

Bentos



Arturo Alvarez Aguilar

Introducción

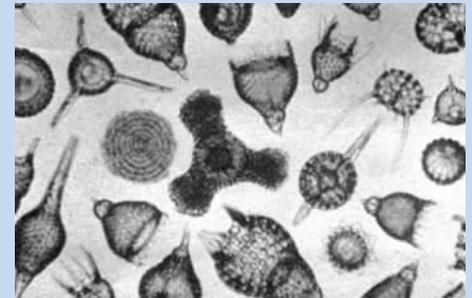
70% de la superficie terrestre se encuentra bajo el mar



Terrígeno



Biogénico

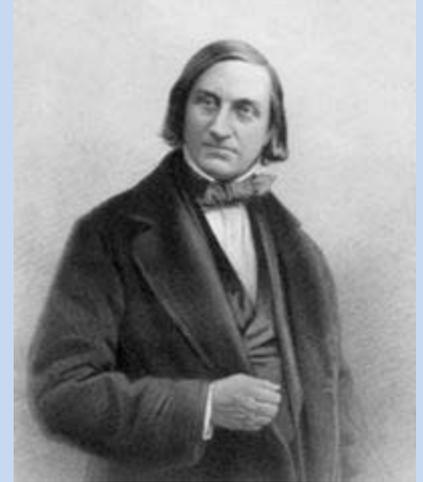


Autígeno

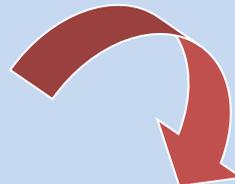
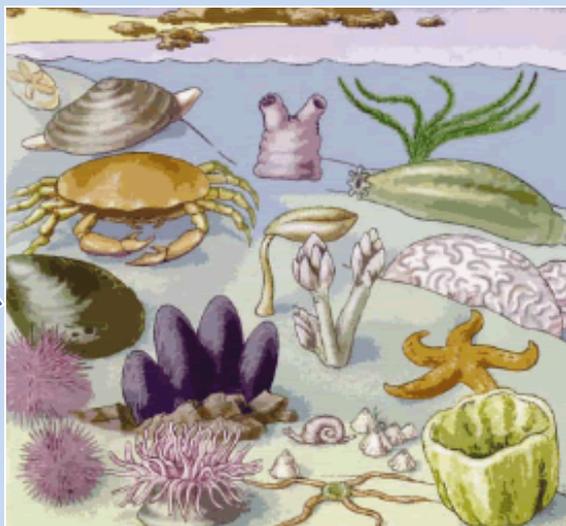
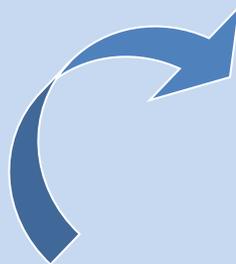
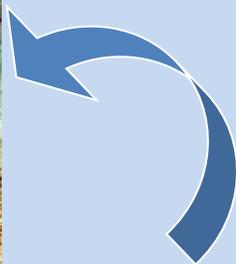


Bentos “fondo marino”

- Zona fótica 100 m
- Animales
- Describir especies
- A lado de la carretera
- Edward Forbes 600 m
- Michael Sars 1869 Noruega
335 especies
- HMS Challenger 1872-1876



Fauna del fondo marino (organismos bentónicos)



Poliquetos



“Policletos”

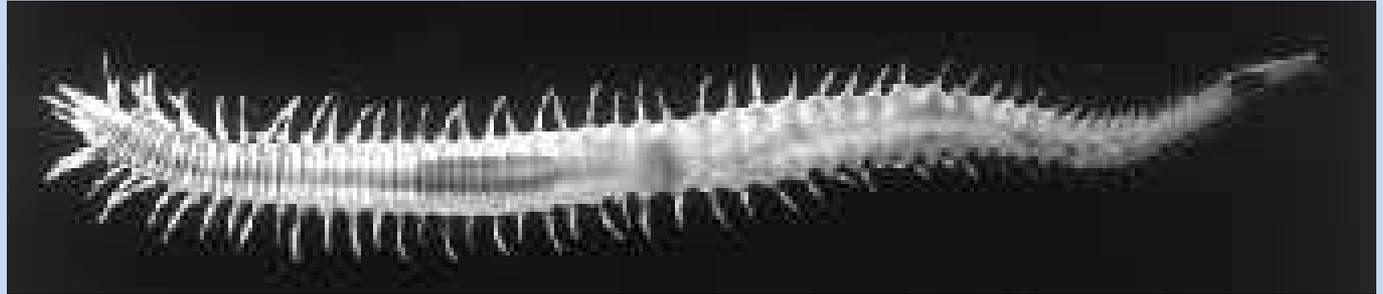


Phylum Annelida

Clase

Polychaeta

9000 spp.



Marinos

Clitellata

Subclase



Oligochaeta (Lombrices de tierra) 6000 spp.

Hirudinea (sanguijuelas) 500 spp



MILLIONS OF YEARS BEFORE PRESENT

PERIOD

REPRESENTATIVE LIFE

Quaternary Period ↘

CENOZOIC ERA
("Recent Life")

1 1/2

Tertiary Period



Primitive Horses

65

Cretaceous Period



Last Dinosaurs

140

Jurassic Period



Quarry Dinosaurs

210

Triassic Period



First Dinosaurs

245

Permian Period



Primitive Reptiles

290

Pennsylvanian Period



Giant Insects

320

Mississippian Period



Brachiopods

360

Devonian Period



Primitive Fishes

410

Silurian Period



"Sea Scorpions"

440

Ordovician Period



Nautiloids

500

Cambrian Period

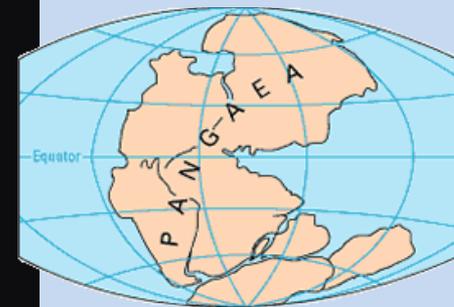


Trilobites

570

Fossils older than Cambrian age are rare. This earlier span of time is usually called, simply, Precambrian.

