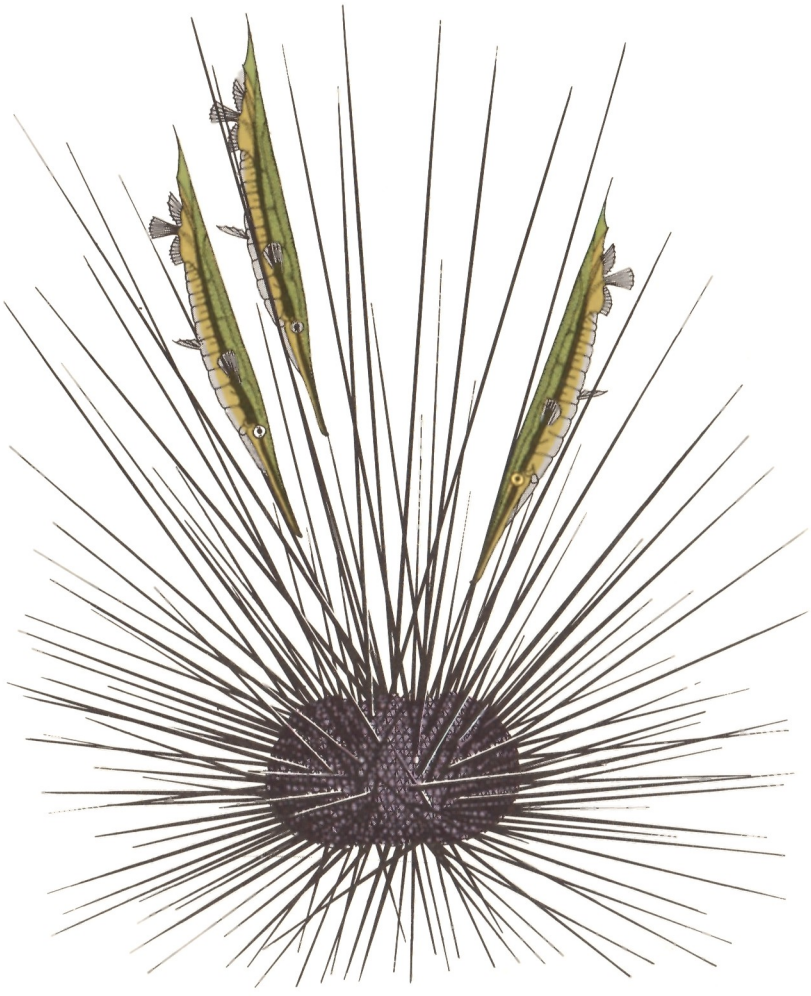
holoturoideo (holoturia, pepino de mar)

equinoideo (erizo de mar)

