Curso Intensivo Intersemestral

(Paleo)Bio Inidcadores Neotropicales

Diatomeas: División Bacillariophyceae

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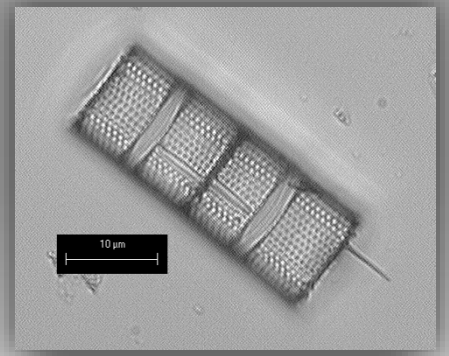

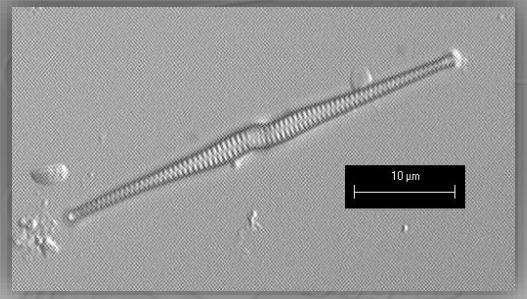

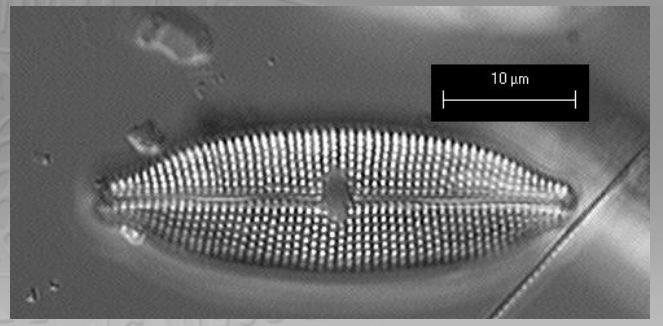

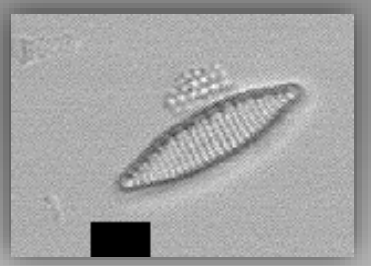

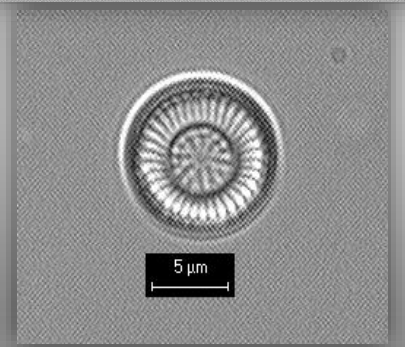

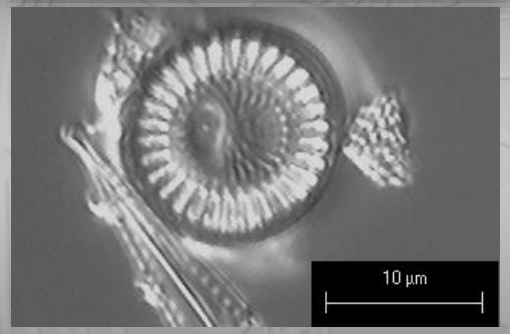

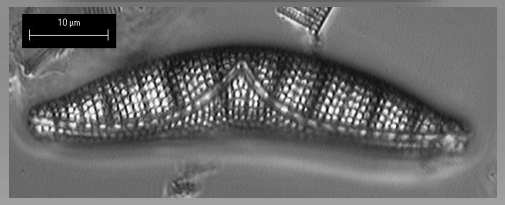

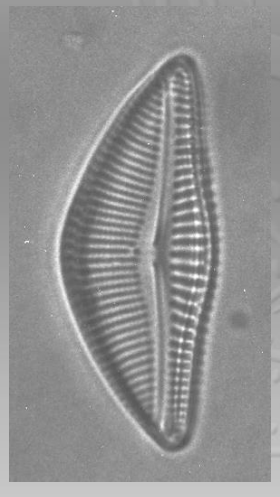

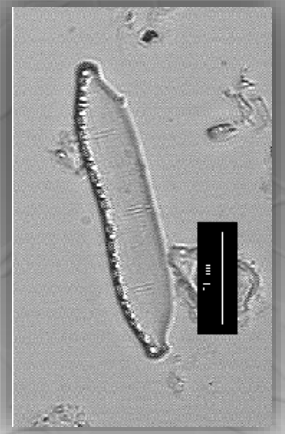

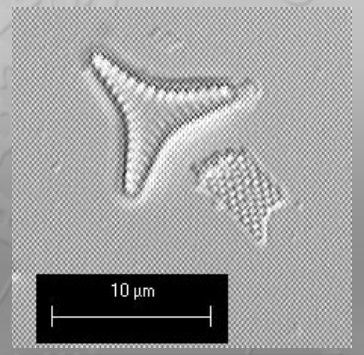

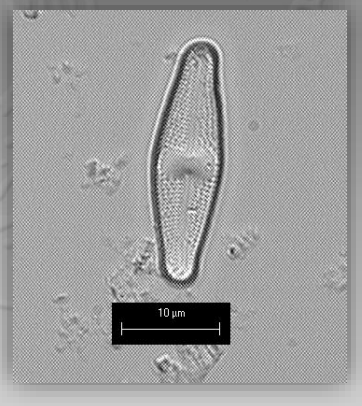

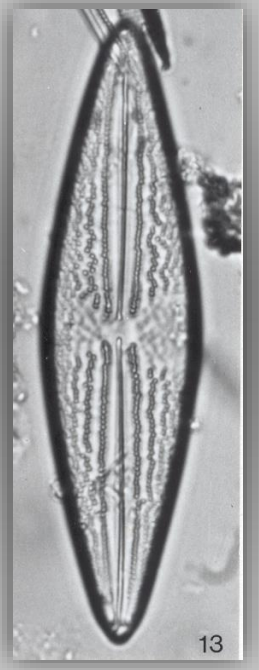

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Diatomeas: División Bacillariophyceae

Diatoms may be responsible for nearly 20% or more of the net primary carbon production worldwide, fixing 20 Pg per year out of a global total of 105 Pg (Mann, 1999), which is more than all the world's rainforests combined (Field et al., 1998).

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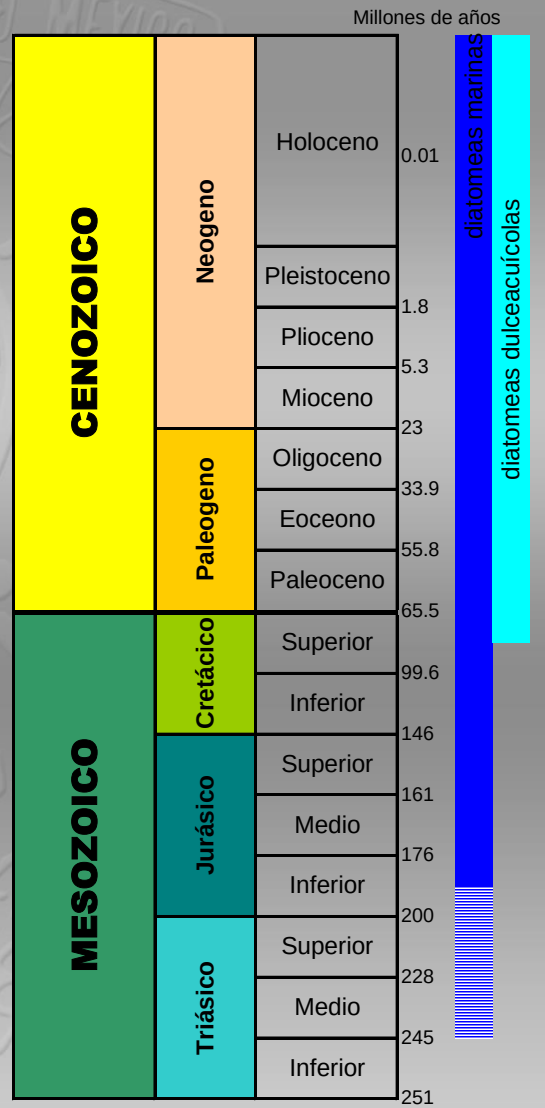
- Probable origen (reloj molecular): 240 Ma.
- Registro fósil mas antiguo: 190 Ma.
- Amplio registro fósil desde el Cretácico inferior (marinas)
- Dulceacuícolas: 70 Ma



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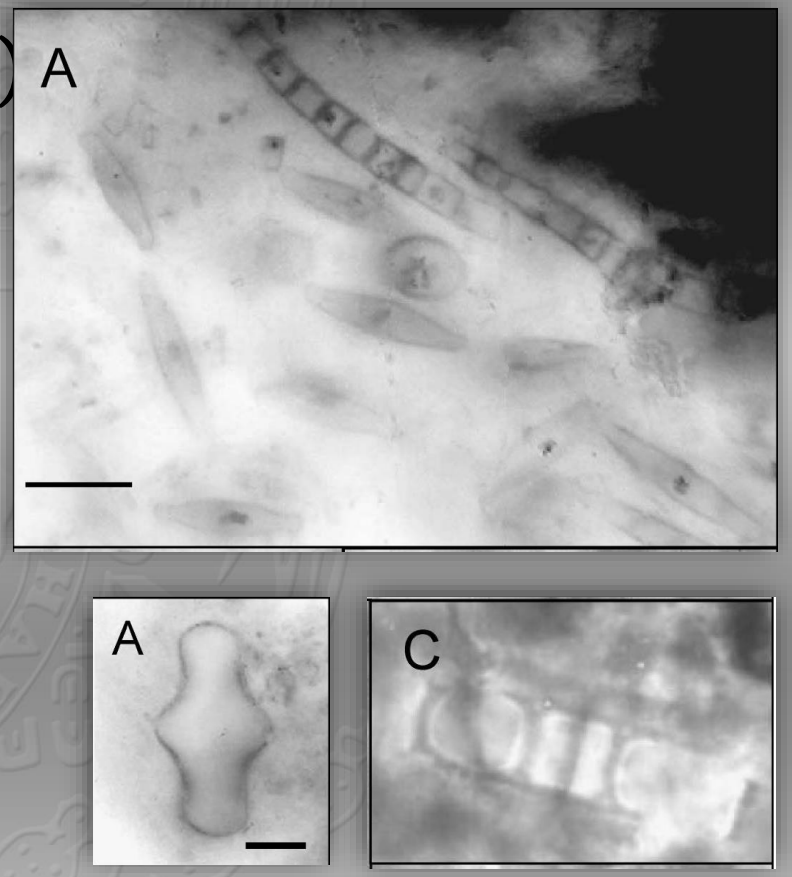
- Probable origen (reloj molecular)
  240 Ma.
- Registro fósil mas antiguo:
  190 Ma.
- Amplio registro fósil desde el Cretácico inferior (marinas)
- Dulceacuícolas: 70 Ma
  Formación Tarahumara, Son.
- Diversificación dulceacuícolas
  Eoceno-Mioceno floras modernas



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Diatomeas: División Bacillariophyceae

- Eucariontes
- Unicelulares: 10 a 200 μm
- Autotróficos: Clorofilas a y c
- Fucoxantina:

  pigmento accesorio pardo–dorado
- Cloroplastos con cuatro membranas

  Clado Chromoalveolata –

  Stramenopiles o Heterokontophyta
- Chrisolaminaria

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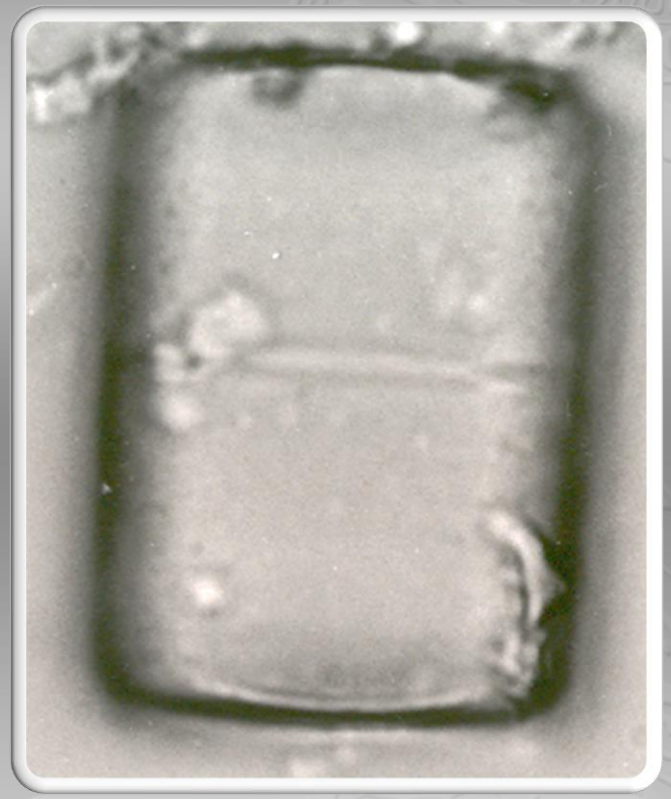
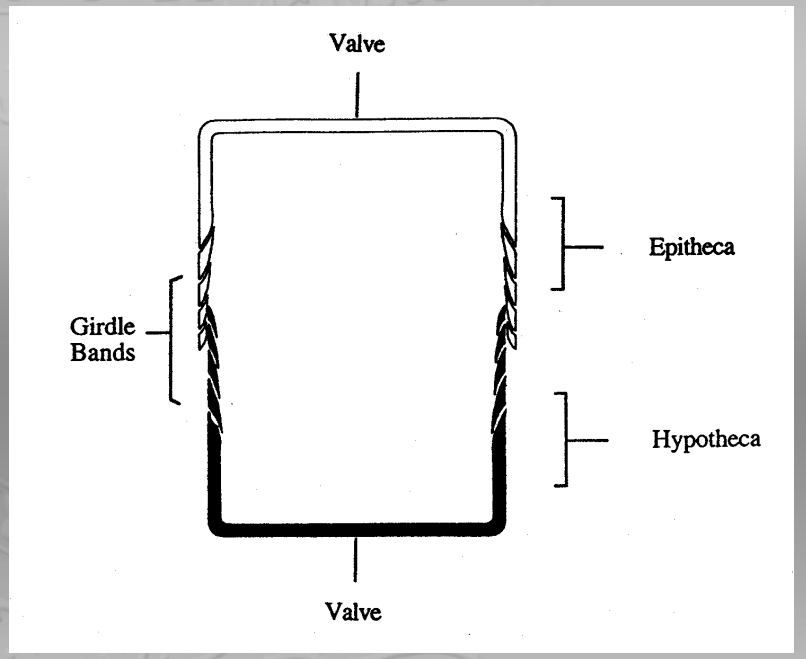
Diatomeas: División Bacillariophyceae

