



# English for Biologists

## Lesson 9 – Molecular Biology

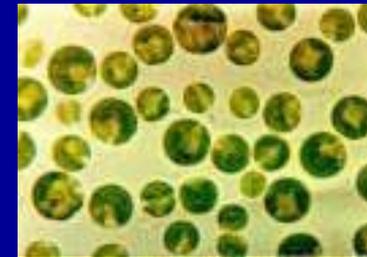
- What is the plant species ?
- Vocabulary – Plant Biochemistry
- New vocabulary – Plant Molecular Biology
- Grammar - jeden z nejdůležitějších časů
- What you see is... doplňovačka
- Conversation

# What is the plant species?

## Lesson 6



*Chlorella*



The species is an unicellular green alga, belonging to the phylum Chlorophyta. It is spherical in shape, about 2 to 10  $\mu\text{m}$  in diameter, and is without flagella. The species contains the green photosynthetic pigments chlorophyll-a and -b in its chloroplast. Through photosynthesis it multiplies rapidly requiring only  $\text{CO}_2$ , water, solar radiation, and a small amount of minerals to reproduce. In recent years, researchers have made less use of *Chlorella* as an experimental organism because it lacks a sexual cycle.

The species can create green and opaque water problems in aquaria. The species was seen as a new and promising primary food source and as a possible solution to the then current world hunger crisis. It has fast photosynthetic production of biomass rich in proteins and lipids.

~~*Fucus?*~~

~~*Sargassum?*~~

~~*Trebouxia?*~~

*Chlorella?*

# What is the name of the islands?



The wonderful climate of **the Islands** is legendary. Therefore, Luxuriant Laurel forests harbouring rare endemic orchids are found there. Many plants and several species of birds are found nowhere else on the planet, including such oddities as the red sap yielding Dragon Trees, shrubs that are in fact Sow-thistles, and pretty foxglove-like *Isoplexis* with flower spikes several metres long! Towering high above seashore of **one of the Islands** huge volcano, rising from its vast caldera is dominating the whole island. Explorer and naturalist Alexander von Humbolt described the striking green-cloaked coastal valleys along the northern coast of **the Islands** as one of the loveliest spots on earth.



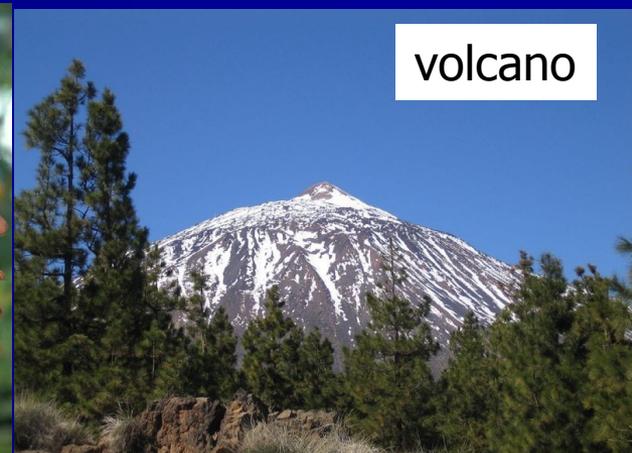
*Echium wildpretii*



*a 2000 years old  
Dragon tree*



*Isoplexis*



volcano

# What is the name of the Islands ?

- Canary Islands
- Tenerife, in particular

# Plant Biochemistry

new vocabulary – translate and explain in English,  
put down unknown expressions