Echinodermata

Echinoidea

Diadema antillarum



Echinodermata

Echinoidea

Asthenosoma varium

Echinodermata

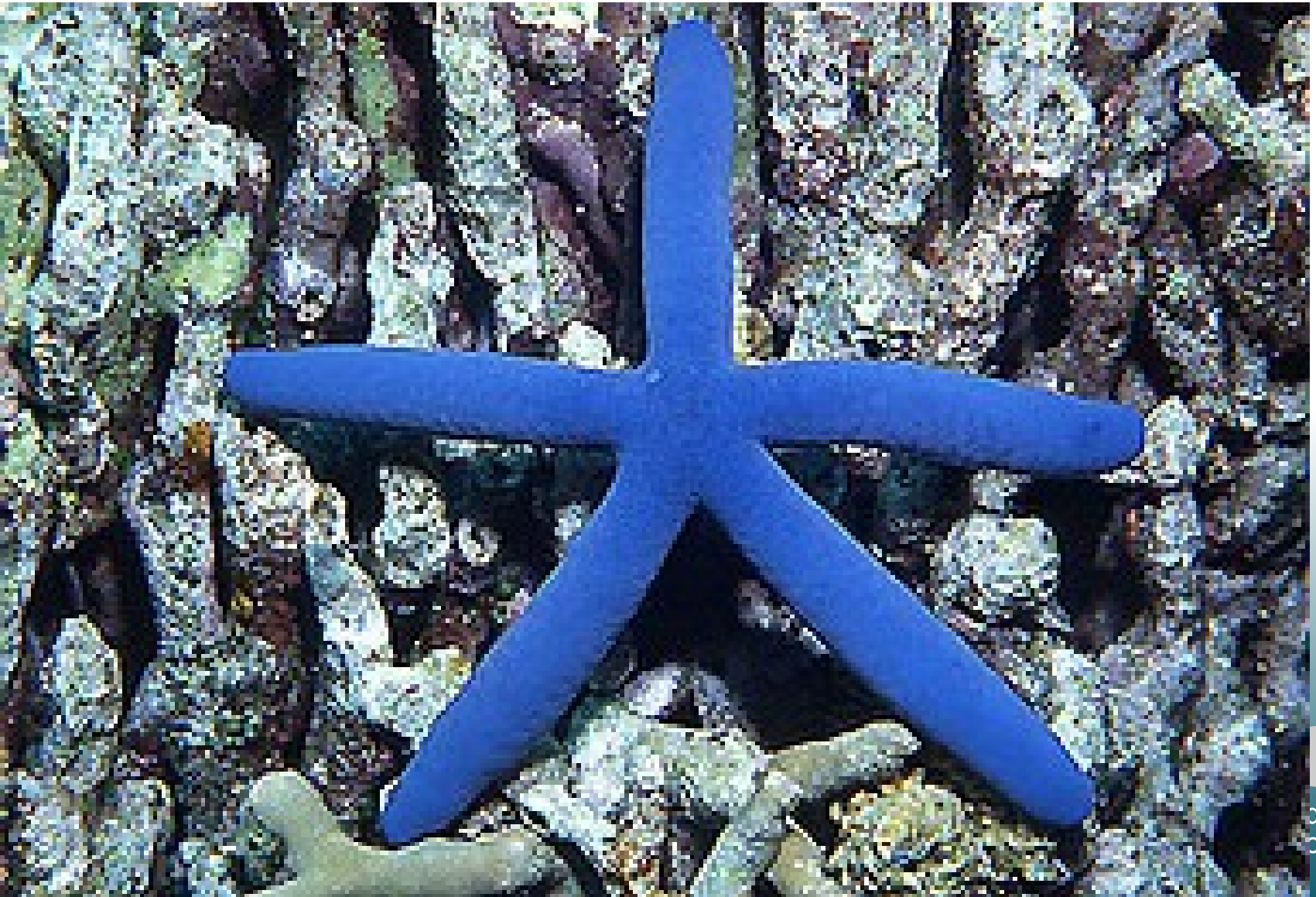
Asteroidea

Pentagonaster duebeni

Echinodermata

Asteroidea

Linckia spp.



Echinodermata

Ophiuroidea

Ophiocoma spp.

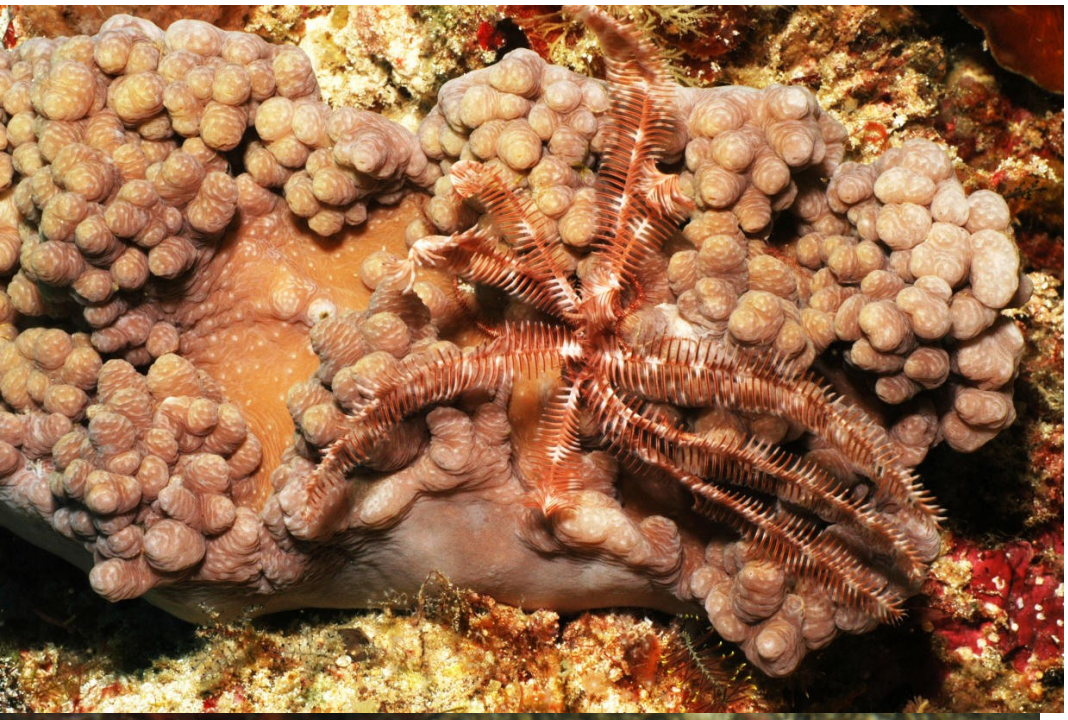
Echinodermata

Ophiuroidea

Ophioderma spp.