– Pared celular silicificada

FRUSTULO





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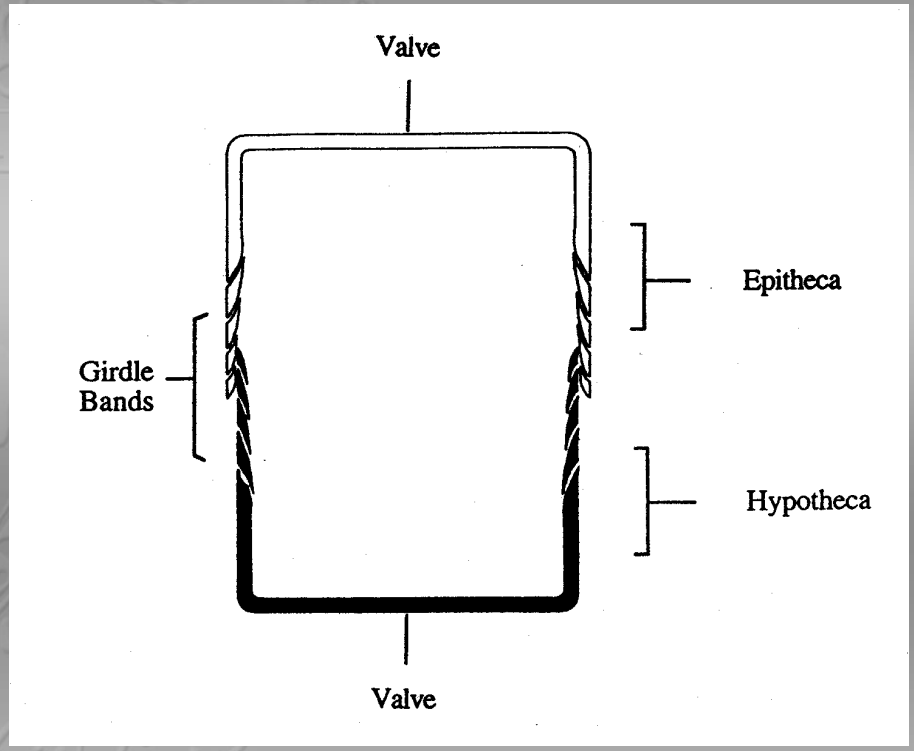
– Pared celular silicificada

FRUSTULO

- 2 valvae: epivalva e hipovalva
- Cingulum o bandas cingulares (girdle bands)

-> 1 valva + ½ cingulum = theca

- 2 thecae - epitheca e hipotheca



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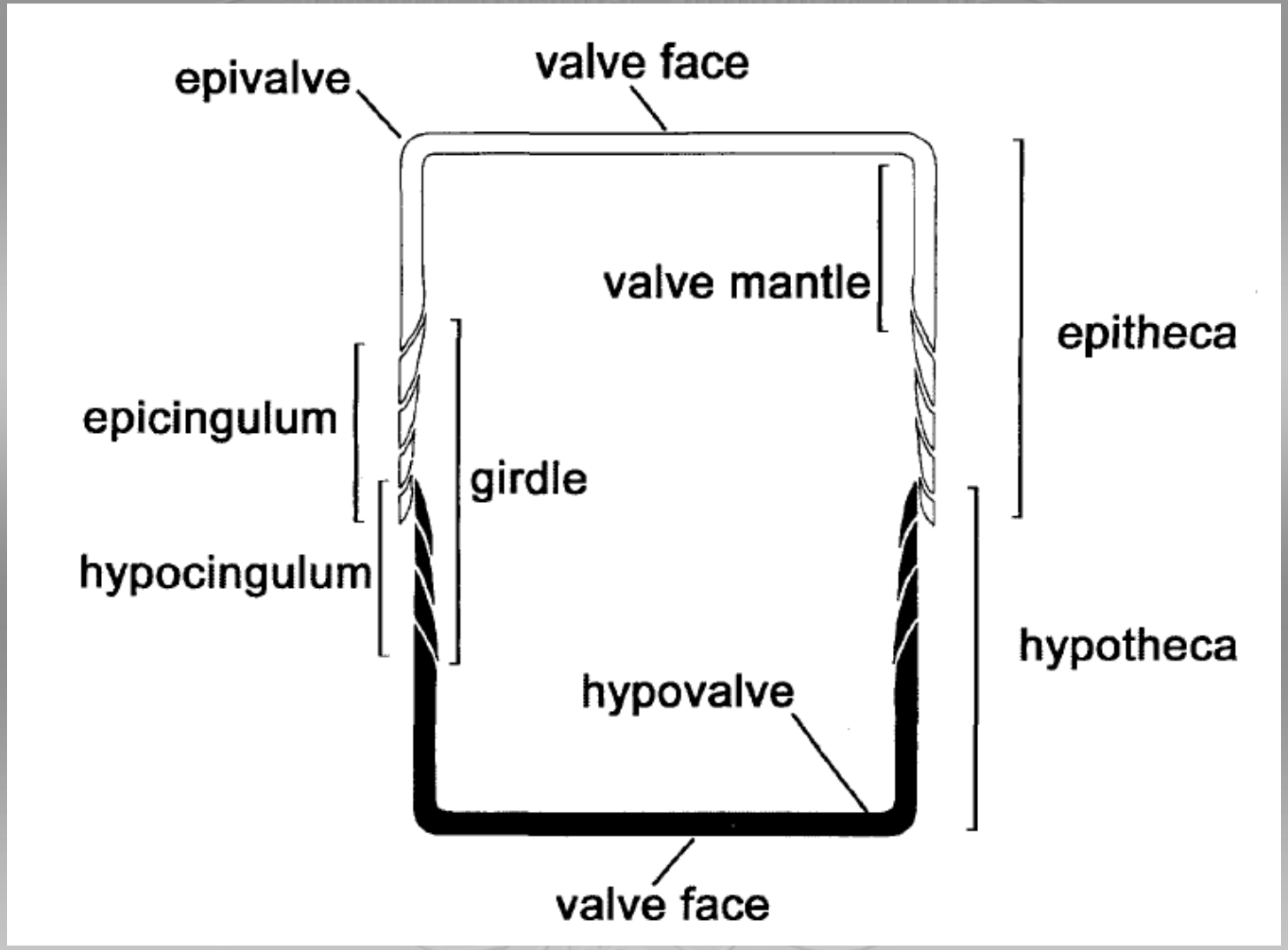

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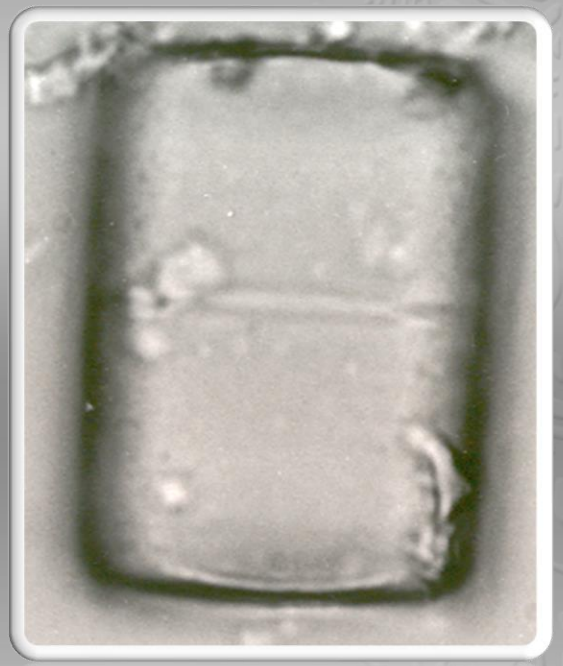
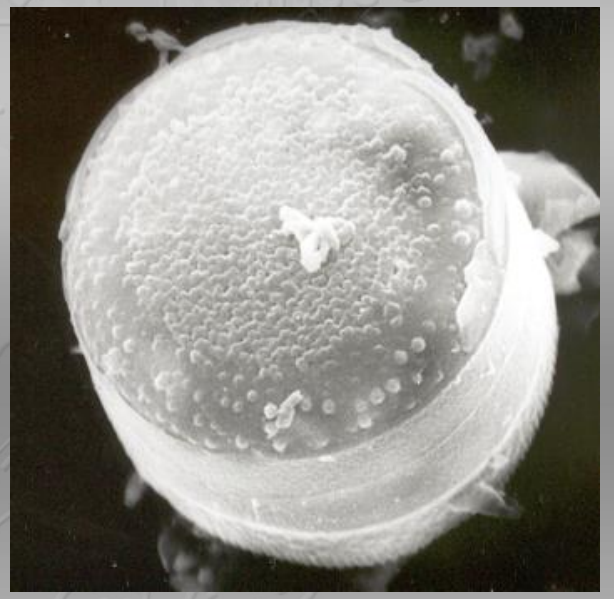
– Vista cingular - Vista valvar





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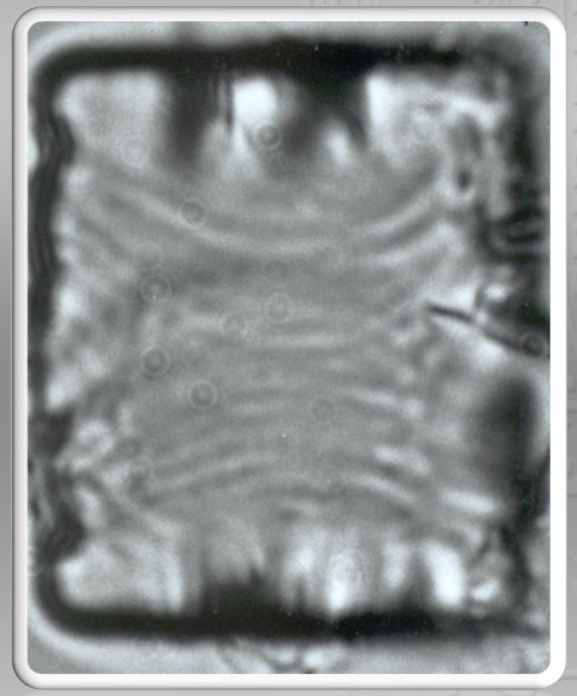

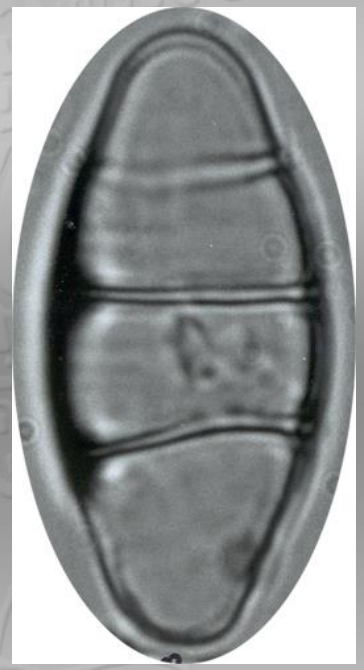

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Reproducción

a. Reproducción vegetativa

b. Reproducción sexual

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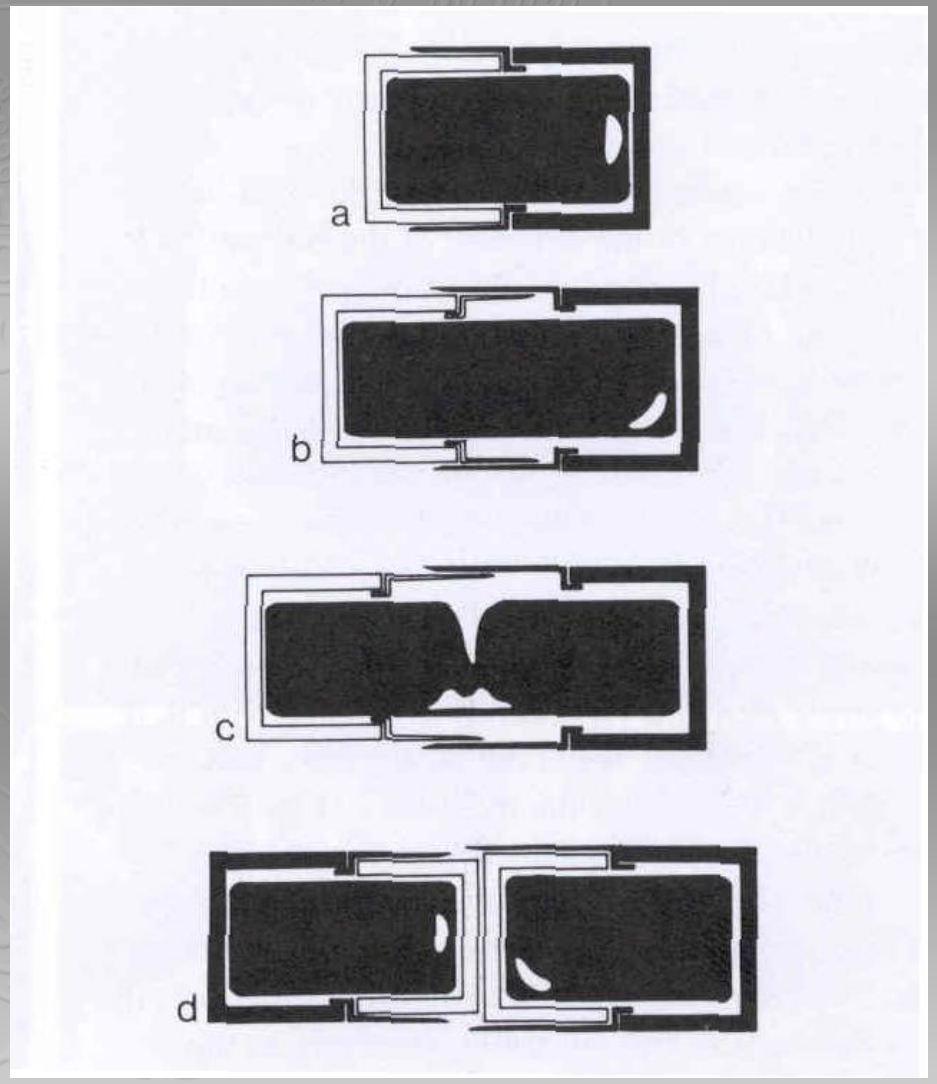
Reproducción Vegetativa

a. Célula madre con epivalva e hipovalva
b. Crecimiento unidireccional y separación
c. Mitosis y citocinesis
d. Células hijas se separan y forman nuevas valvas que siempre son hipovalvas.