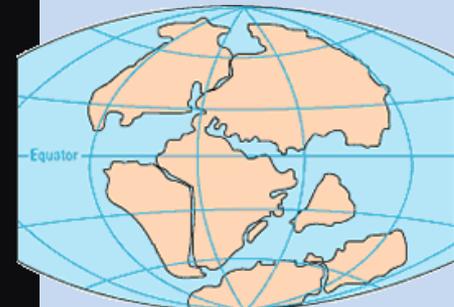
PALEOZOIC ERA
("Ancient Life")



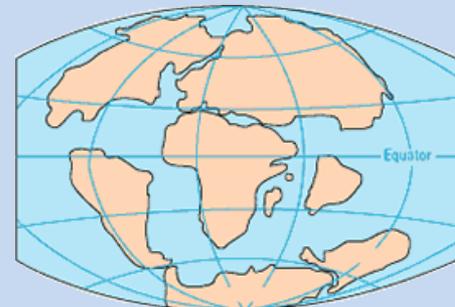
PERMIAN
225 million years ago



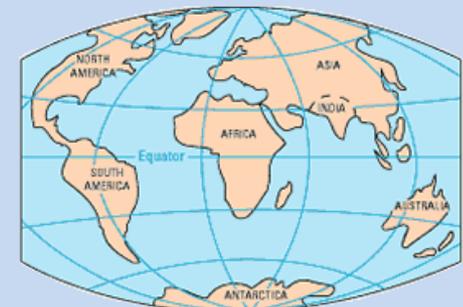
TRIASSIC
200 million years ago



JURASSIC
135 million years ago



CRETACEOUS
65 million years ago



PRESENT DAY

“plastilina”



Tamaño



Pequeño

mm



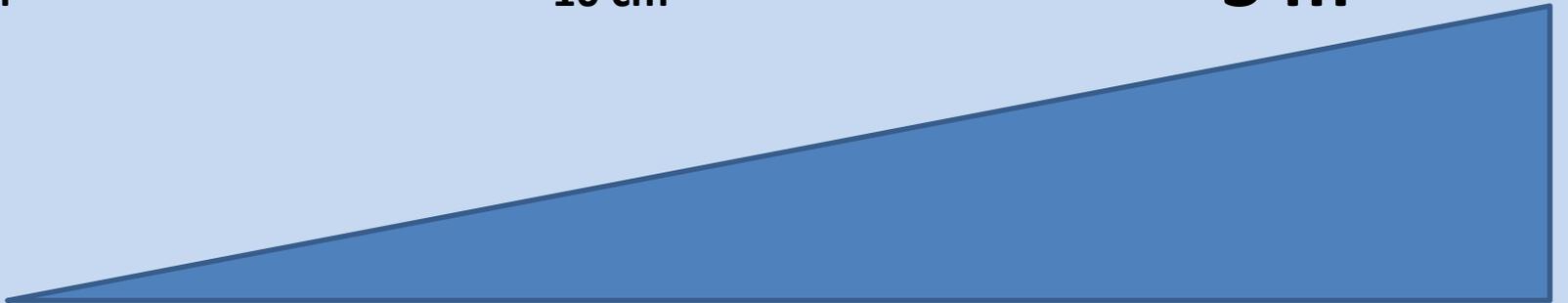
Promedio

10 cm



Grande

3 m

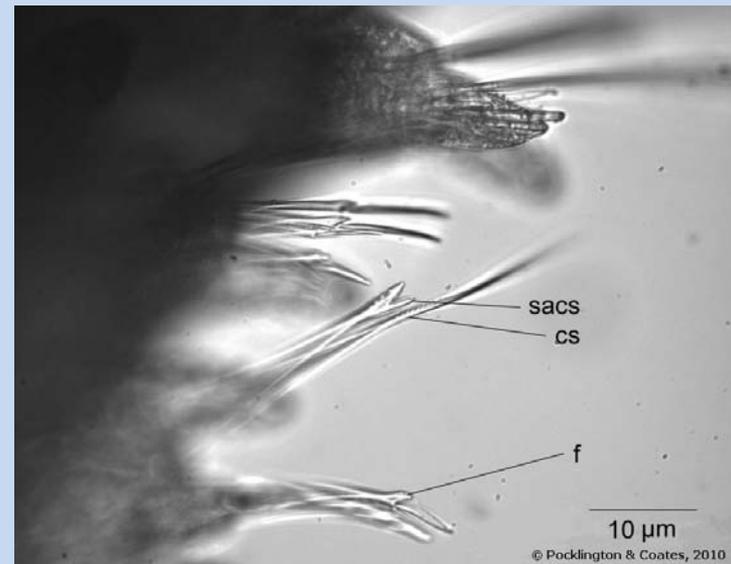
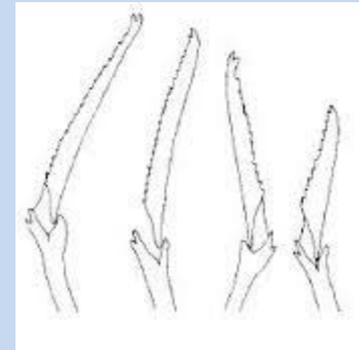


Polychaeta= “*muchas setas*”