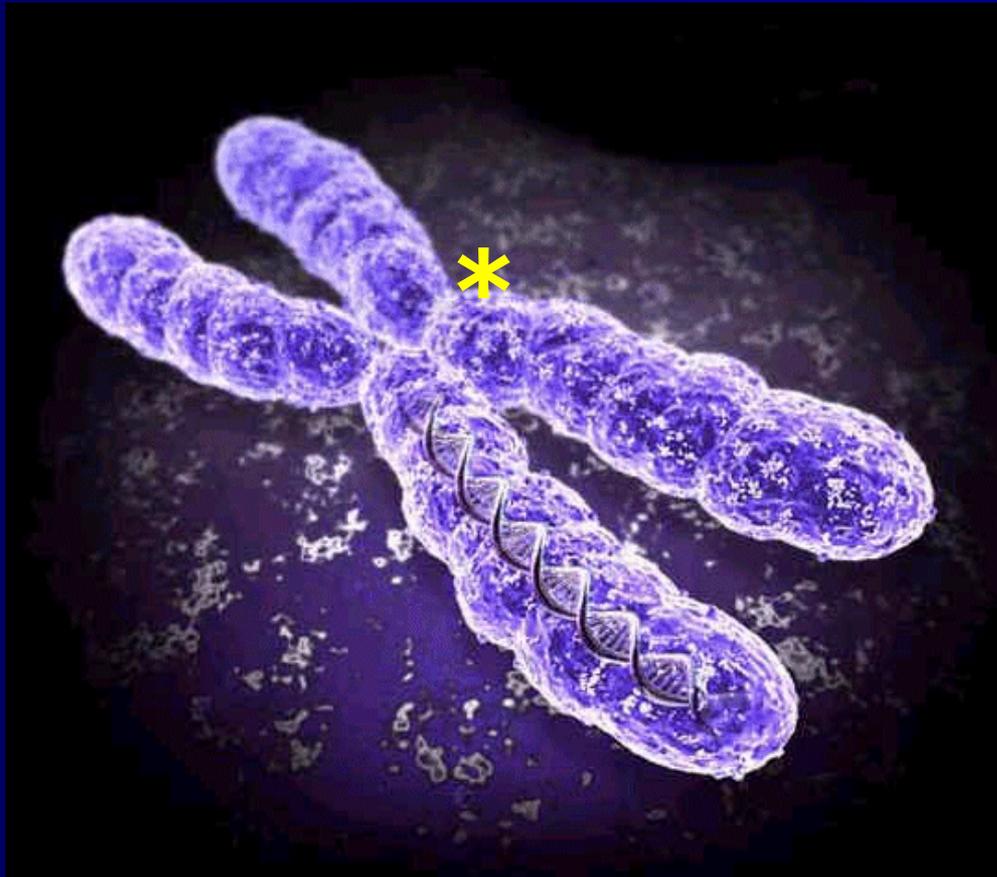
- Polymerization
- Chaperones
- Peroxidase
- Plant biochemistry
- Porphyrins
- pigment-protein complexes
- promoter
- polymer
- Programmed cell death
- Sulphate assimilation
- Secondary metabolites
- Signal transduction
- Biosynthesis
- Antocyanin
- Anaerobic sewage

- signal transduction
- genetic engineering
- recessive
- transgenic organisms
- secondary metabolites
- programmed cell death
- pigment-protein complexes
- needle and syringe
  
- Erlenmayer flask
- biotechnologies
- amino acids
- fatty acids

- přenos signálu
- genetické inženýrství
- ustupující, recesivní
- transgenní organismy
- druhotné metabolity
- programová buněčná smrt
- bílkovinnó-barvivové komplexy
- jehla a stříkačka
  
- Erlenmayerova baňka
- biotechnologie
- aminové kyseliny
- mastné kyseliny

# Plant Molecular Biology

This is a chromosome. How is the marked part called?



telomere

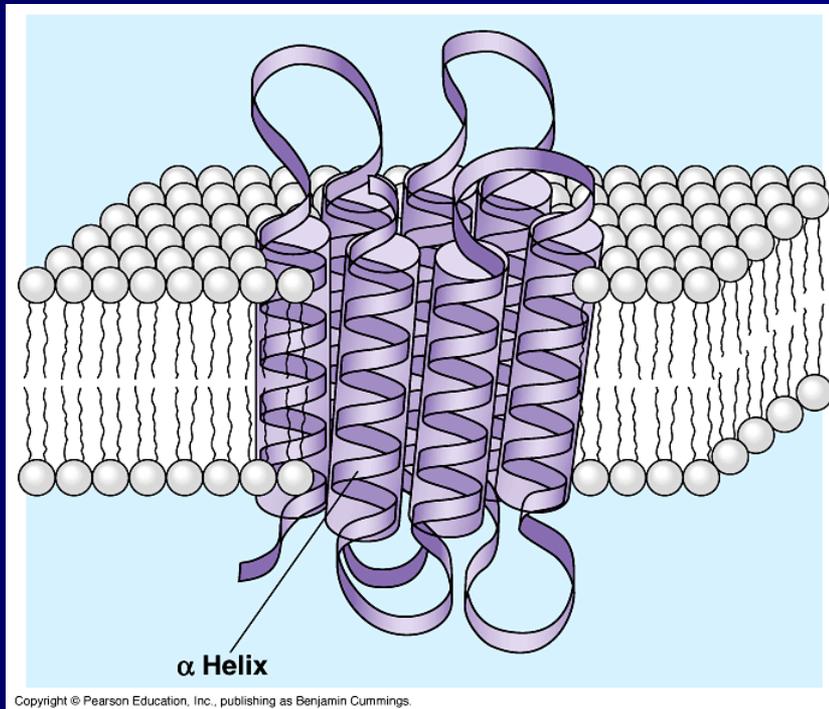
centromere

chromatine

chromatid

# Plant Molecular Biology

What you see is.....