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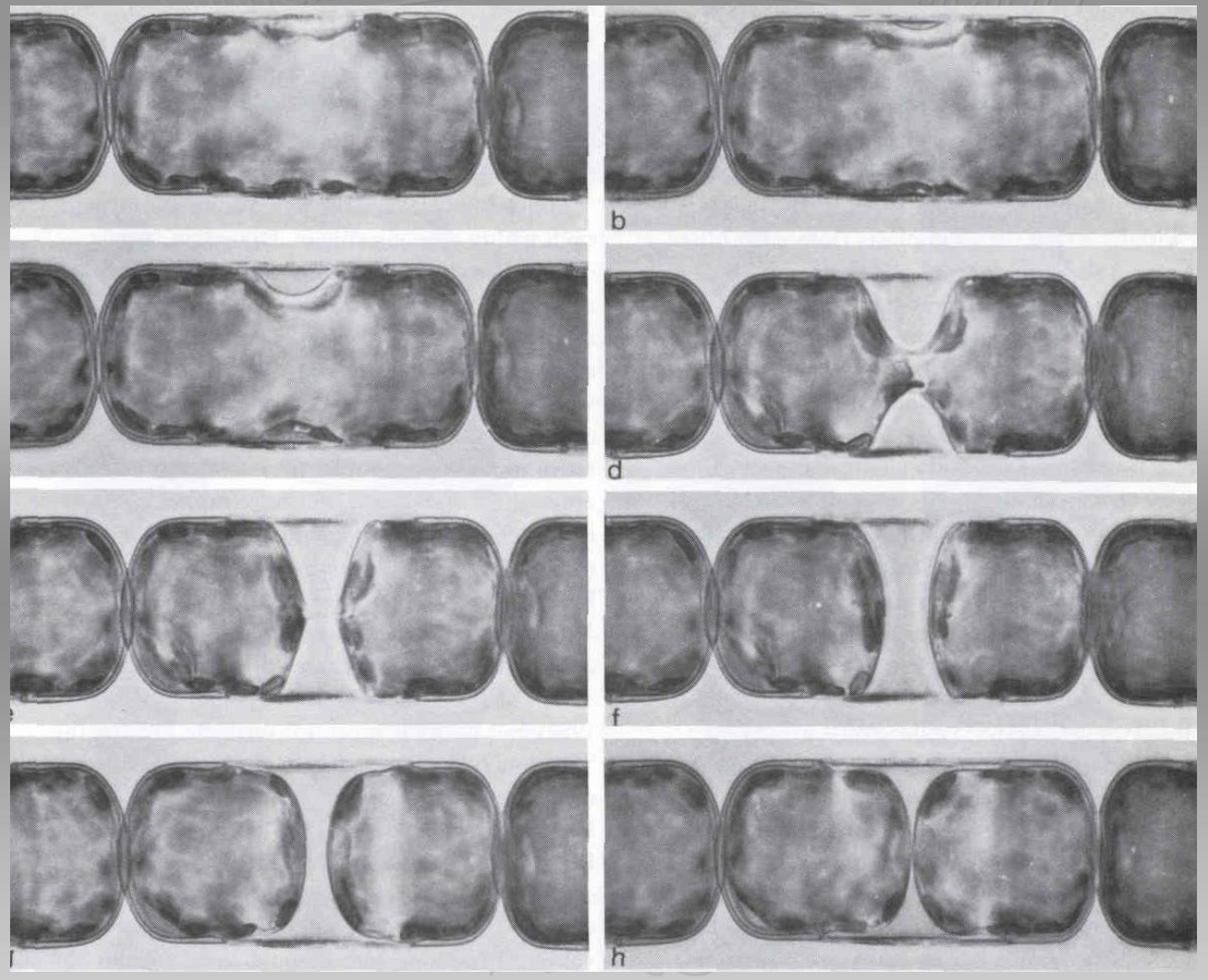
Reproducción Vegetativa



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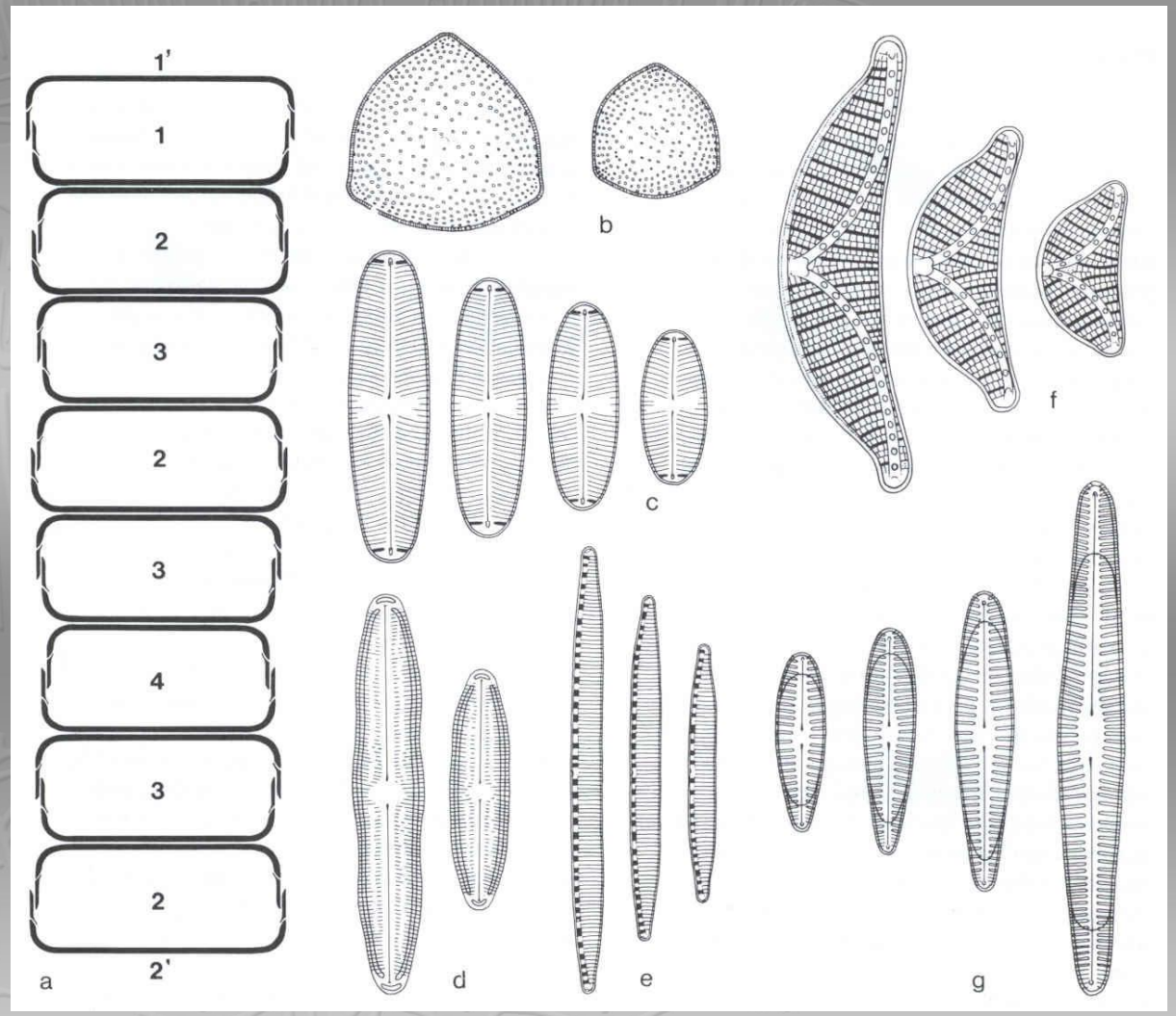
Reducción de tamaño



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Reproducción sexual

ciclo de vida diploide

a. Meiosis – gametos (oogamia, anisogamia e isogamia).

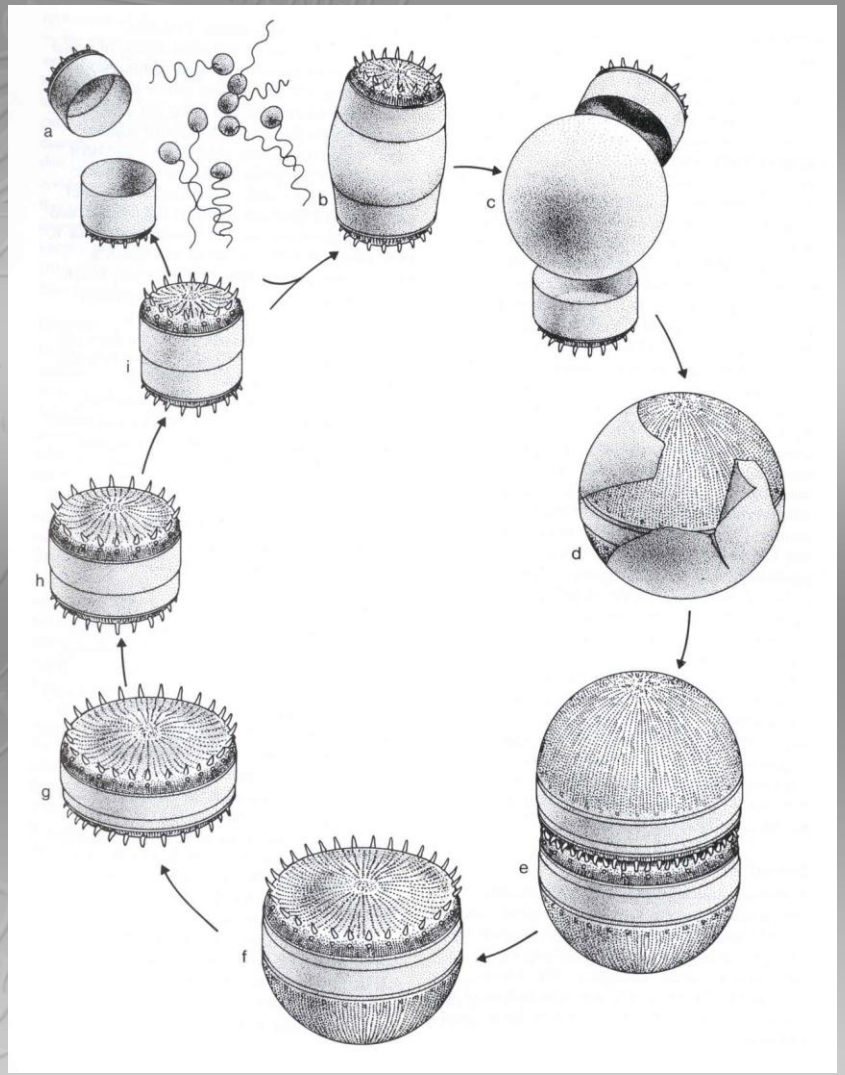
b. Fecundación-auxosospora

c. Auxospora, recuperación de tamaño máximo

d. Célula inicial, valvas “amorfas”

e. Primera división y formación de las primeras valvas “típicas” de la especie

g. a i. Subsecuentes divisiones y reducción de tamaño hasta nivel crítico.