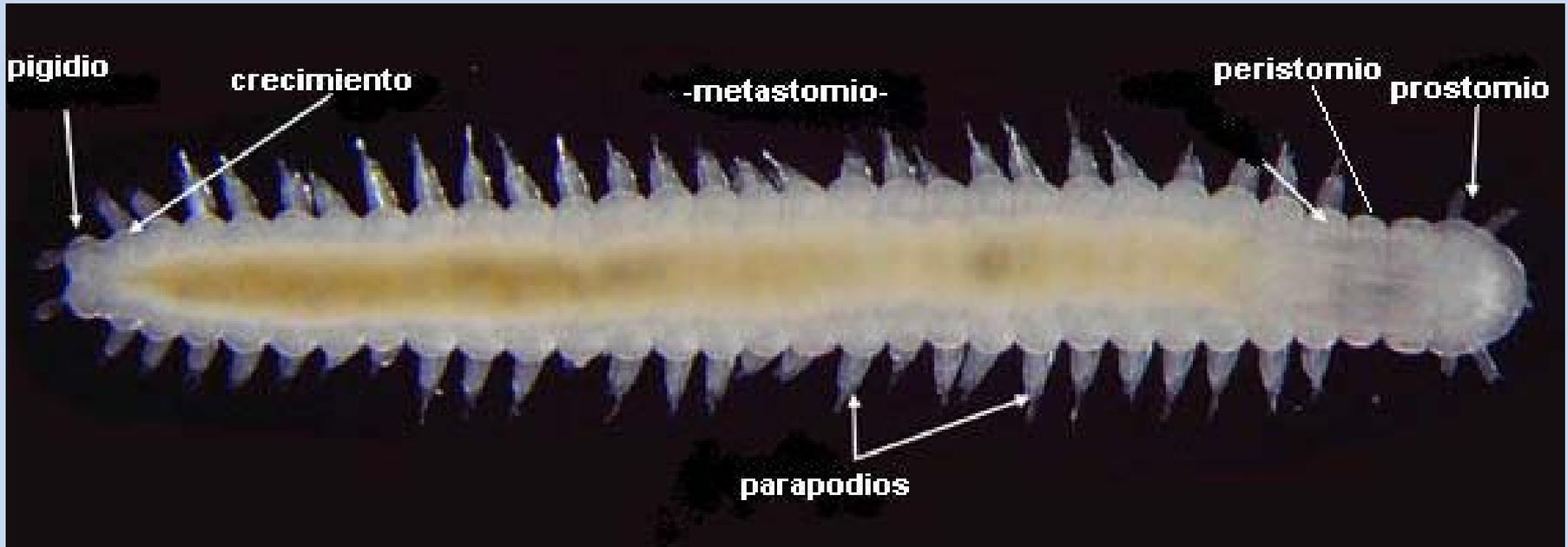
Fig. 4. *Salmacina incrustans*, a-b) setas del collar, c) seta torácica “Apomatus”, d) seta torácica capilar, e) uncino torácico, f) seta abdominal geniculada, g-h) uncino abdominal en vista lateral y frontal, *Ficopomatus miamensis*, i-j) opérculos, k) seta del collar, l) seta del collar capilar, m) seta torácica capilar, n) seta torácica limbada, o-p) uncino torácico en vista frontal y lateral, q) seta abdominal geniculada, r-s) uncino abdominal en vista frontal y lateral.

Fig. 4. *Salmacina incrustans*, a-b) collar setae, c) thoracic seta “Apomatus”, d) capillary thoracic seta, e) thoracic uncinus, f) geniculate abdominal seta, g-h) abdominal uncinus on lateral and frontal view, *Ficopomatus miamensis*, i-j) opercula, k) collar seta, l) capillary collar seta, m) capillary thoracic seta, n) limbate thoracic seta, o-p) thoracic uncinus on frontal and lateral view, q) geniculate abdominal seta, r-s) abdominal uncinus on frontal and lateral view.



Poliquetos

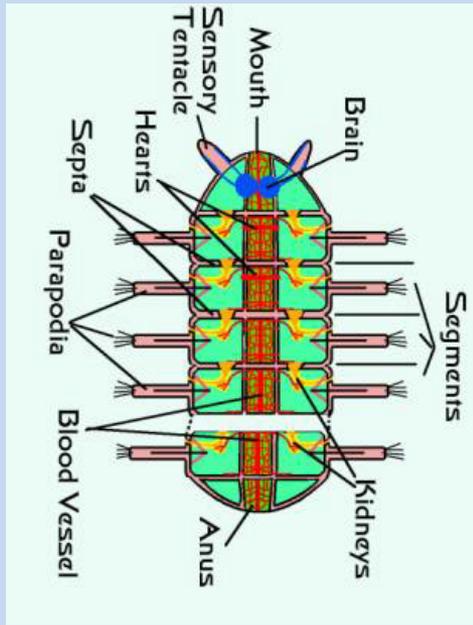
9,000 especies



Polychaeta

- Setas quitinosas
- Segmentación (homómera o heterónoma)
- Generalmente dióicos
- Ausencia de gónadas definidas
- Sin órganos reproductores complejos
- Algunas especies con reproducción asexual
- Regeneración

Morfología



Pared del cuerpo: cutícula de escleroproteína y mucopolisacáridos secretada por la epidermis