ATPase

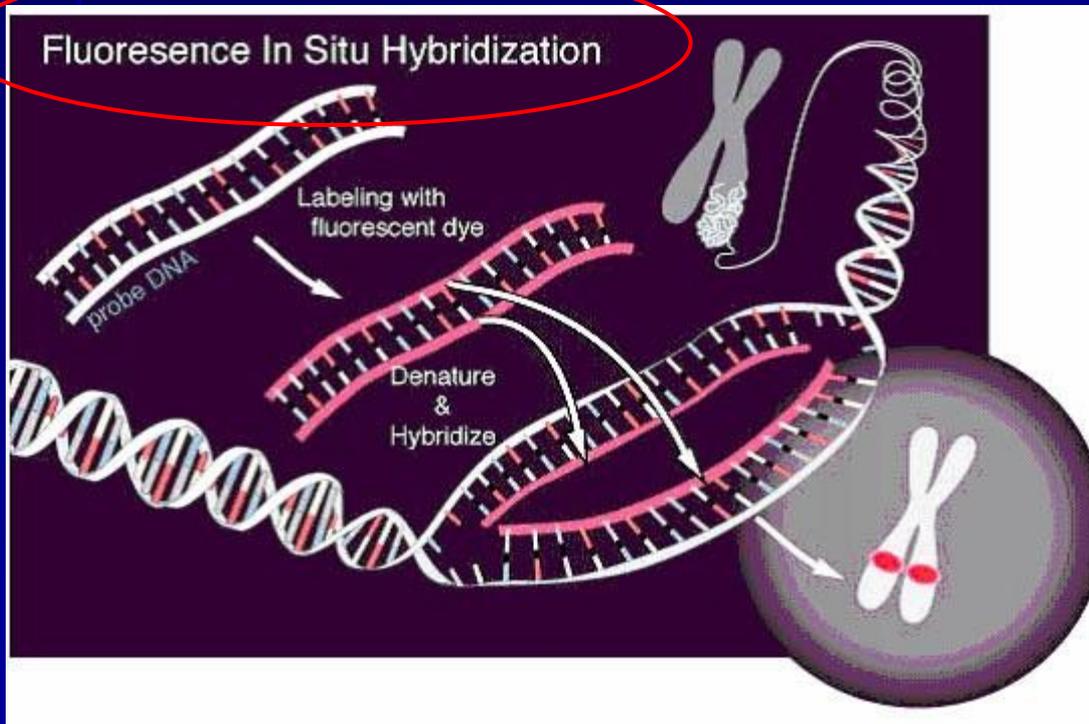
Transmembrane protein

Supressed vacuole

Polysacharide molecule

# Plant Molecular Biology

What you see is a technique abbreviated as:



DISH

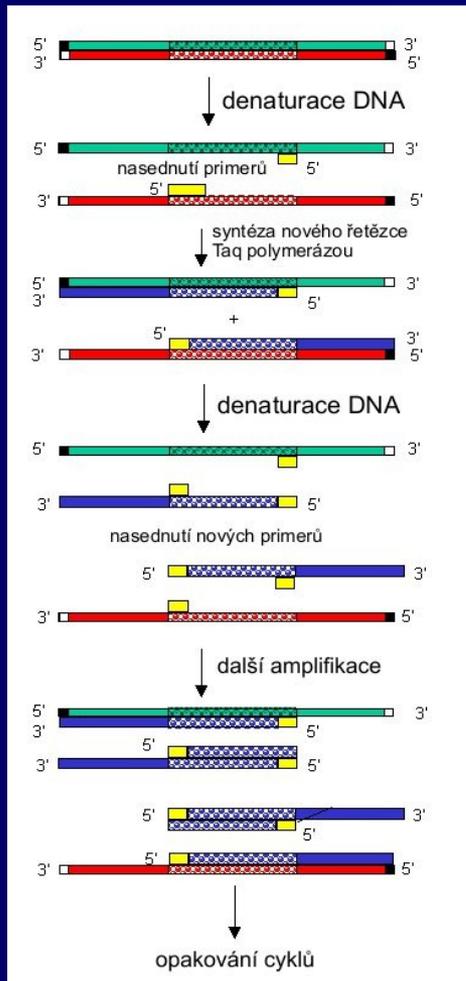
FISH

DENA

XEANA

# Plant Molecular Biology

PCR is an abbreviation for the molecular biology technique:



