



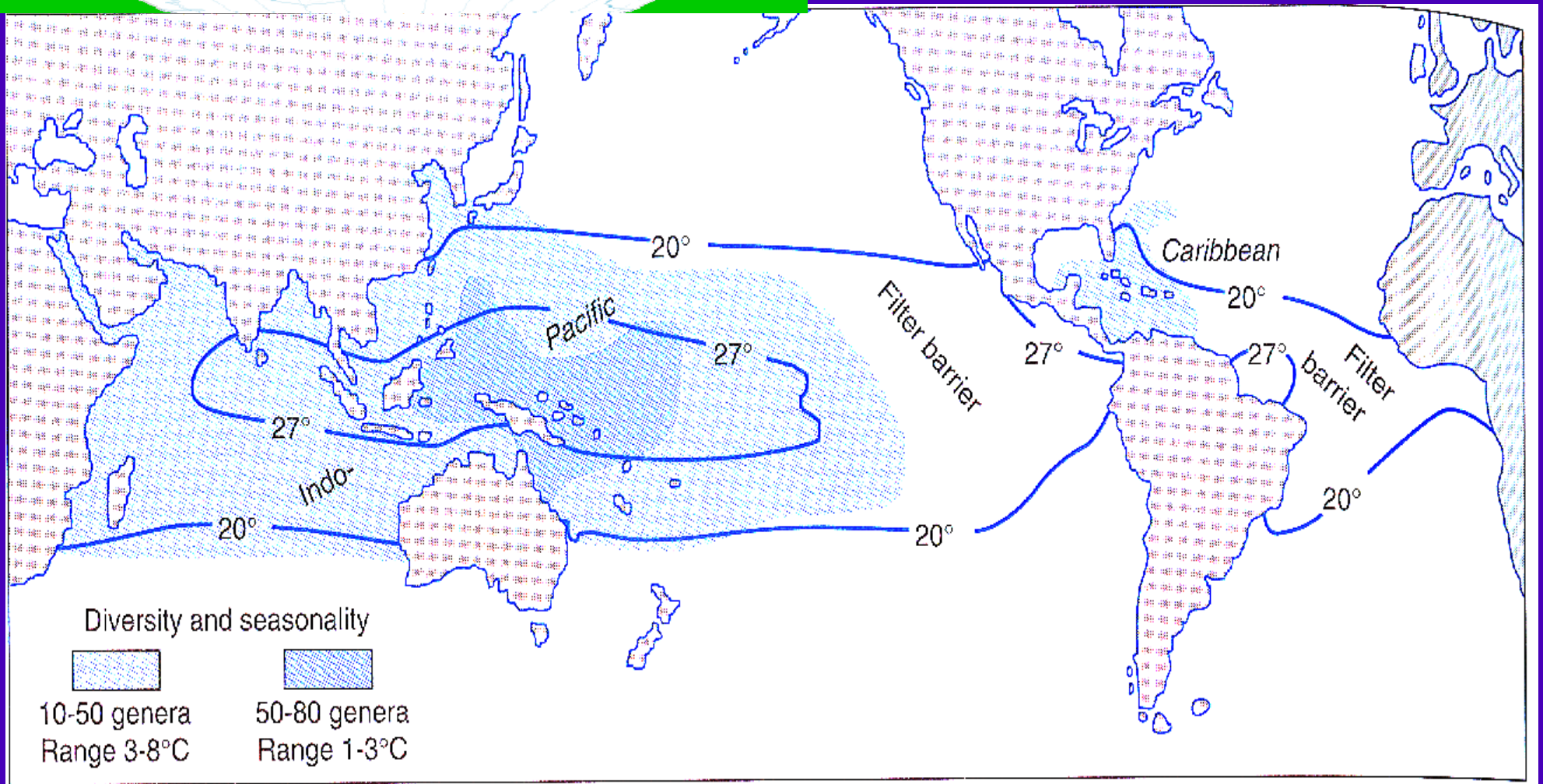
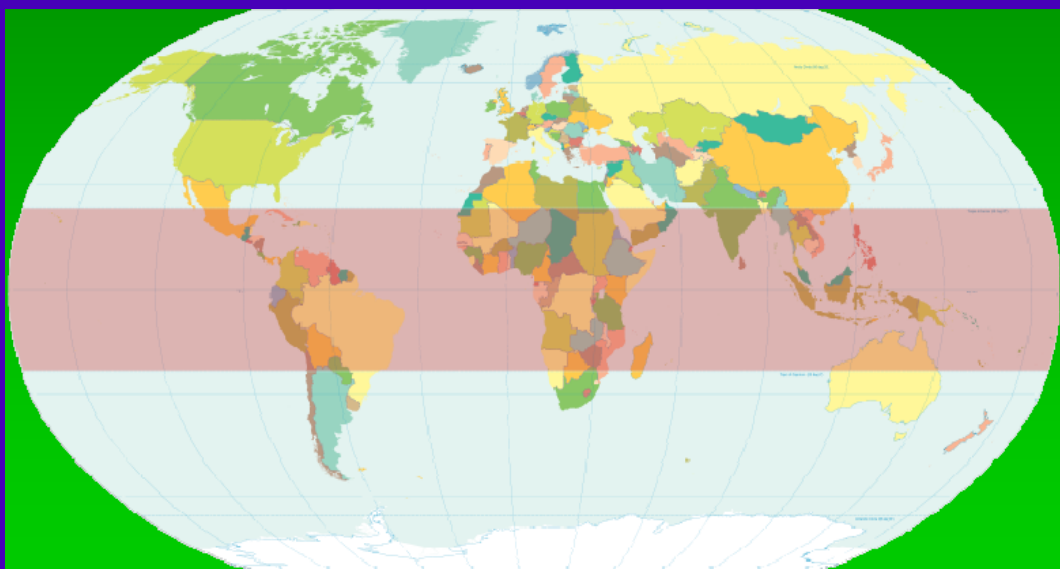
# Coral reefs & mangroves

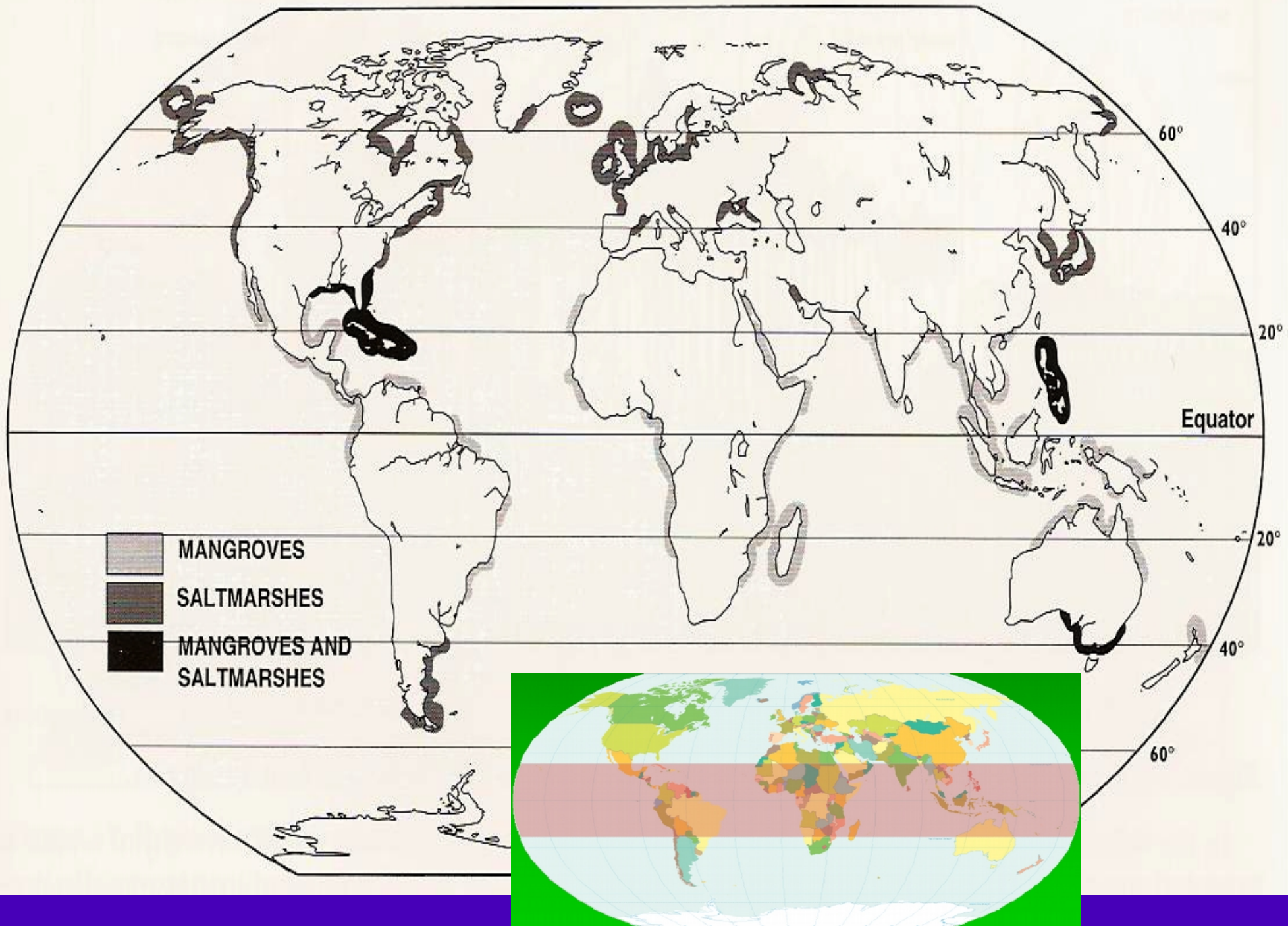


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- ▶ Distribution
- ▶ Environmental factors
- ▶ Organisms
- ▶ Structure of the ecosystem
- ▶ Productivity

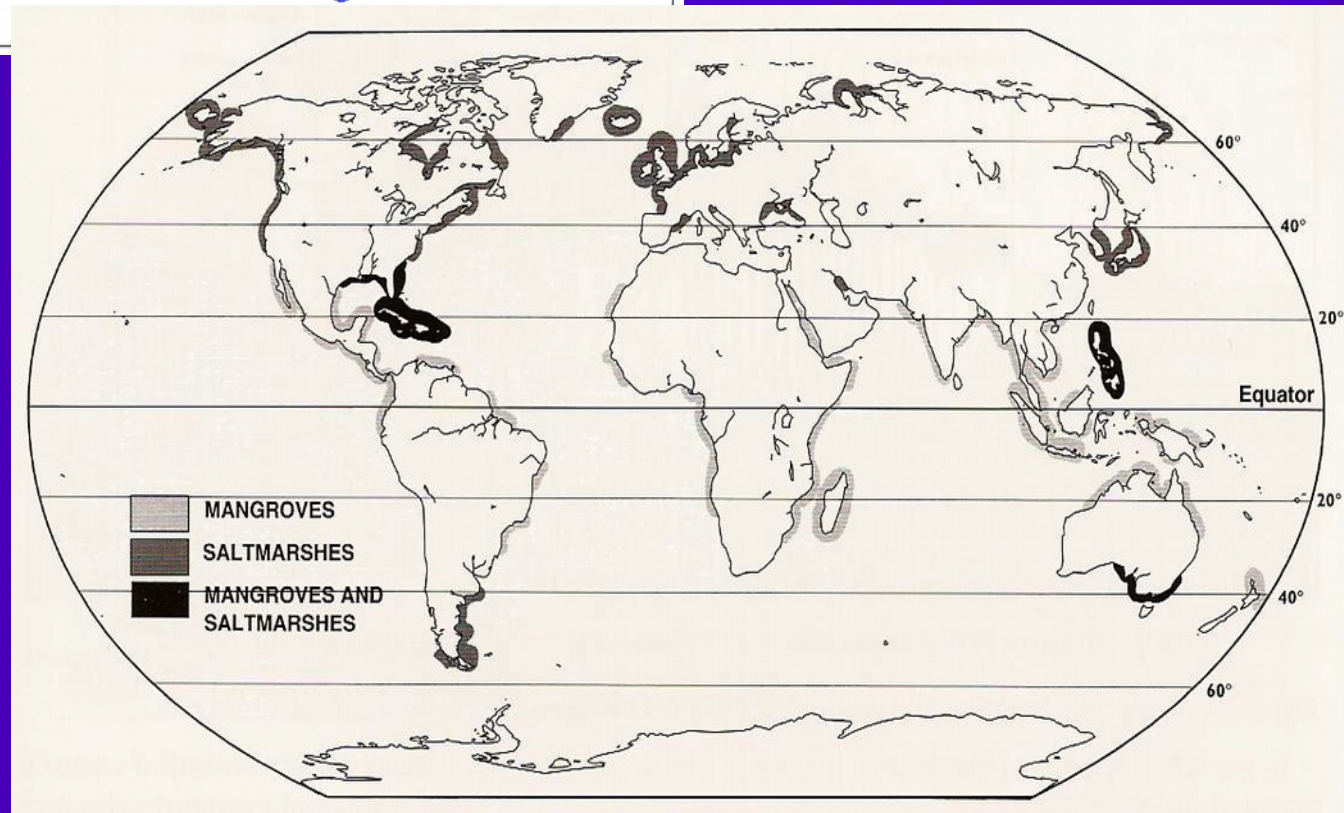
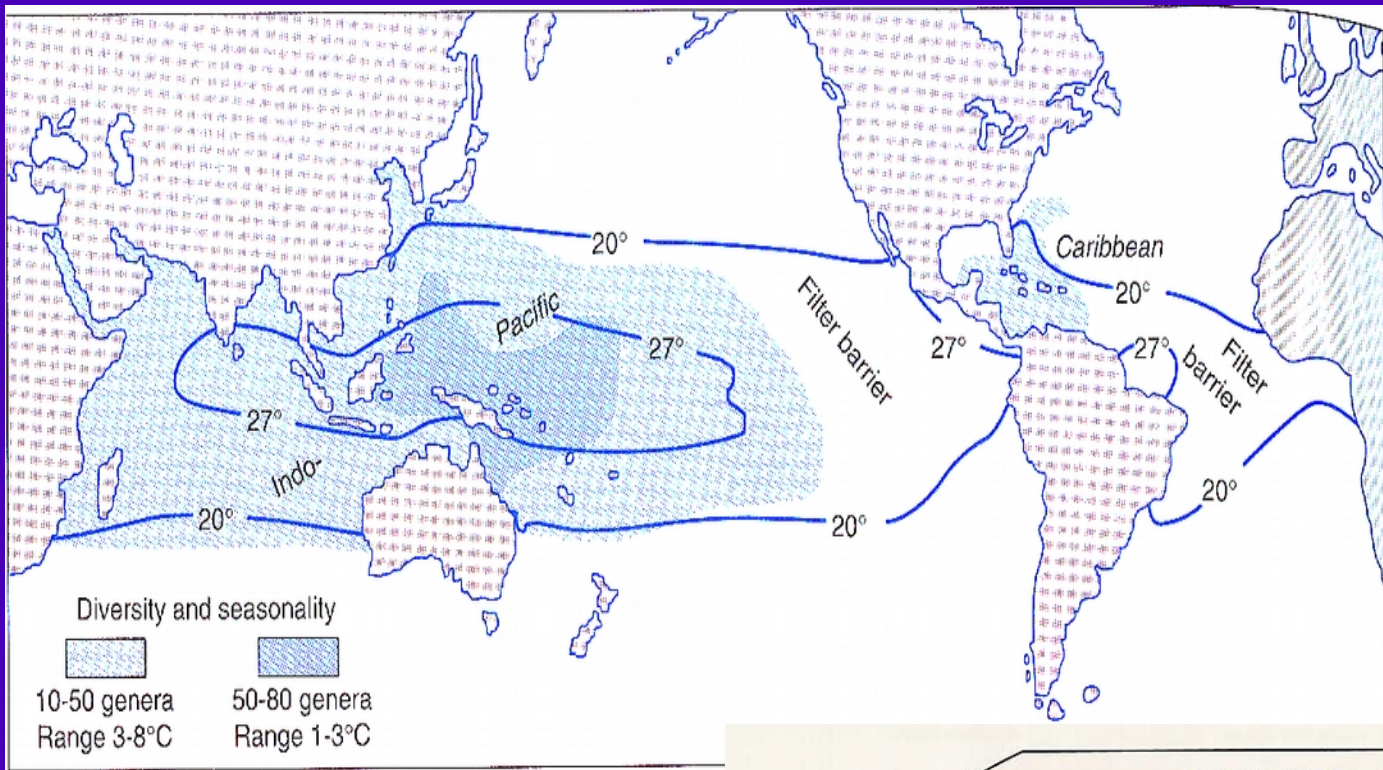
- ▶ **Distribution**
- ▶ Environmental factors
- ▶ Organisms
- ▶ Structure of the ecosystem
- ▶ Productivity





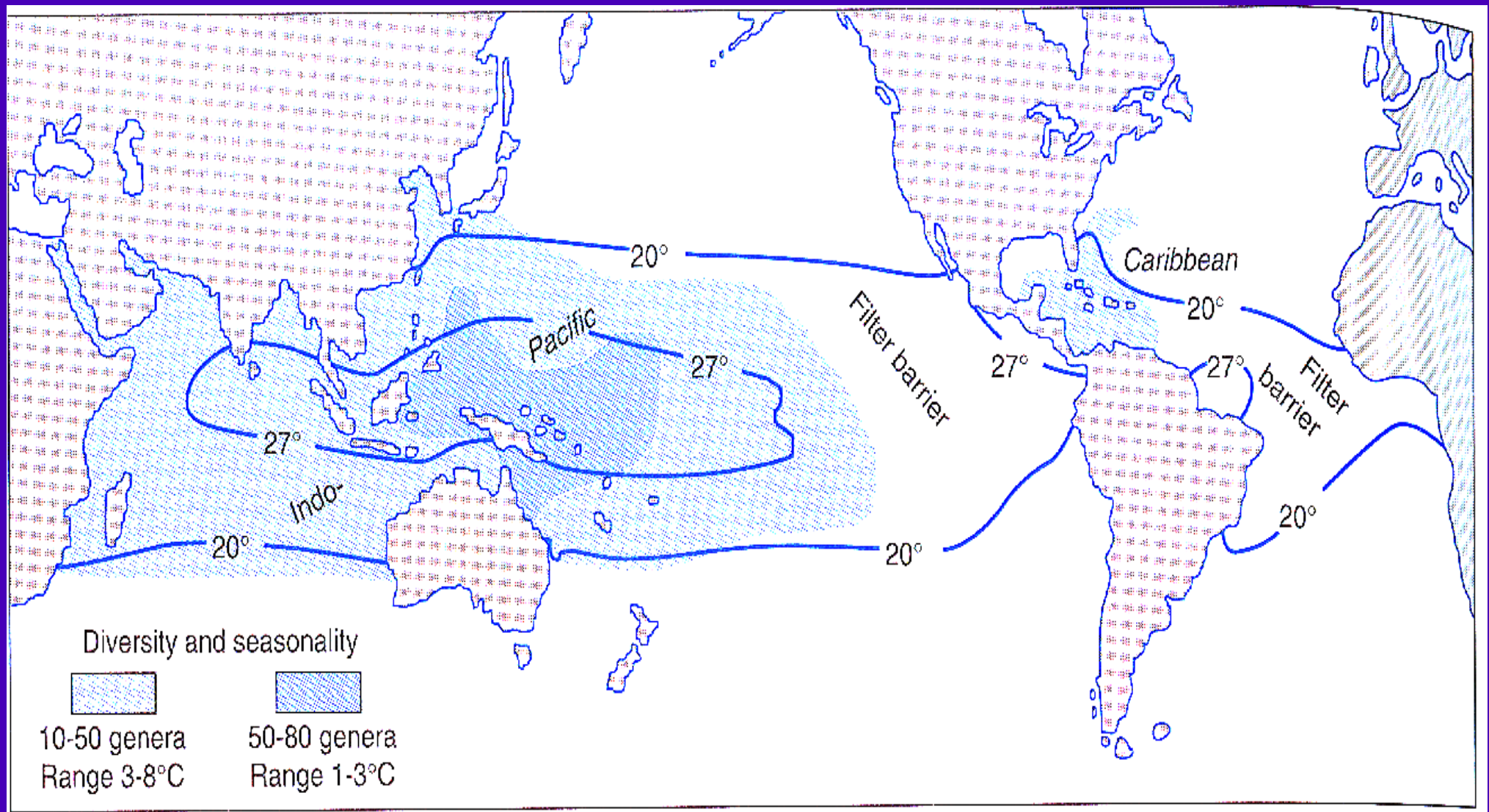
- ▶ Distribution
- ▶ Environmental factors
- ▶ Organisms
- ▶ Structure of the ecosystem
- ▶ Productivity

▶ temperature

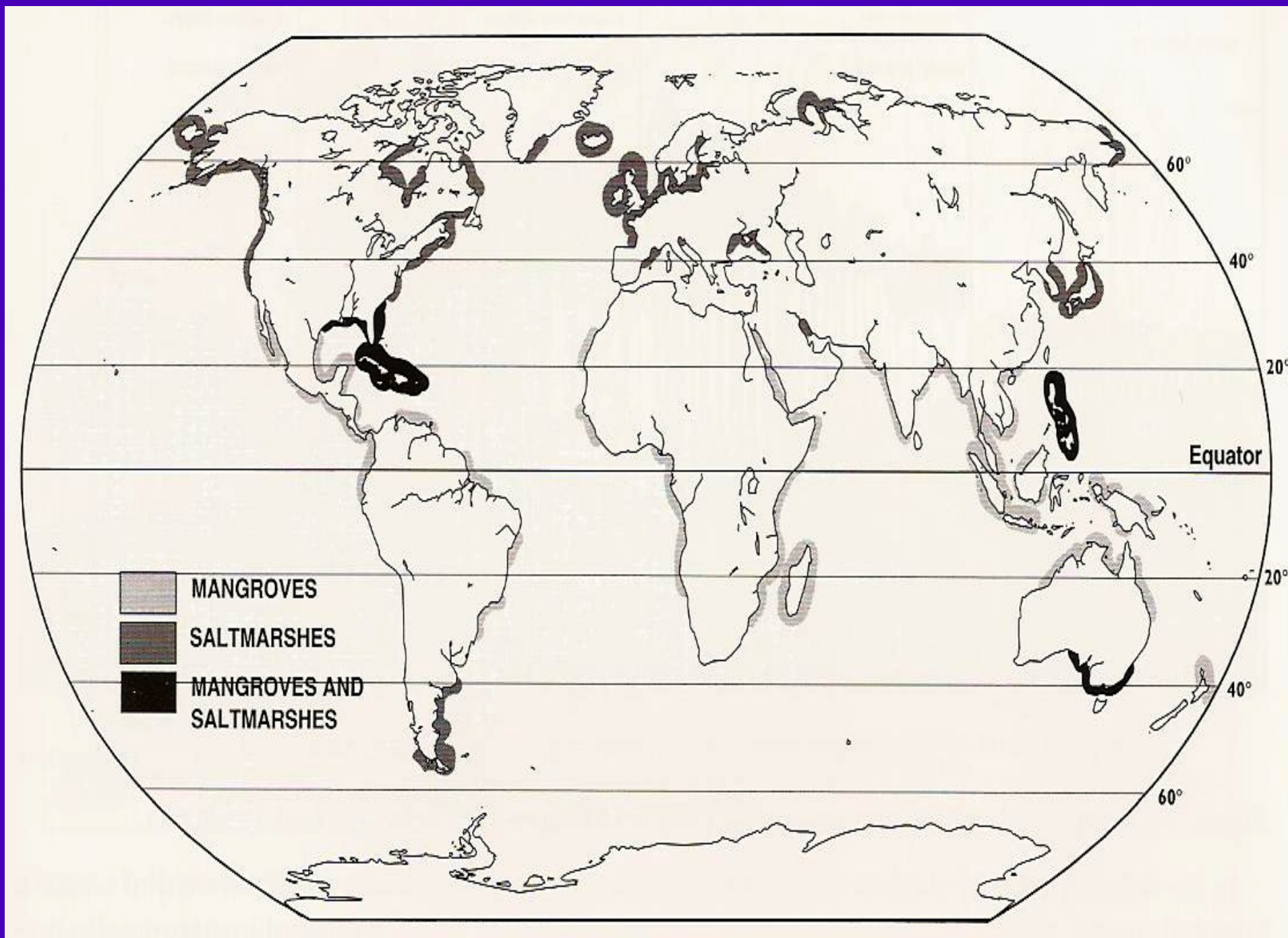




- ▶ temperature
- ▶ light



- ▶ temperature
- ▶ light
- ▶ substratum



- ▶ temperature
- ▶ light
- ▶ substratum
- ▶ access to water

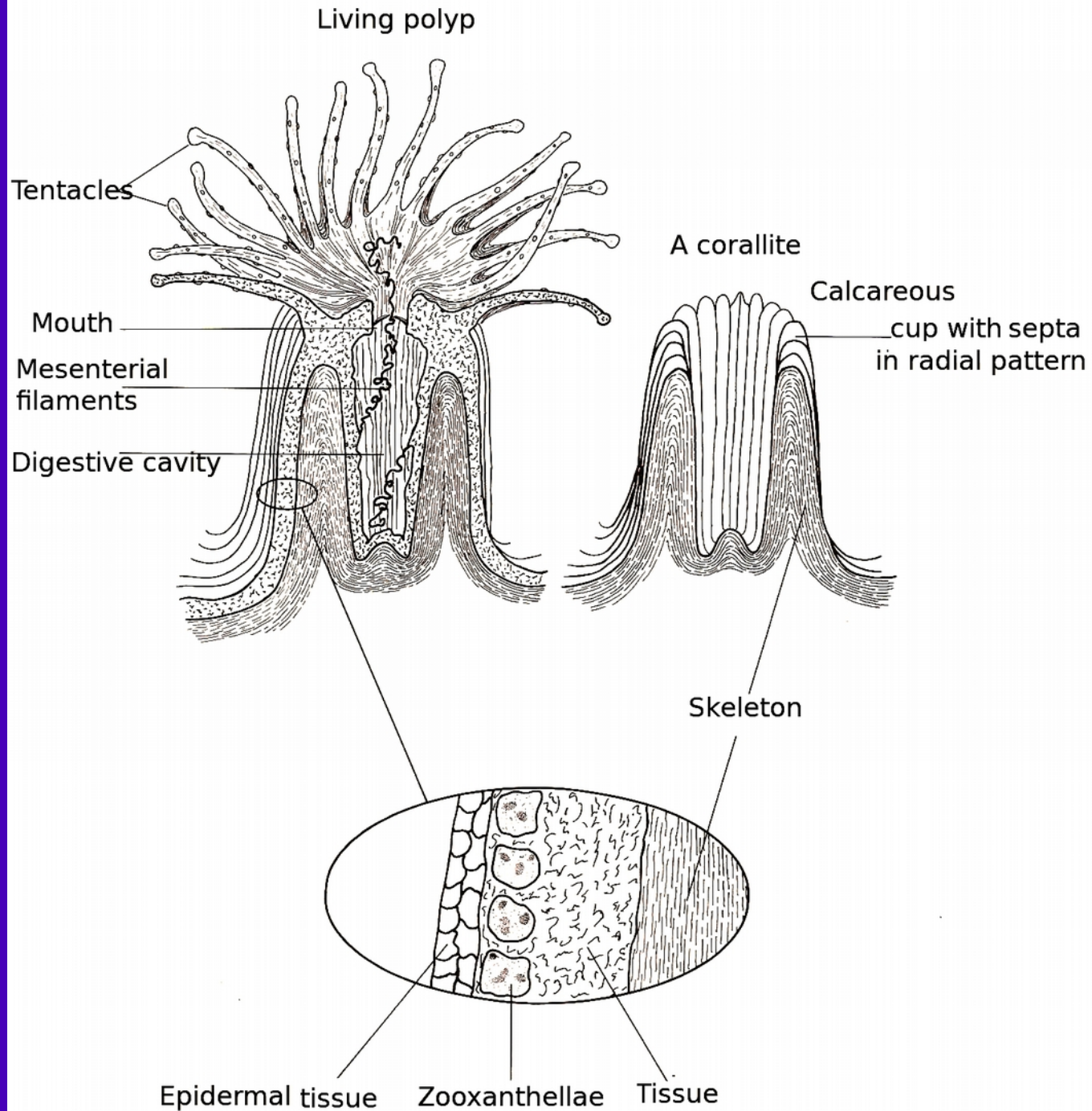
- ▶ temperature
- ▶ light
- ▶ substratum
- ▶ access to water
- ▶ salinity