Dermis : glándulas

Musculatura: músculos circulares, longitudinales y oblicuos

Peritoneo parietal

Esqueleto de tipo hidrostático

Sistema circulatorio cerrado

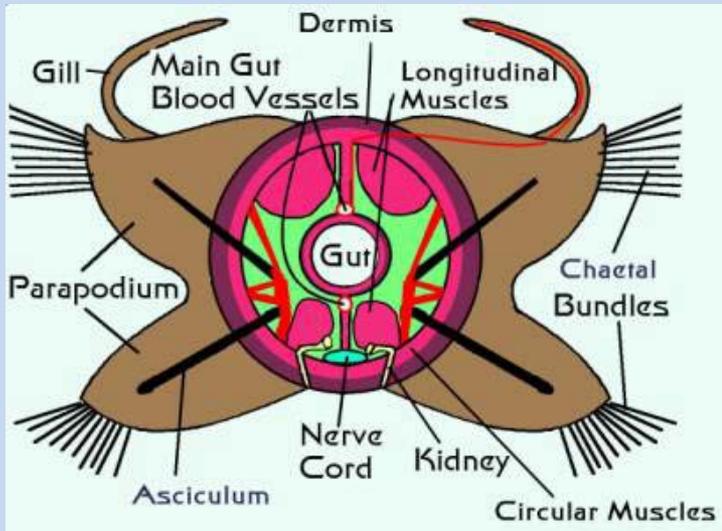
Pigmentos: hemoglobina, hemeritina, clorocruorina

Intercambio gaseoso: tegumentario o por branquias

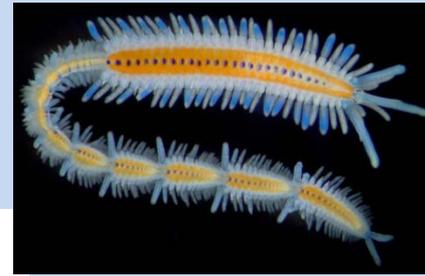
Sistema excretor y osmoregulación protonefrios y metanefridios