Probe crossing response

Post clonal reactivation

Primary chain resolvance

Polymerase chain reaction

# Plant Molecular Biology

The below three dimensional model of protein structure is called:



Secondary

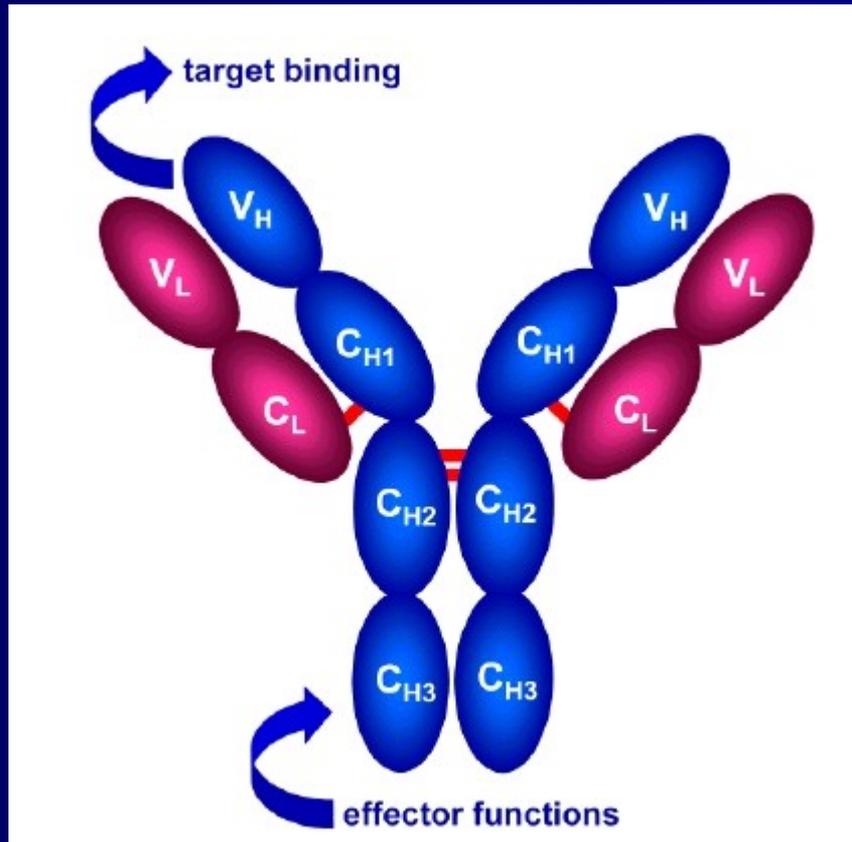
Globular

Ribbon

Linear

# Plant Molecular Biology

The below scheme relates to .....



Fatty acids

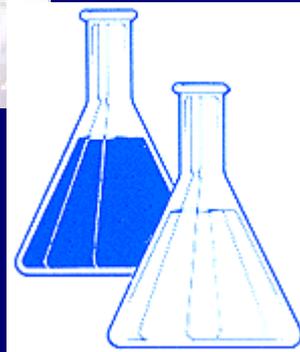
Chromosome structure

Crossing over

Antibodies

# Plant Biochemistry

What do you think she is holding in her hands ?



Laboratory tube

*Laboratorní zkumavka*

Erlenmeyer flask

*Erlenmayerova baňka*

Round bottom flask

*Kulatá baňka*

Two-necked flask

*Baňka se 2 vstupy*

# English for Plant Biologists

## Lesson 7 – *Grammar*

Let us repeat gerunds.

Gerundium po časových spojkách

In the textbook *Cvičebnice anglické gramatiky*, p. 258

Translate from Czech to English (celou stránku cvičení – ústně)  
„zleva do prava“

# Grammar

I ..... Debbie many times.

The last time I ..... her was at your birthday party.