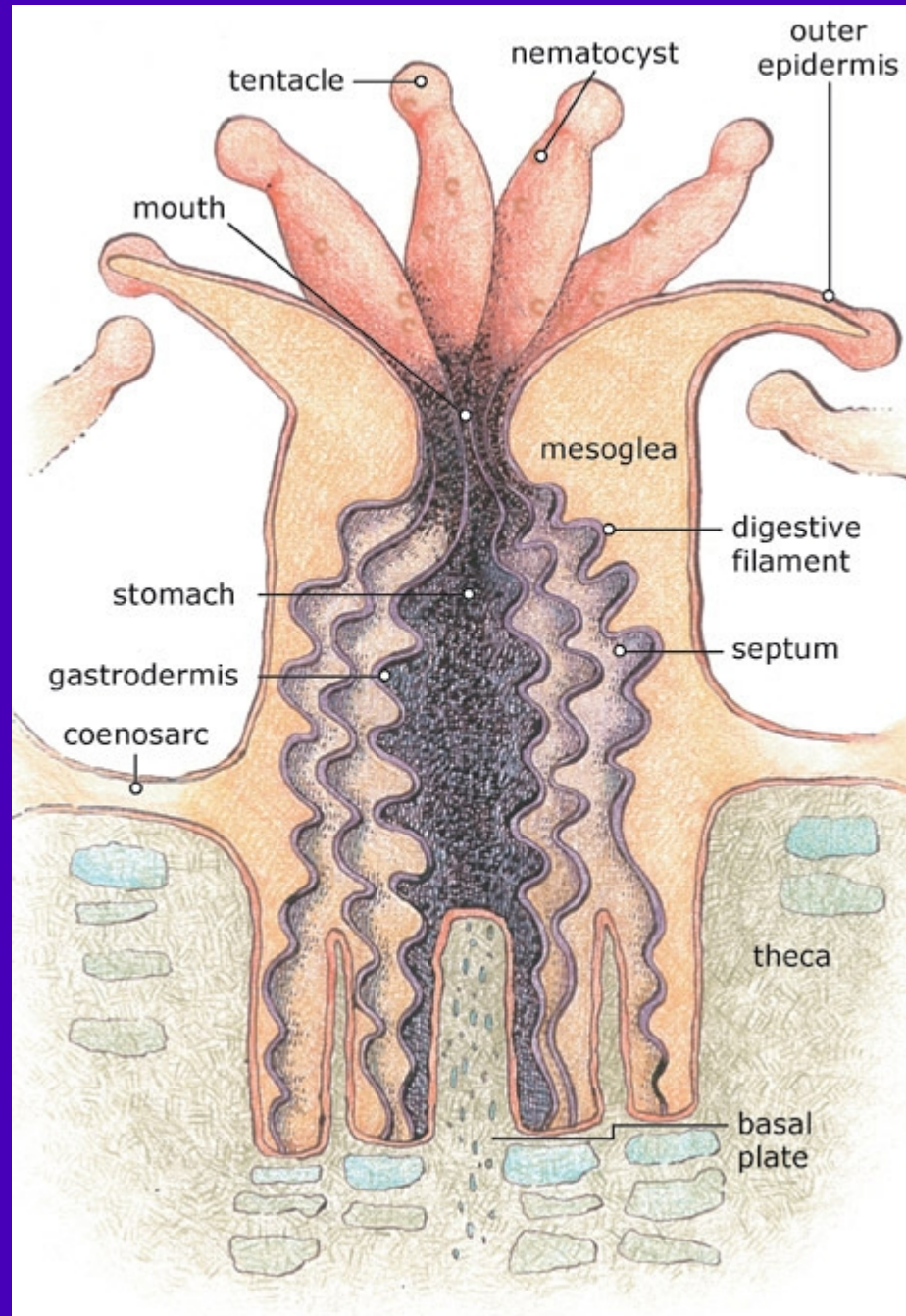
- ▶ temperature
- ▶ light
- ▶ substratum
- ▶ access to water
- ▶ salinity
- ▶ nutrient availability

- ▶ temperature
- ▶ light
- ▶ substratum
- ▶ access to water
- ▶ salinity
- ▶ nutrient availability
- ▶ oxygen availability



- ▶ Distribution
- ▶ Environmental factors
- ▶ **Organisms**
- ▶ Structure of the ecosystem
- ▶ Productivity





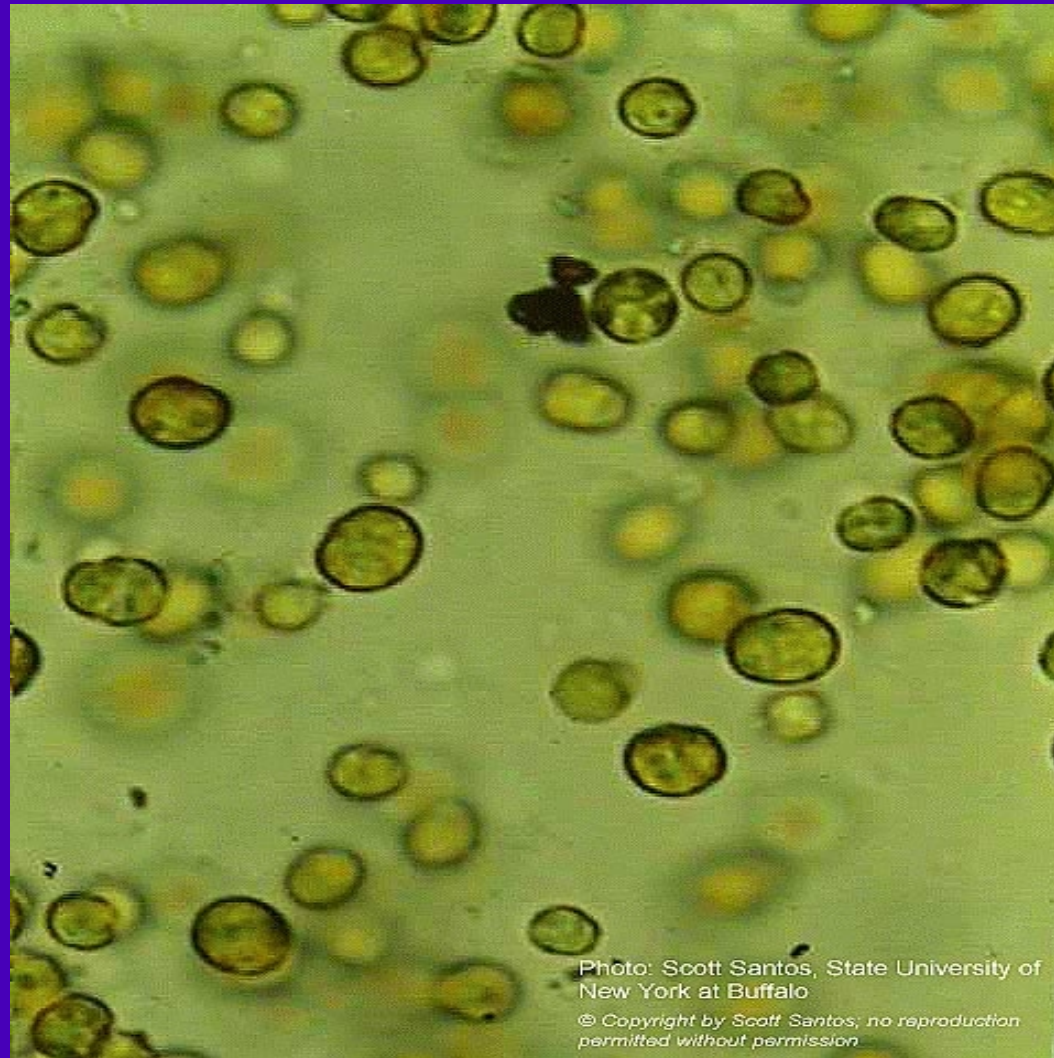
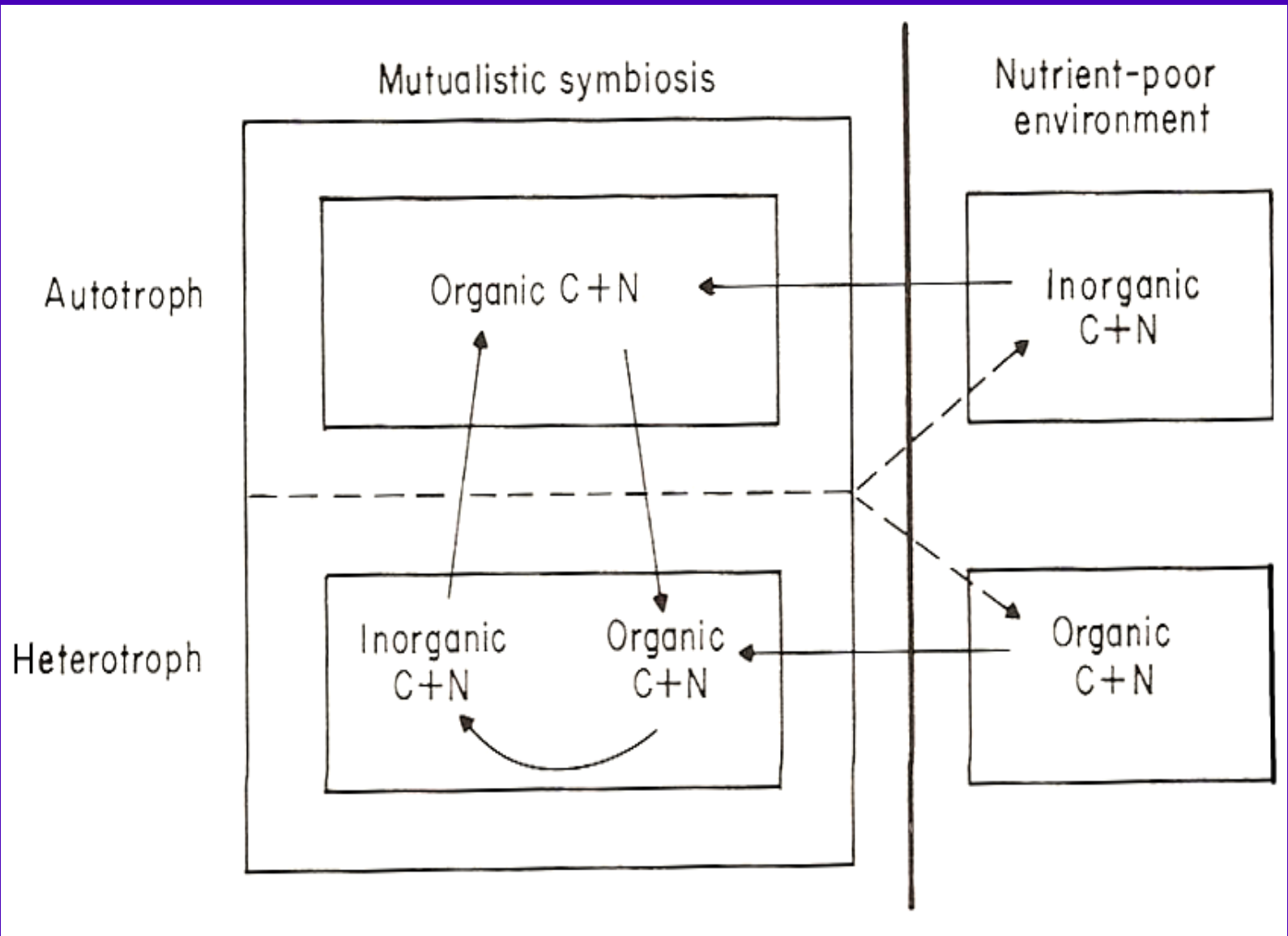
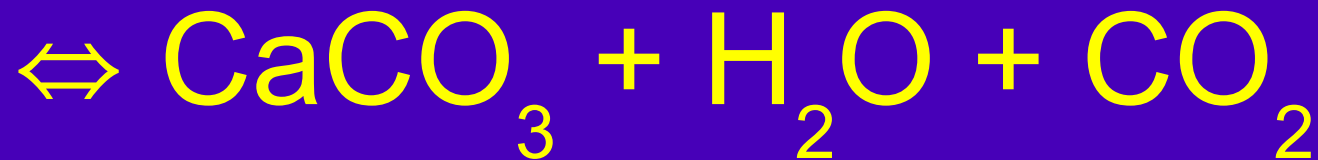


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New York at Buffalo  
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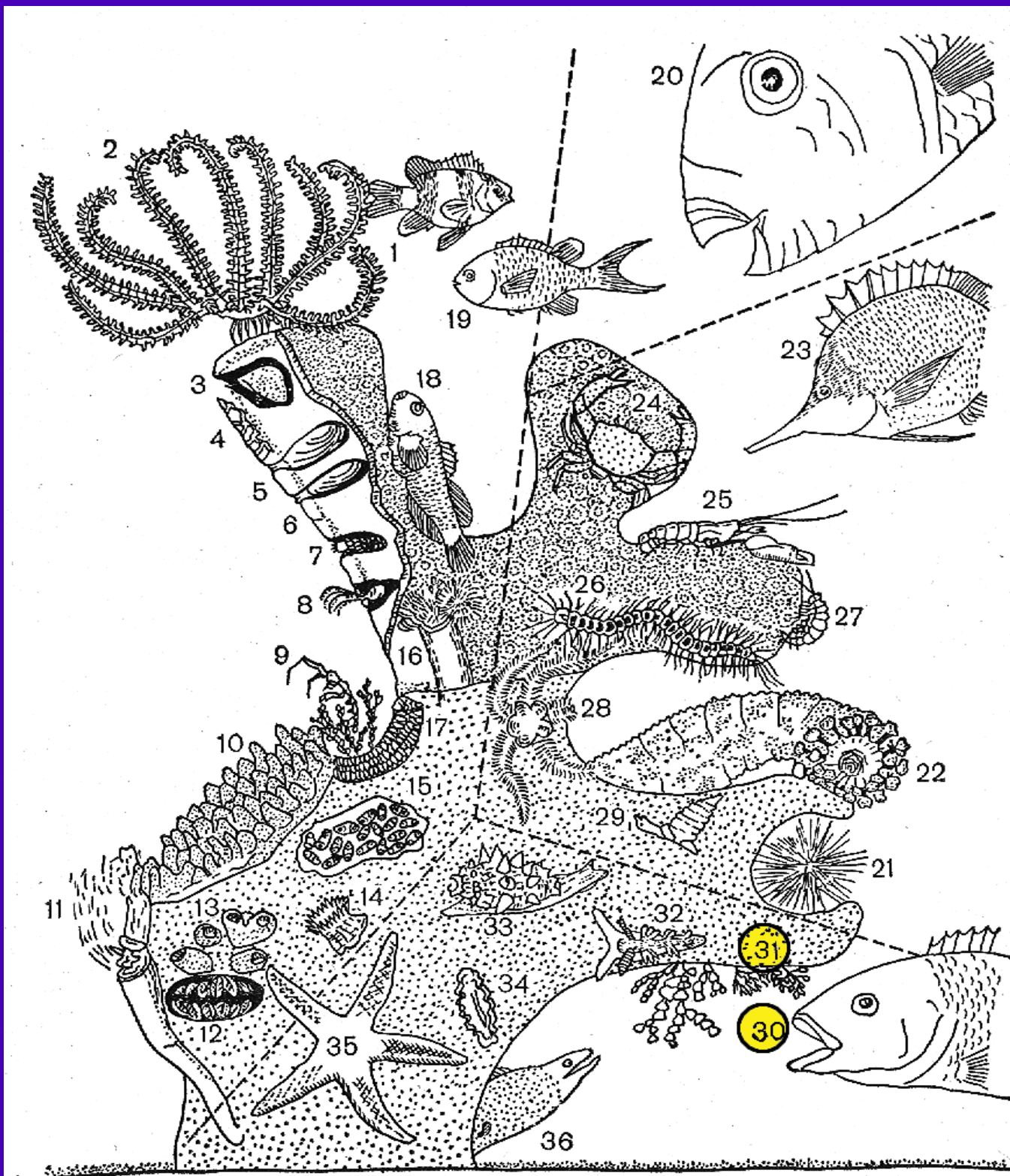






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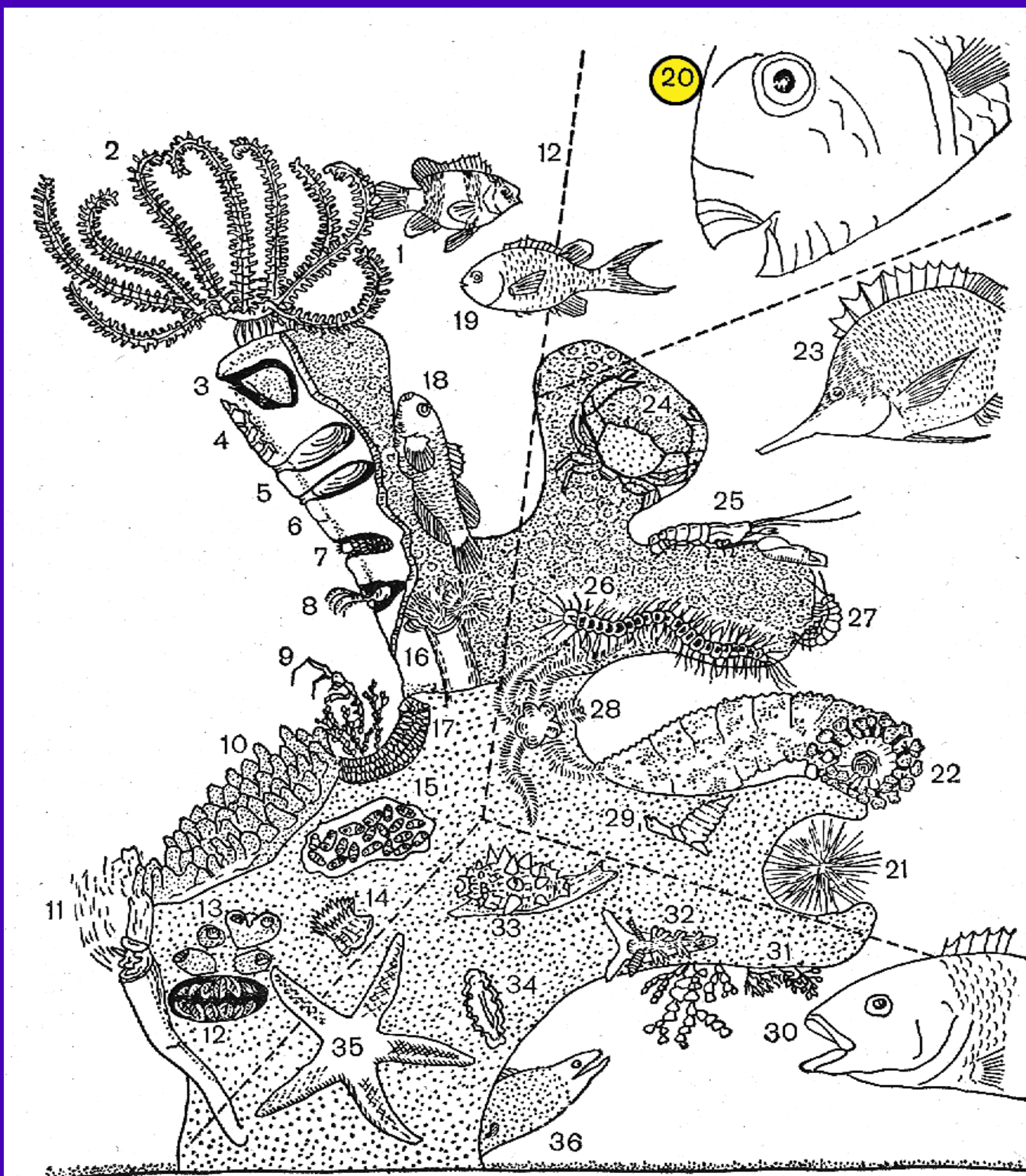
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r&m\_26



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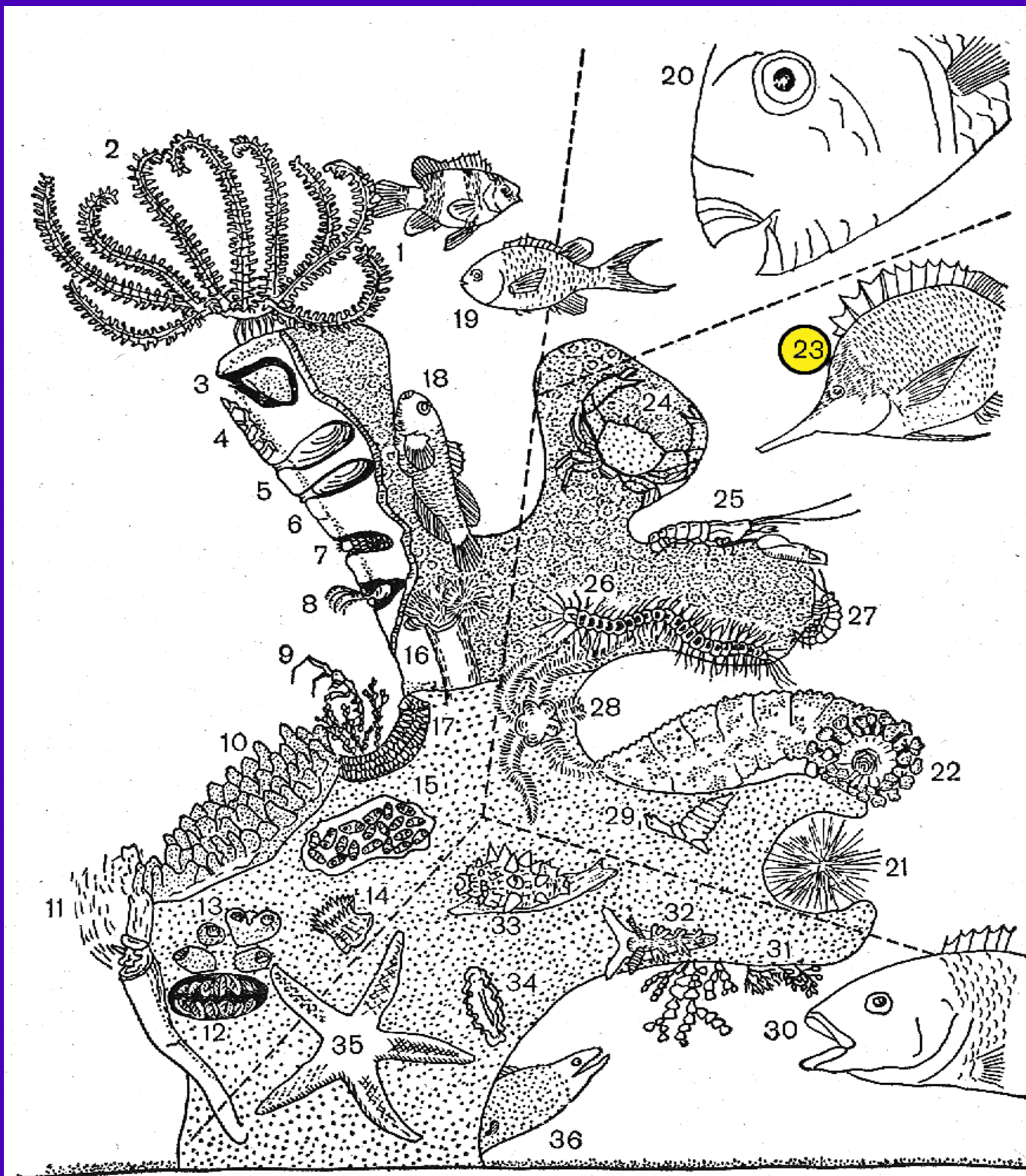