Protostomados

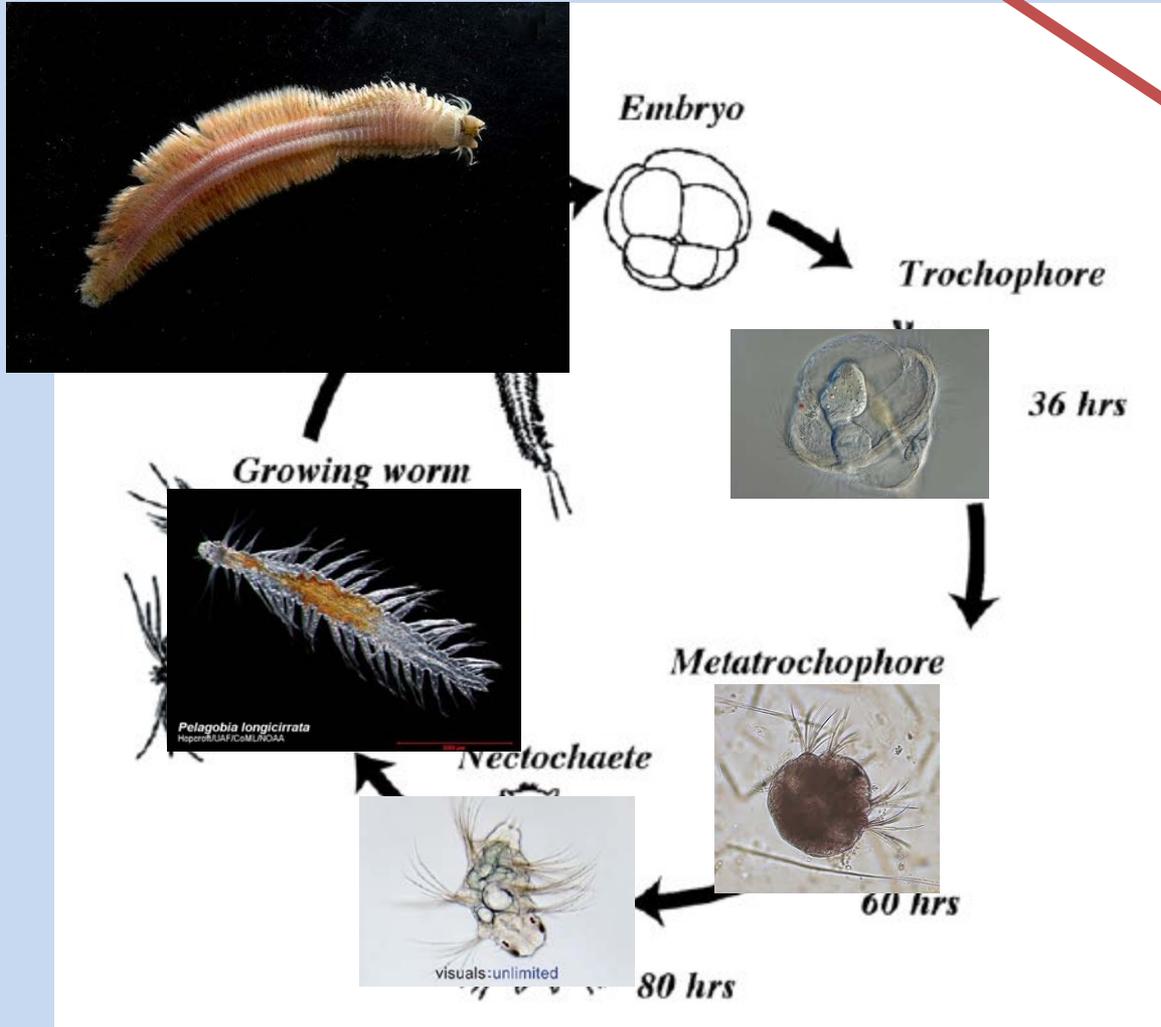
Sistema nervioso escaleriforme



Ciclo de vida



ASEXUAL



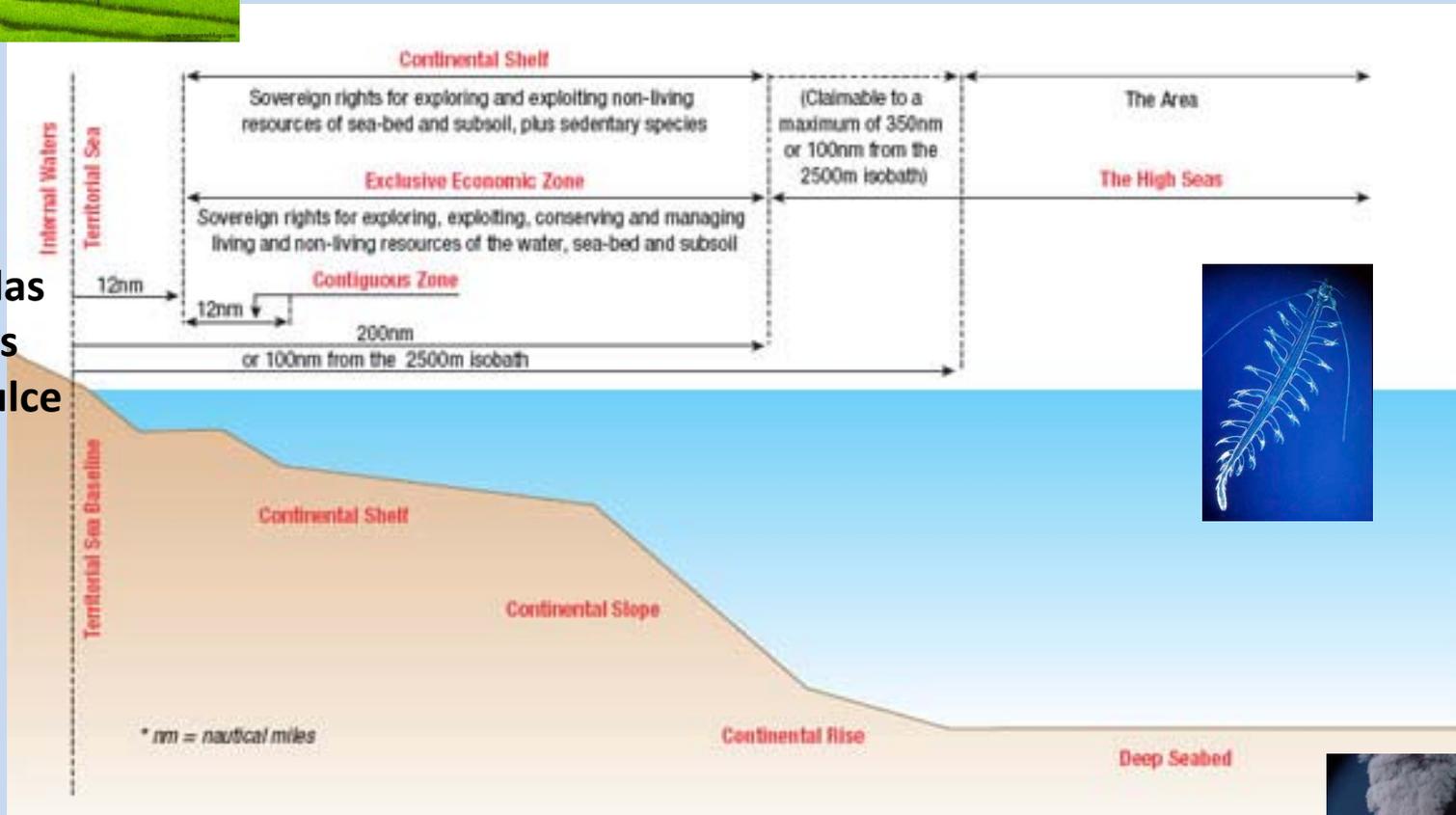
SEXUAL

SEXUAL

Distribución

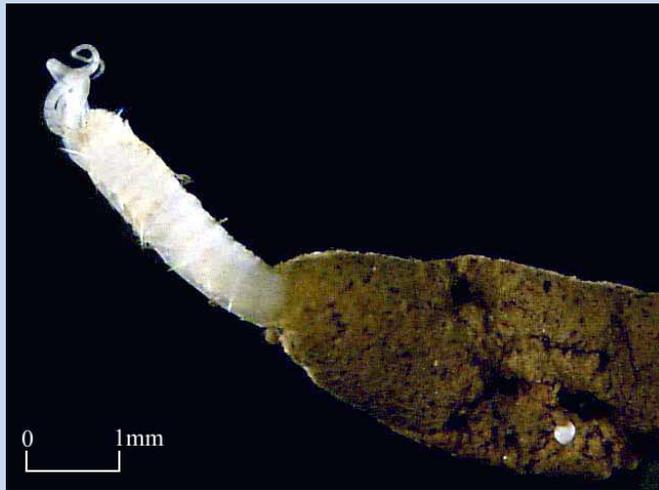


2% de las especies agua dulce



Modos de vida

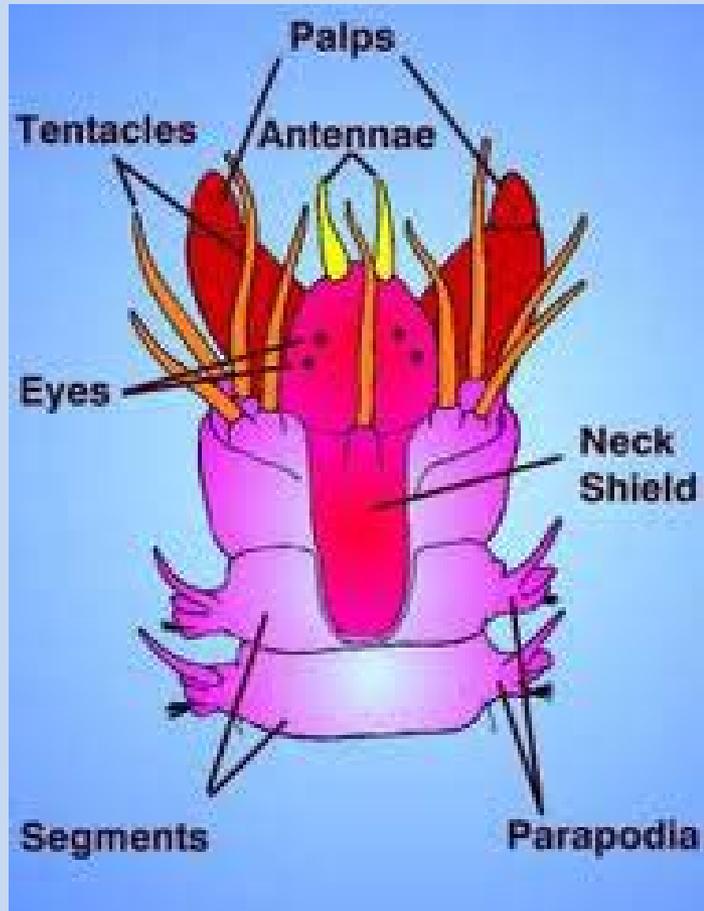
Sedentarios



Errantes



Prostomio



Tubícolas



Bentos



Phylum CNIDARIA



Rhizocaulus verticillatus



Tubularia sp.



Aglaophenia sp.

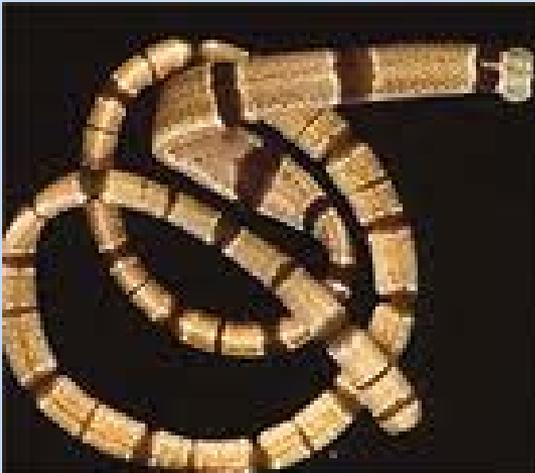


Pentactinia californica

Phylum Platyhelminths