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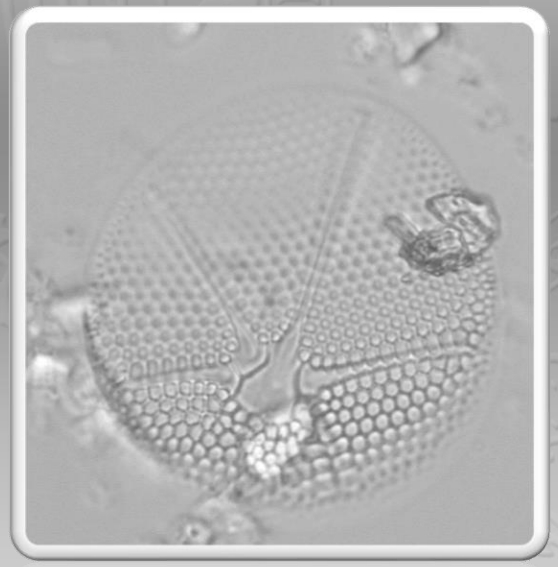
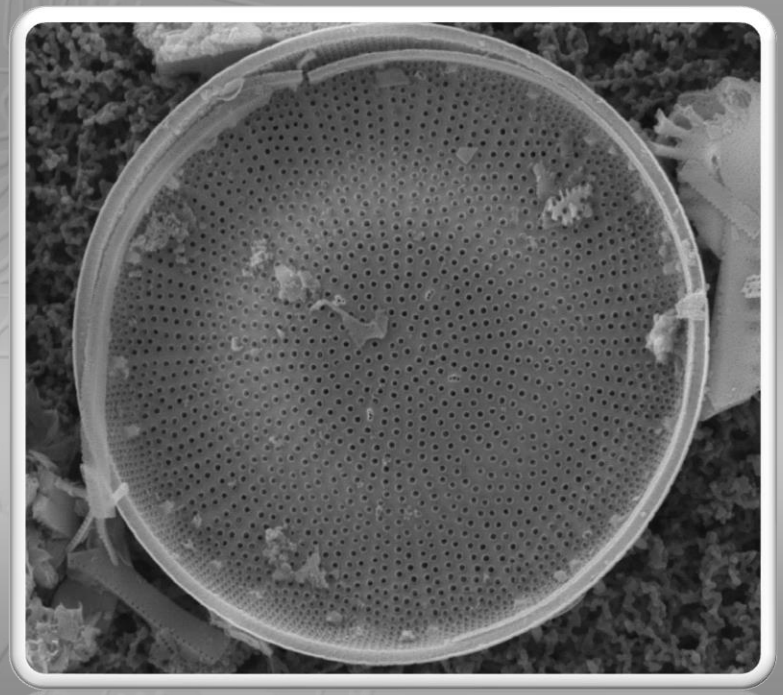
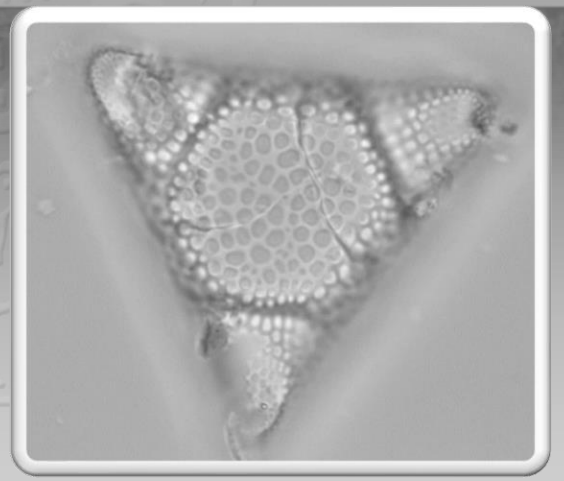
Forma y ornamentación de la valva son importantes para la taxonomía.

Simetría multiradial: Centrales







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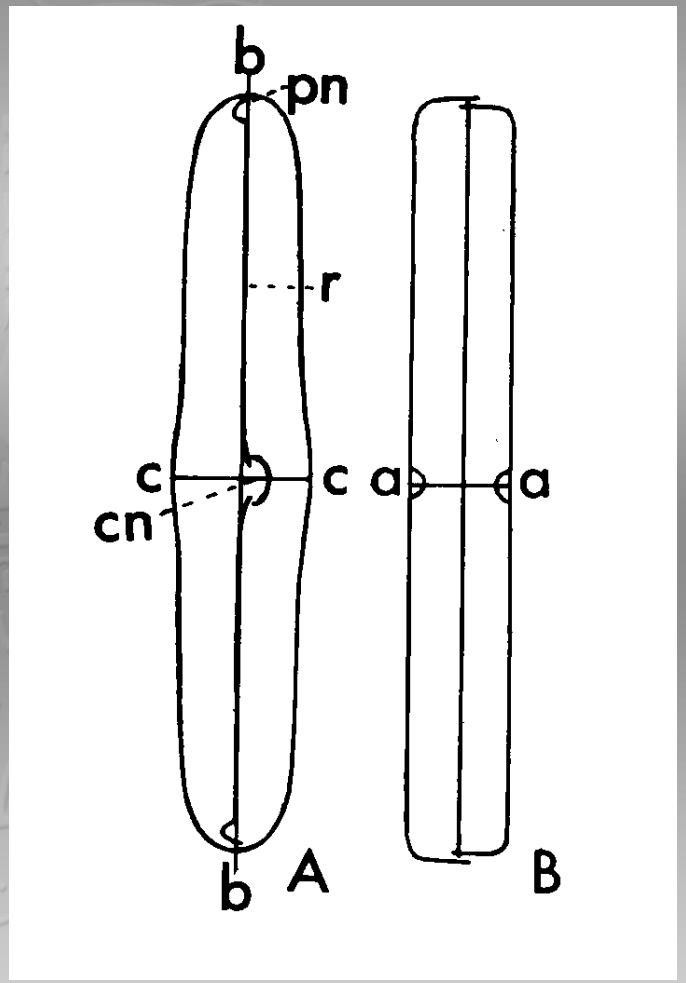
Simetría bilateral: Pennales

a–a – pervalvar

b–b – apical

c–c – transversal o transapical



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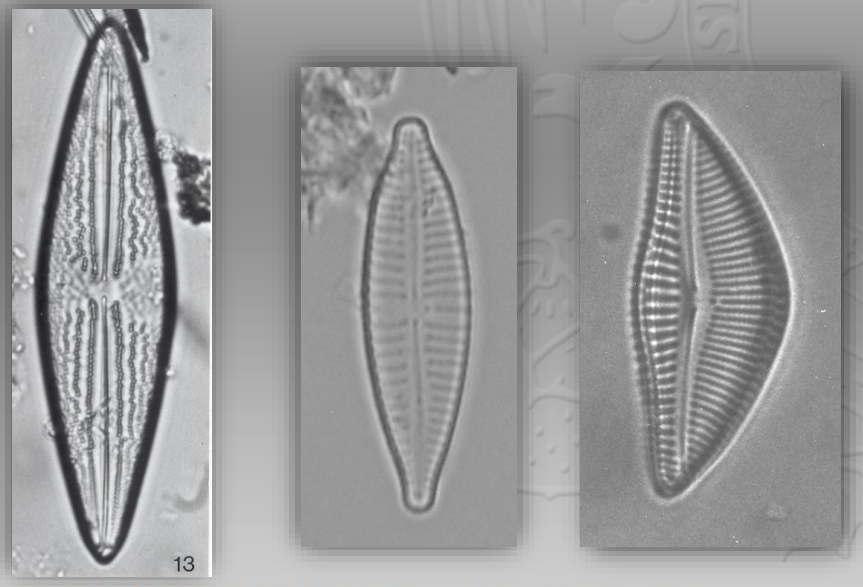
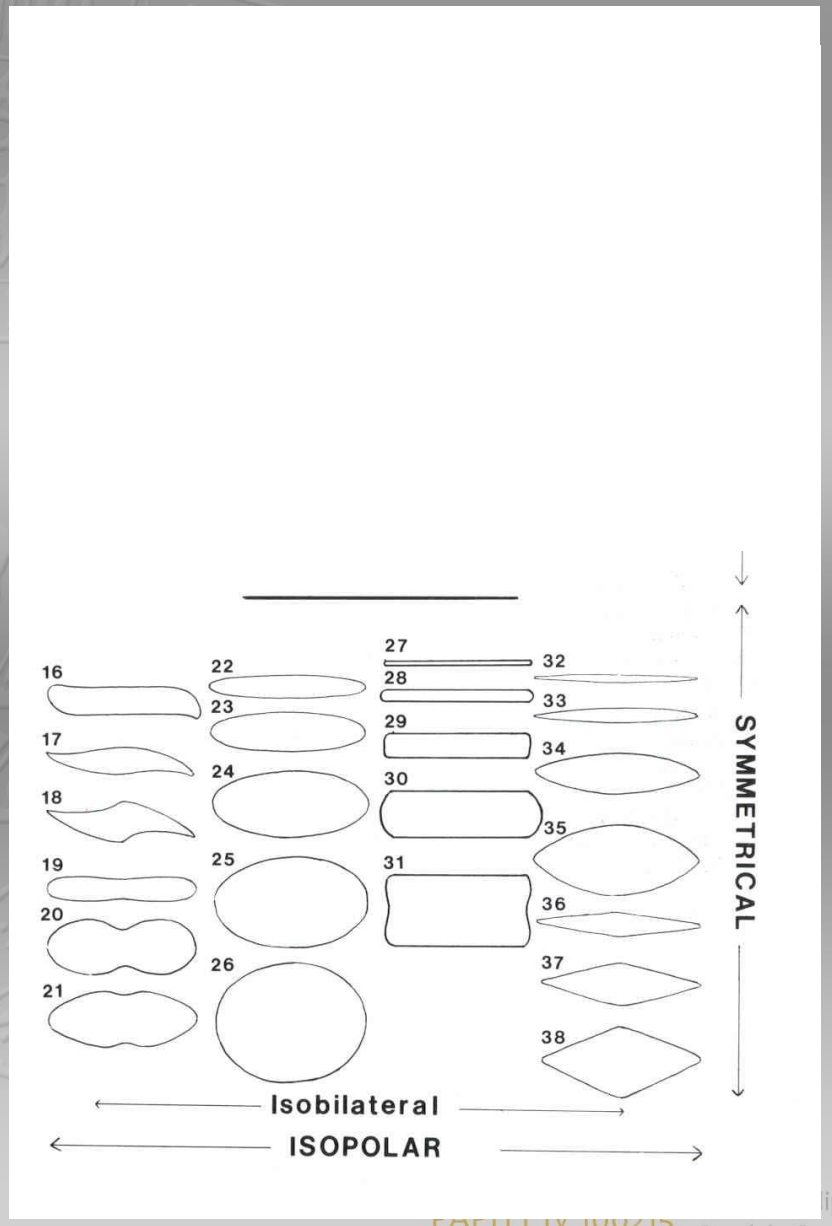
Forma y ornamentación de la valva son importantes para la taxonomía.

Simetría y polaridad





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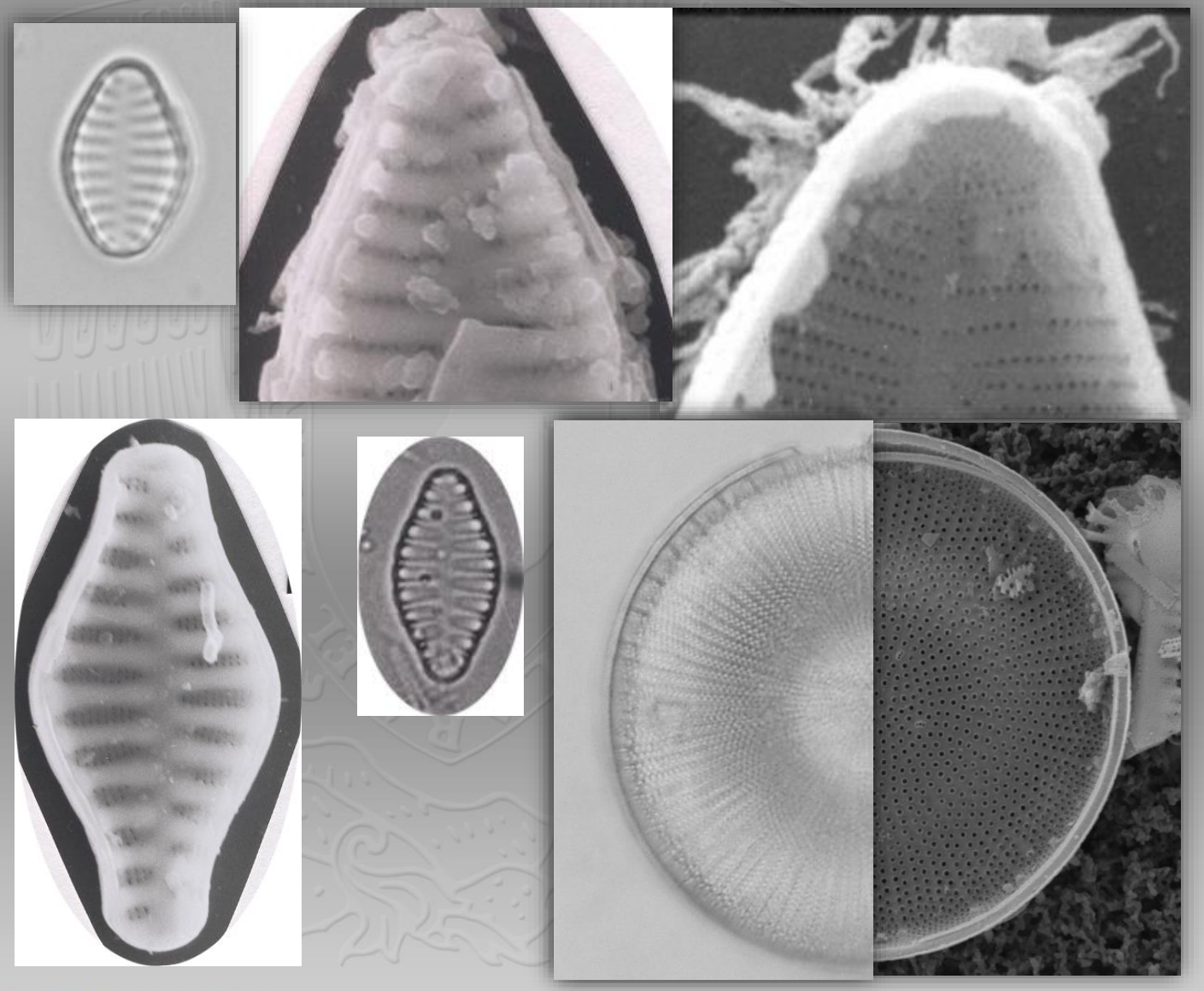
Punctae