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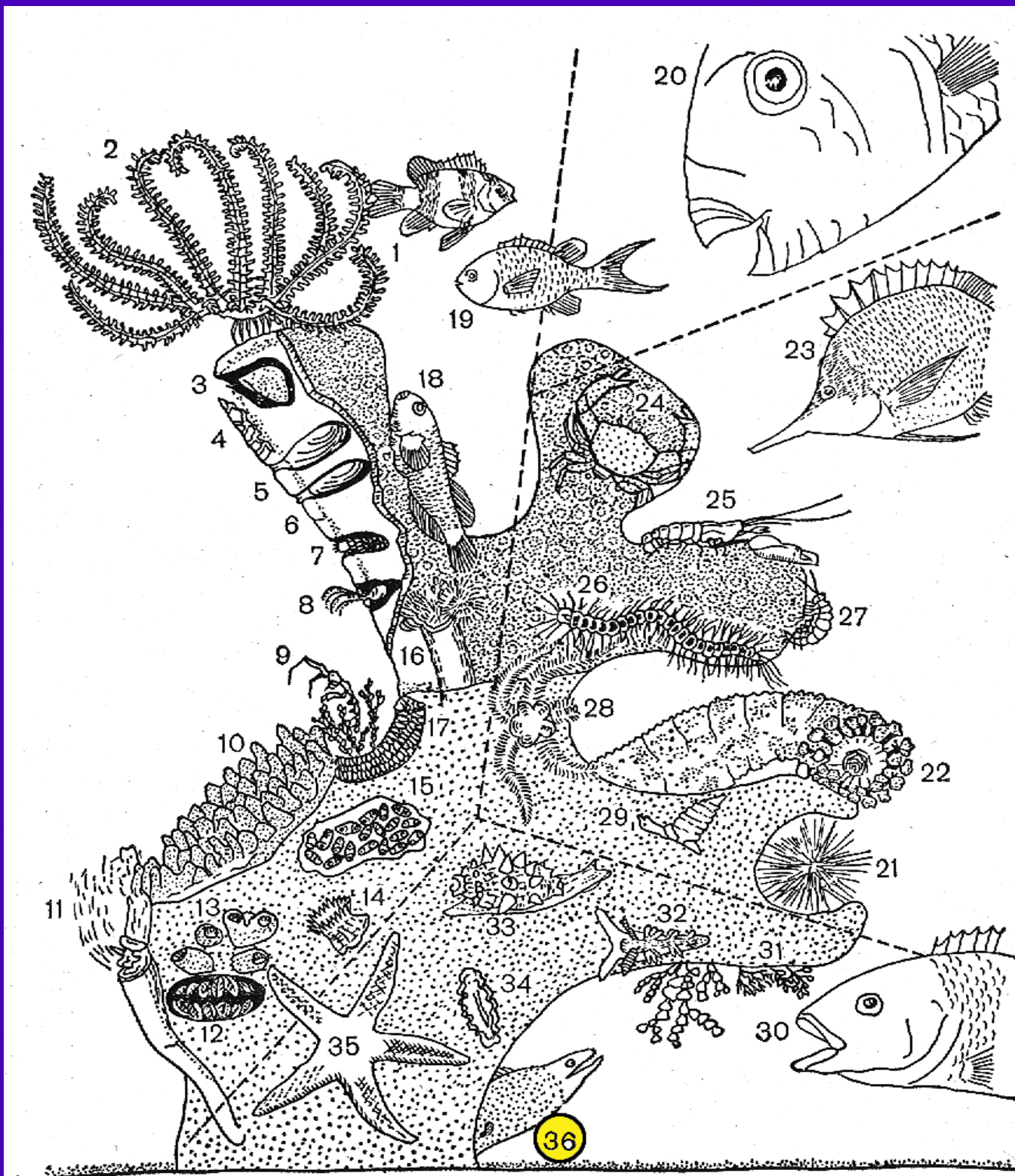
*Parrot Fish*

*Attila* © 2006



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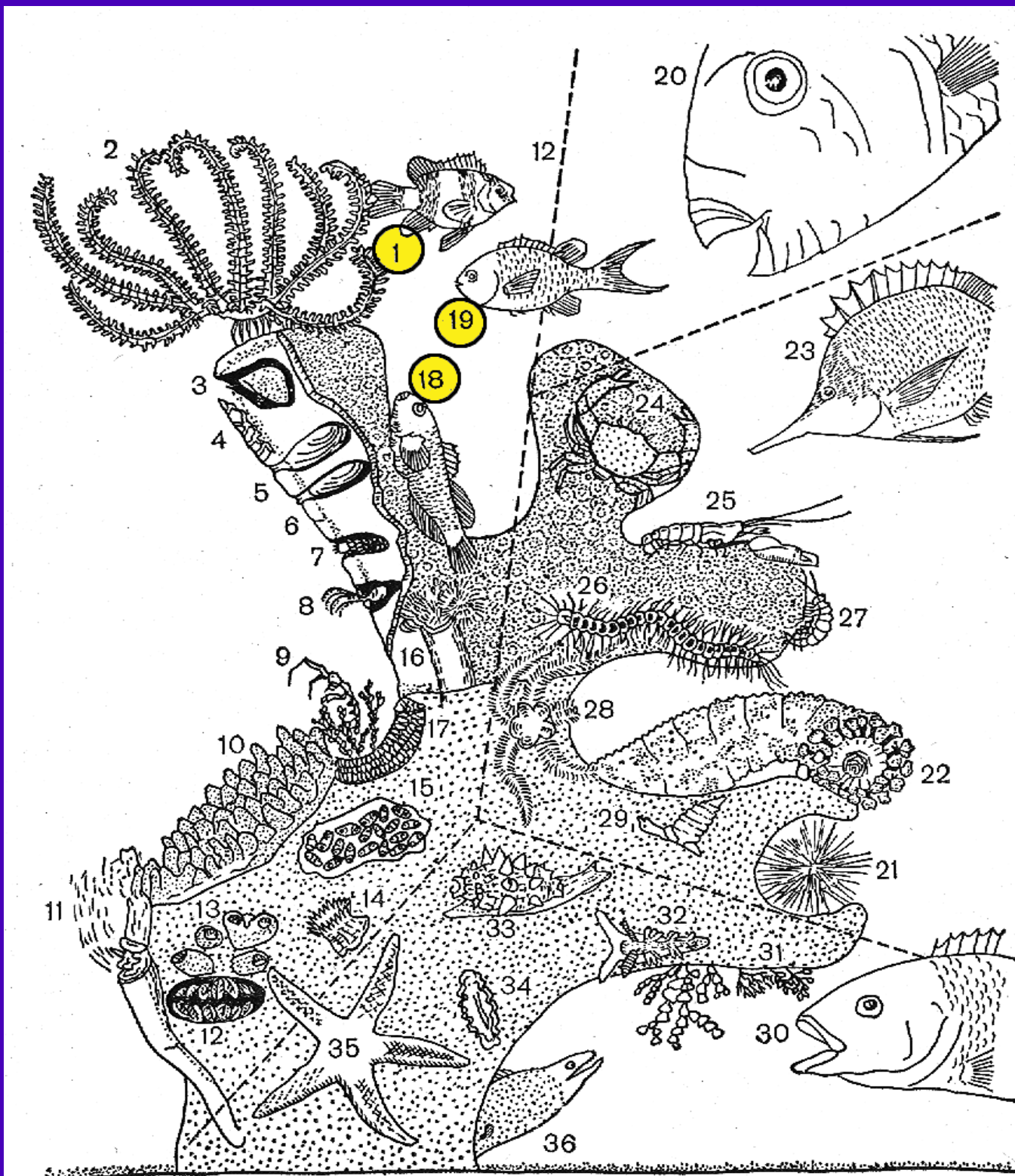




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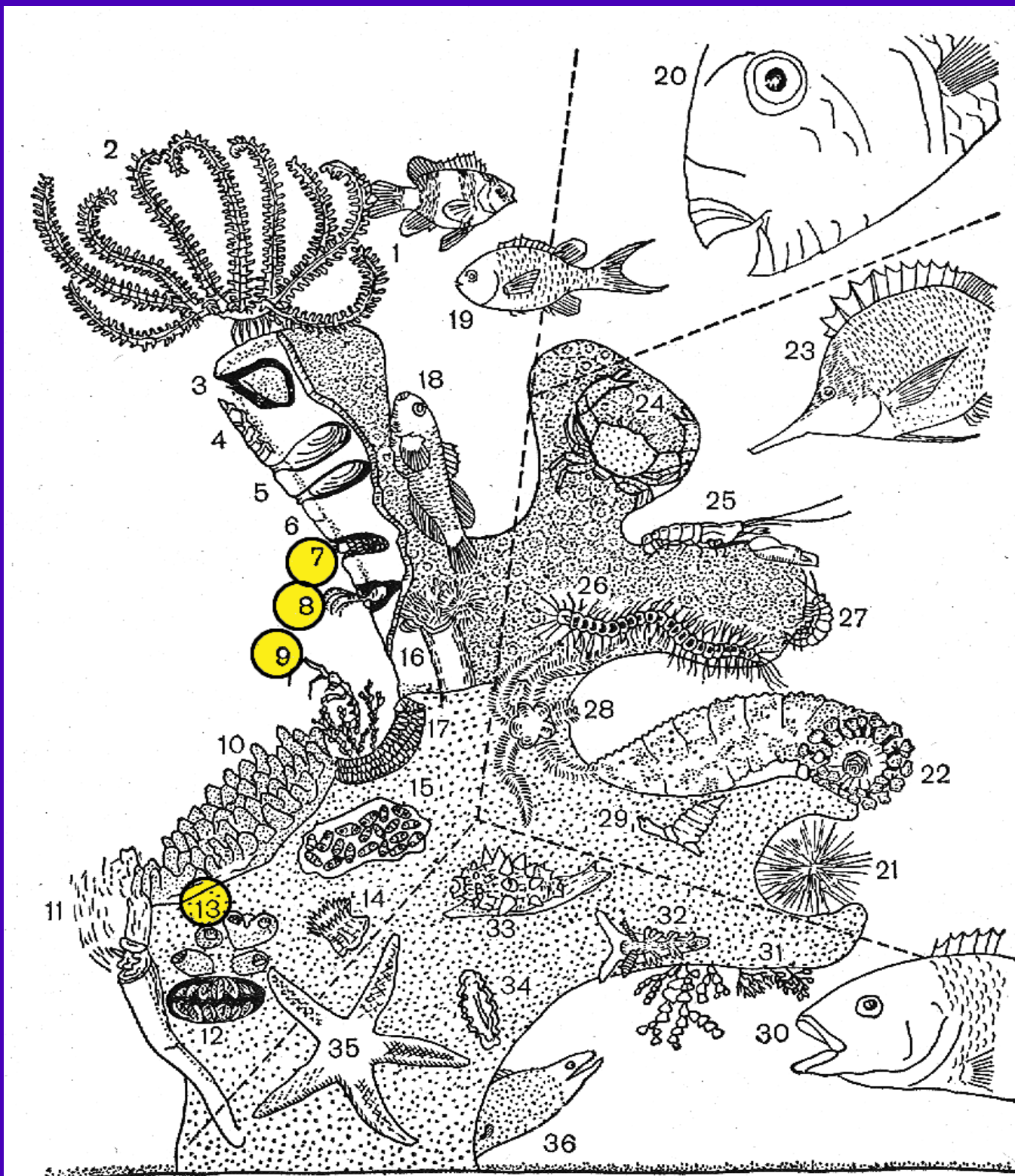
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wikipedia



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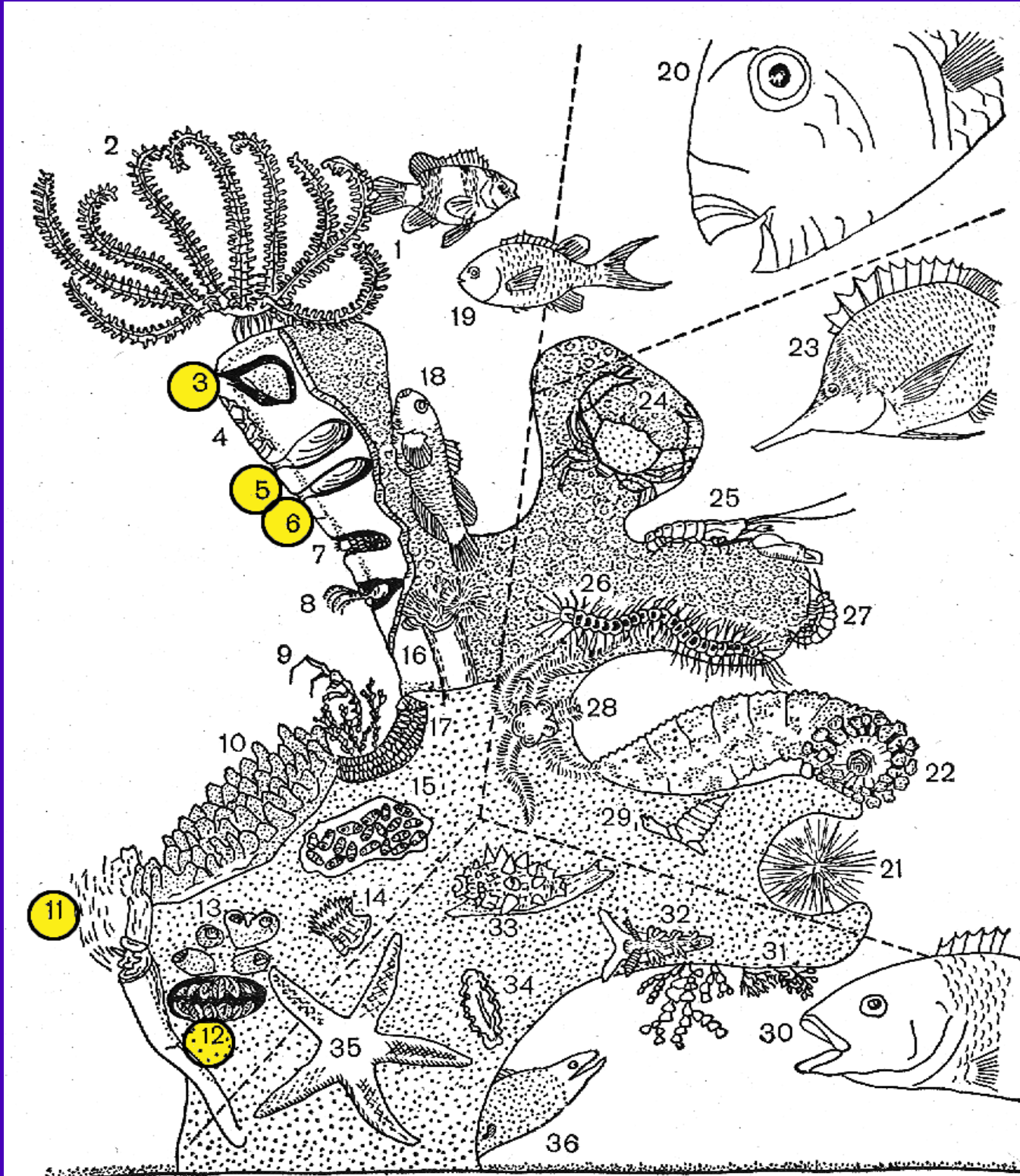


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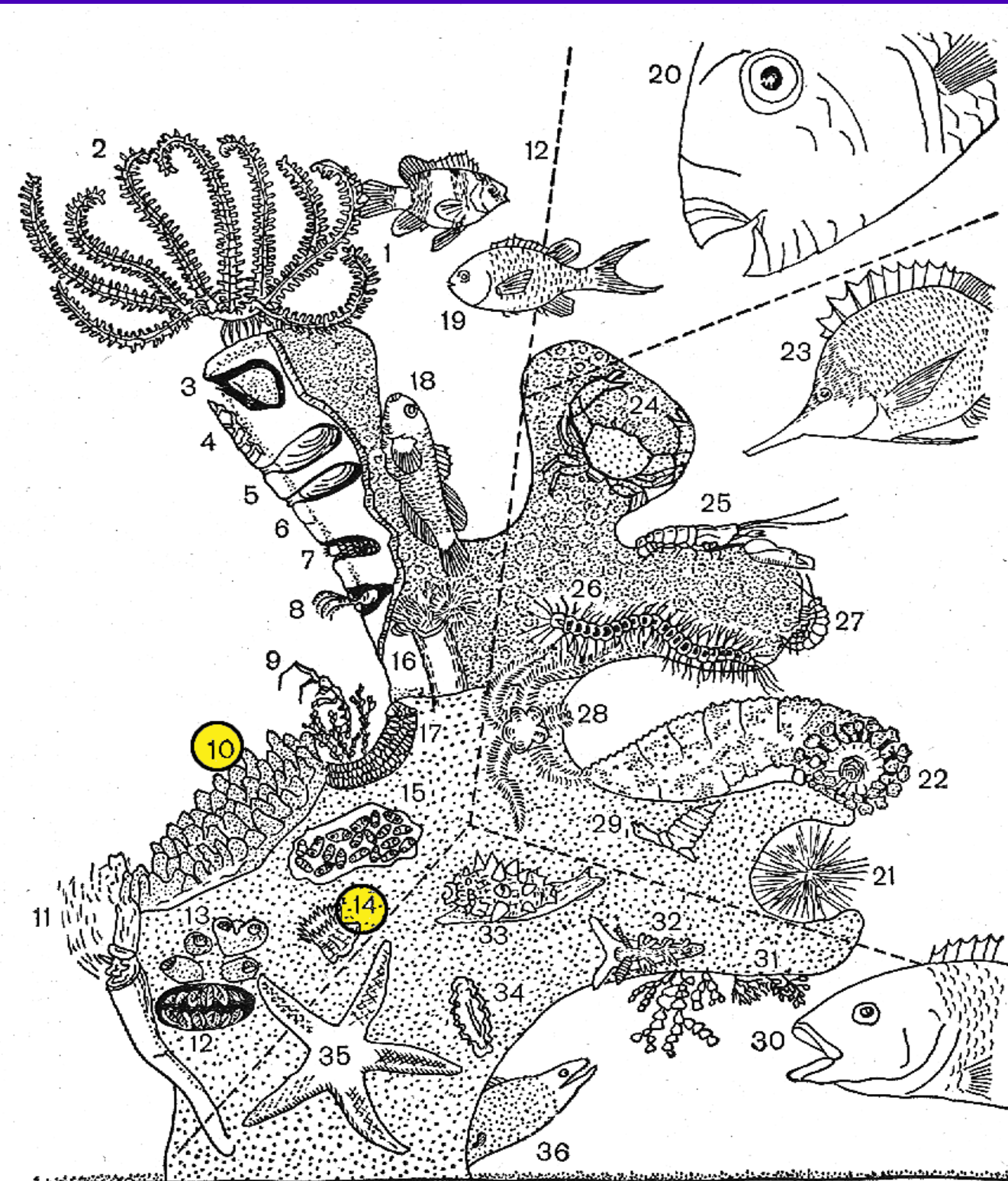
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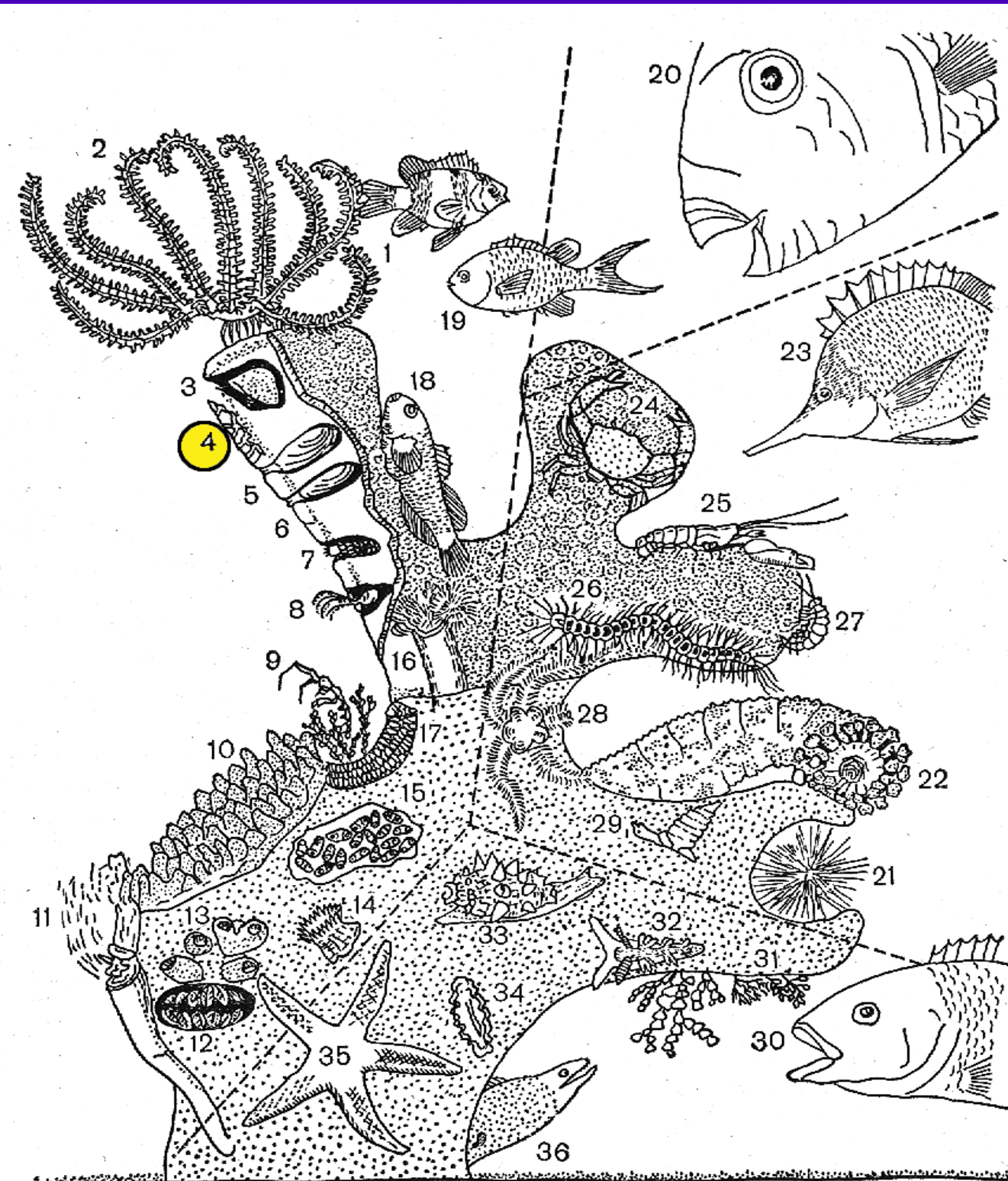


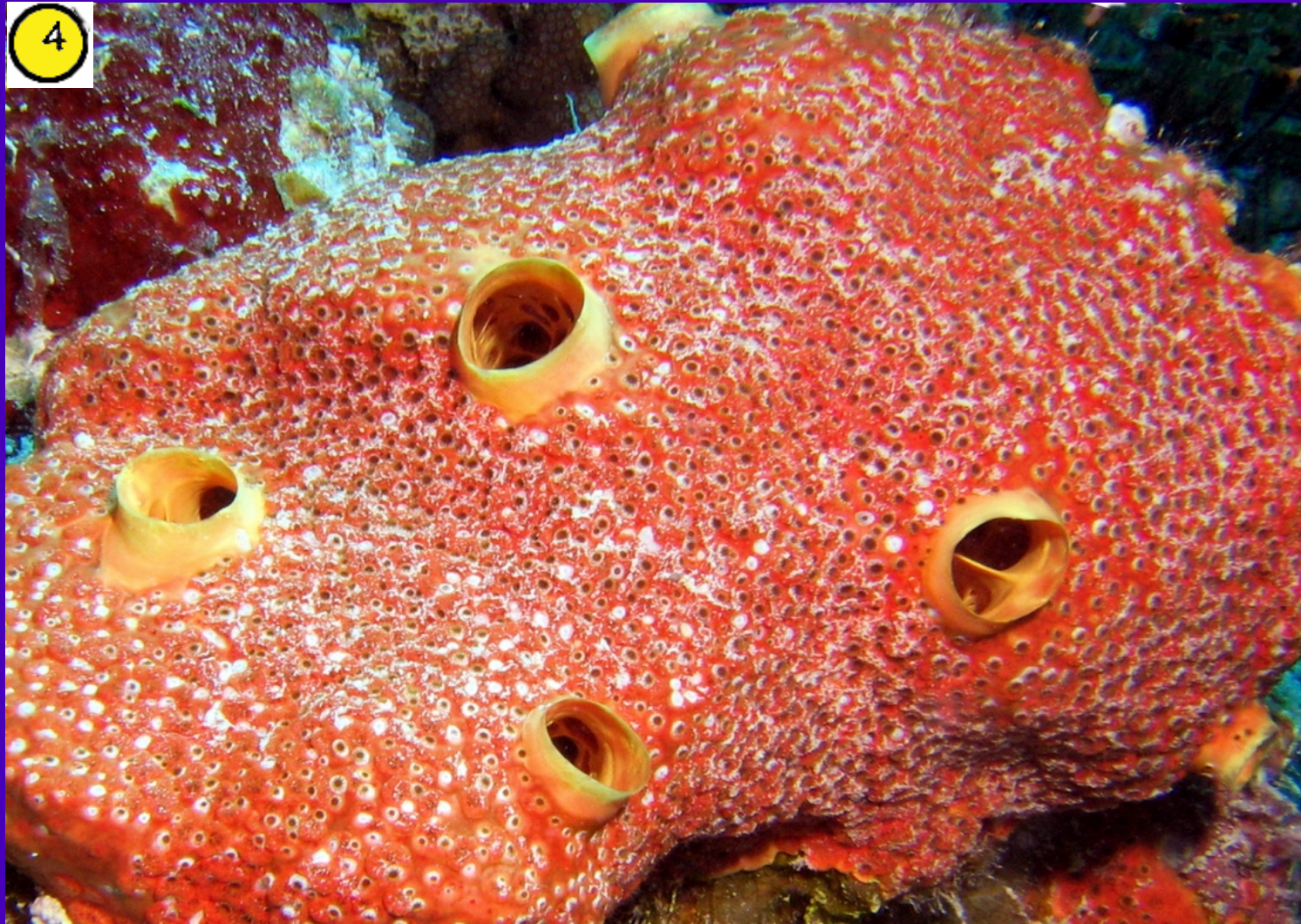


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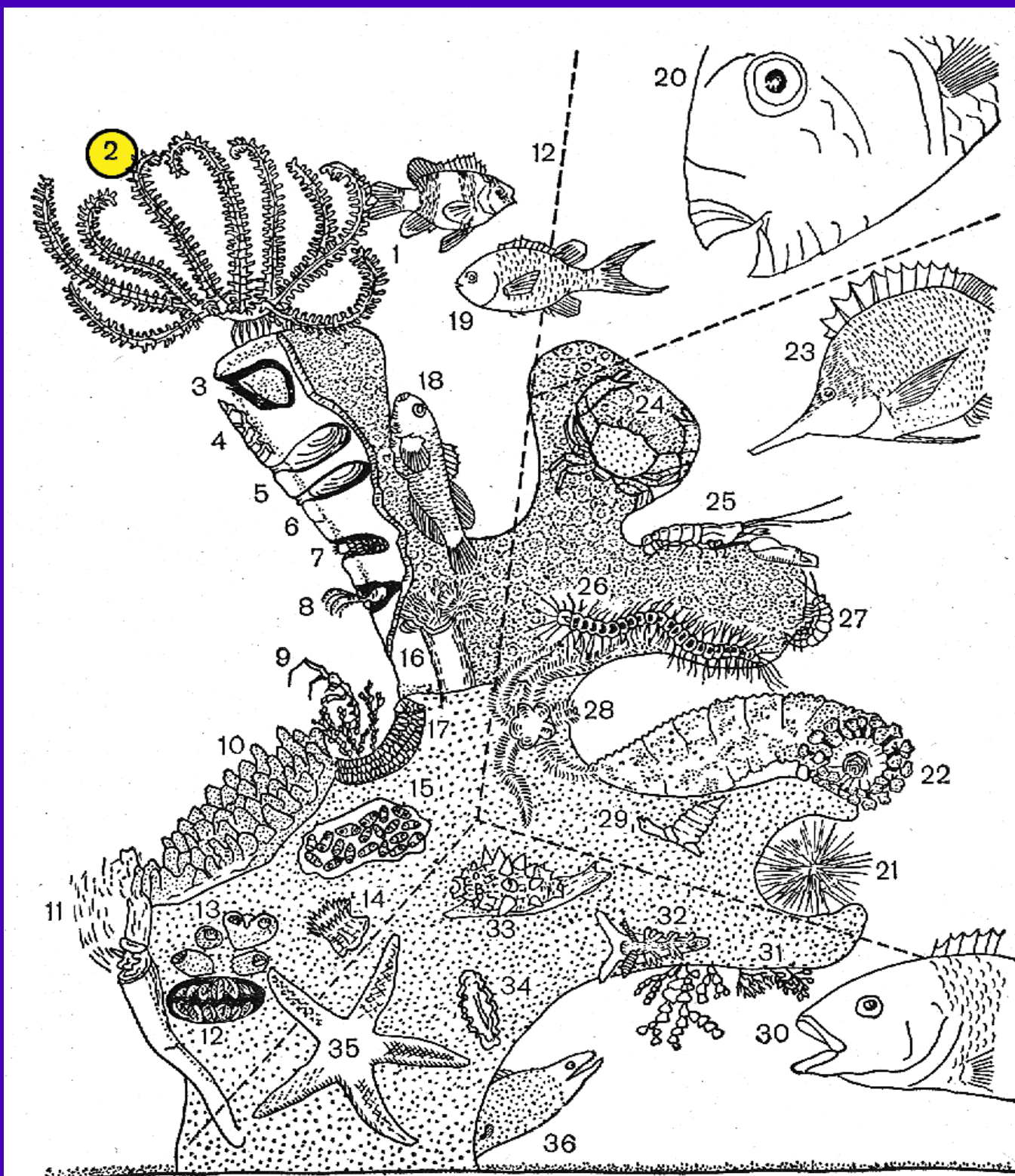