Phylum Nemertea



Phylum Sipuncula



Phylum Phoronida



Diversidad morfológica

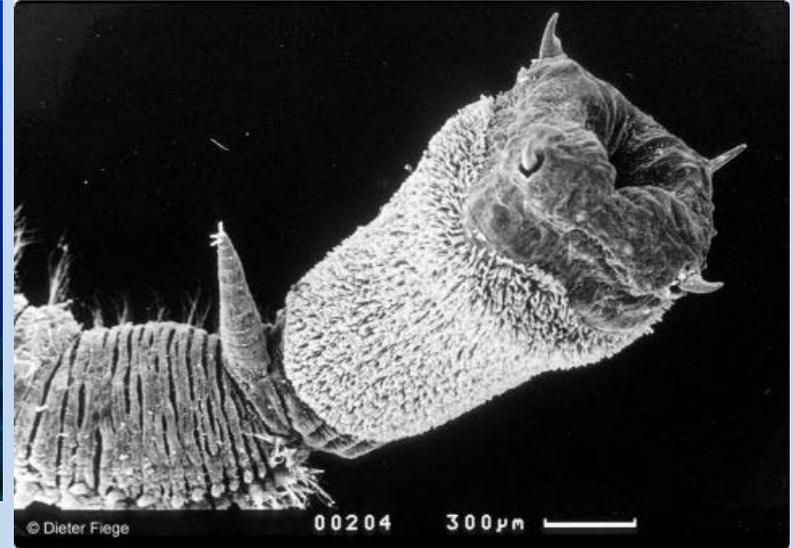
Sedimentívoros

Filtradores

Carnívoros

Herbívoros

Parasitismo



Importancia económica



“Palolos”



Carnada



Invasora

Indicadores ambientales

Índices

**Estructura
comunitaria**

**Hábitos
Alimentarios**

**Estrategias de
reproducción**



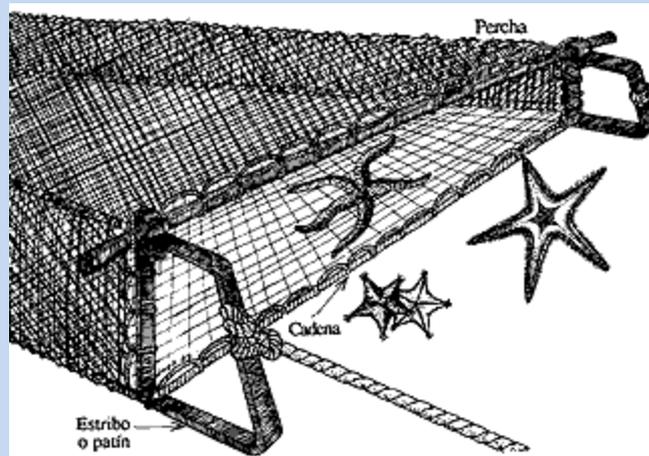
Diferenciar:

Antropogénicos: descargas urbanas

Naturales: Meteorológicos

Muestreo

- Primitivo
- Arrastras todo (cualitativo)