Estriae

Costae



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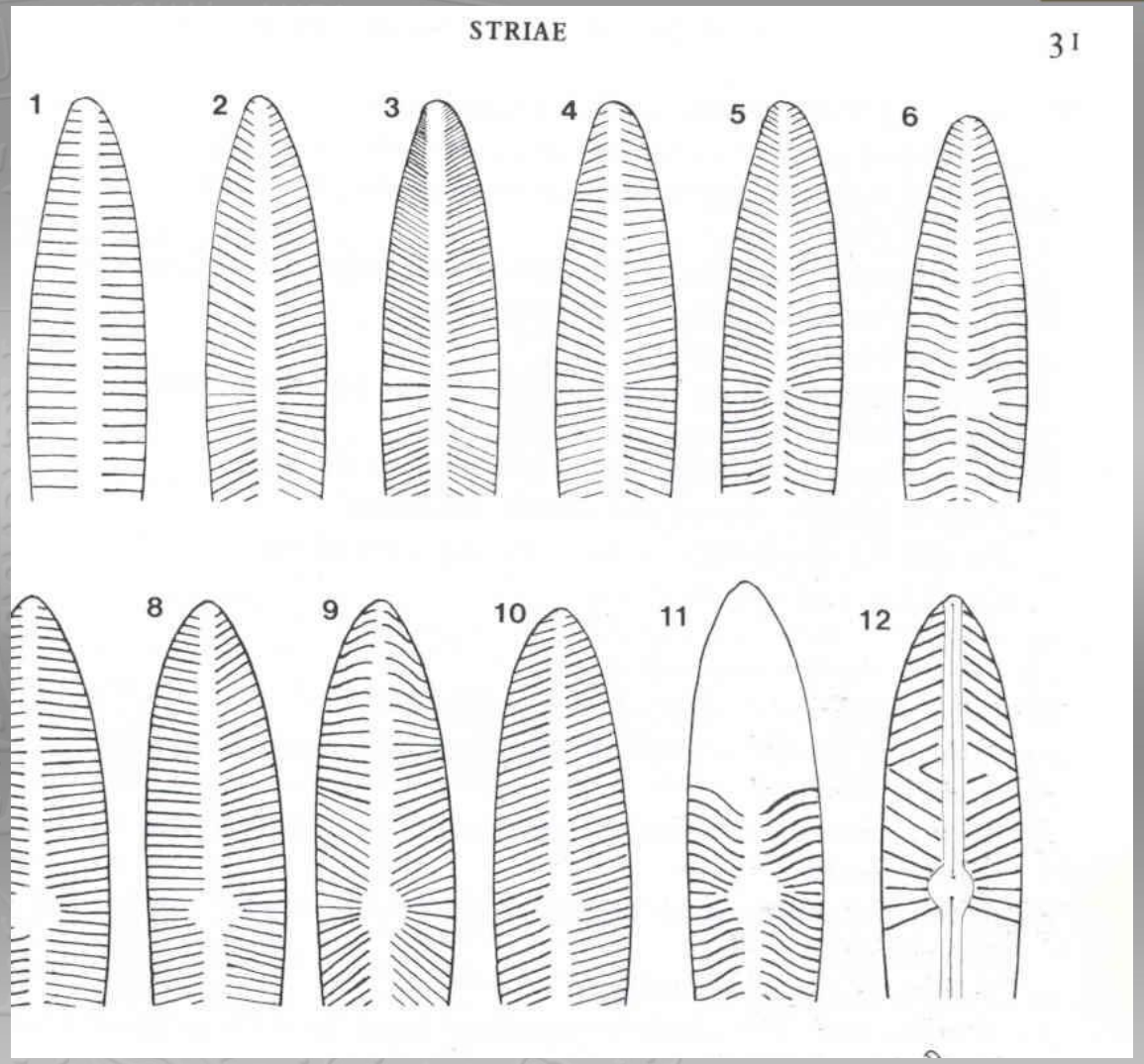
Densidad y patrón de estrías



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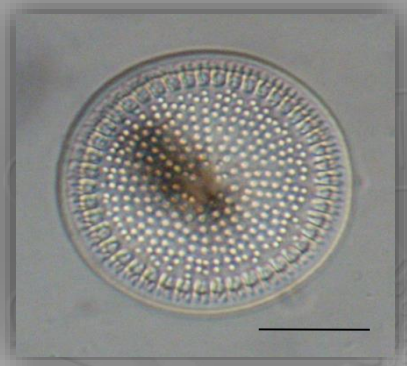
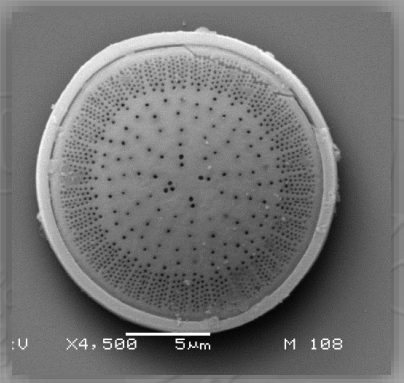
- Areolae

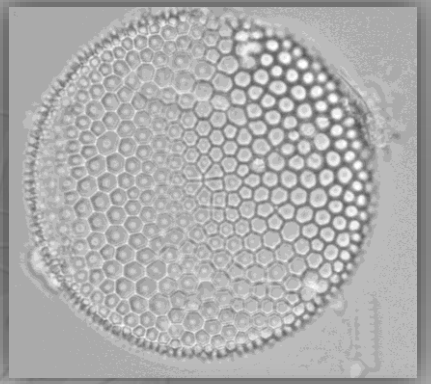
- cribrae

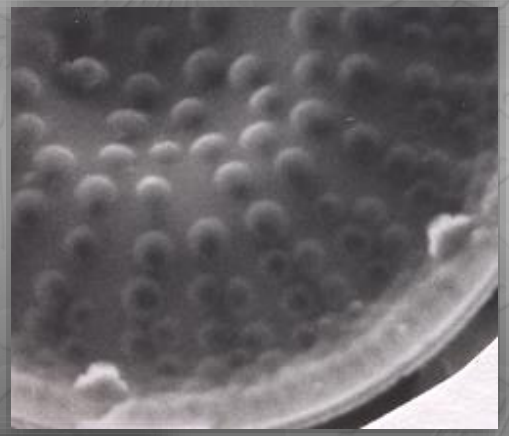
. Loculi

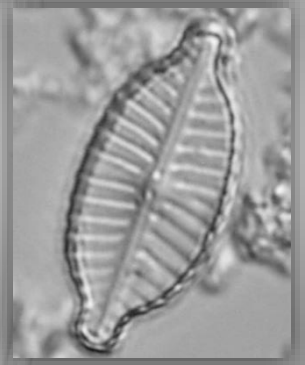
- Alveoli

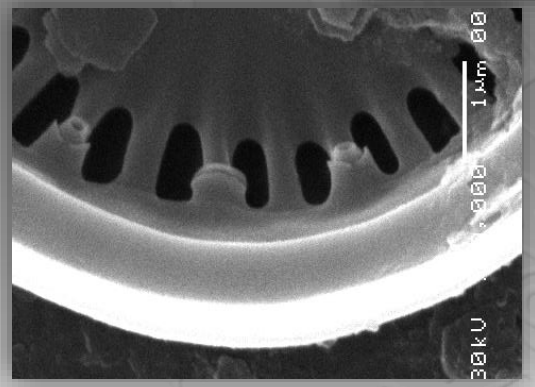


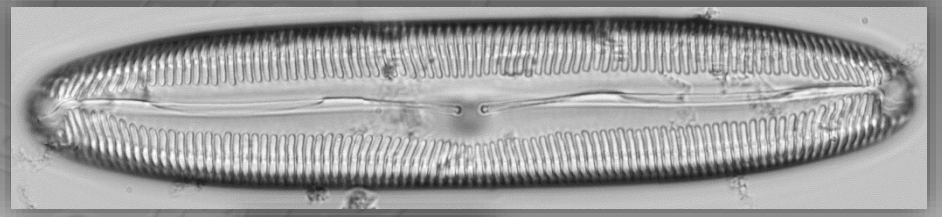


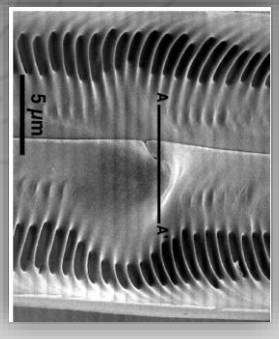


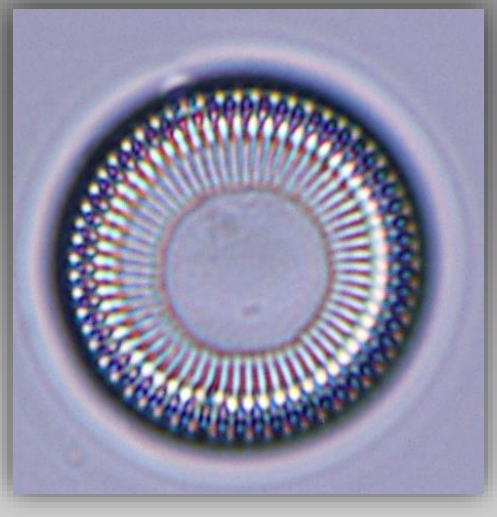












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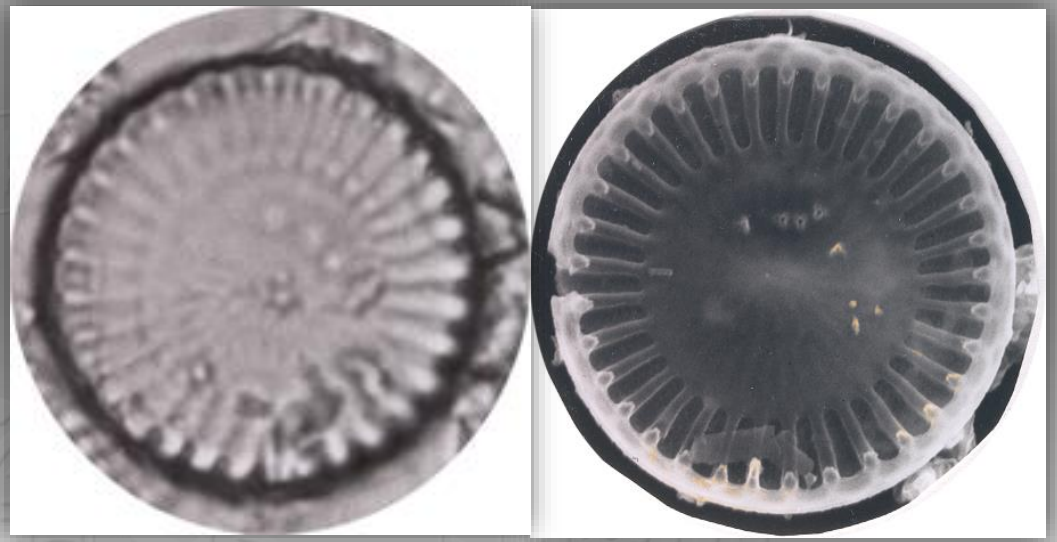
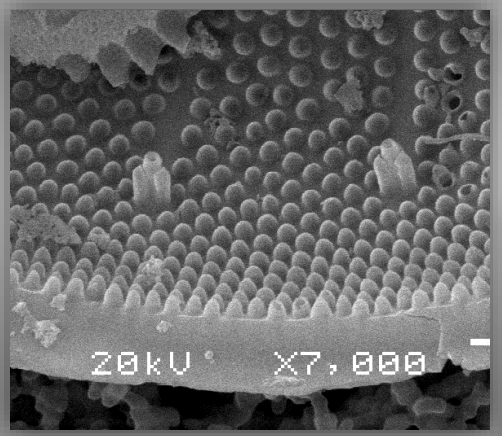
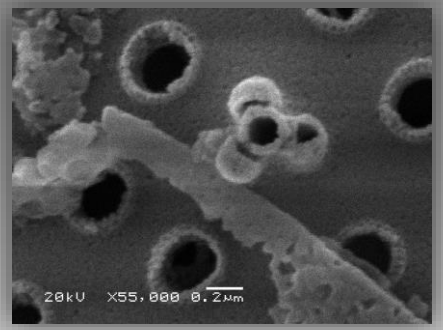
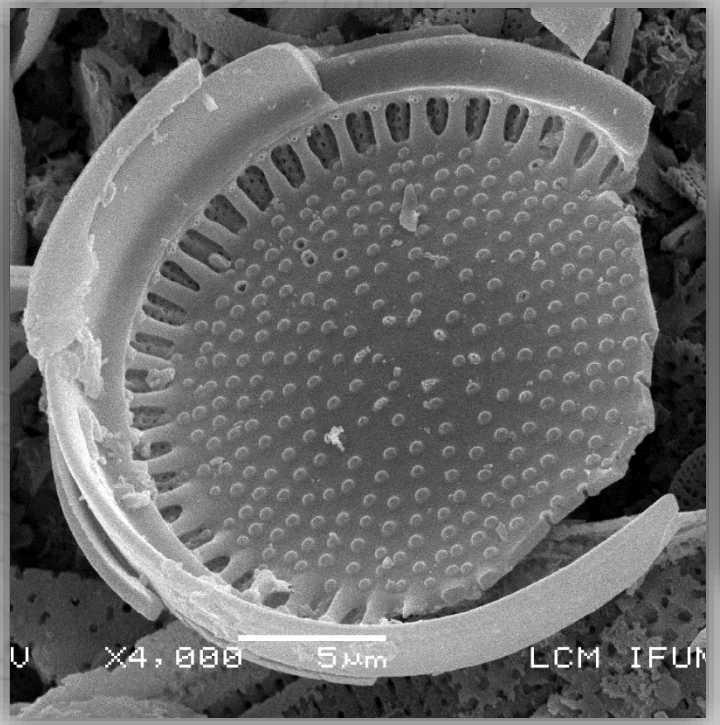
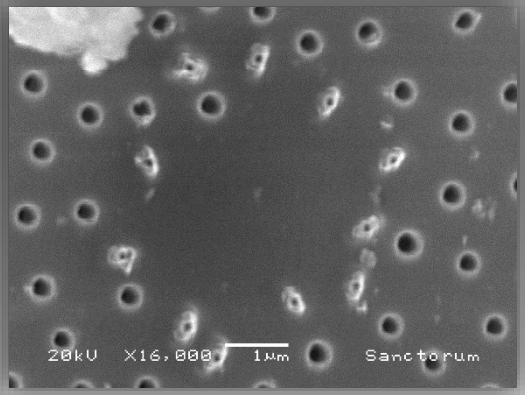
Portulae: fultoportulae