<http://reefguide.org>

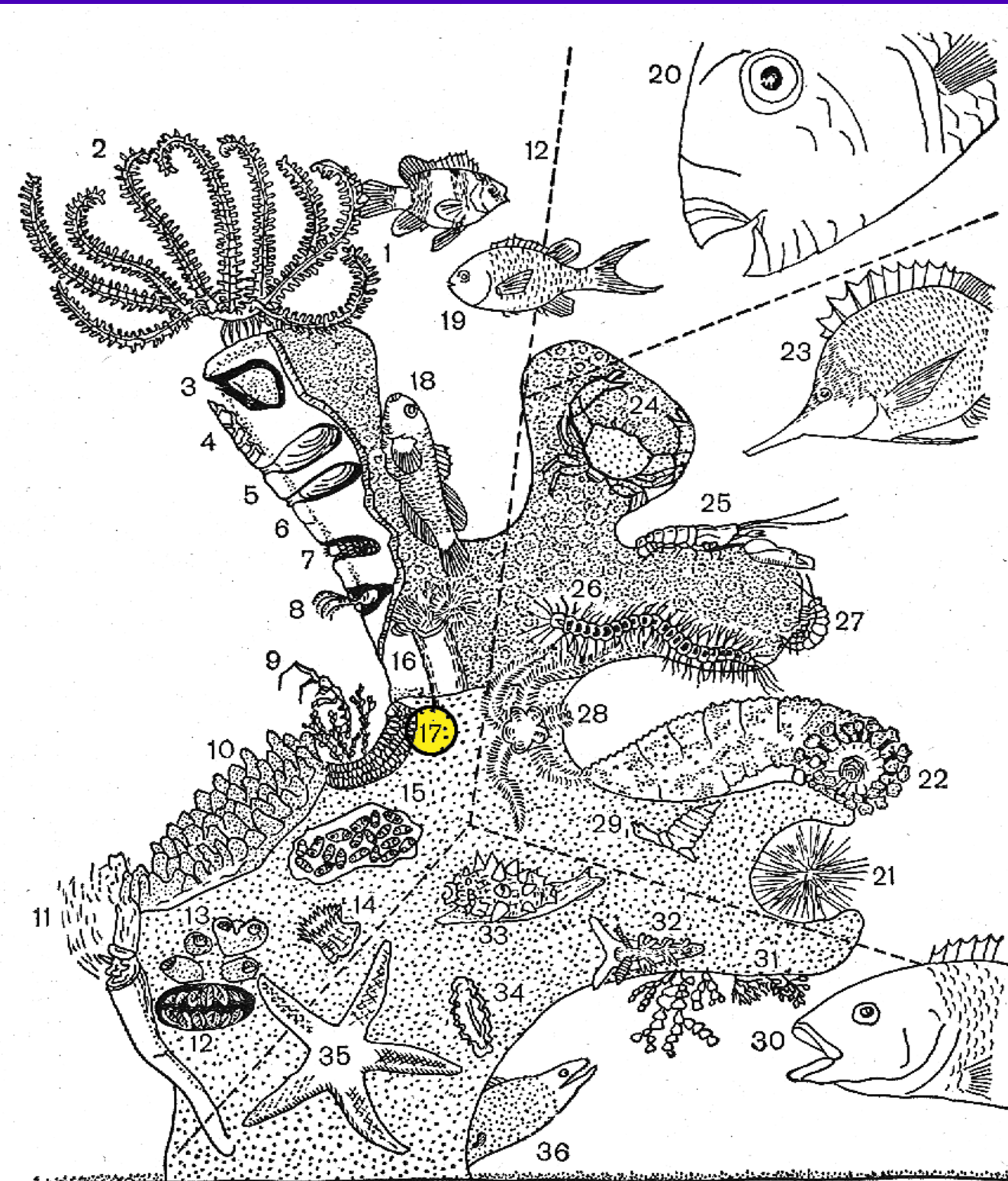




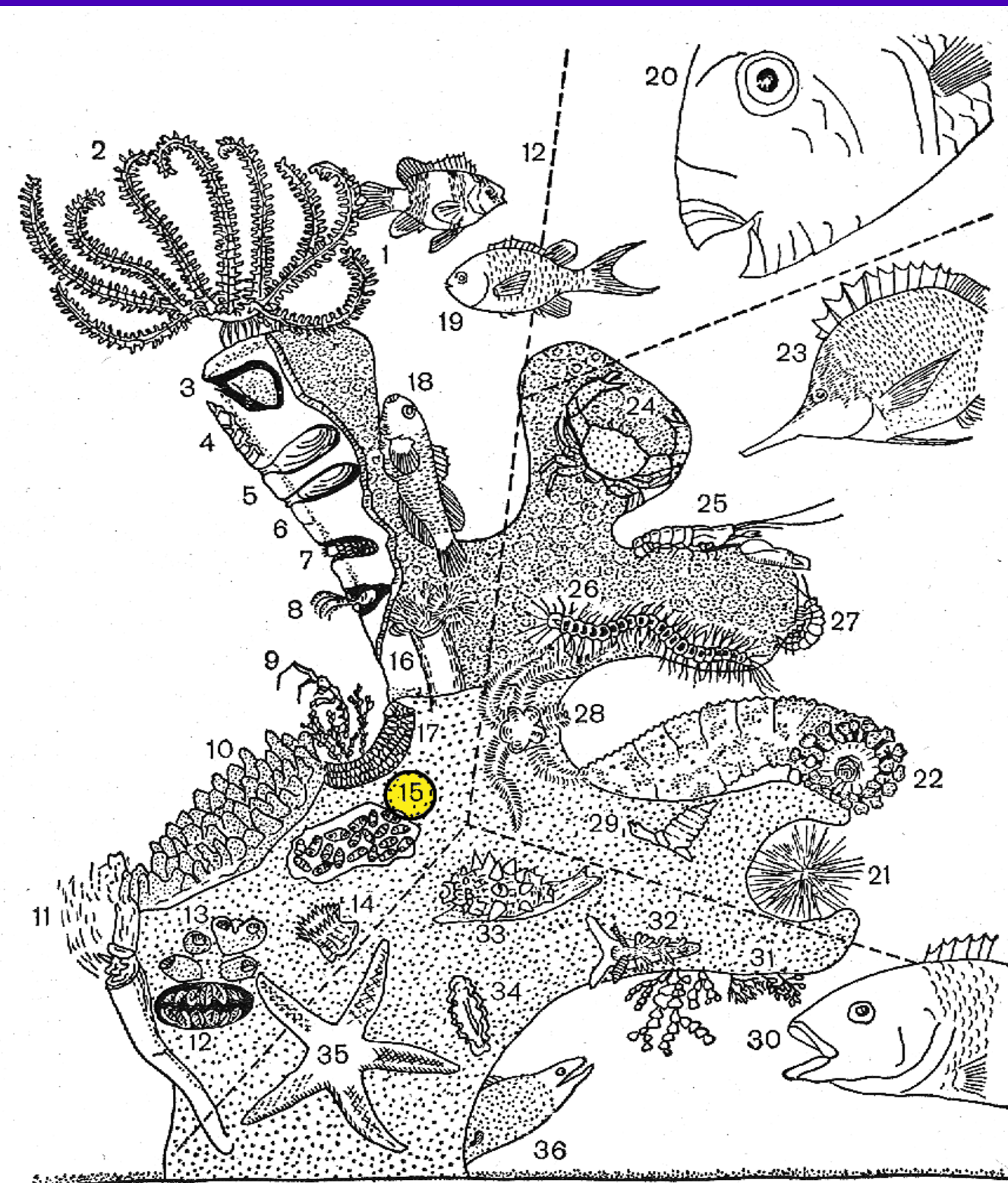
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2



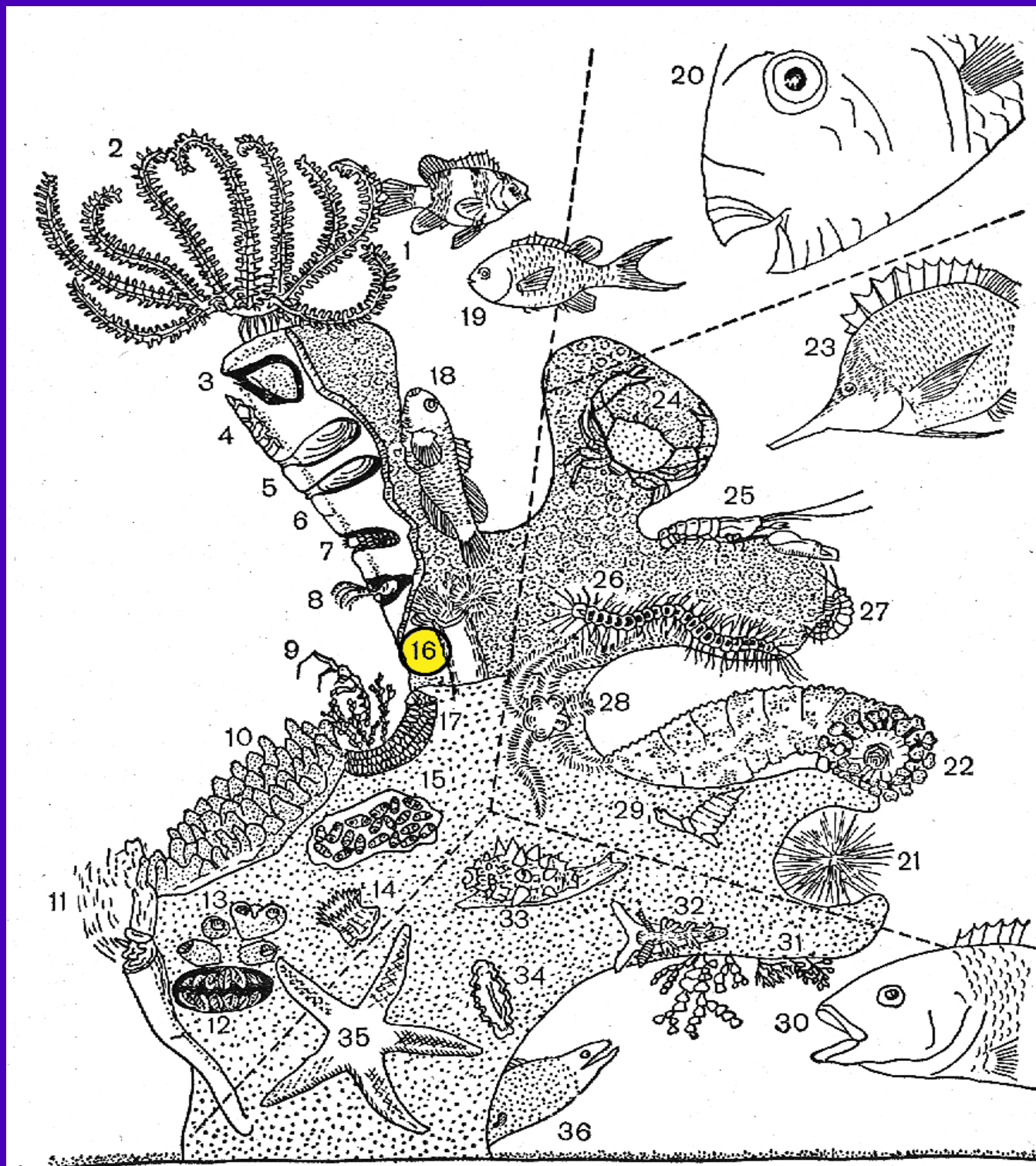






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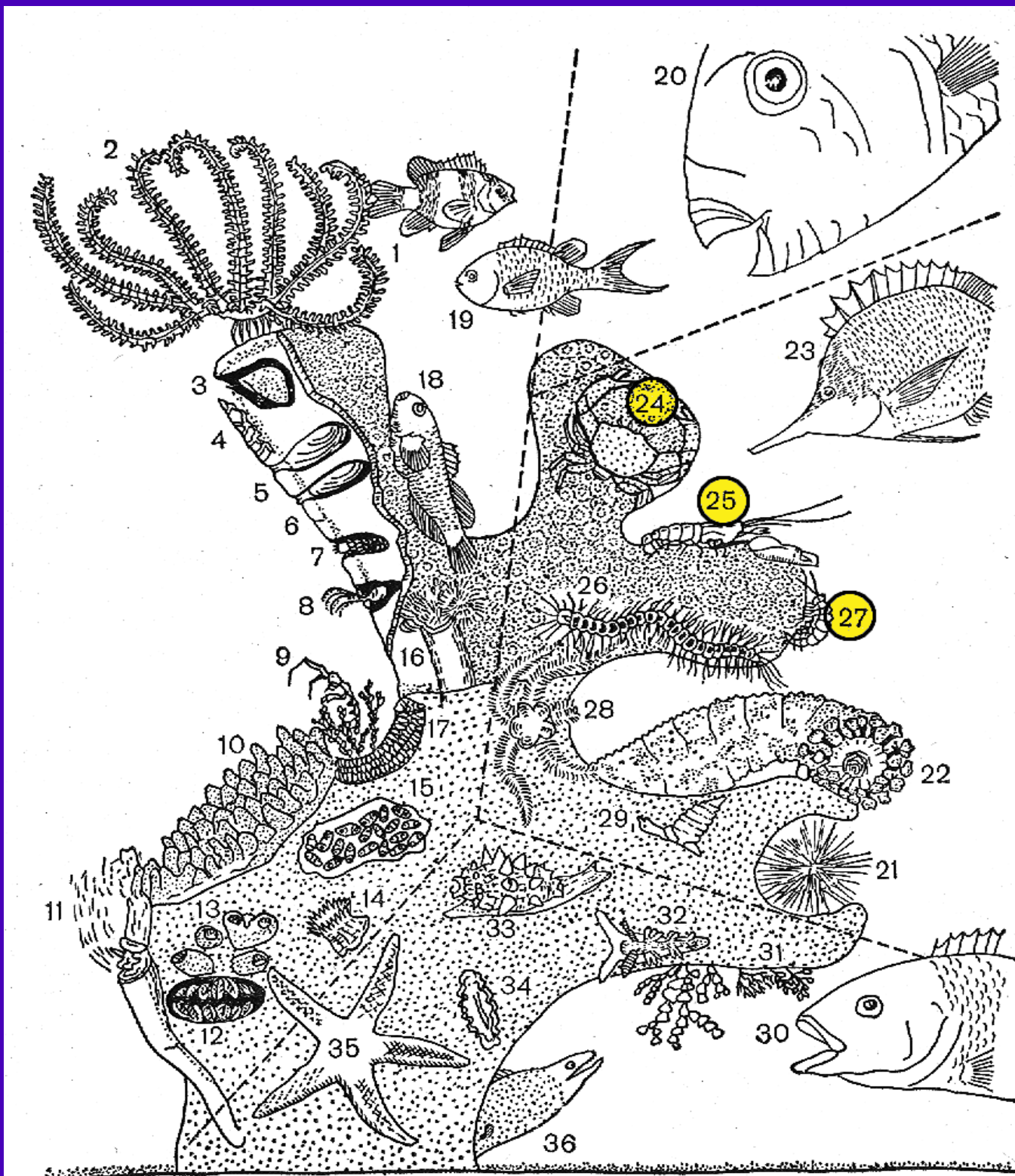




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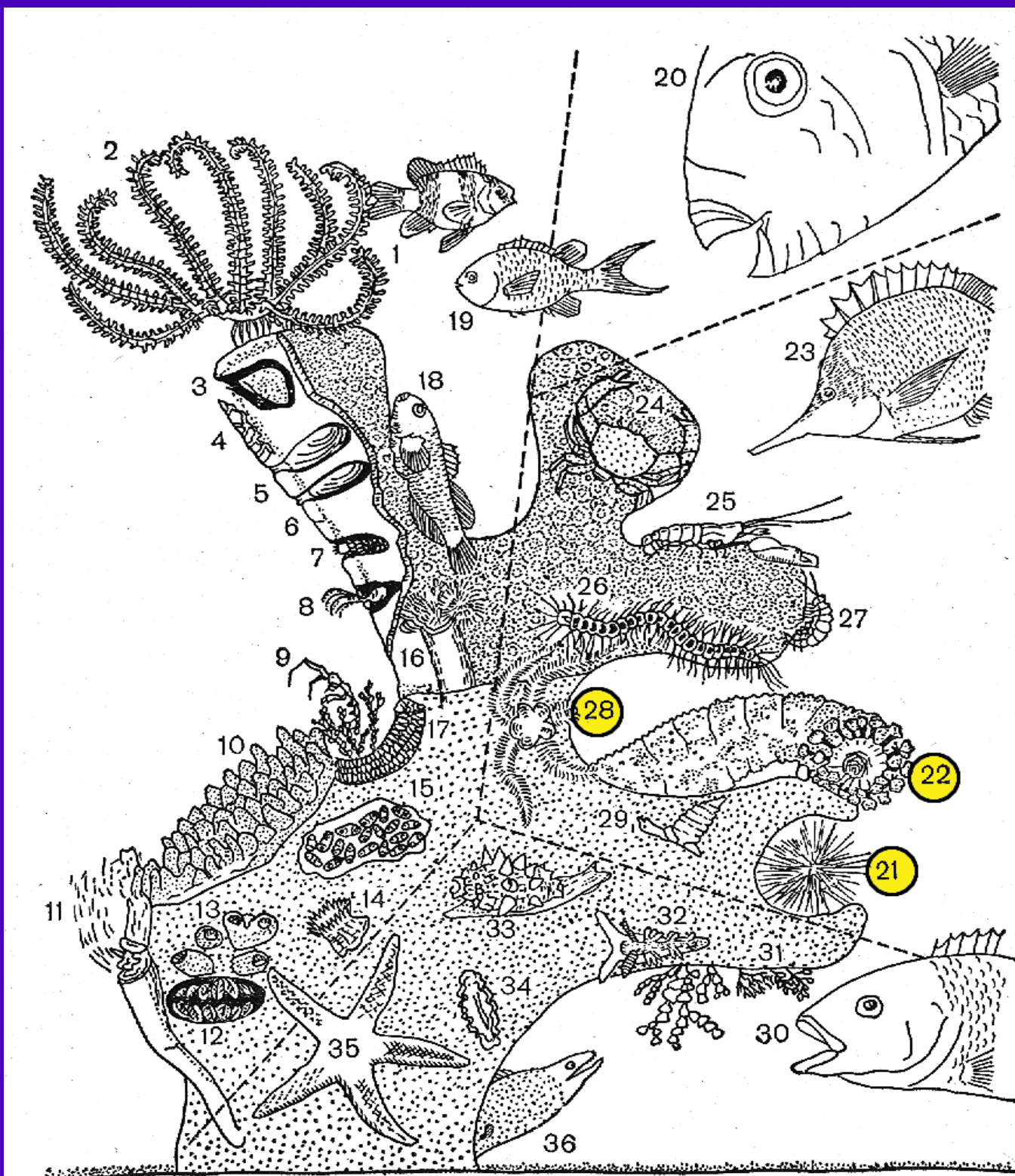


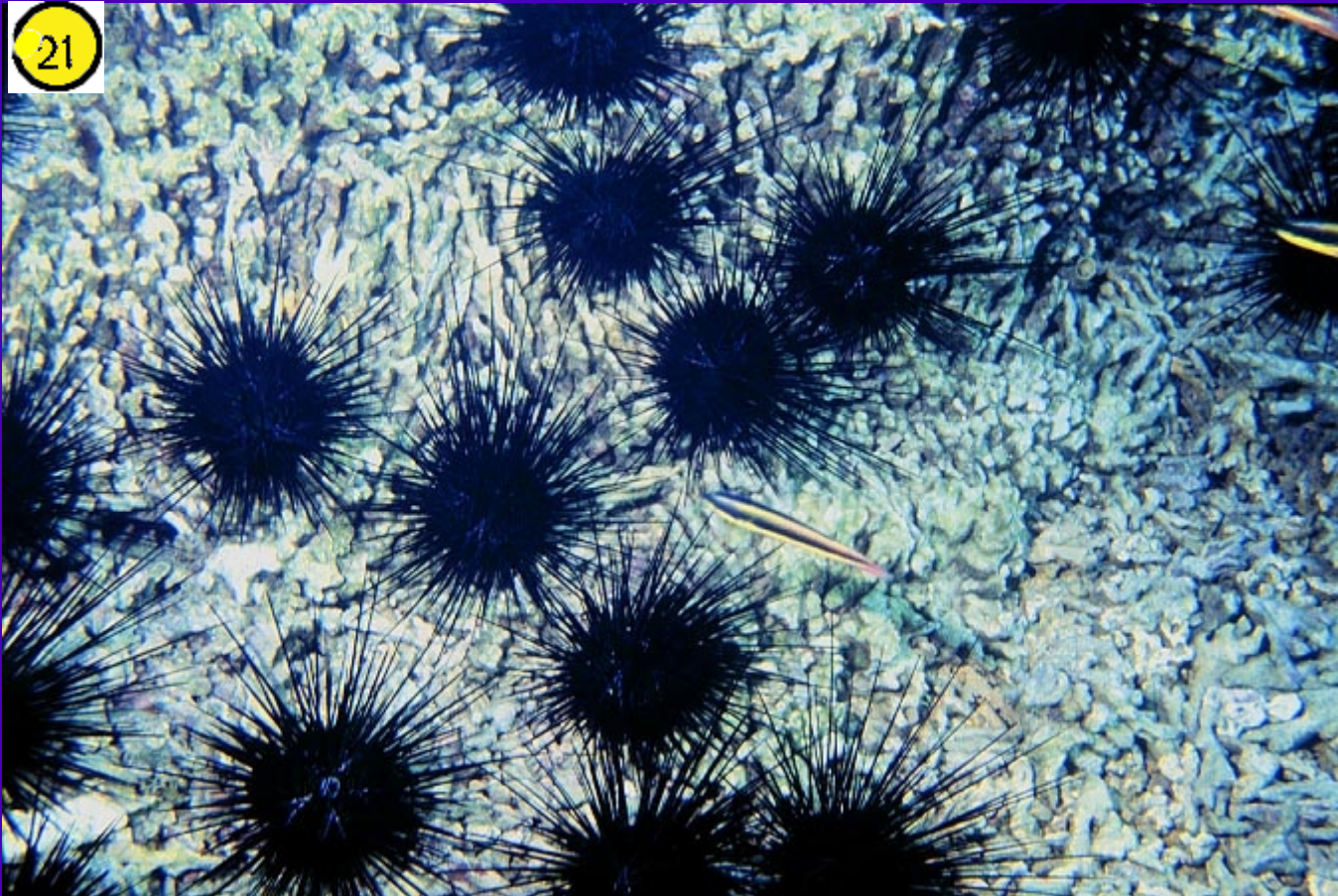


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Rokus Groeneveld ©





[www.columbia.edu/itc/eeeb/baker/](http://www.columbia.edu/itc/eeeb/baker/)

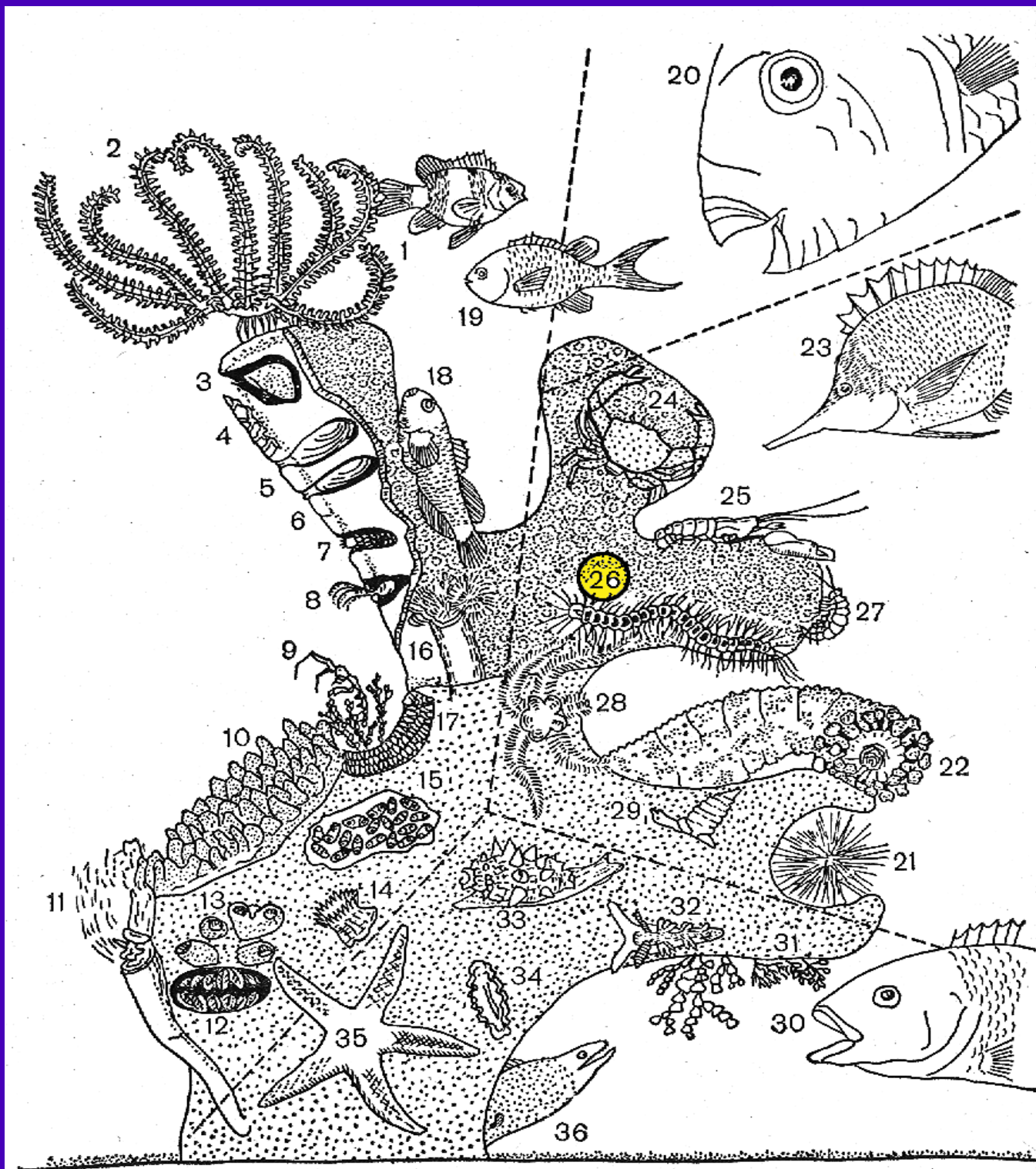


[www.fishchannel.com/images](http://www.fishchannel.com/images)