- sing
- had met
- have seen
- quarreled

- have met
- have seen
- saw
- had seen

# Grammar

I ..... The Royal Botanical Garden many times since I settled in London in 2004.

- visited
- have never been to
- have visited
- had left

# Grammar

Linda ..... interested in biology of sea algae for as long as I remember.

- had been
- is being
- was
- has been

# Grammar

We ..... just ..... to scare you. We didn't mean to give you a heart attack.

- were just trying
- did just an attempt
- refused just imagine
- have just been

# Grammar

How long ..... papers on plant  
animal inteactions?

- you were producing
- have you been studying
- you wrote
- are you reading

# Grammar

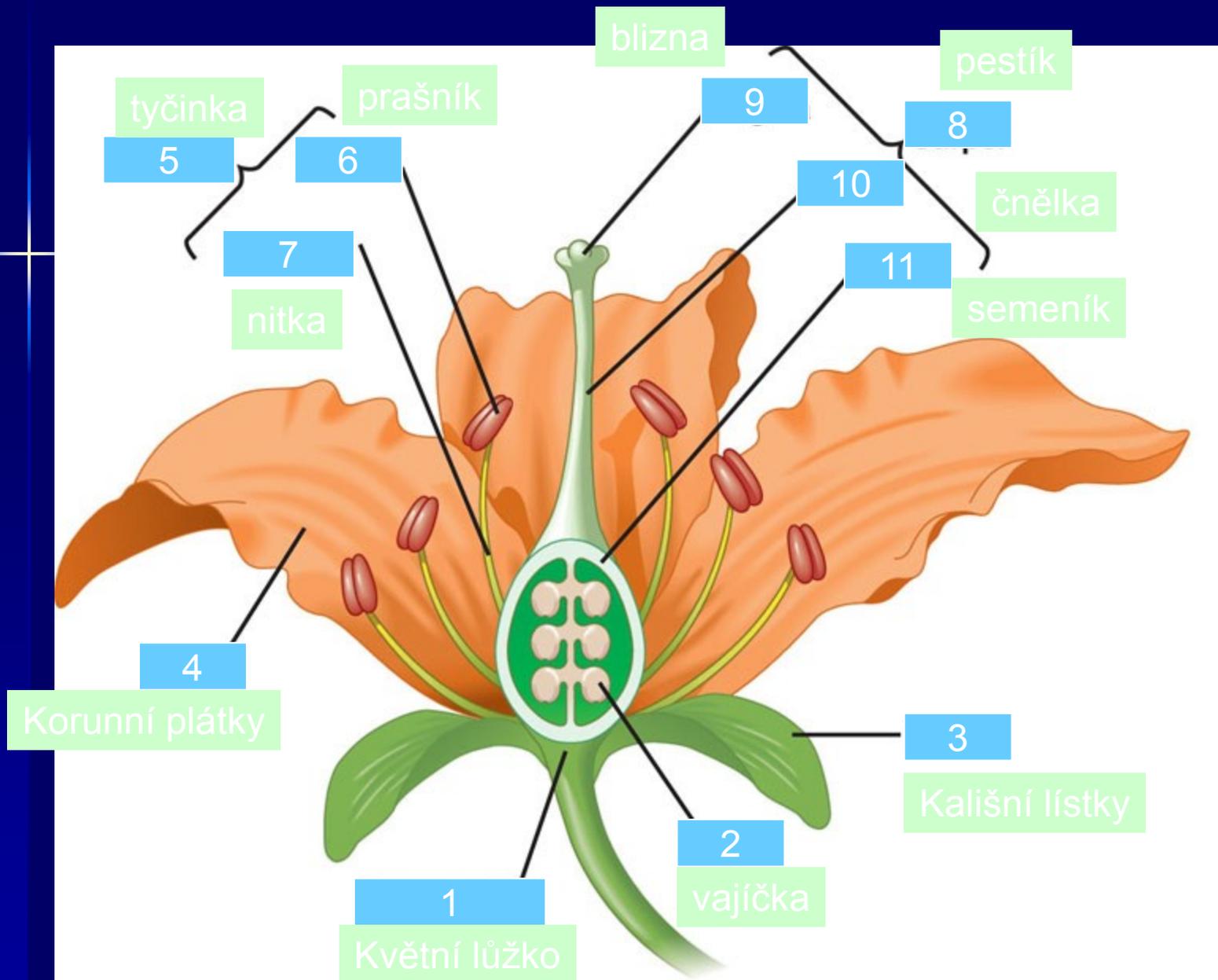
..... here many times, but not in the last five weeks.