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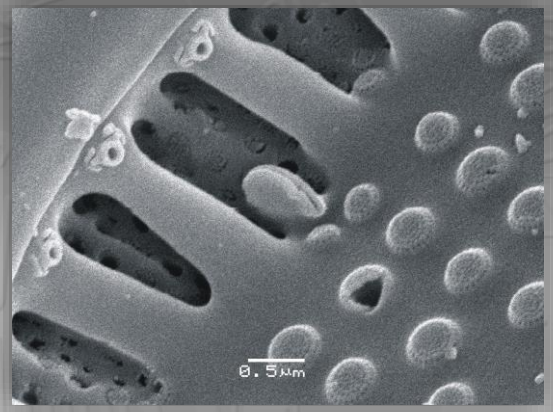
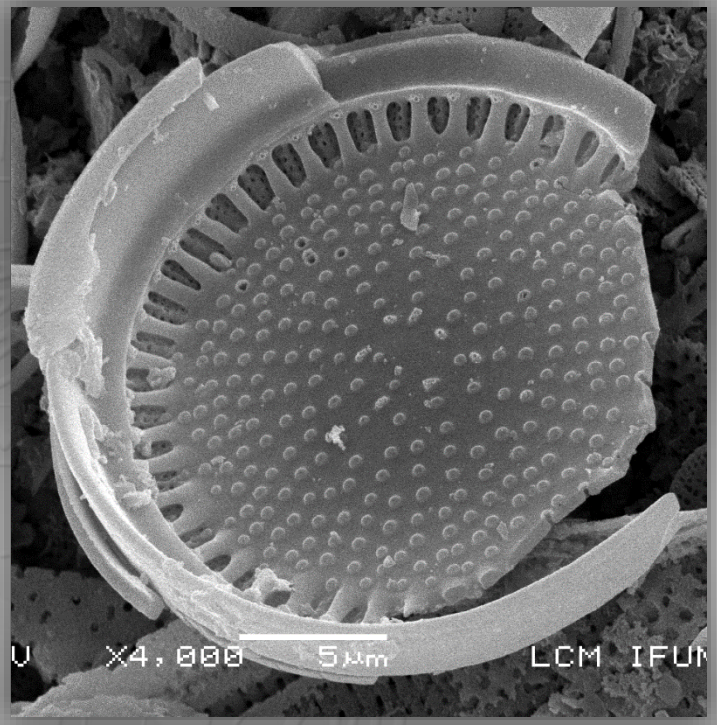
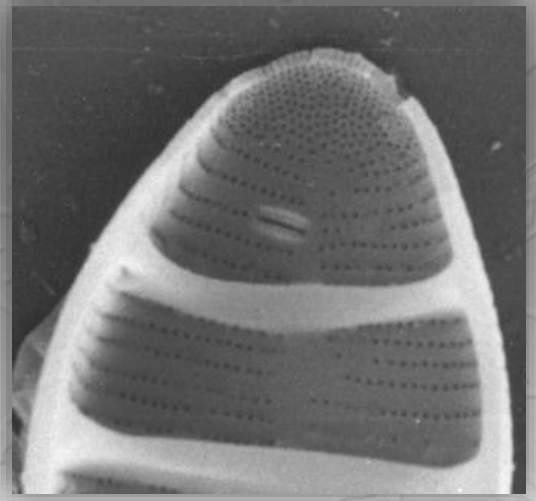
Servicio Social: 2019-12/62-680

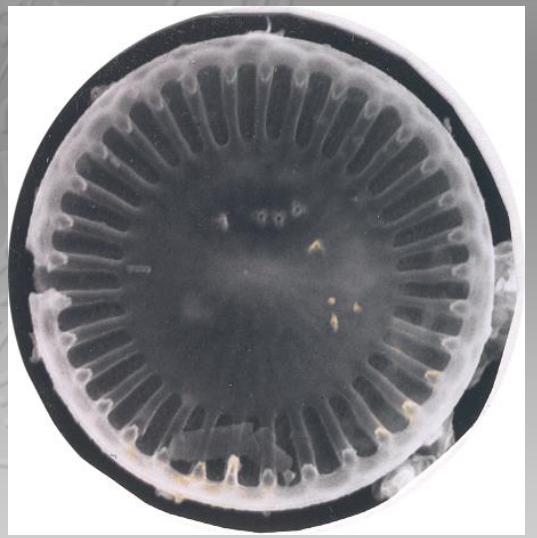
Portulae:

rimoportulae









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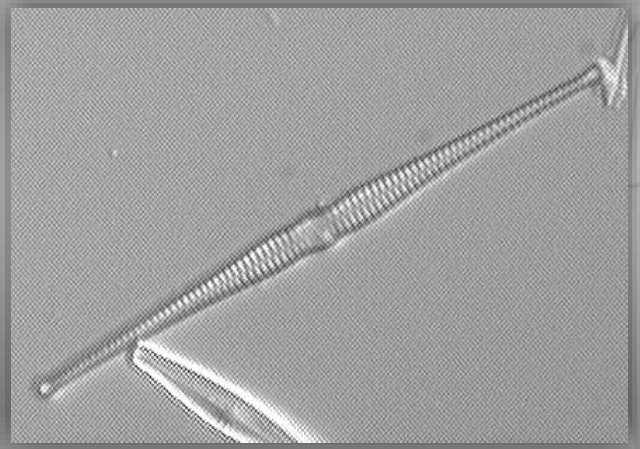
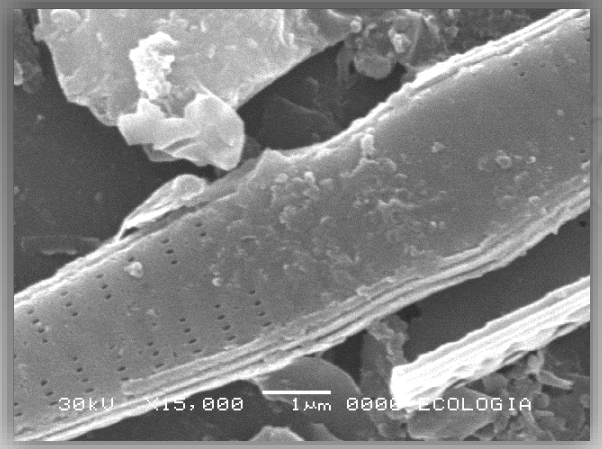
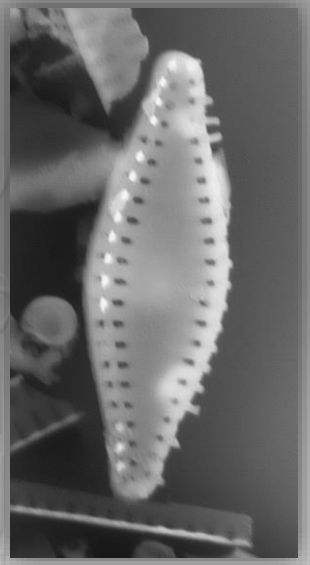
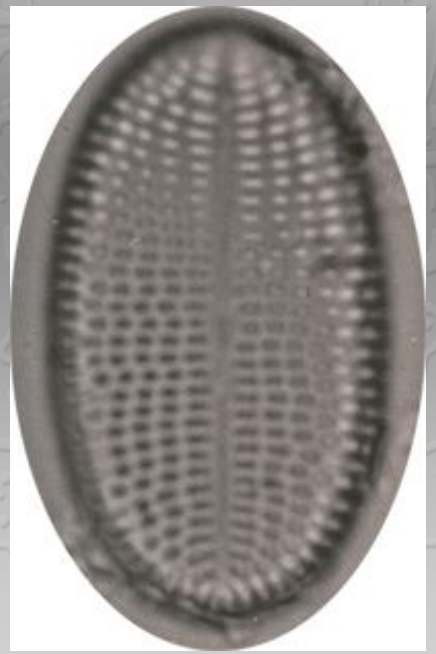
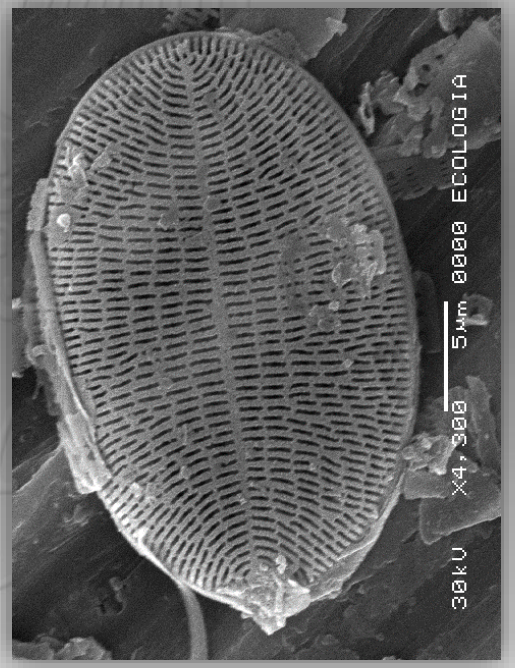
Esternón arafidiano o pseudorafe











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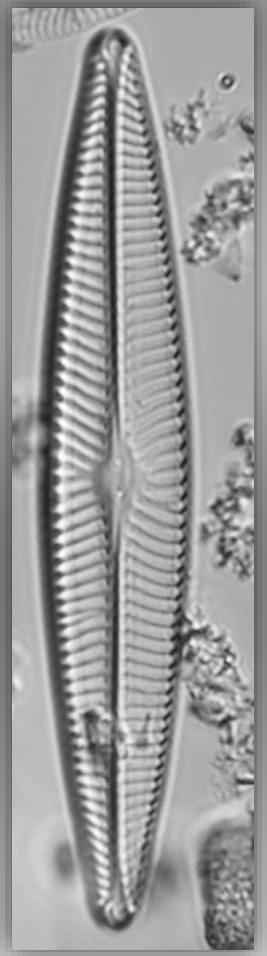
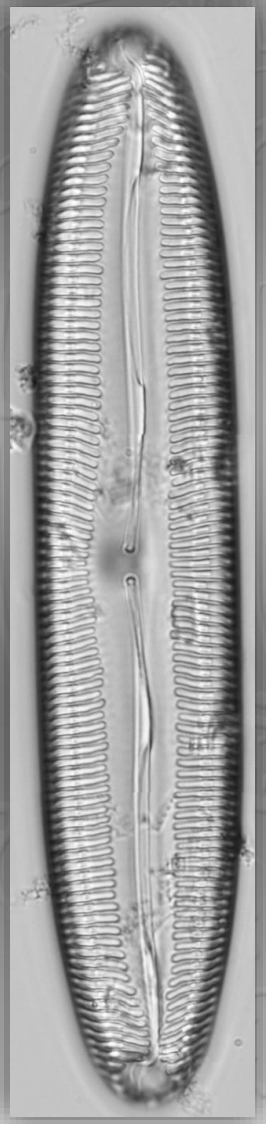
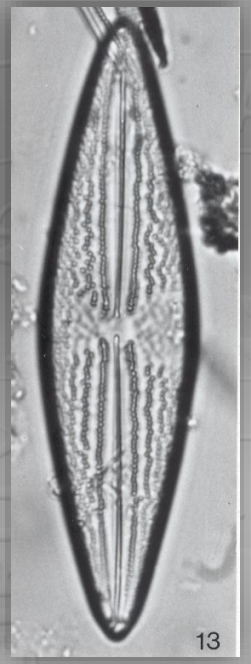
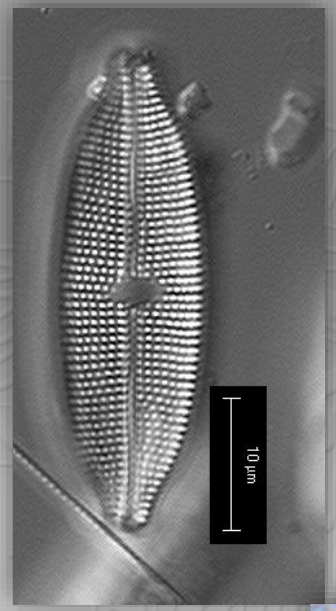
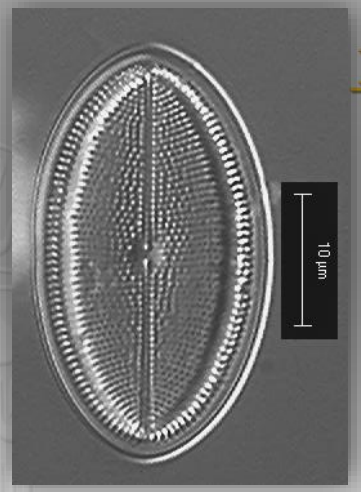
Esternon rafidiano (Rafe)