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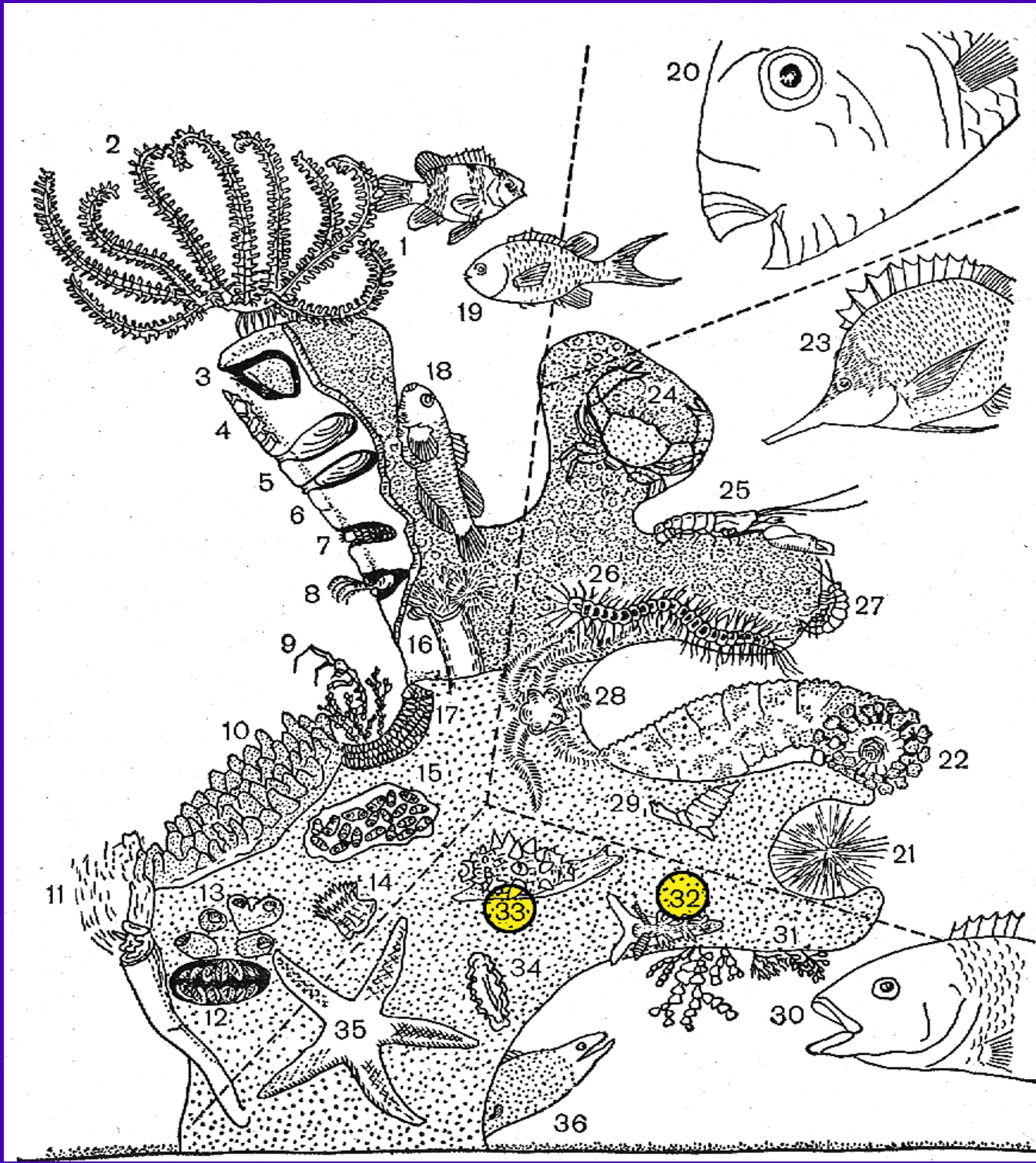


[www.ryanphotographic.com/epitoke.htm](http://www.ryanphotographic.com/epitoke.htm)

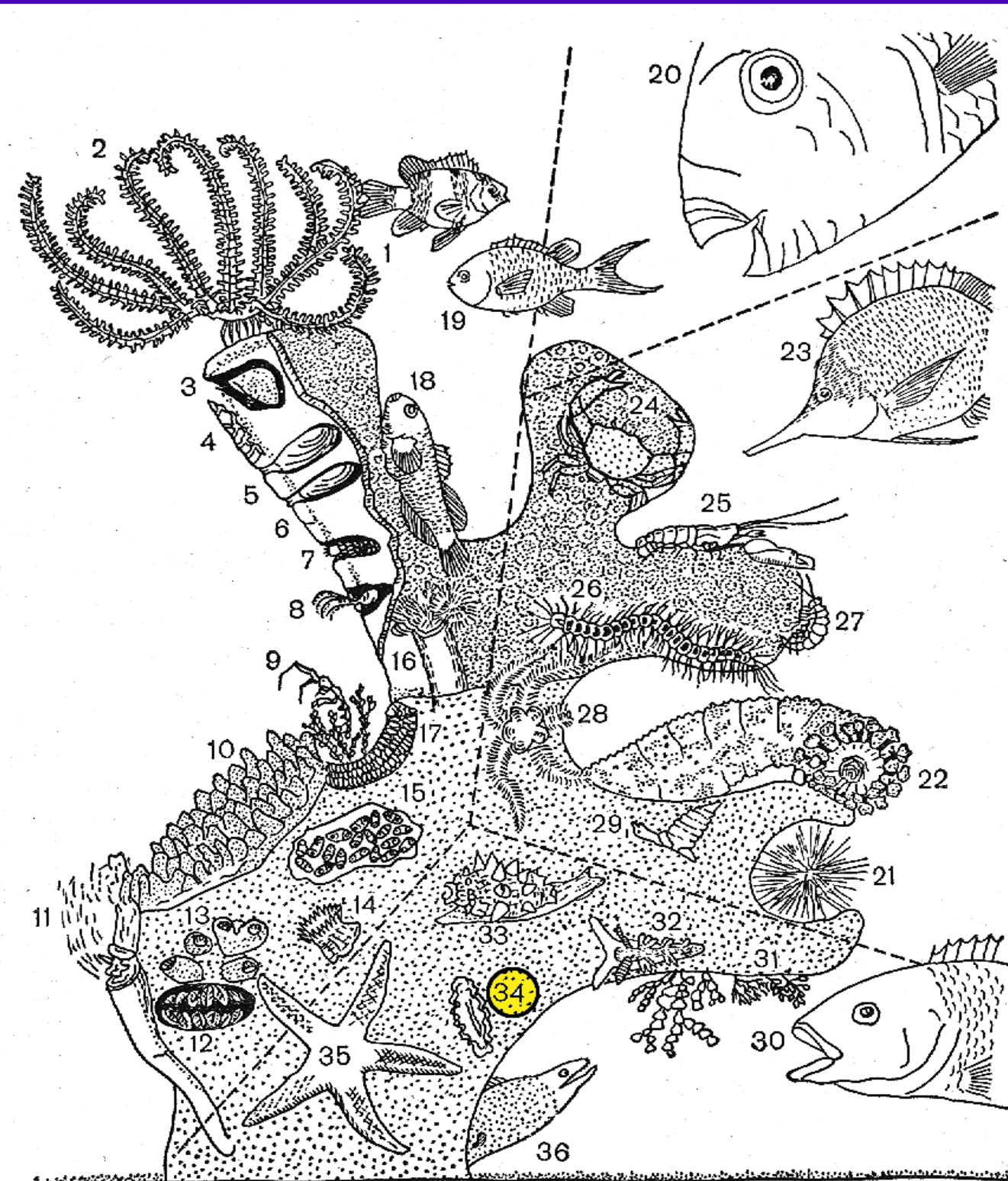
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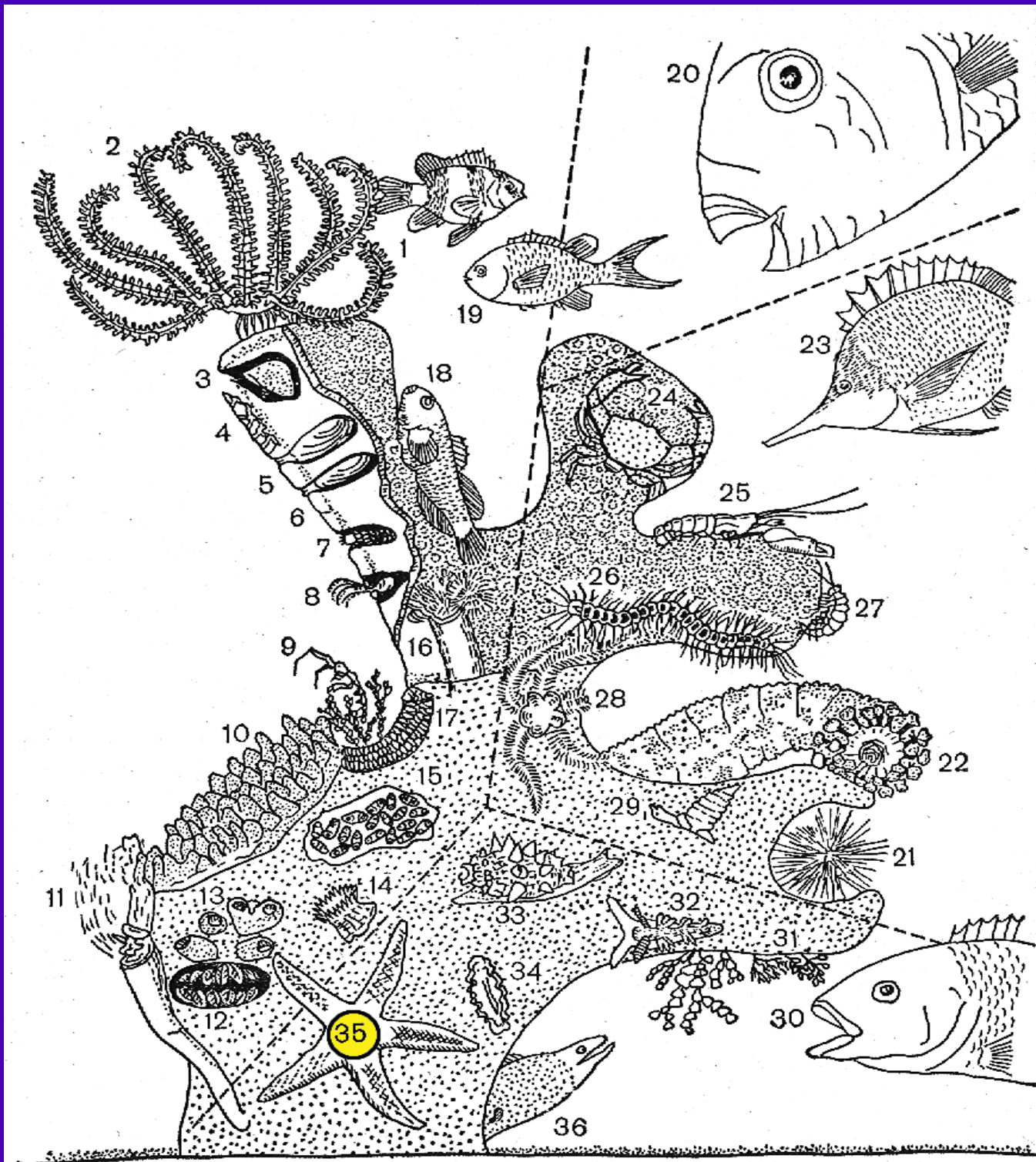




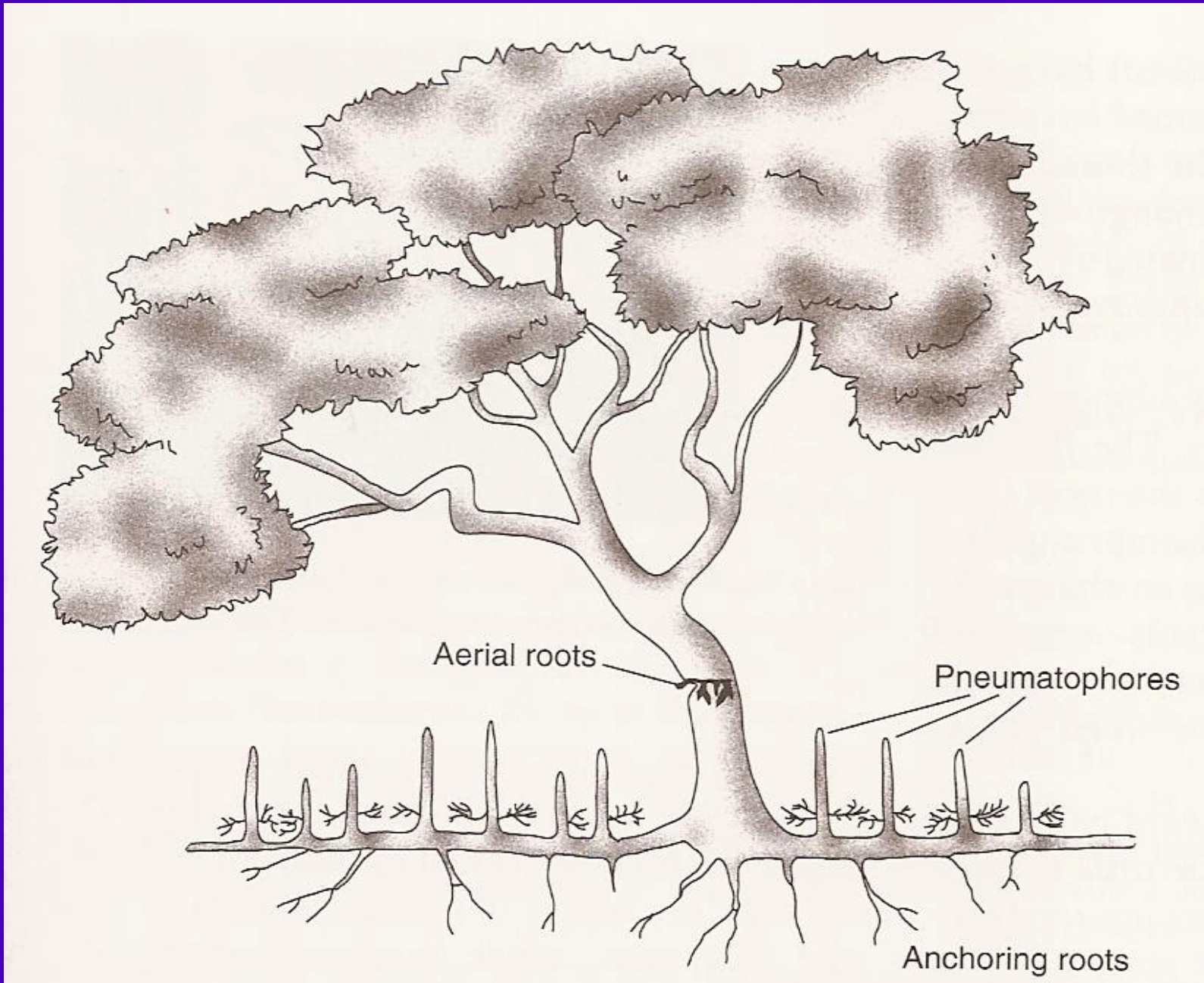


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Family	Genus	Number of species
<b>Major components</b>		
Avicenniaceae	<i>Avicennia</i>	8
Combretaceae	<i>Laguncularia</i>	1
	<i>Lumnitzera</i>	2
Palmae	<i>Nypa</i>	1
Rhizophoraceae	<i>Bruguiera</i>	6
	<i>Ceriops</i>	2
	<i>Kandelia</i>	1
	<i>Rhizophora</i>	8
Sonneratiaceae	<i>Sonneratia</i>	5
<b>Minor components</b>		
Bombacaceae	<i>Camptostemon</i>	2
Euphorbiaceae	<i>Excoecaria</i>	2
Lythraceae	<i>Pemphis</i>	1
Meliaceae	<i>Xylocarpus</i>	2
Myrsinaceae	<i>Aegiceras</i>	2
Myrtaceae	<i>Osbornia</i>	1
Pellicieraceae	<i>Pelliciera</i>	1
Plumbaginaceae	<i>Aegialitis</i>	2
Pteridaceae	<i>Acrostichum</i>	3
Rubiaceae	<i>Scyphiphora</i>	1
Sterculiaceae	<i>Heritiera</i>	3



some of

MAJOR COMPONENTS



*R. mucronata*



*Sonneratia alba*



*Avicennia lanata*



*Bruguiera gymnorhiza*



*Ceriop tagal*



*Nypa fruticans*



( *Pneumatophores /pencil roots* )



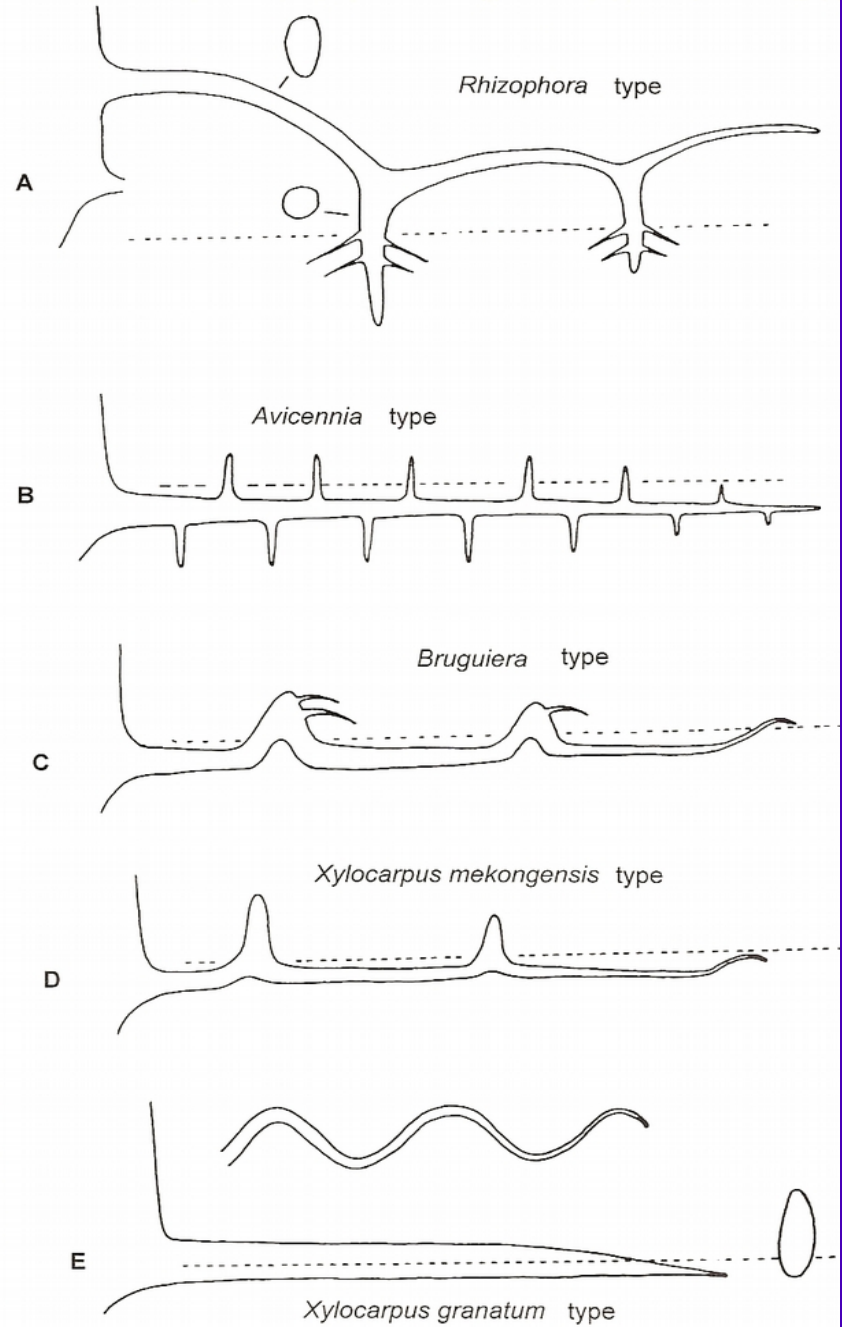
( *Stilt roots* )

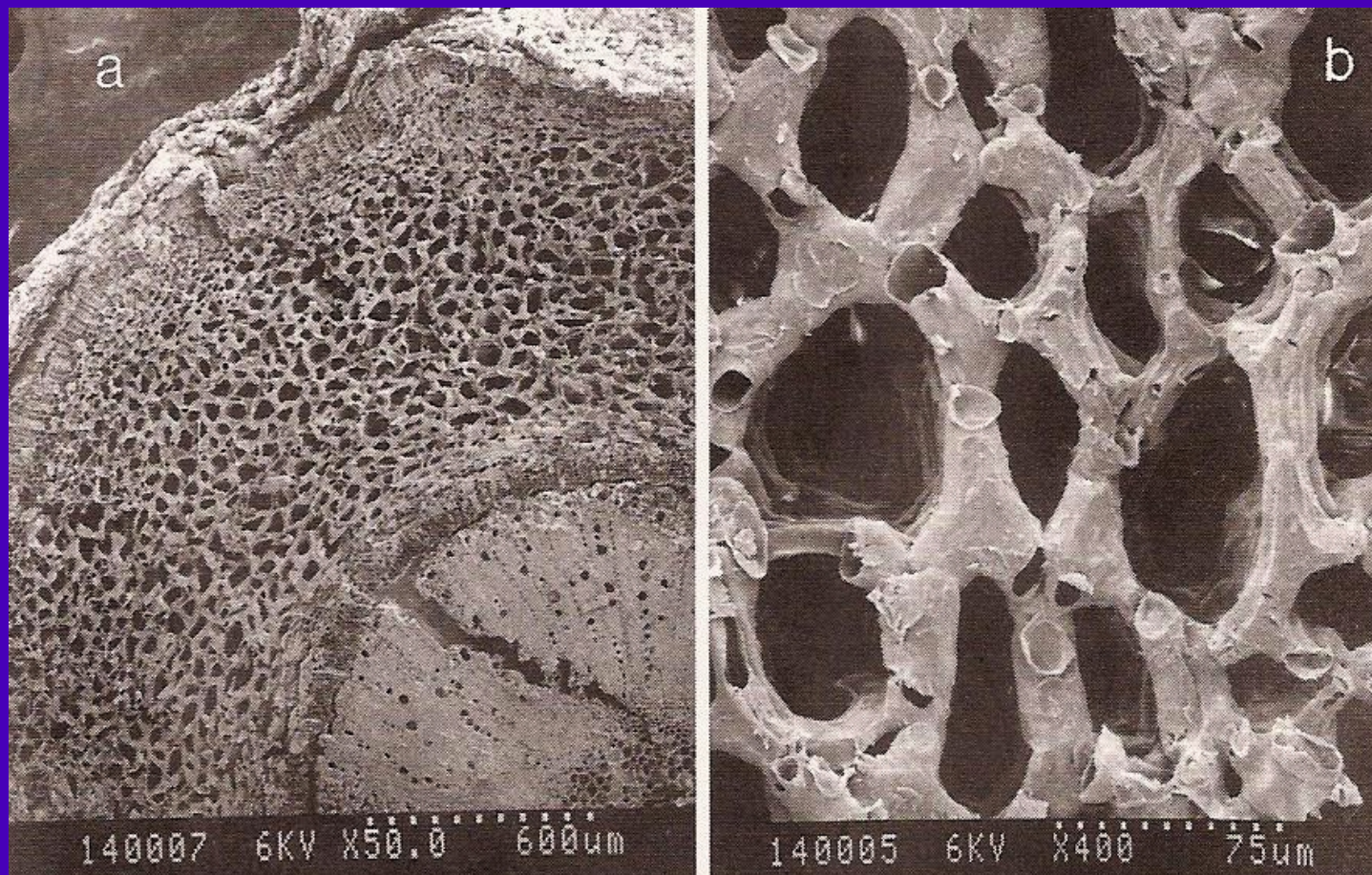


( *Knee roots* )



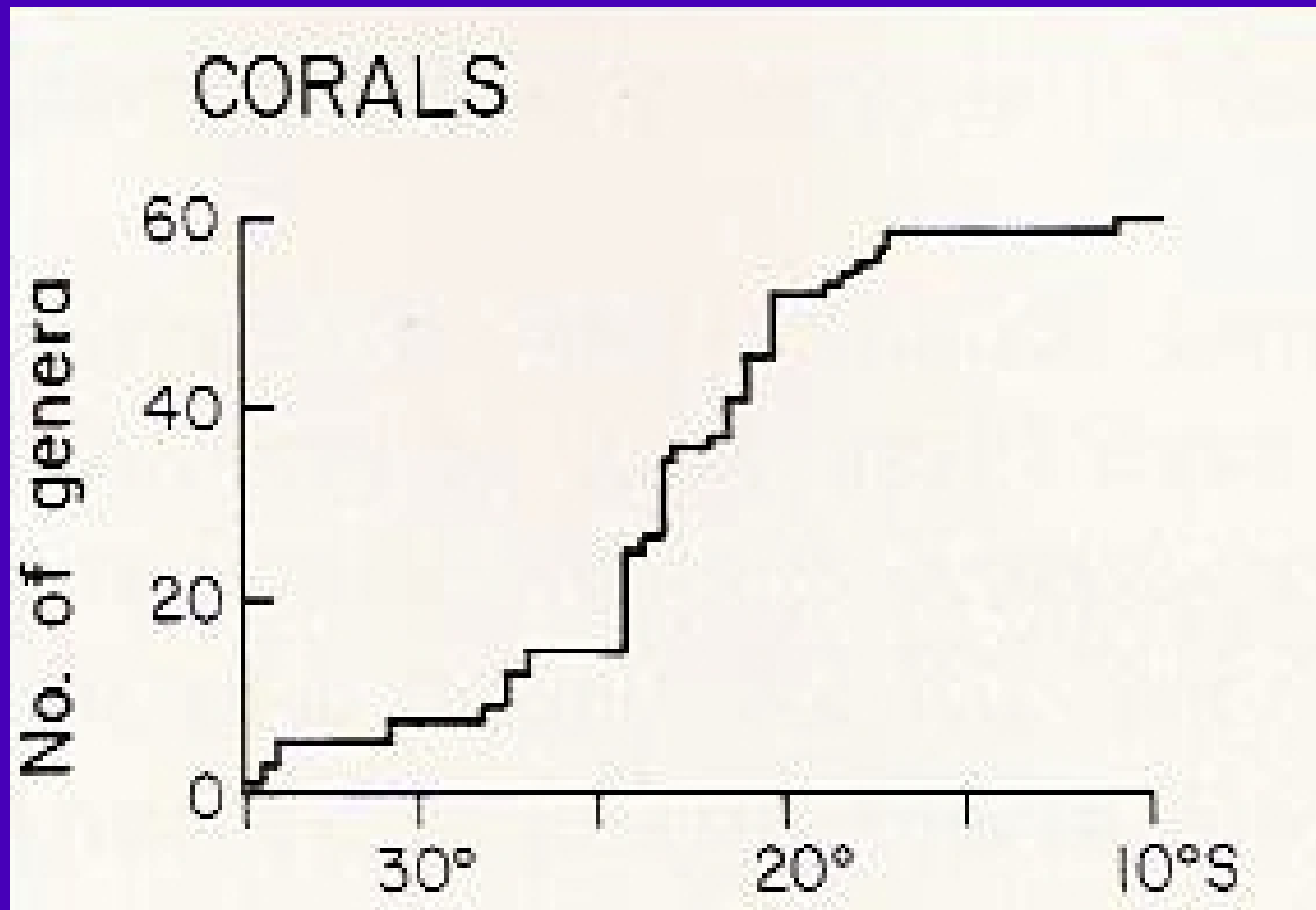
( *Plank roots* )