- I had been
- I was
- I have been
- I were

# Grammar

I feel so unappreciated. My school mates  
..... me for a help with essay on medical  
use of tropical.

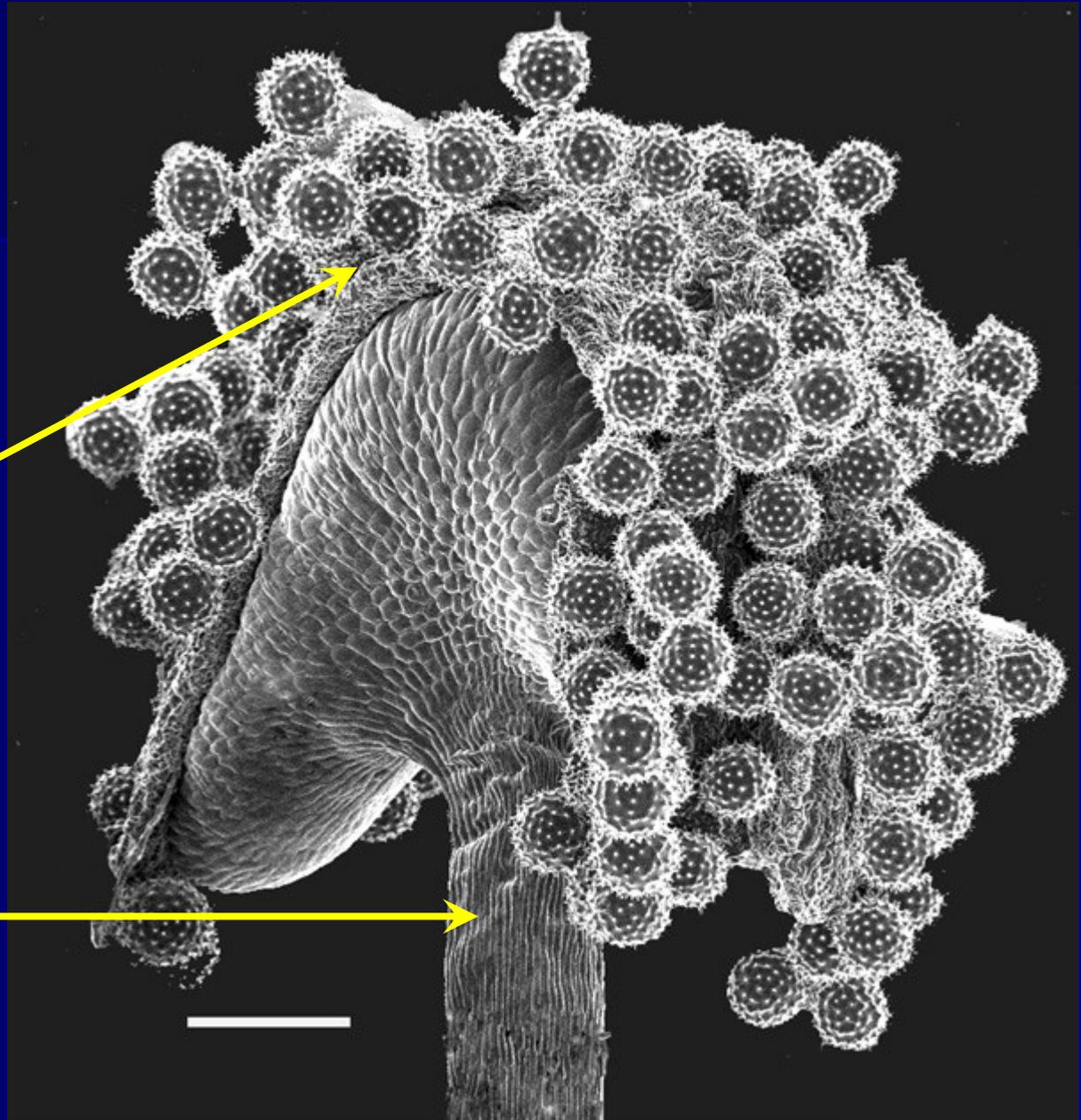
- have never tried
- did not bring
- have never asked
- were not glorify



# What is this?

Pollen grains

anther



# What is this ?