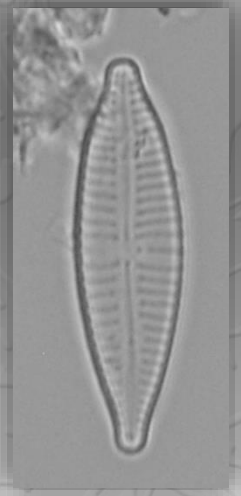


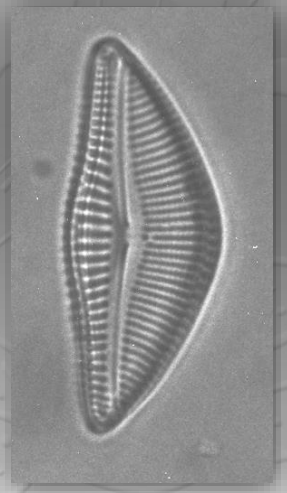


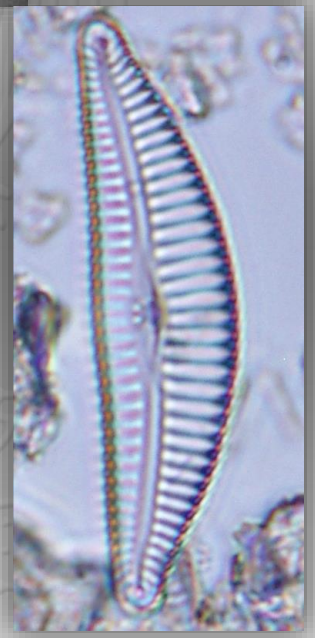


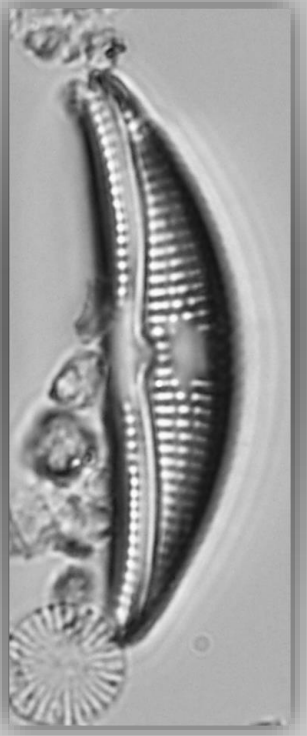












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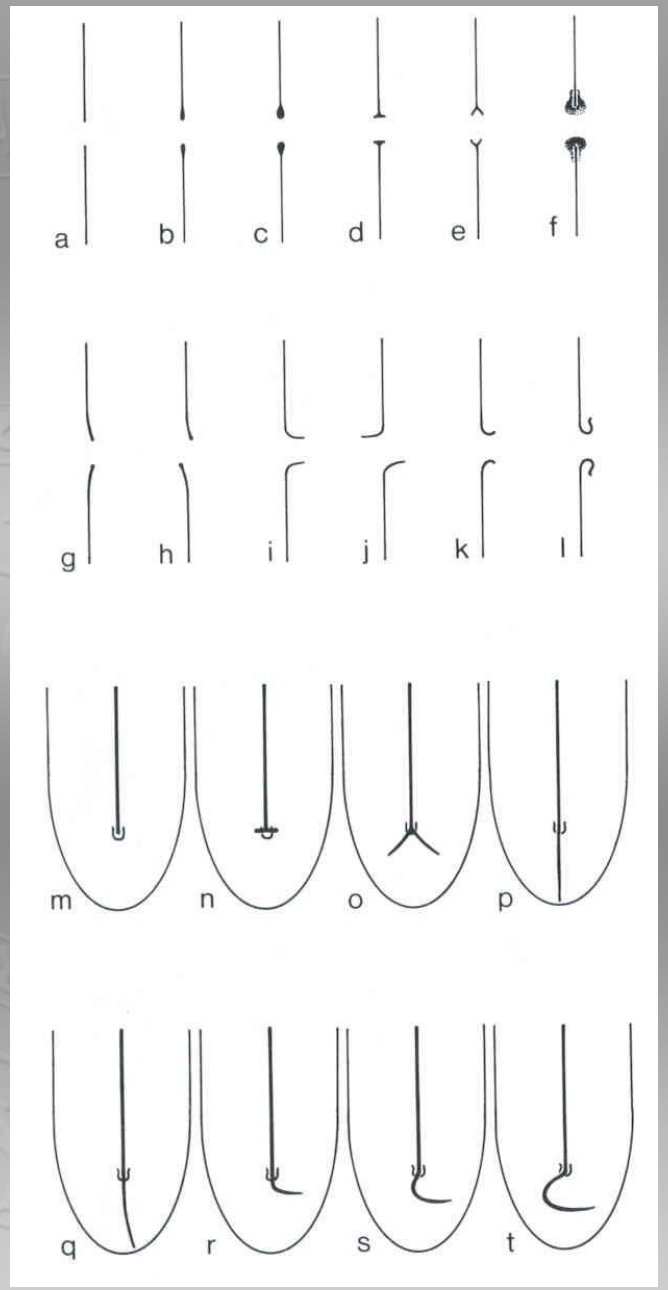
Rafe

- Nódulo central
- Nódulo polar



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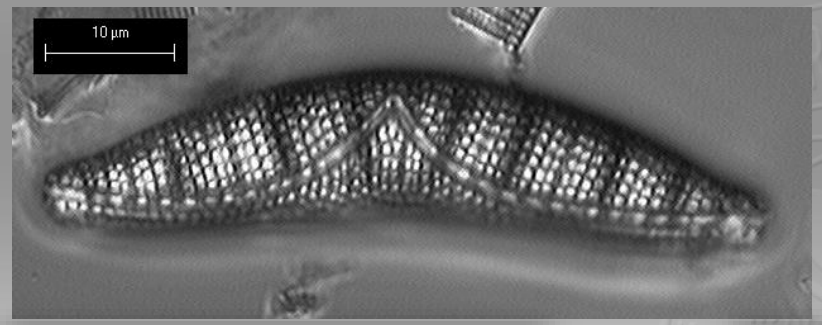
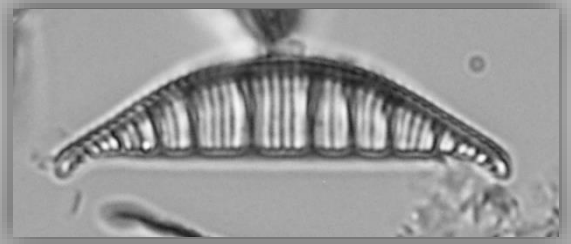
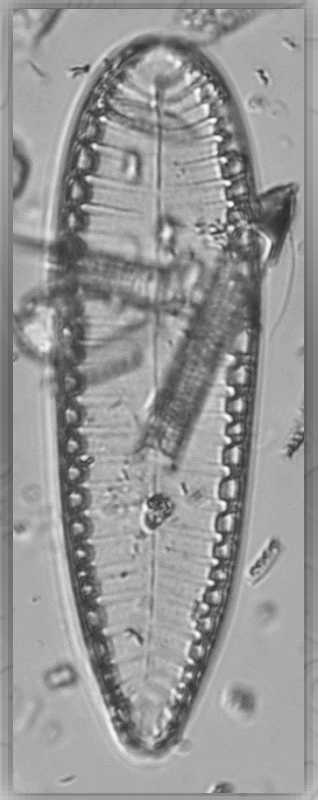
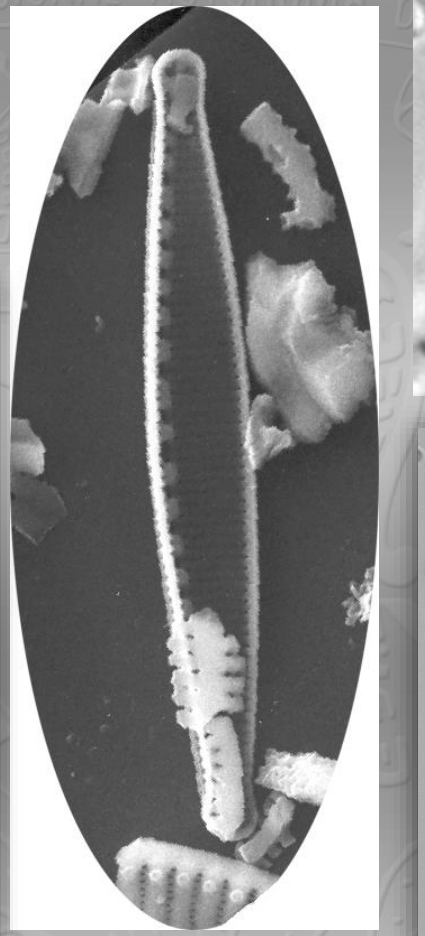
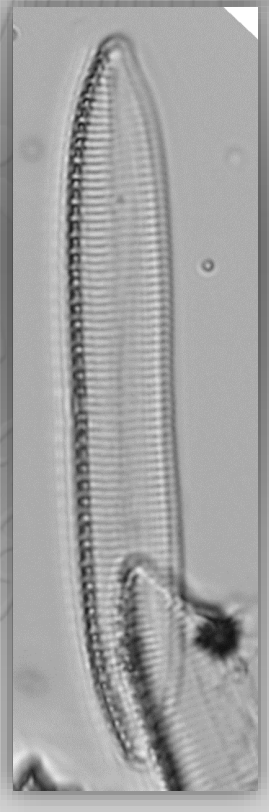
Canal Rafe – Fibulae

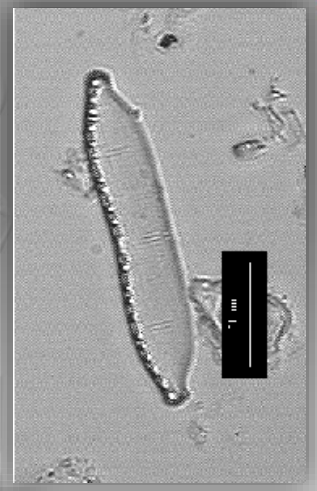


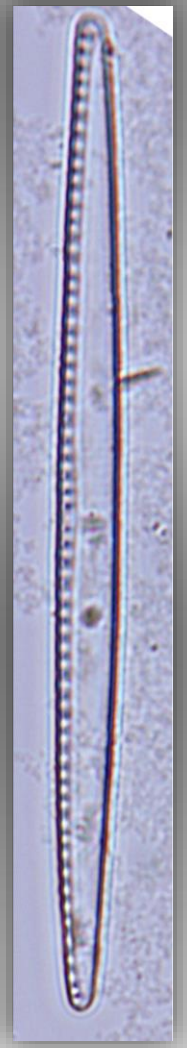












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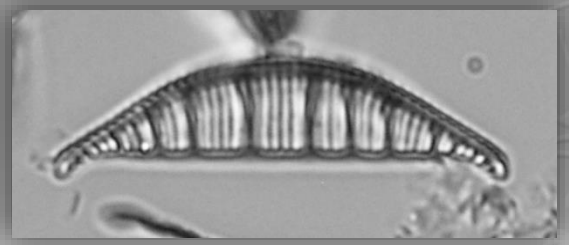
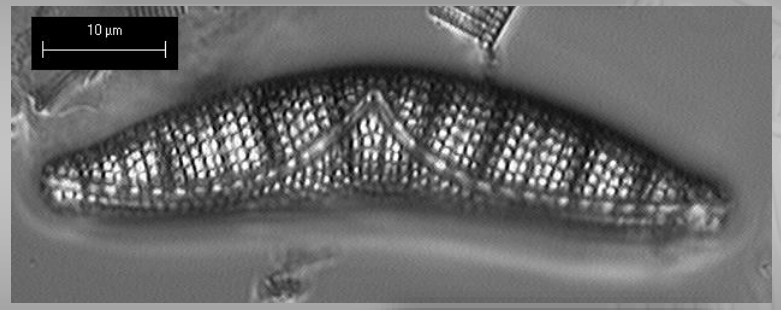
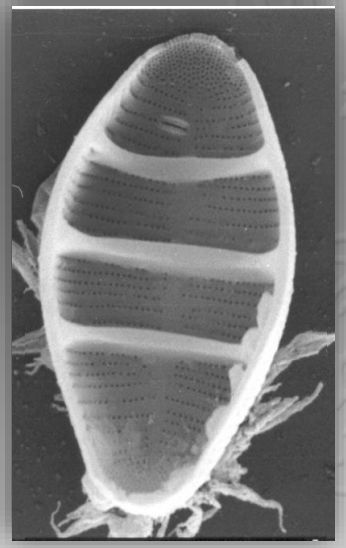
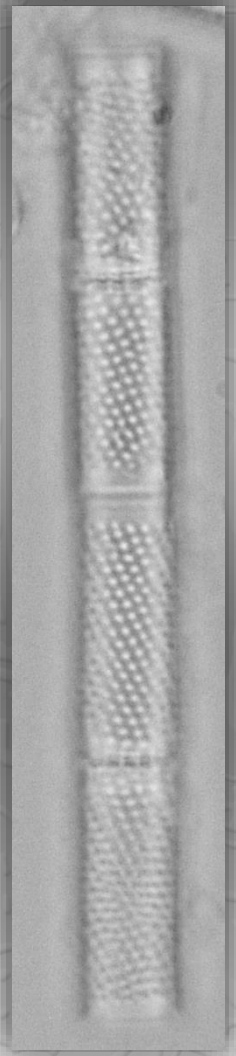
Septae