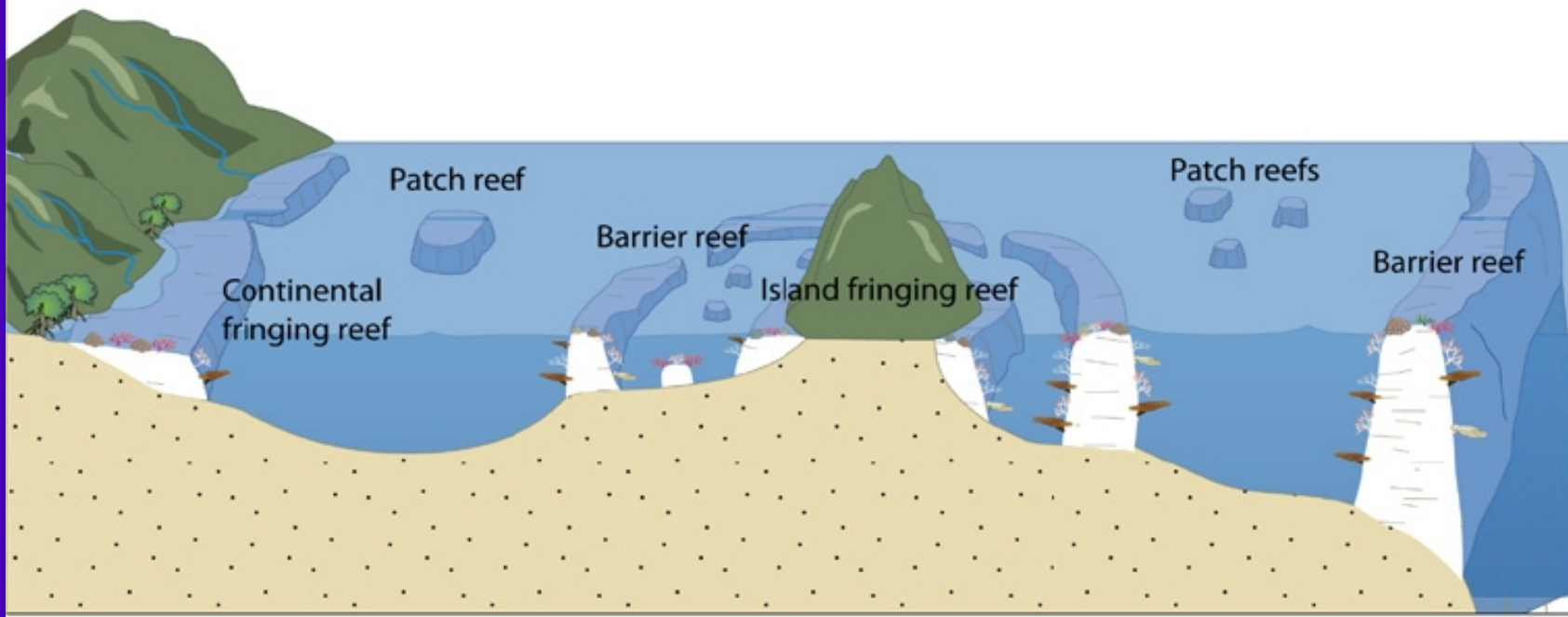




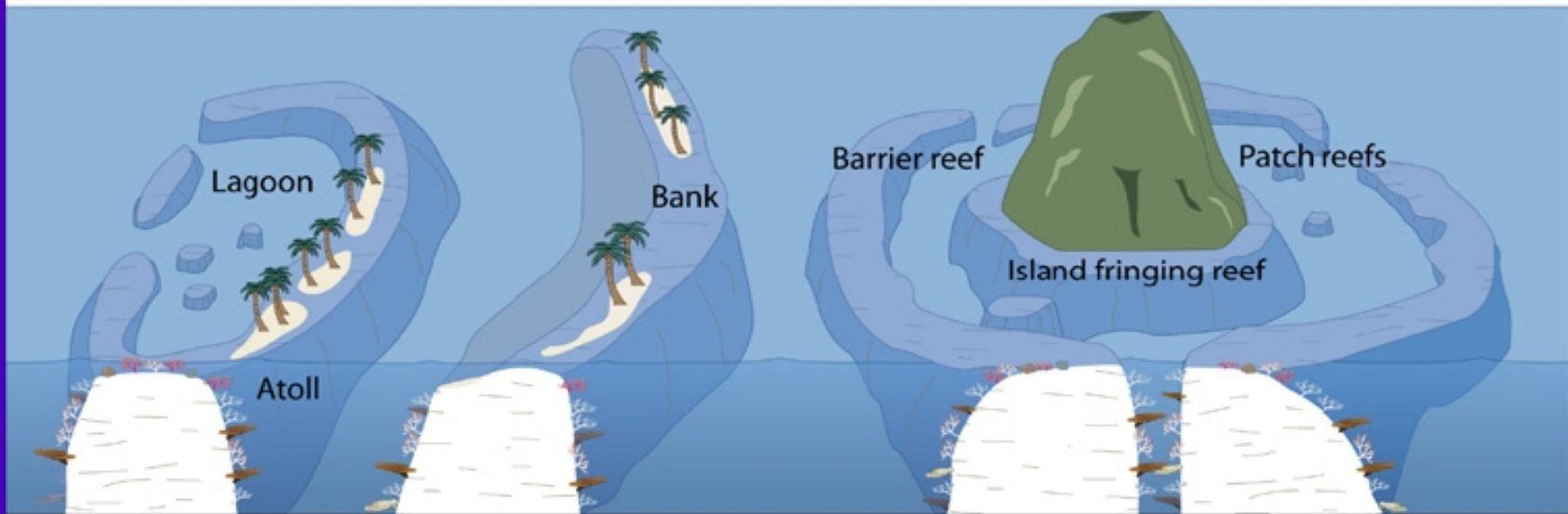
- ▶ Distribution
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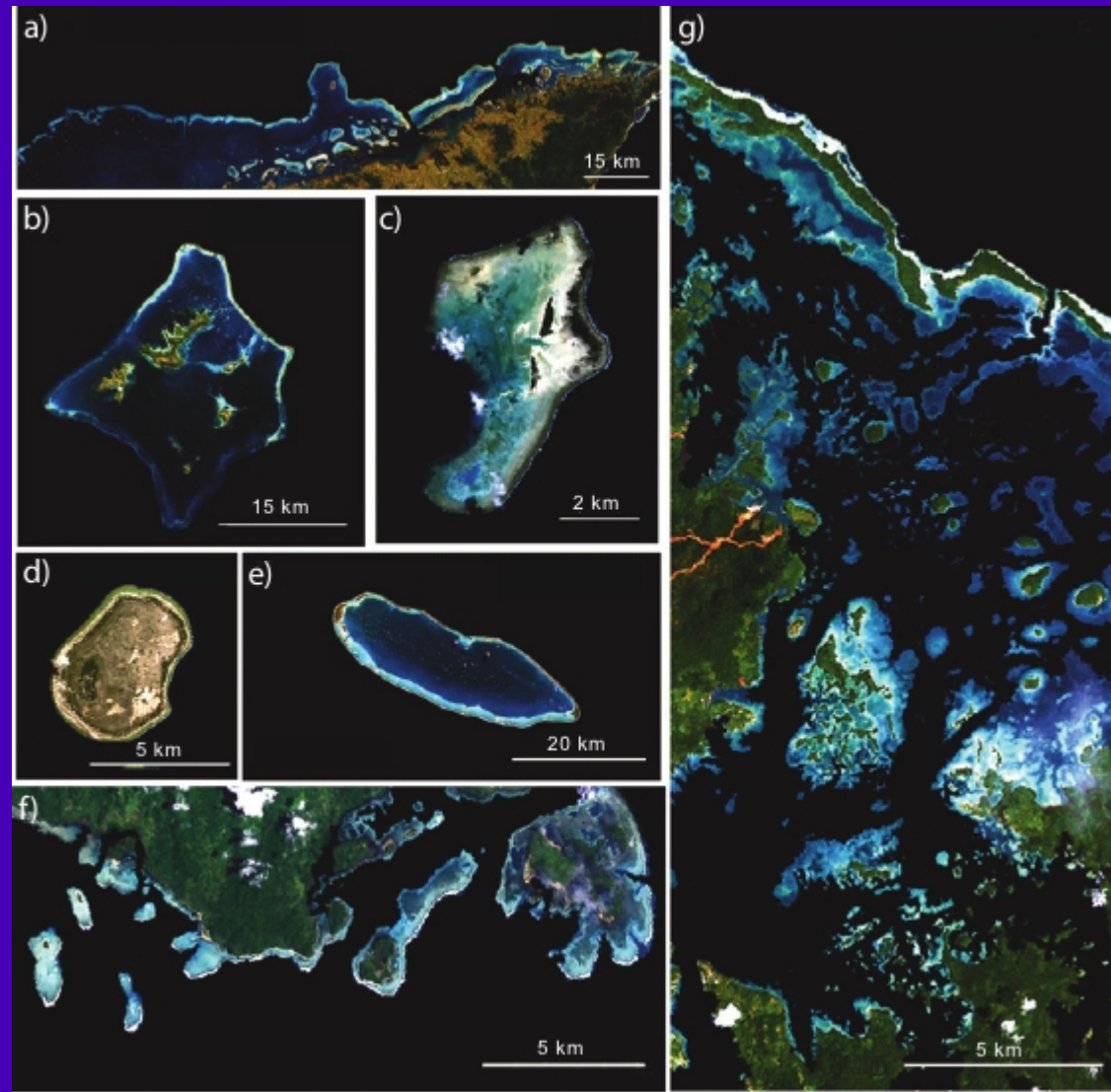


### Continental reefs



### Oceanic reefs

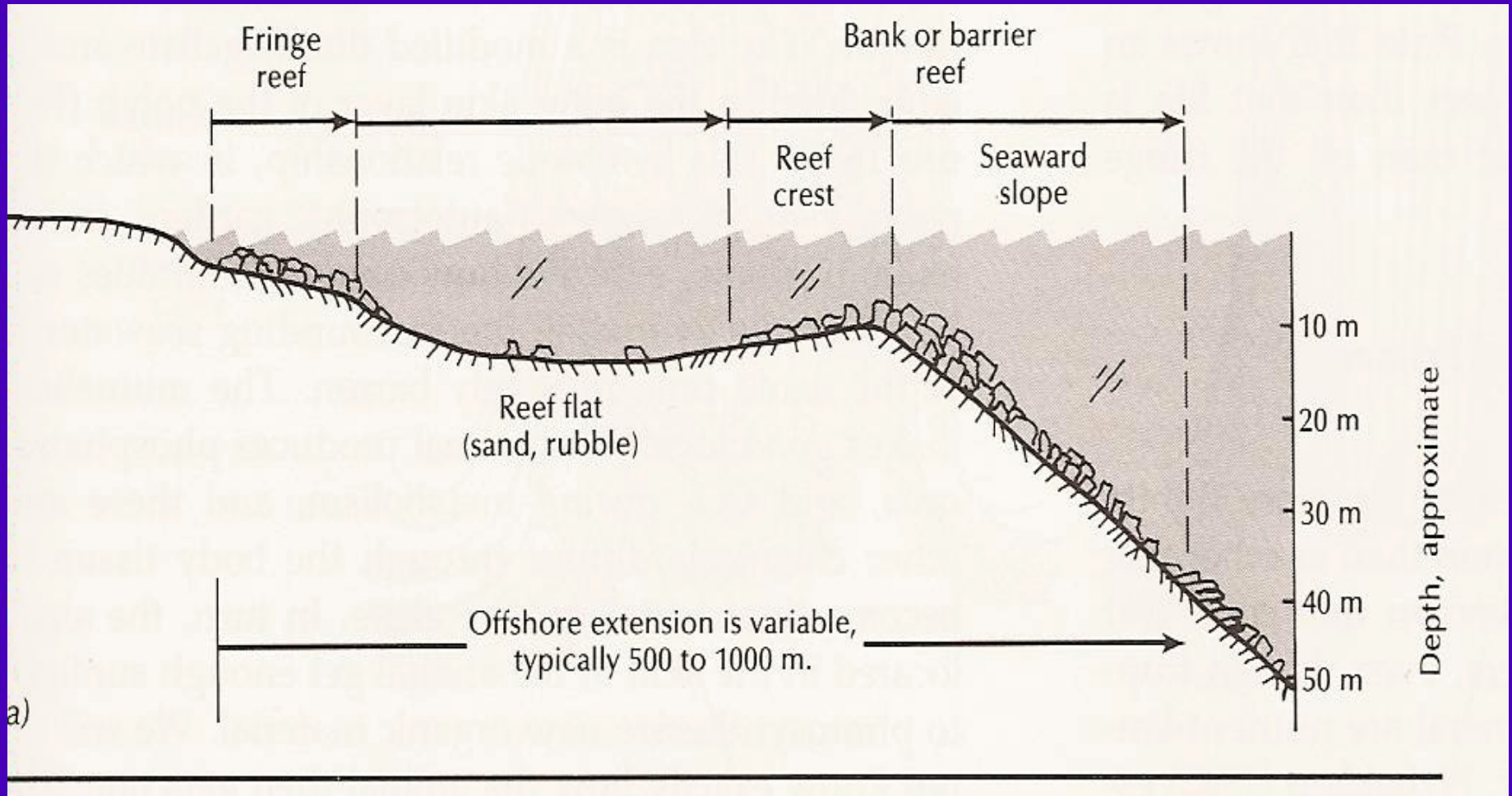


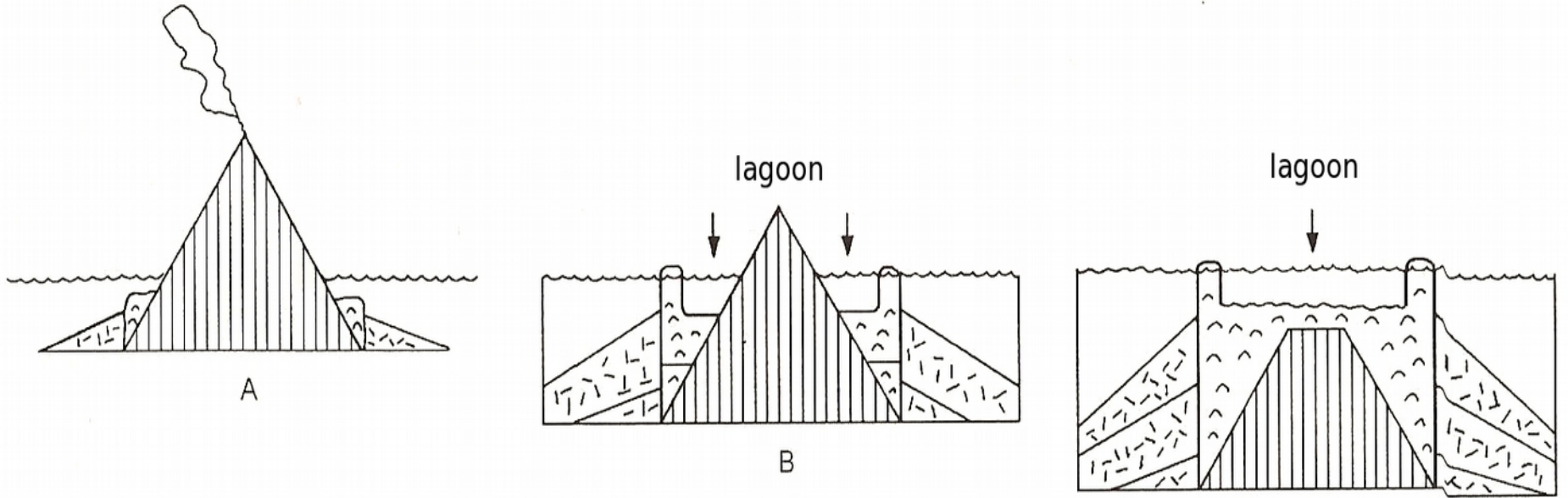



Examples of the main coral reef types in the tropical Pacific Ocean:  
 (a) continental barrier reef, protecting lagoonal patch and fringing reefs; (b) oceanic barrier reef surrounding a lagoon with fringing and patch reefs; (c) oceanic reef island bank; (d) oceanic atoll that has been uplifted with a narrow fringing reef ; (e) closed oceanic atoll; (f) fringing and patch reefs around an oceanic island; (g) lagoonal patch and fringing reefs.




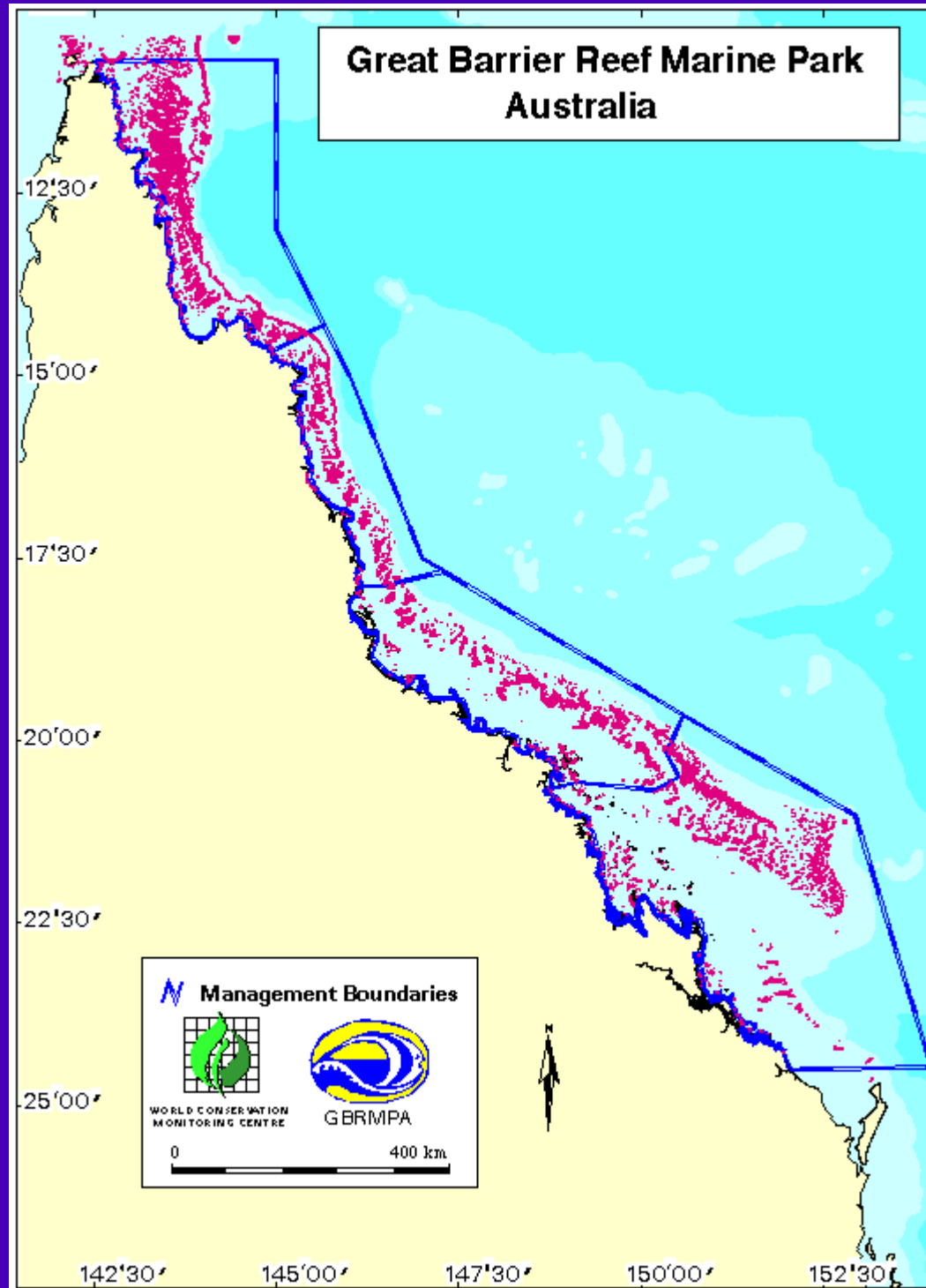


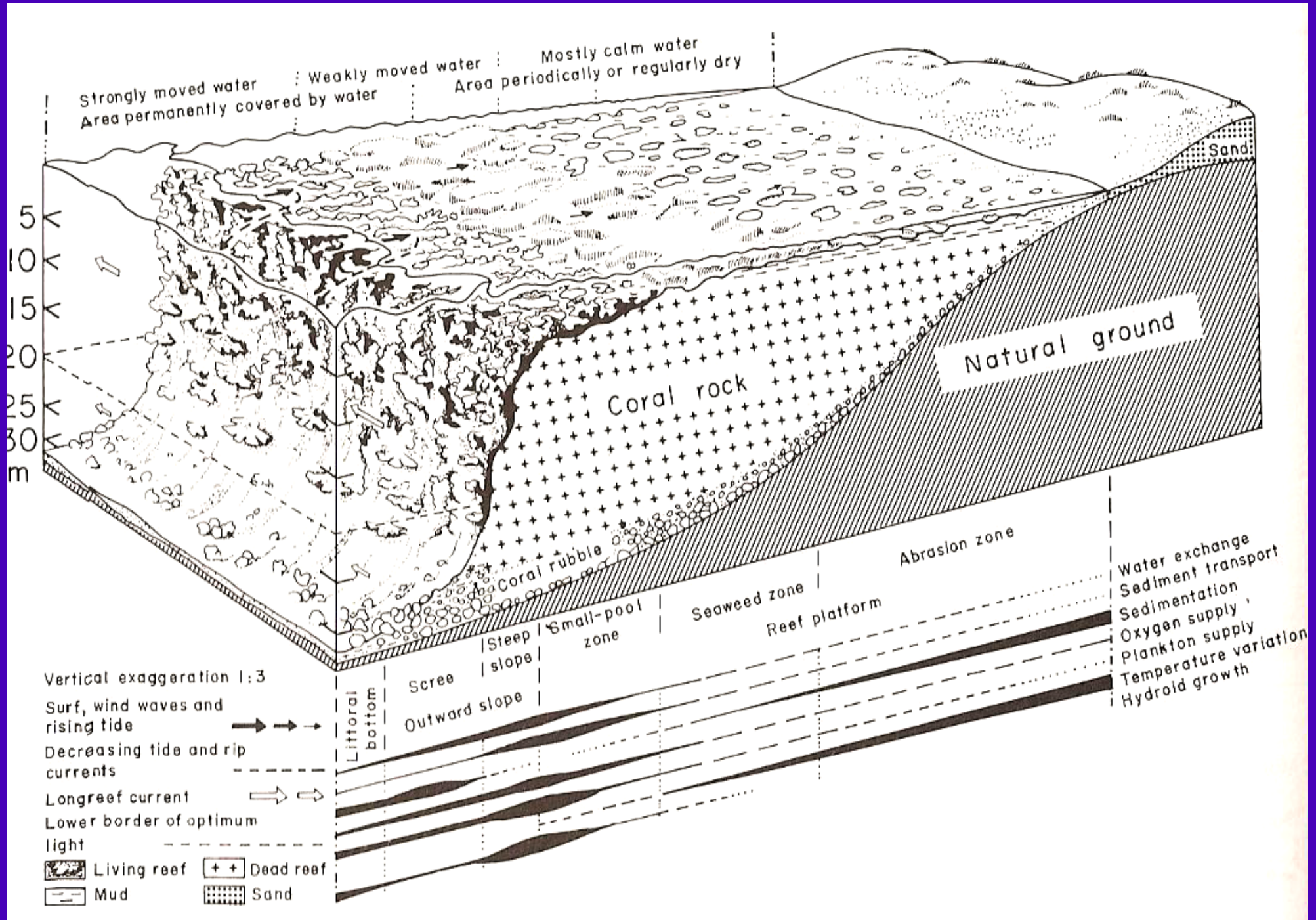




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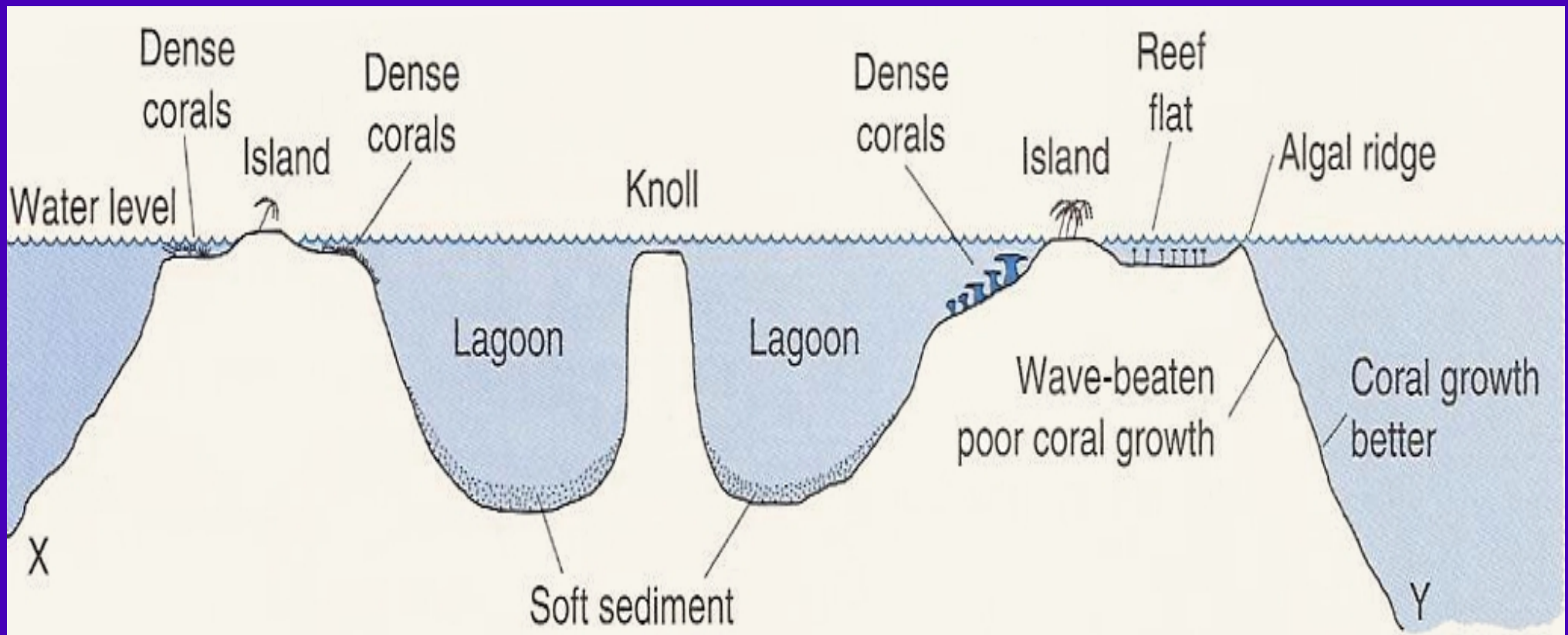
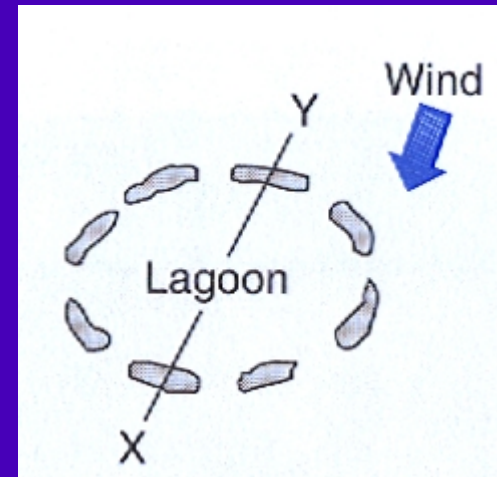
2  coral rubble