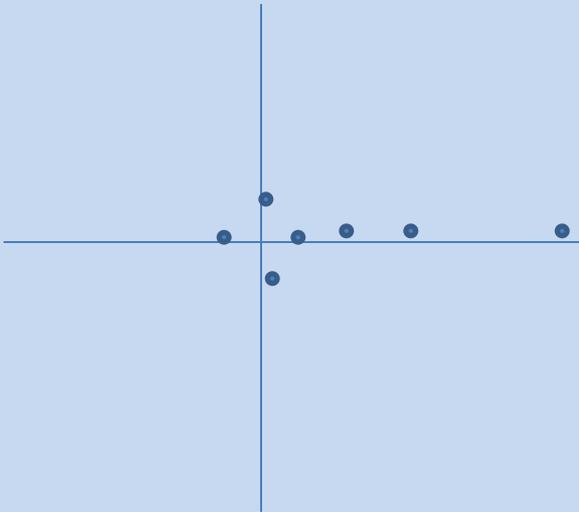
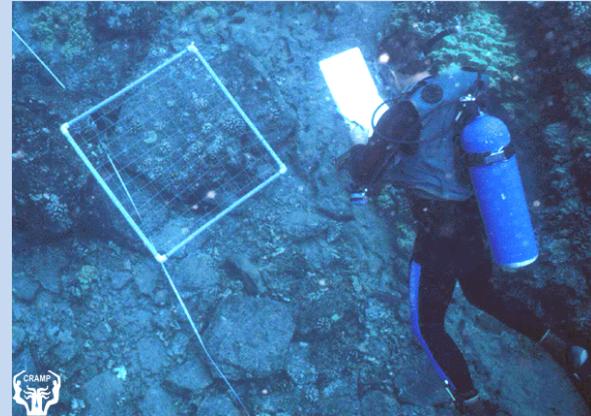
Muestreo

- Métodos cuantitativos (área representativa- peso del dispositivo)



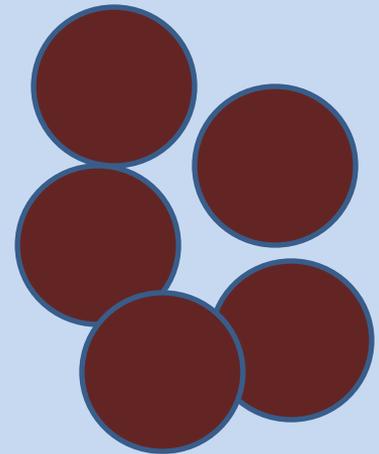
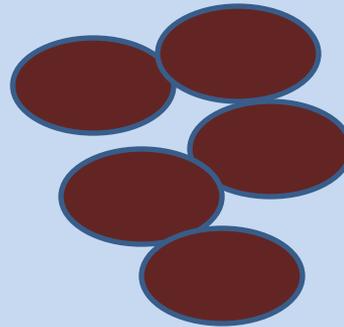
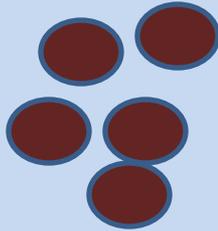
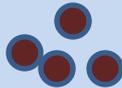
Tipo de muestreo