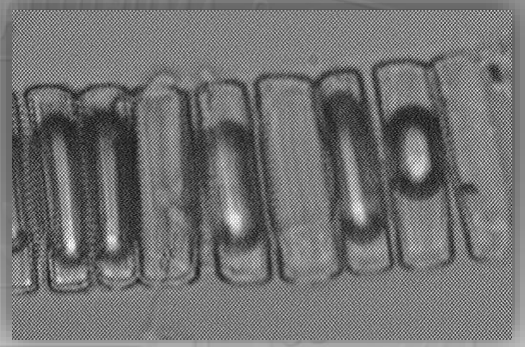
Espinas

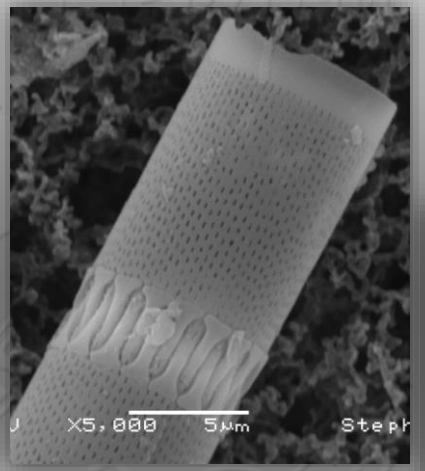


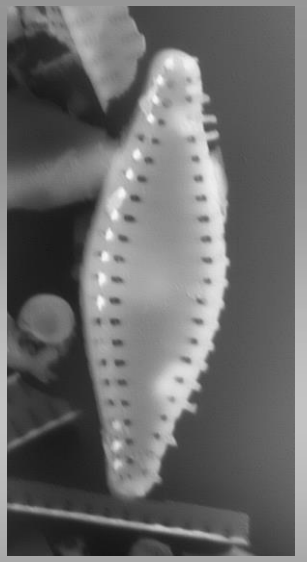


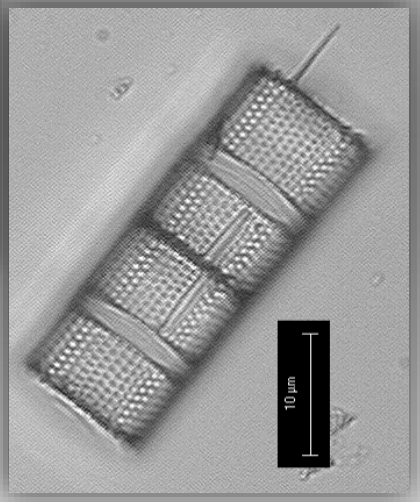












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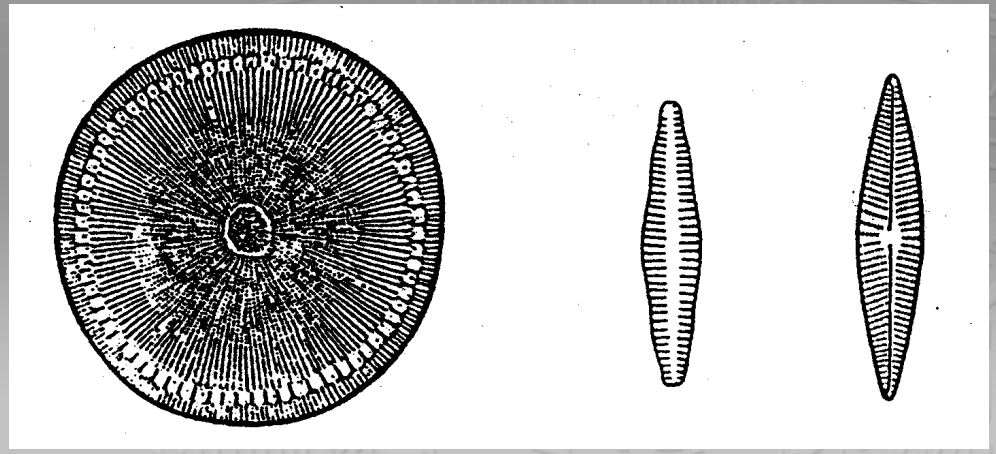
Biddulphiales

Bacillariales



División: Bacillariophyta

Simonsen, 1979

Centrales
- Coscinodiscineae
- Bidulphineae
- Rhizosoleniineae

Pennales
- Araphidineae
- Raphiodineae

Round,et al., 1990

- Coscinodiscophyceae (8)
- Fragilariophyceae (1)
- Bacillariophyceae (2)

Medlin & Kaczmarska 2004

Coscinodiscophytina (6)

Bacillariophytina

Mediophyceae

Bacillariophyceae

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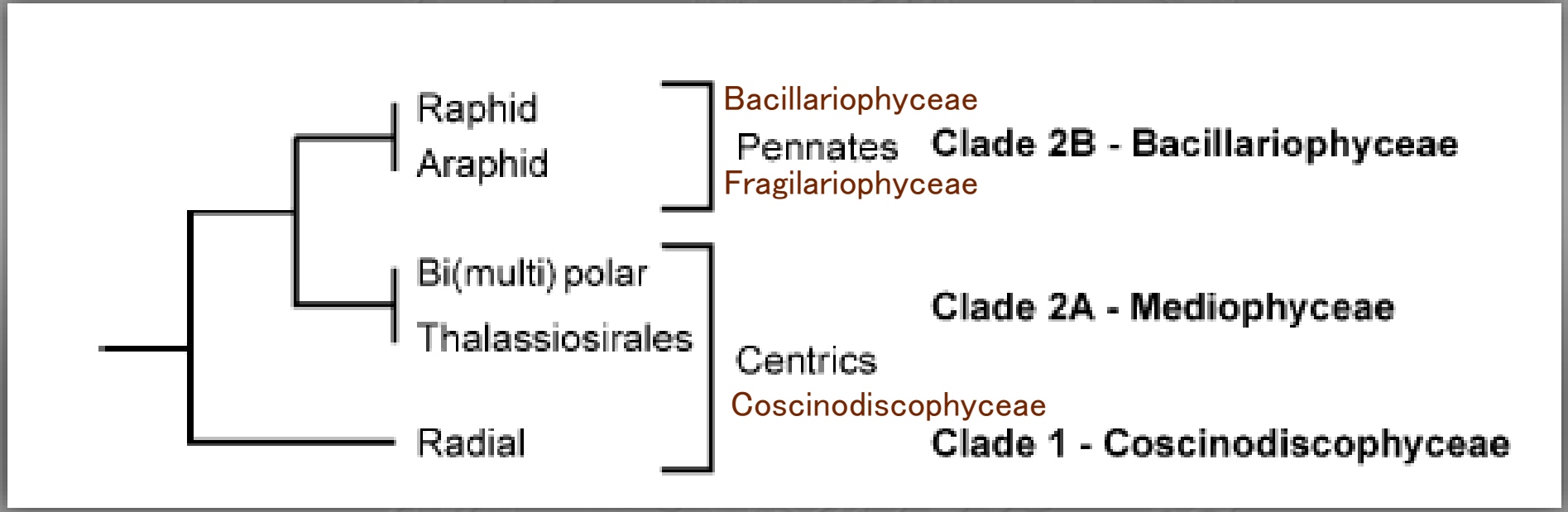

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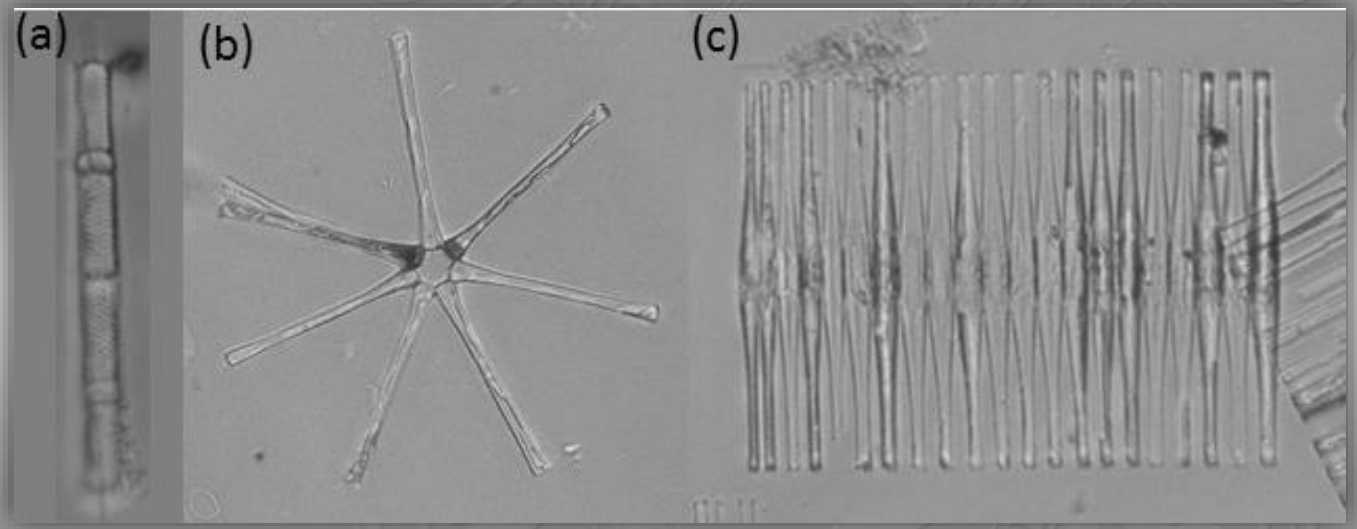
Plancton:
Euplancton, Meroplancton, Ticoplancton



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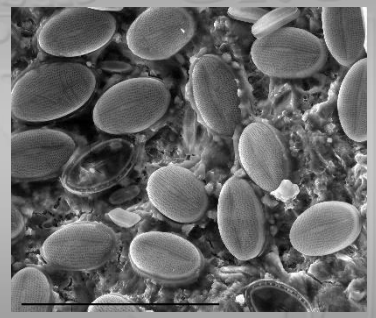
Bentos:

Libre

Adherido

adnadas



pedunculadas

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Espectro de pH (Hustedt, 1937-38)					
Categoría	Acidobionte	Acidofila	Indiferente	Alcalifila	Alcalobionte
pH	<5.5	≤ 7	~ 7	≥ 7	> 7

Espectro Salinity (Lowe, 1974; Fritz, 2007)					
Categoría	Dulce (Oligohalobias)	Subsalina (Mesohalobias α)	Hyposalina (Mesohalbias α)	Mesosalina (Mesohalbias β y Euhalbioas)	Hipersalina (Polihalobias)
TDS (mg/L)	≤ 500	500 – 3,000 (500 – 10,000)	3,000 - 20,000 (500 – 10,000)	20,000 – 50,000 (10,000 – 30,000-40,000)	>50,0000 (>50,000)

Categoría Trófica (OECD, 1982)					
Categoría	Ultra-oligotrofico	Oligotrófico	Mesotrófico	Eutrófico	Hipertrófico
Chl a* [mg/m³]	≤ 2.5	2.5 - 8.0	8 - 25	25 - 75	≥ 75

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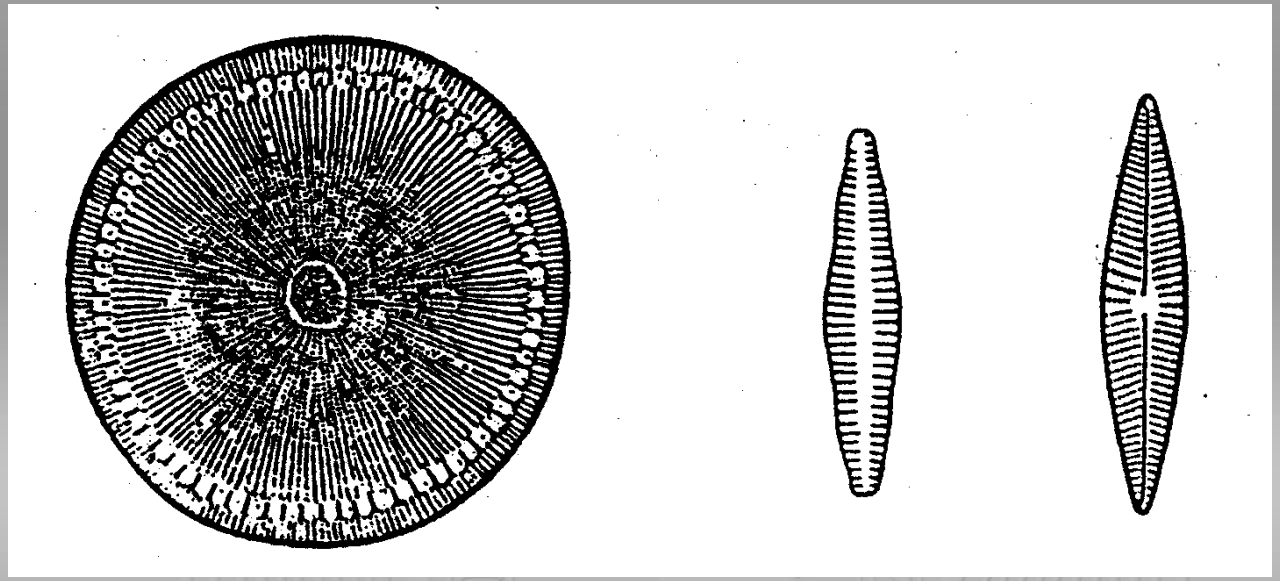

División: Bacillariophyta

- Clase Coscinodiscophyceae
- Clase Fragilariophyceae
- Clase Bacillariophyceae

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