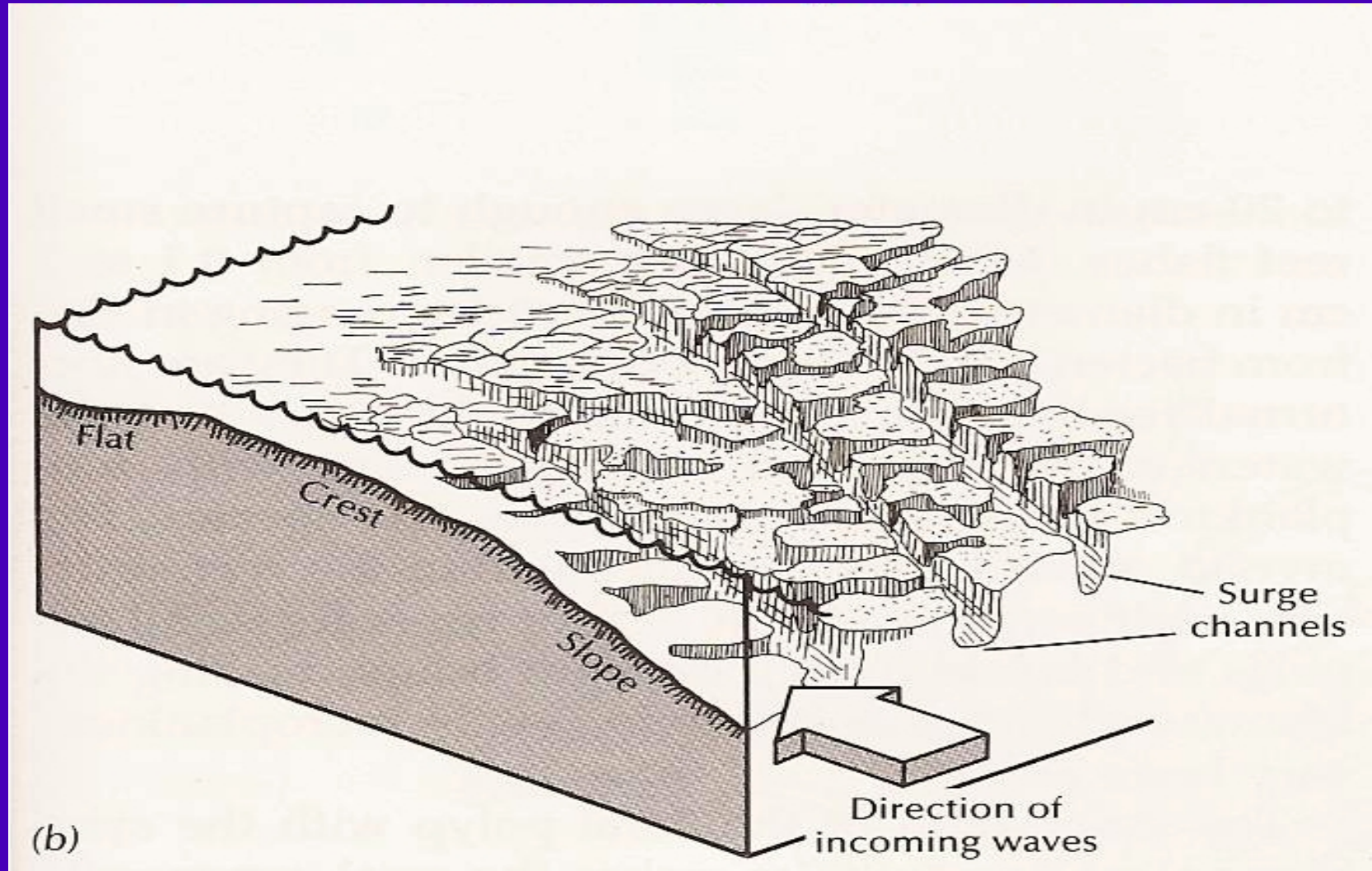






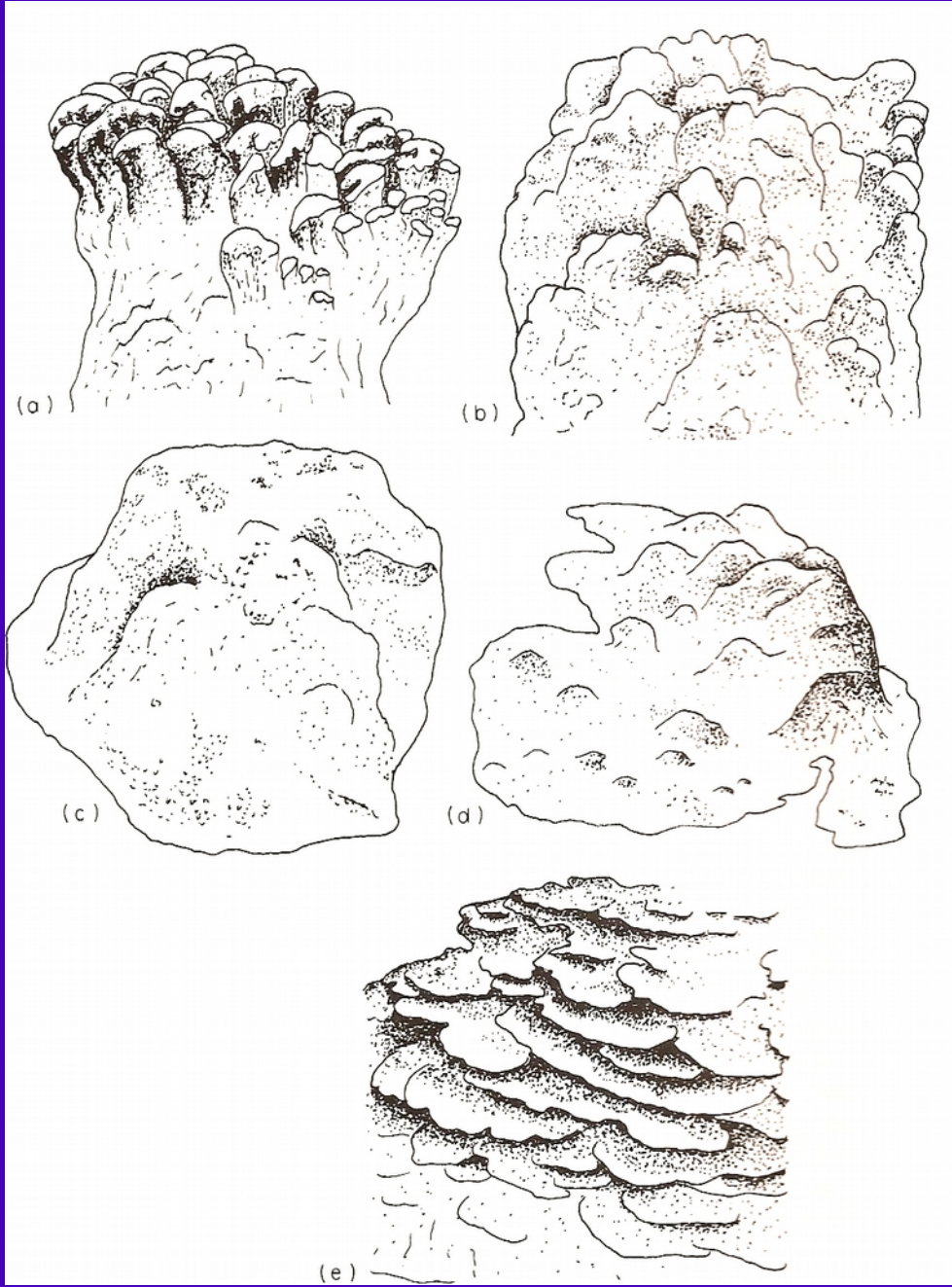


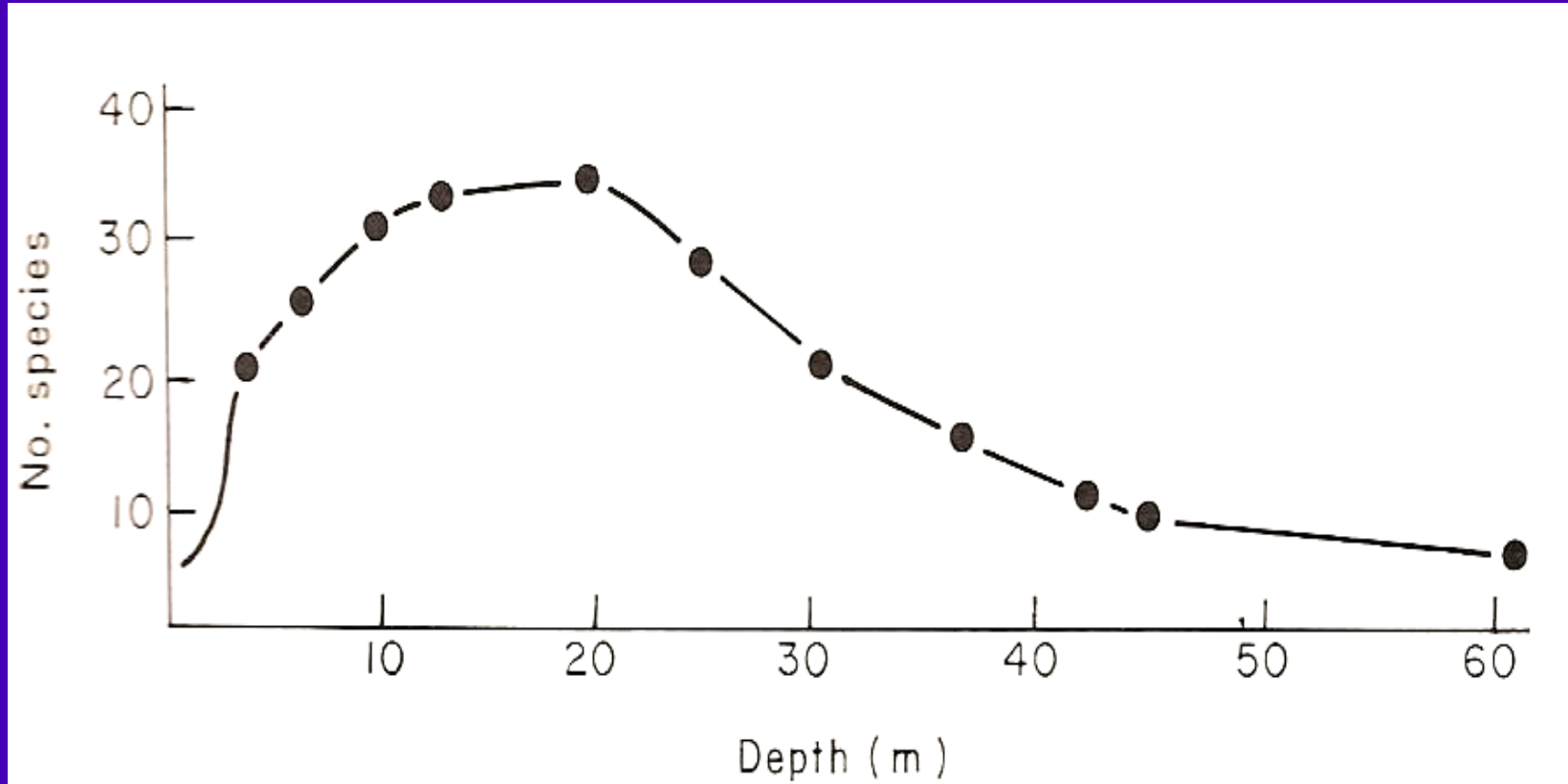


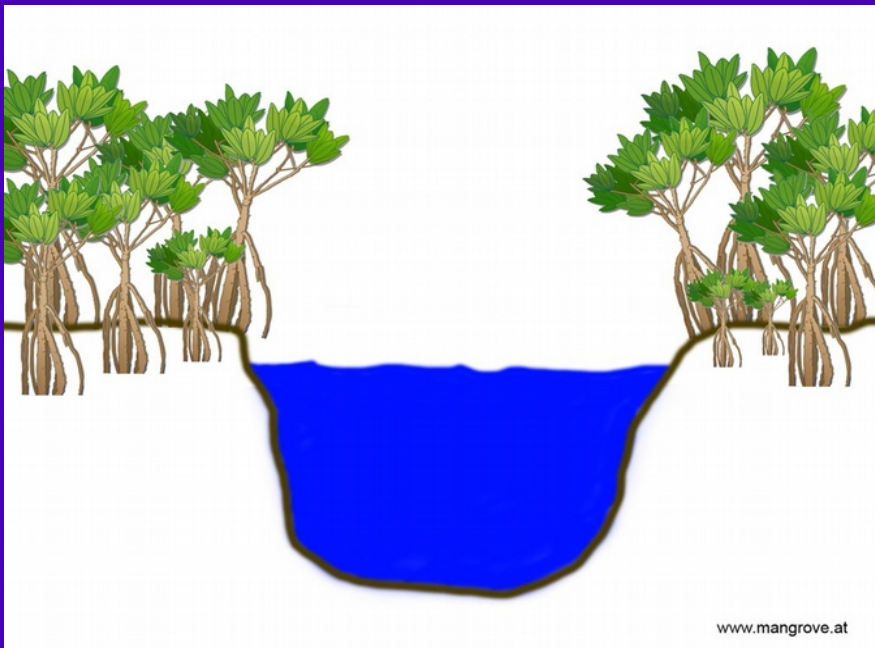
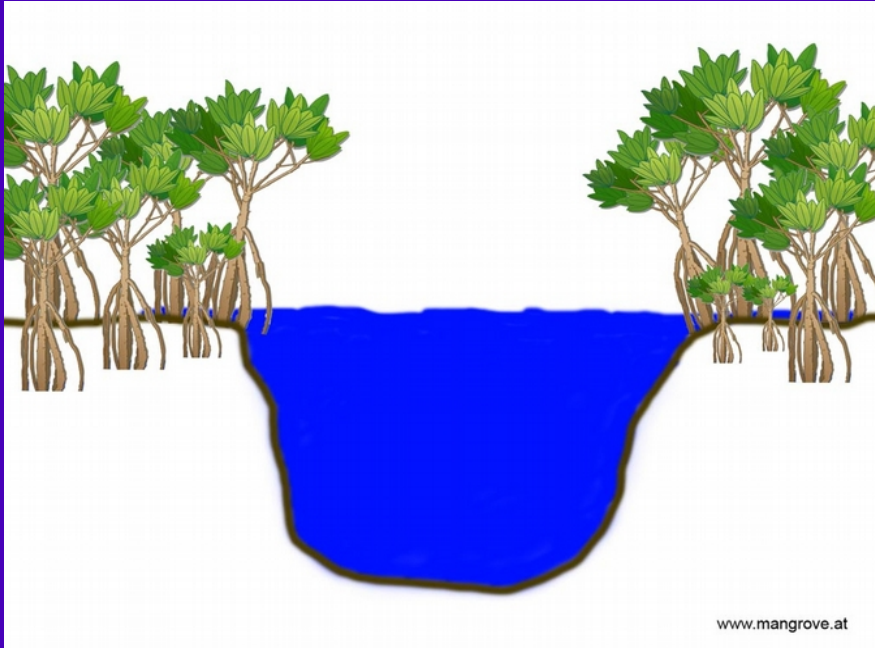






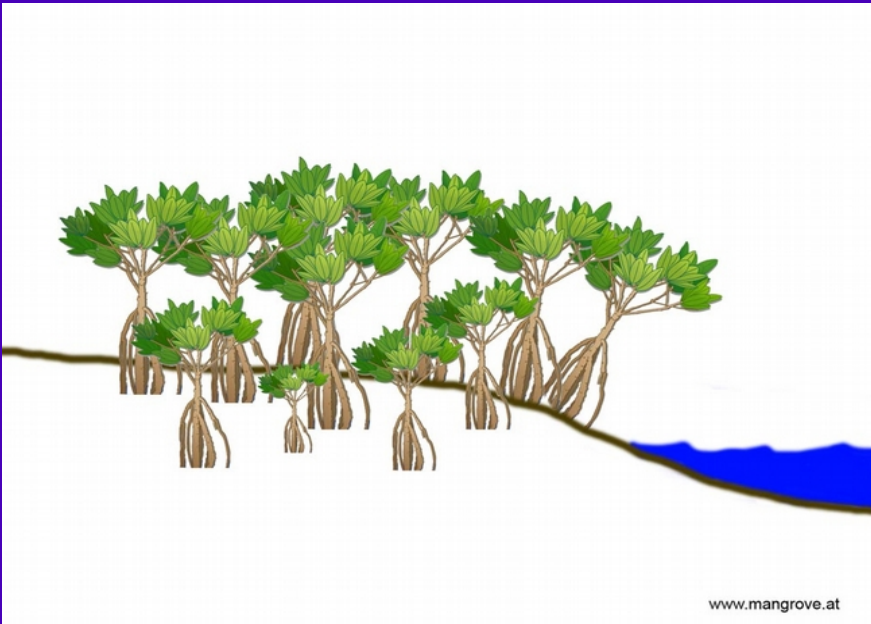
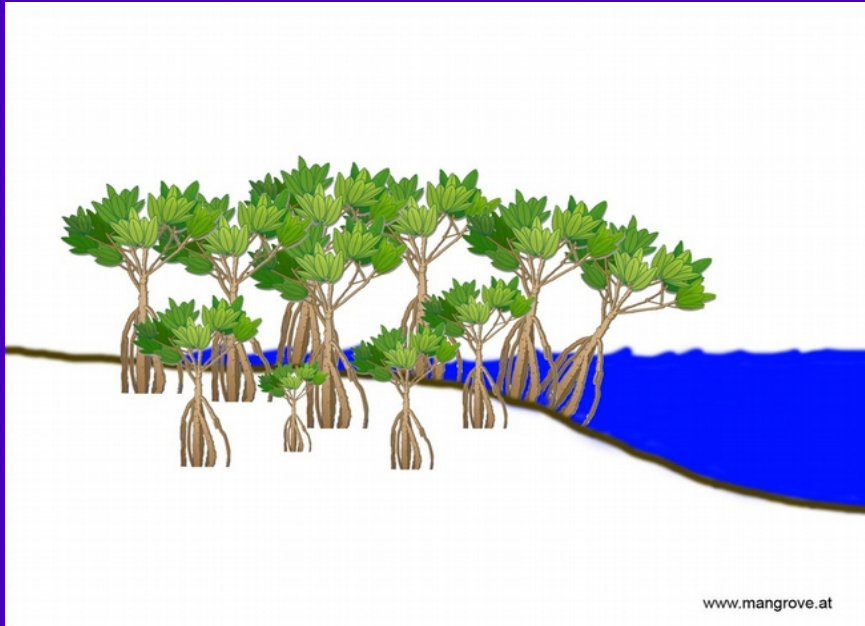


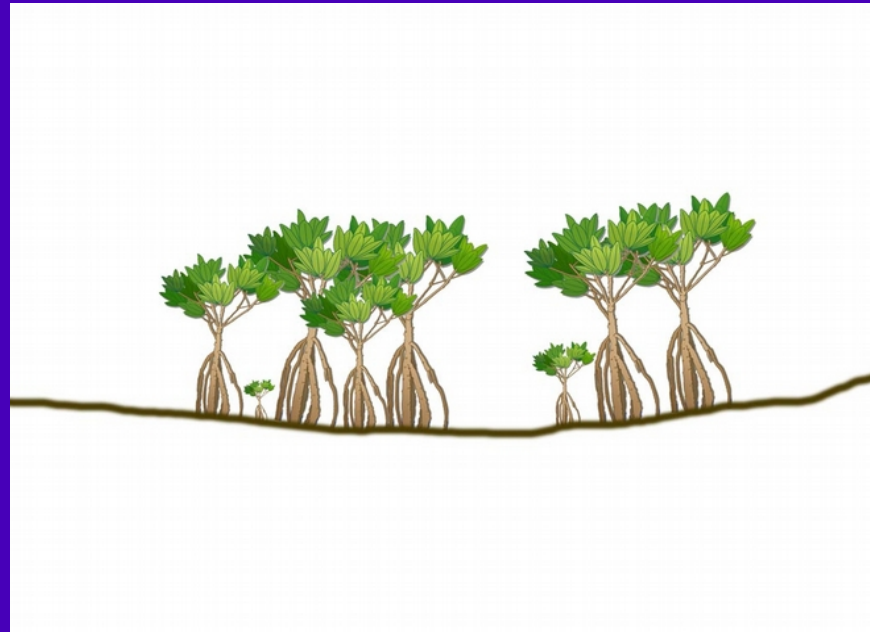
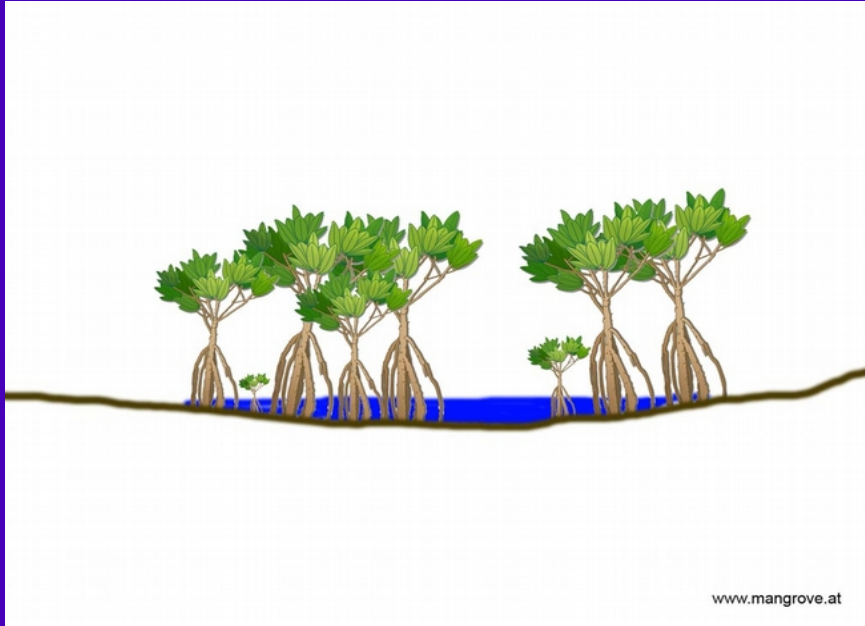




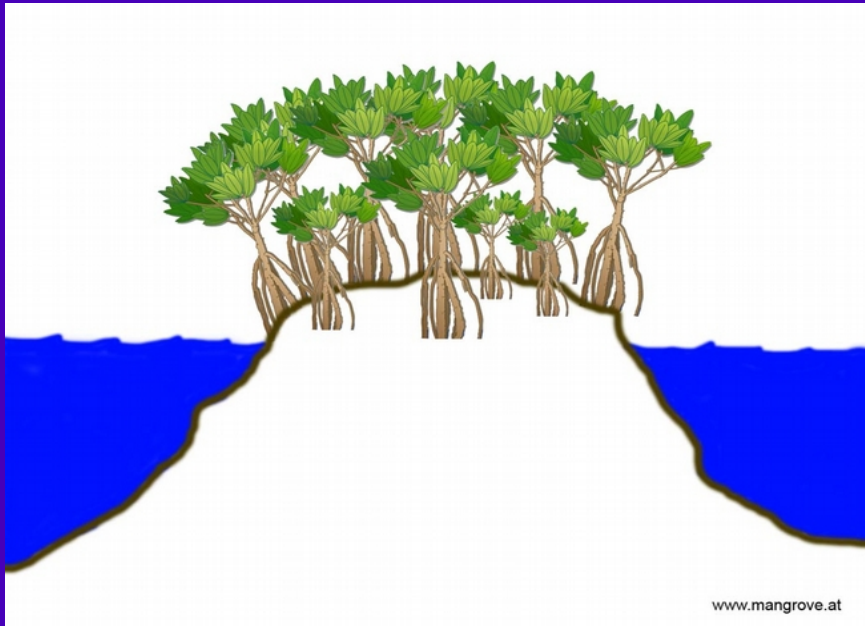
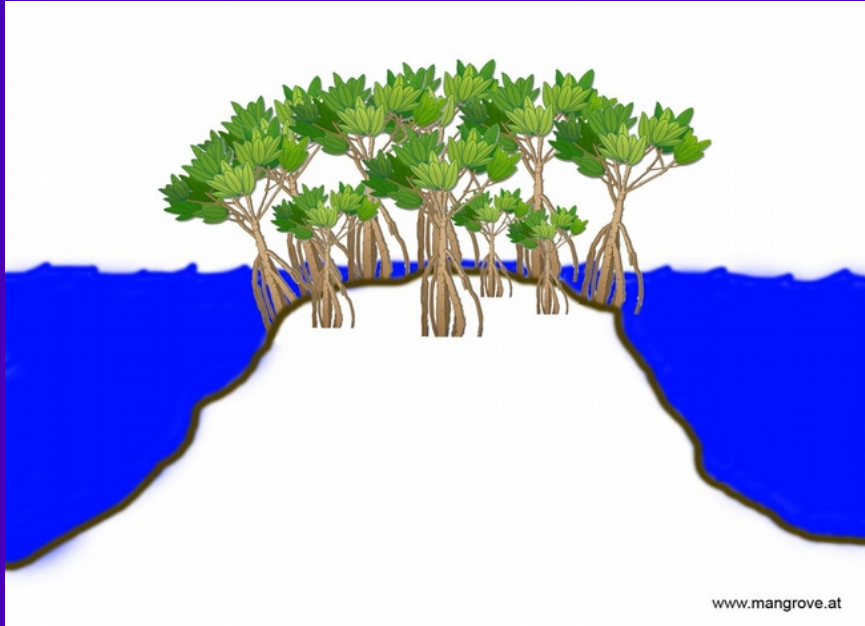
# tide-dominated (fringe)