- Sistemático
- Transecto
- Espacial

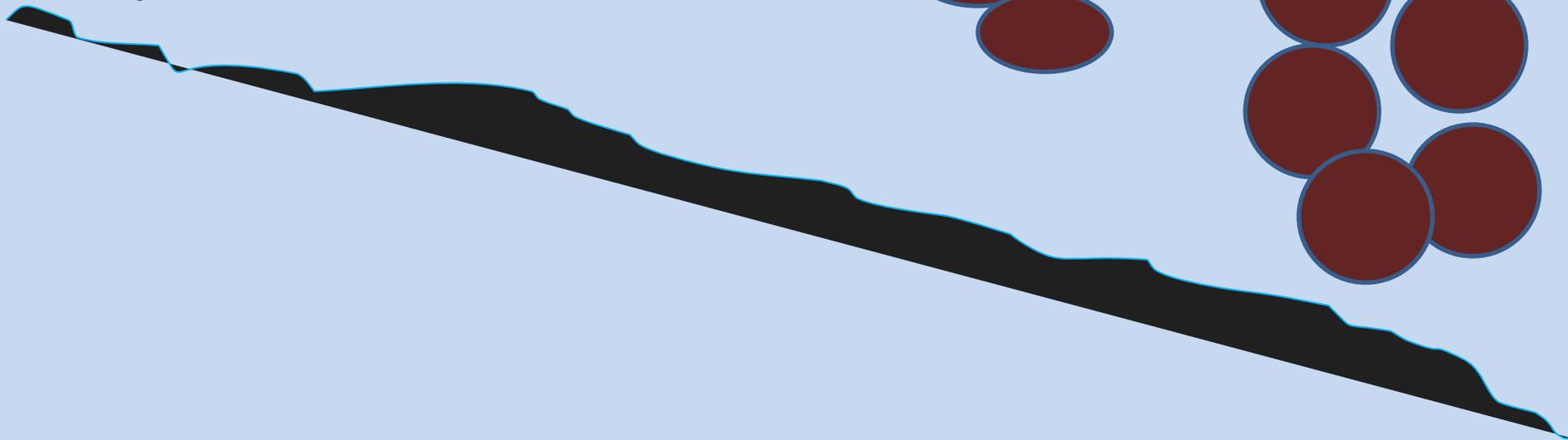


Que factores son importantes

- Textura del sedimento

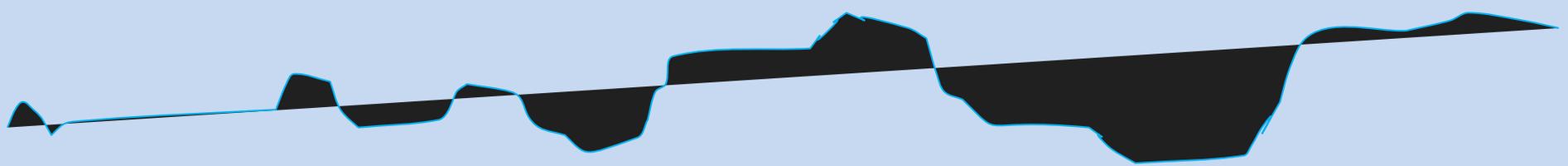


- profundidad



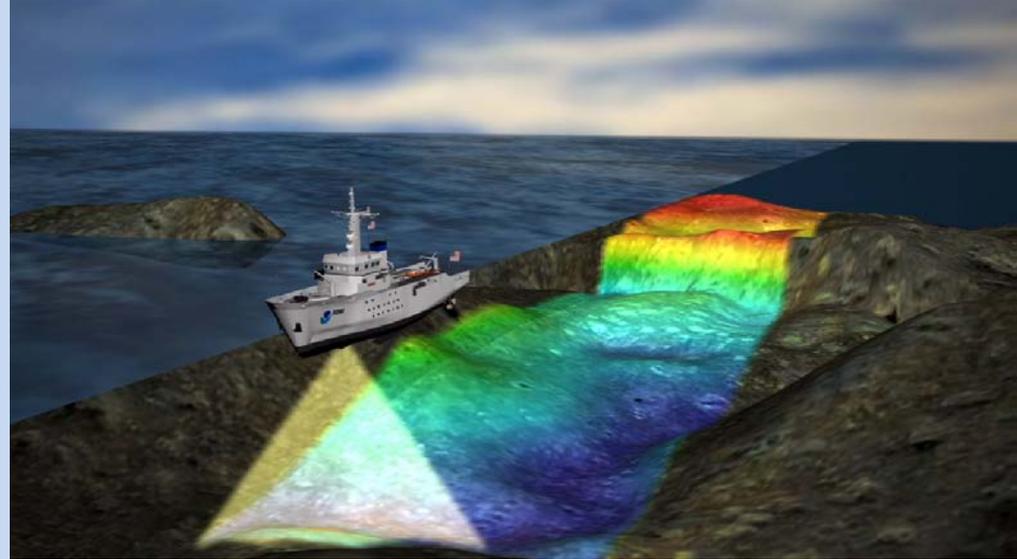
Muestreo

- “ciegas”

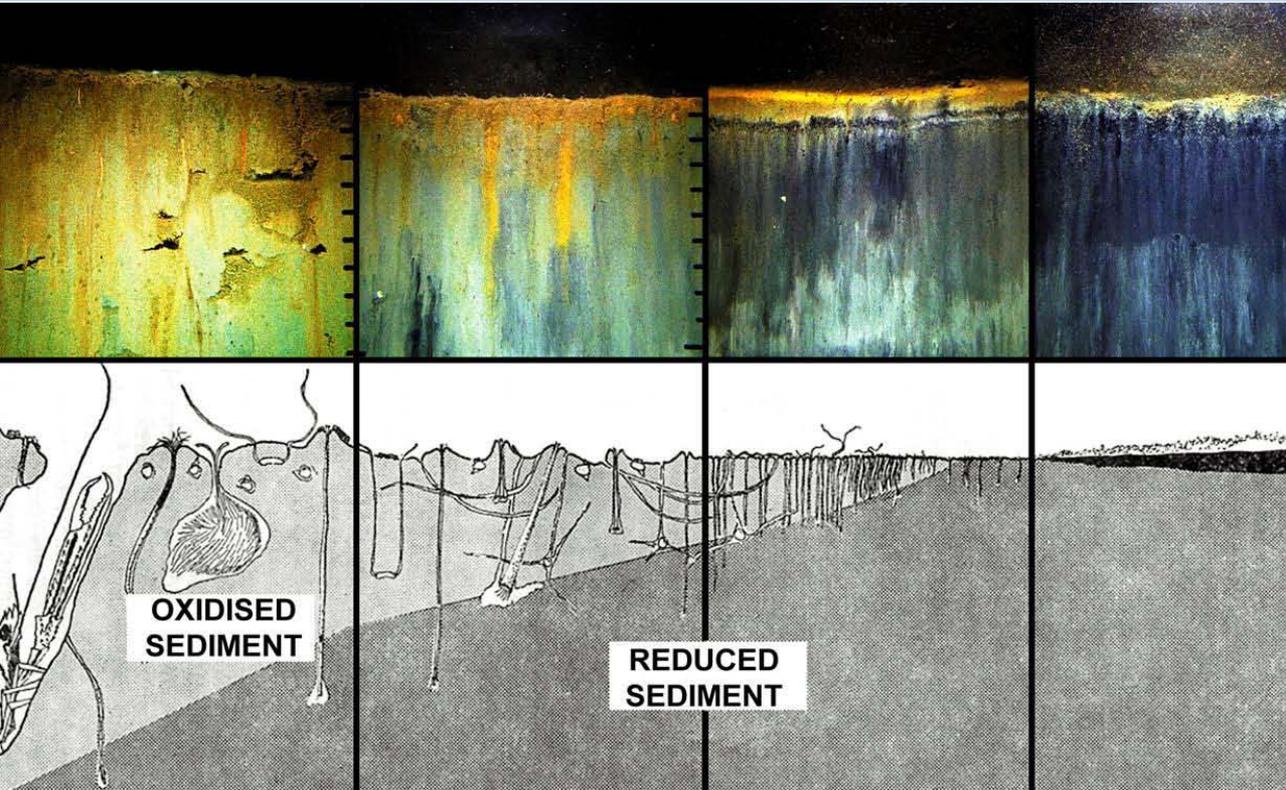


MUESTREO

- TECNOLOGÍA
- GPS
- VIDEO
- ECOSONDAS
- ROBOTS



Cámara



General Model