Echinodermata

Crinoidea

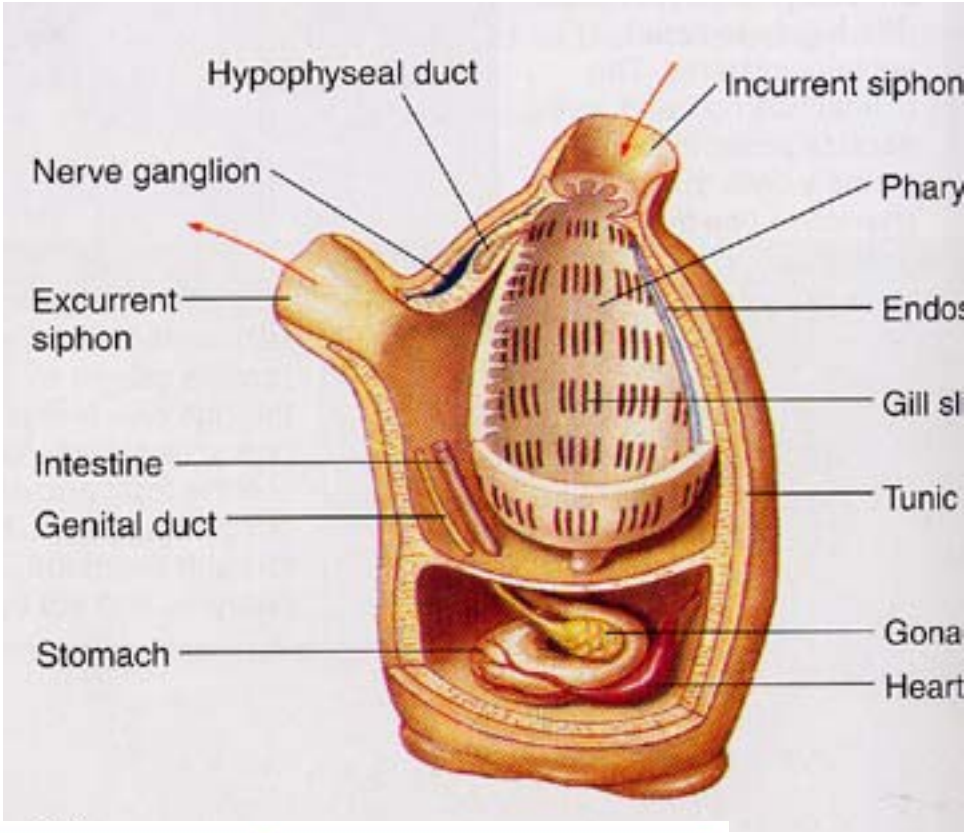


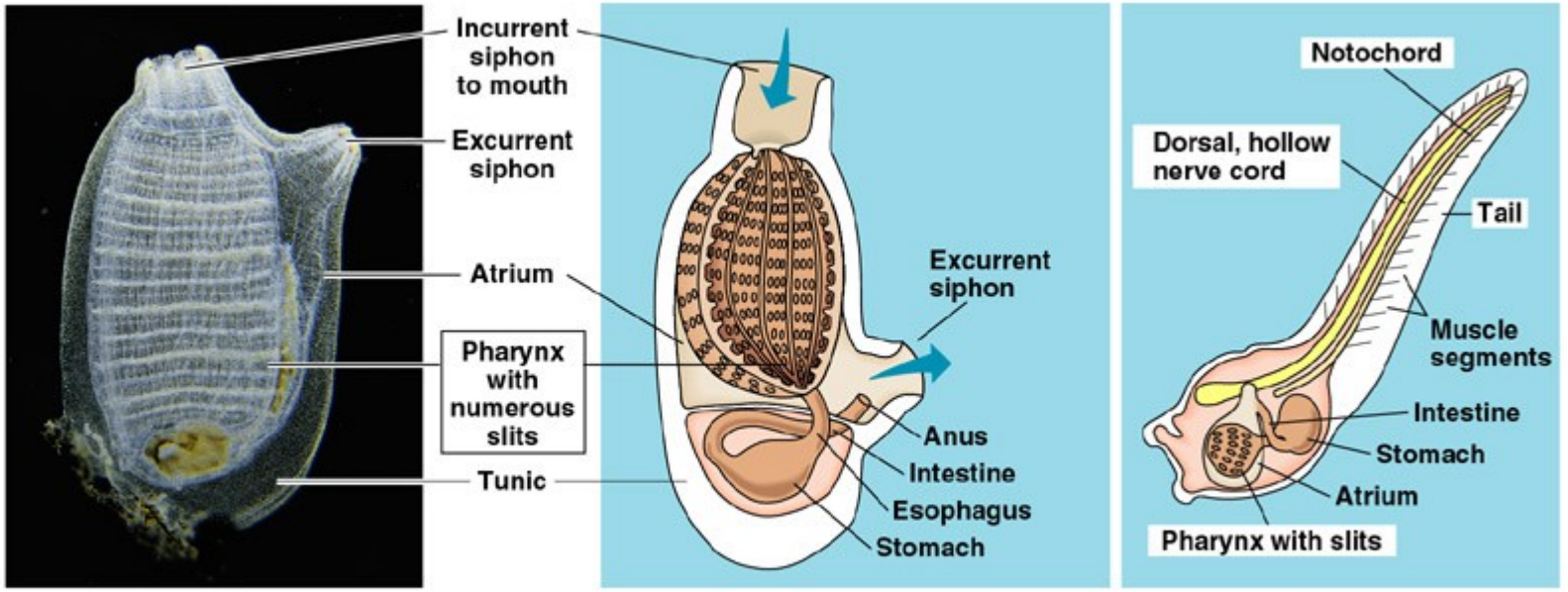
Echinodermata

Holothurioidea

Cordados