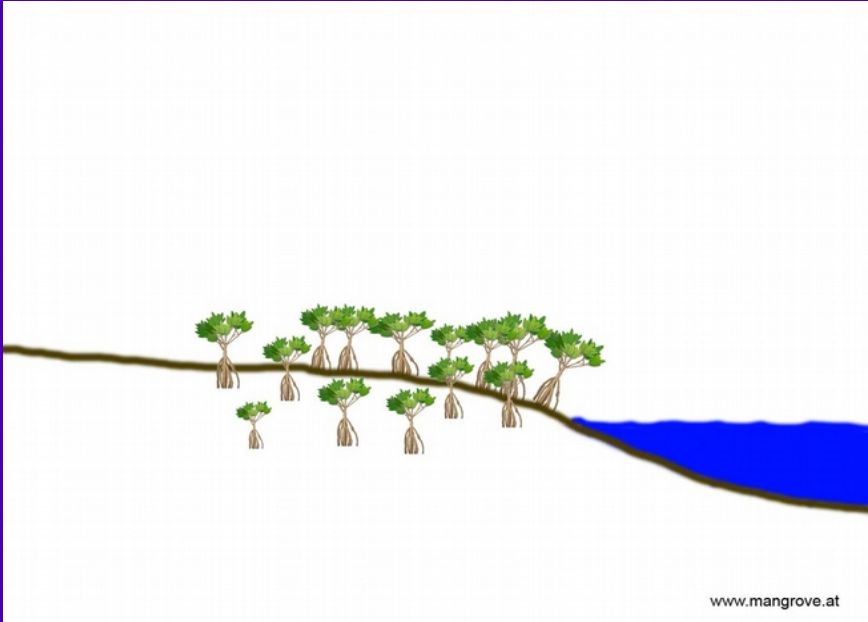
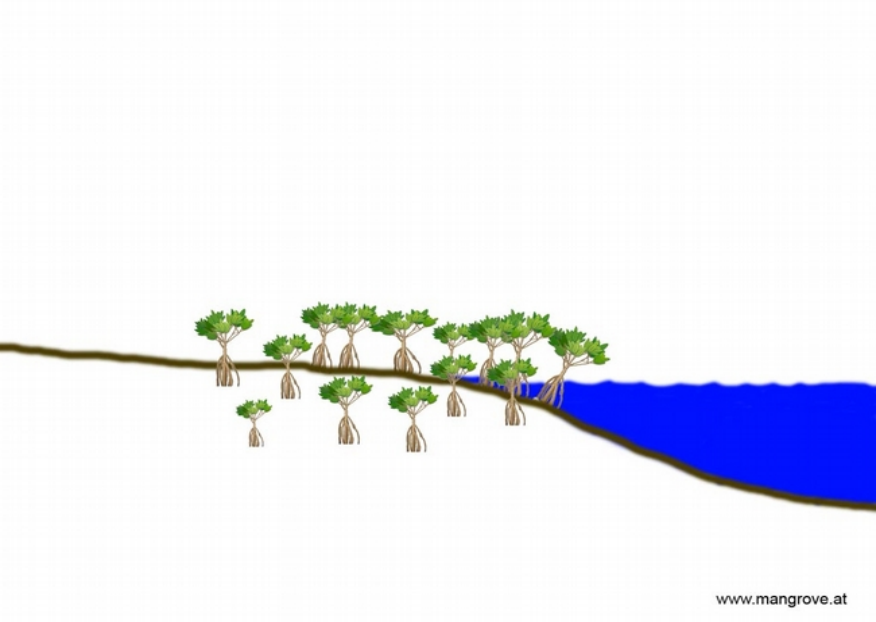
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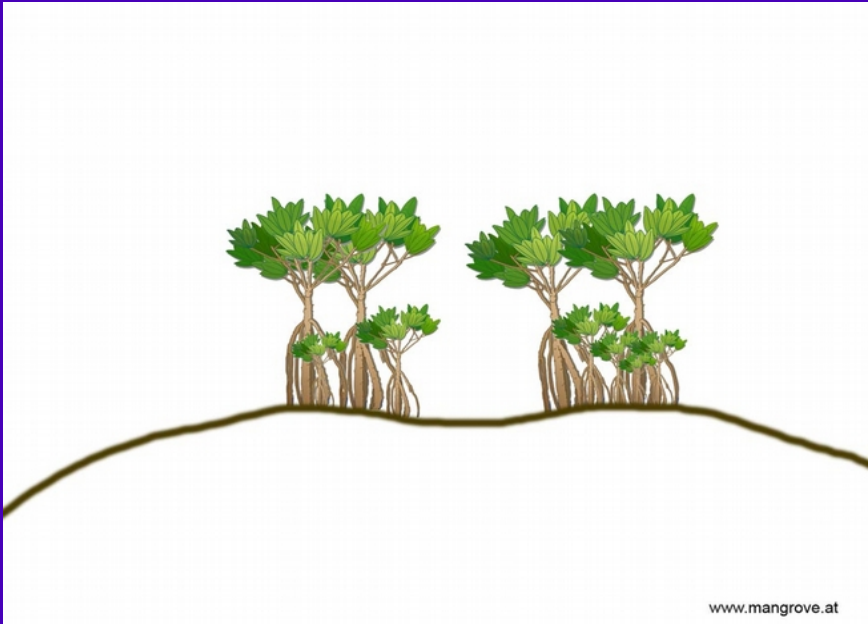
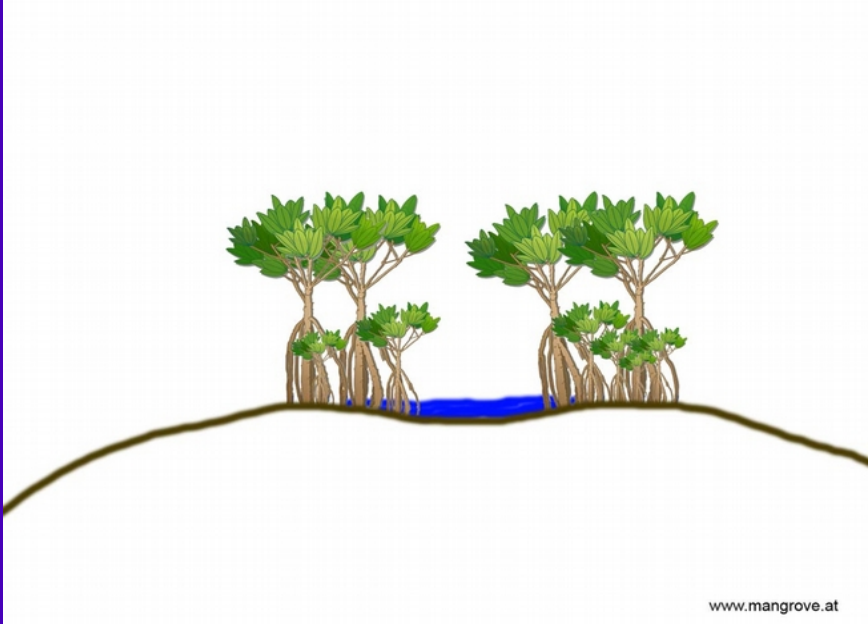


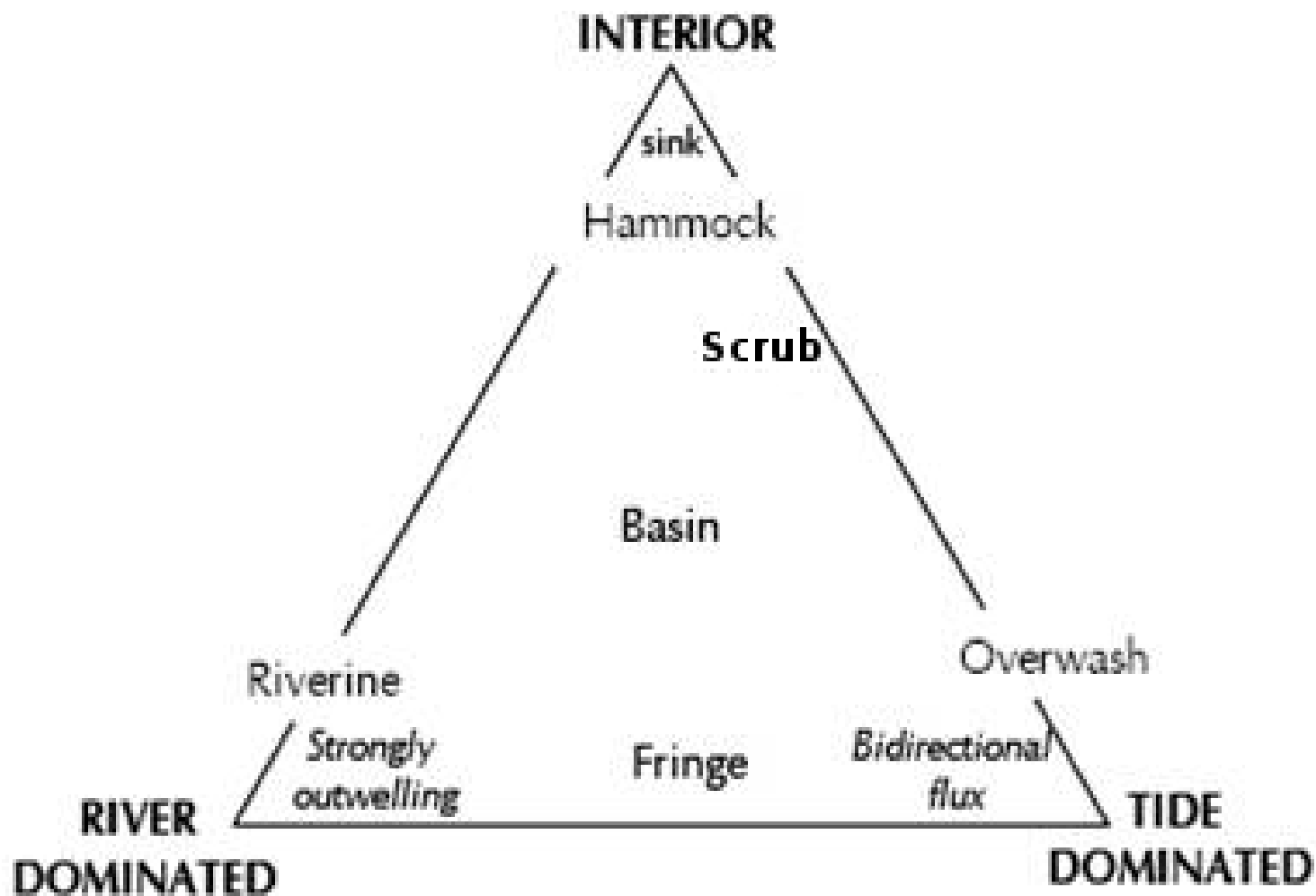


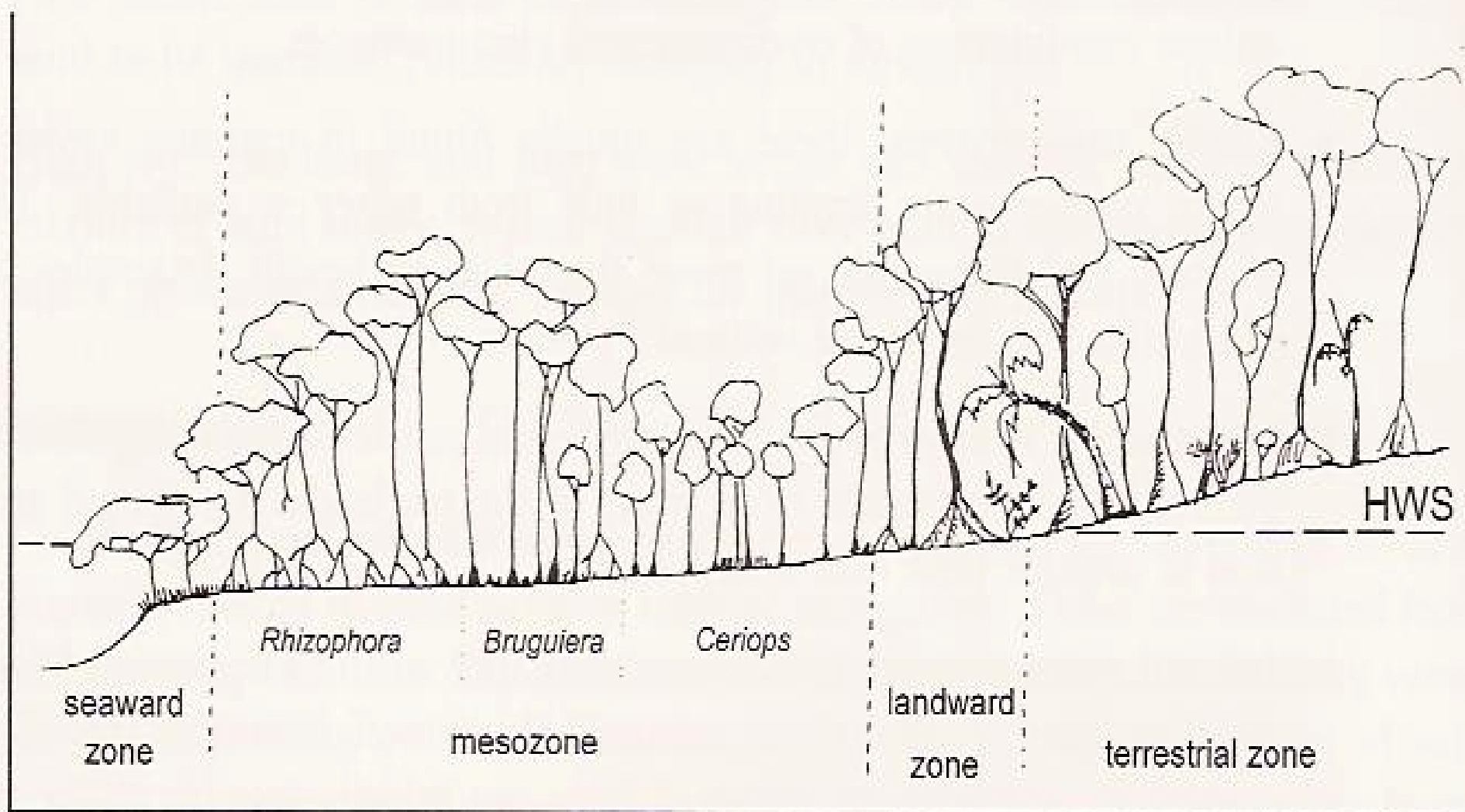




# hammock

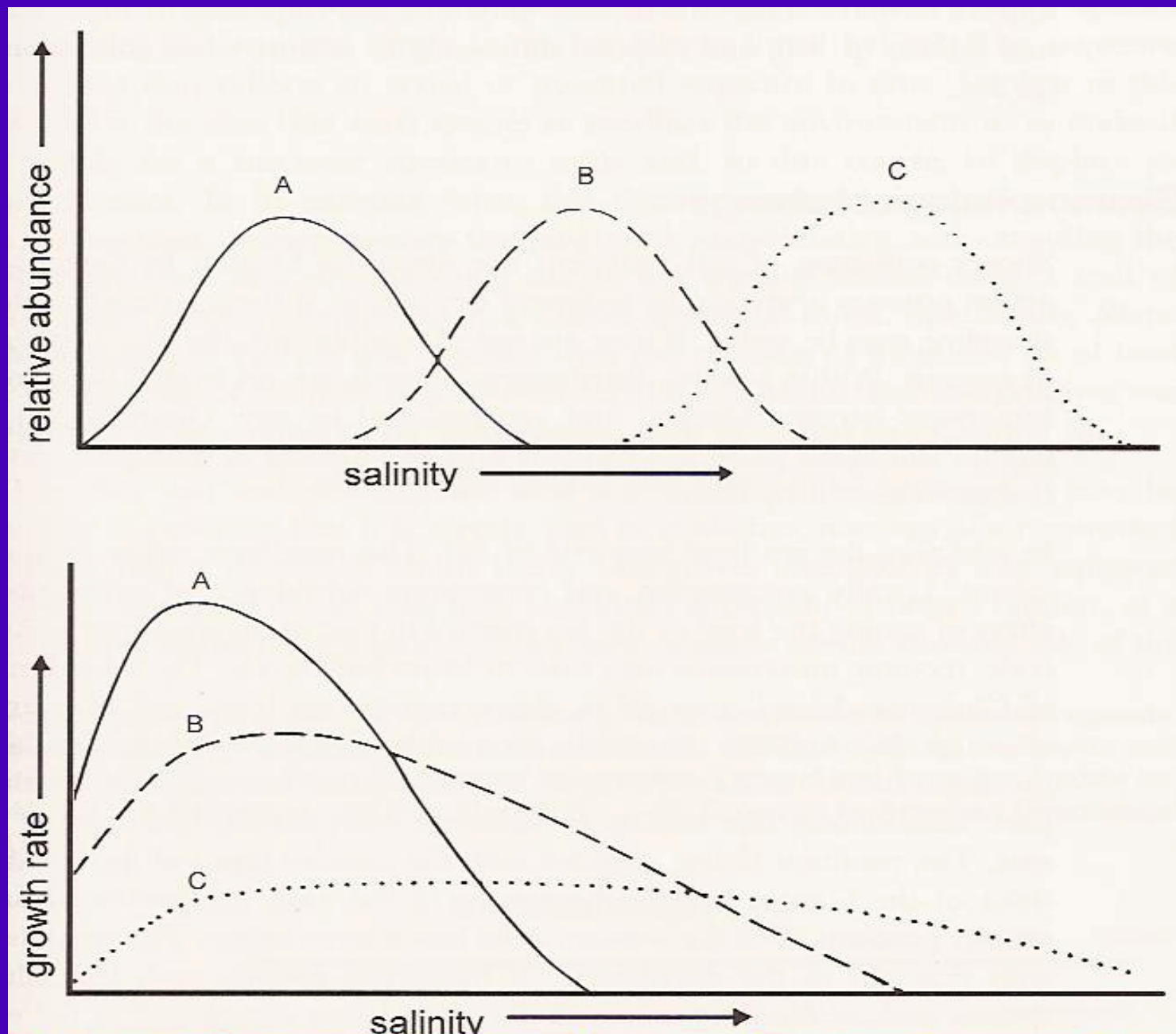




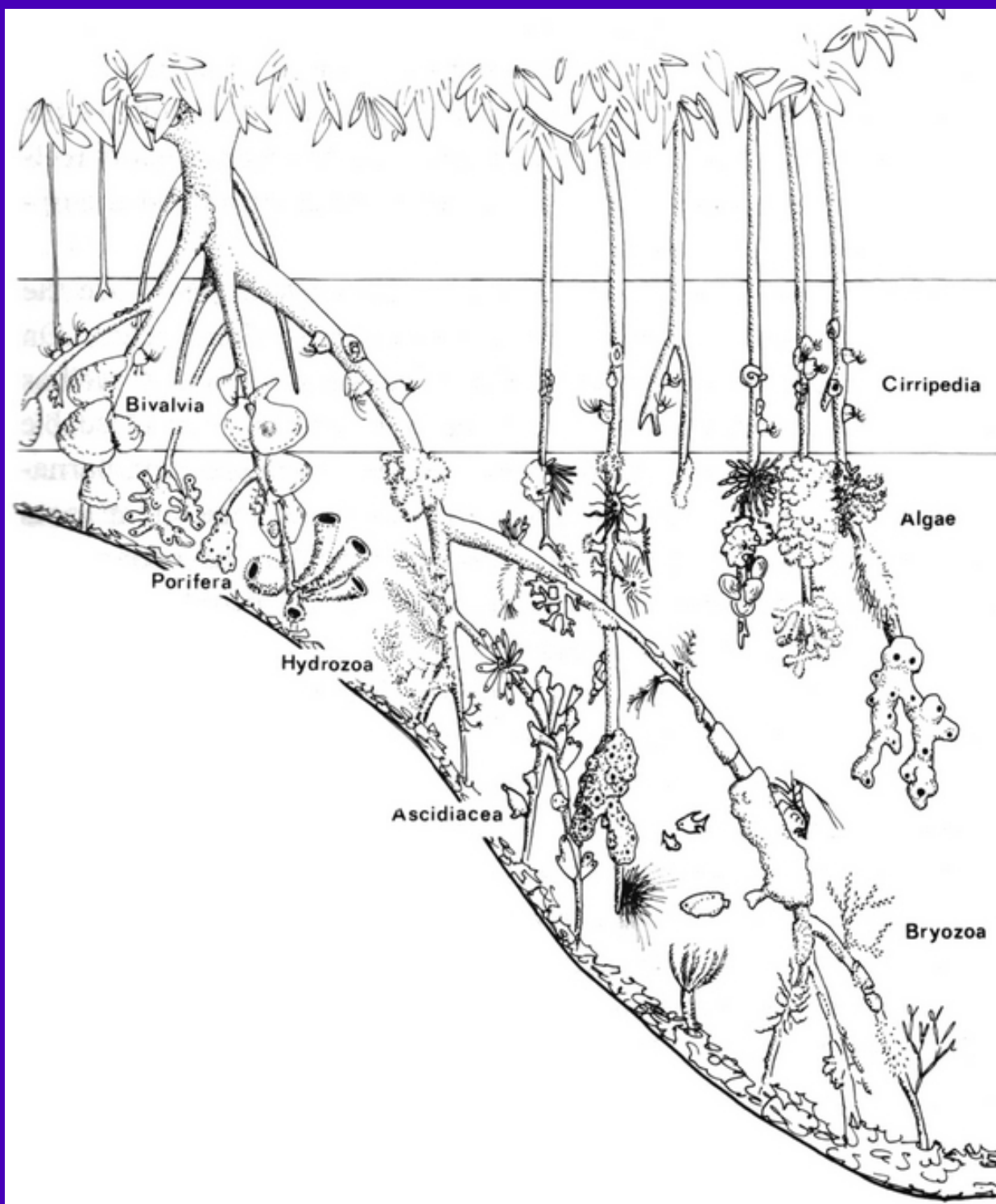






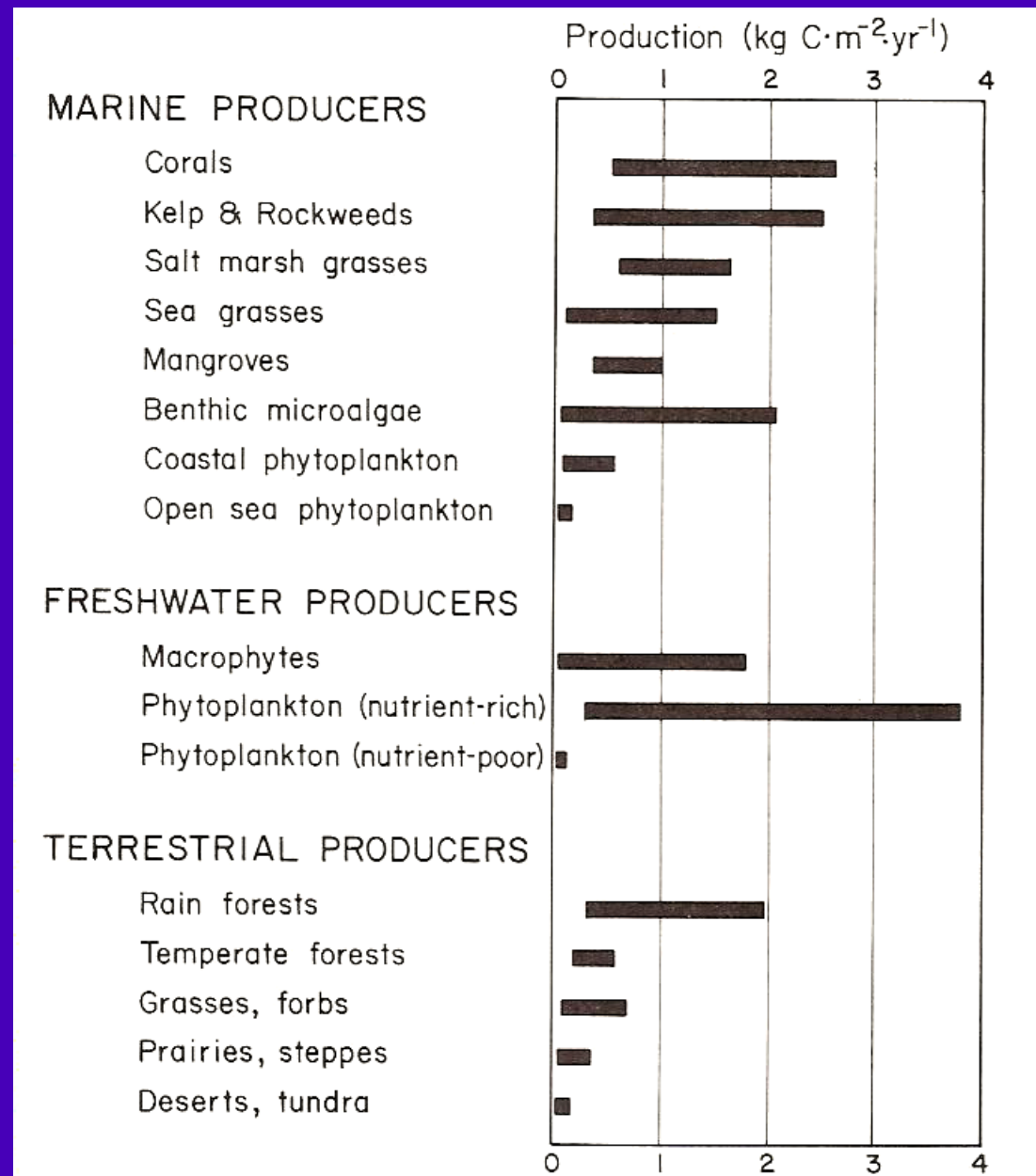






- ▶ Distribution
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# production at a Caribbean reef

[g C m<sup>-2</sup> yr<sup>-1</sup>]

corals 630.

brown algae 1170.

filamentous algae 700.