Tunicados





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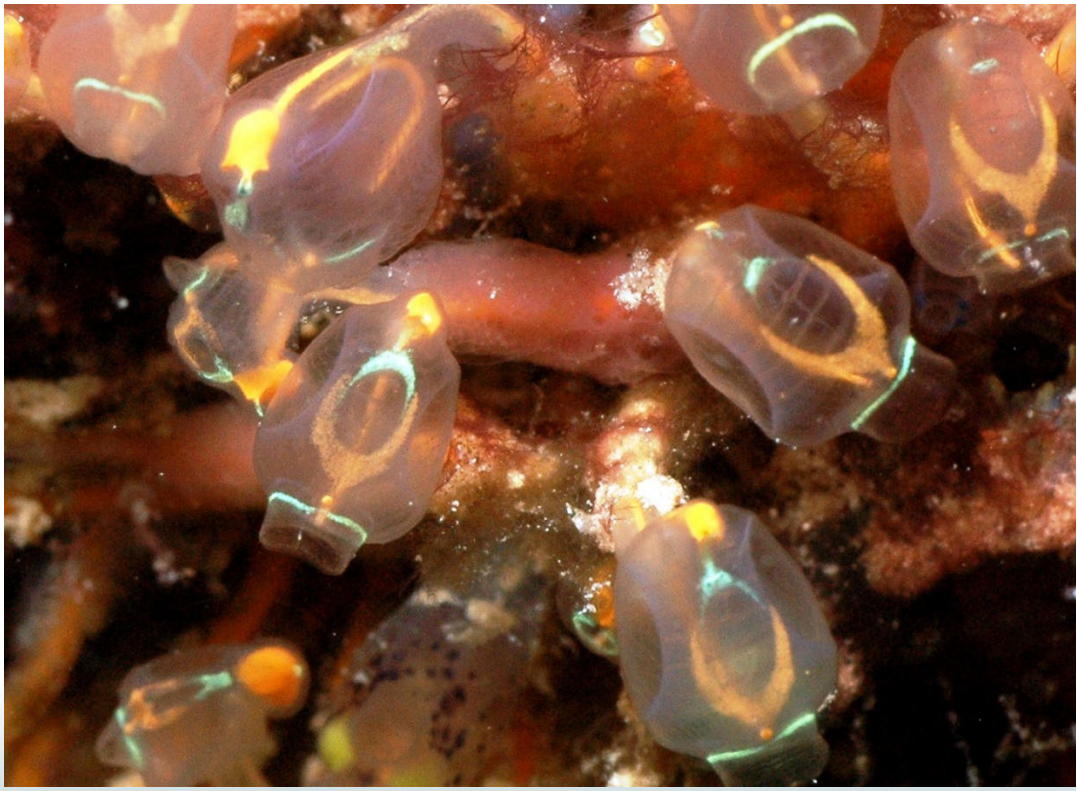
Chordata

Tunicata



Chordata

Tunicata