

English for Plant Biologists

Lesson No. 3

Spring 2013

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Scanning electron microscopy

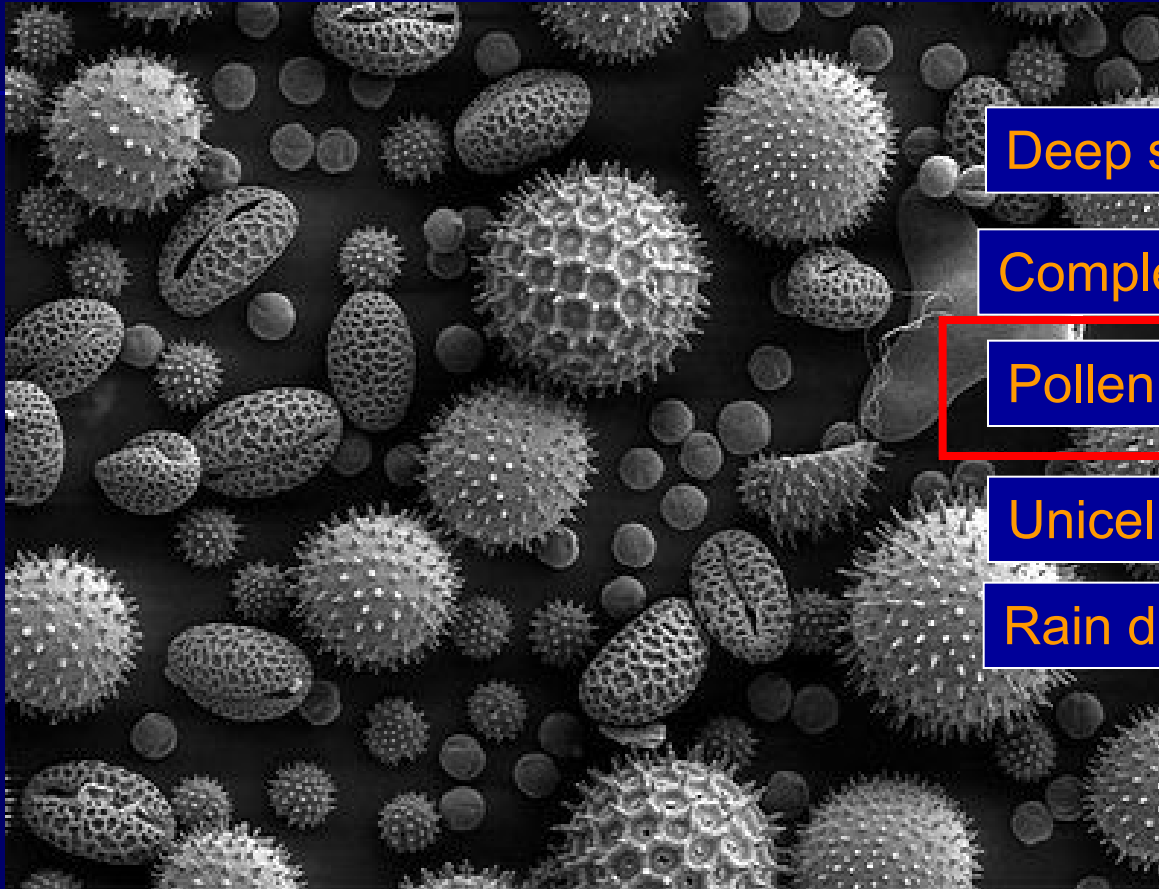
<http://www.medtropolis.com/VBody.asp>



INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tato prezentace je spolufinancována
Evropským sociálním fondem
a státním rozpočtem České republiky

What are the below objects ?



Deep sea invertebrates

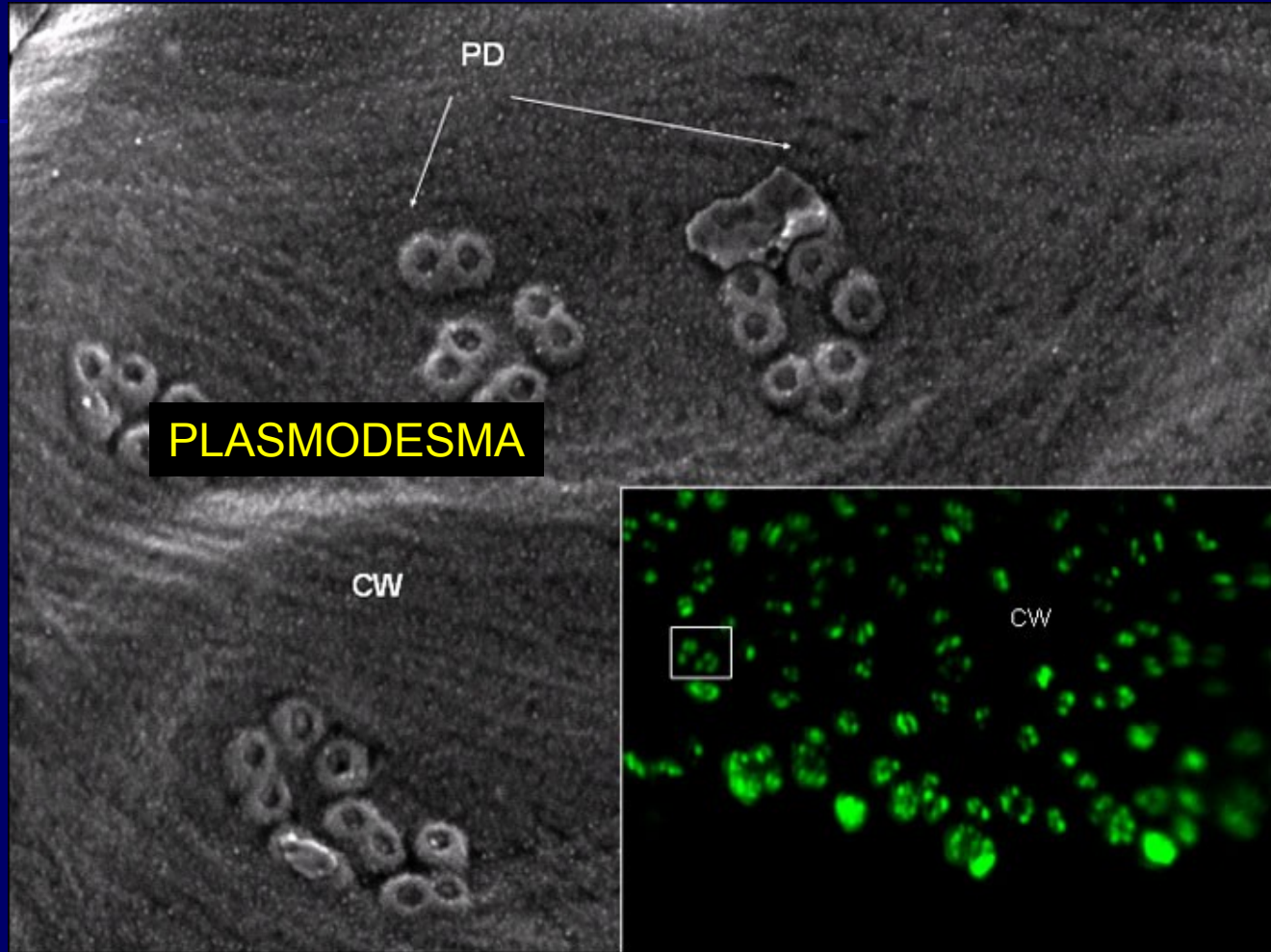
Complex trichomes

Pollen grains

Unicellular algae

Rain droplets

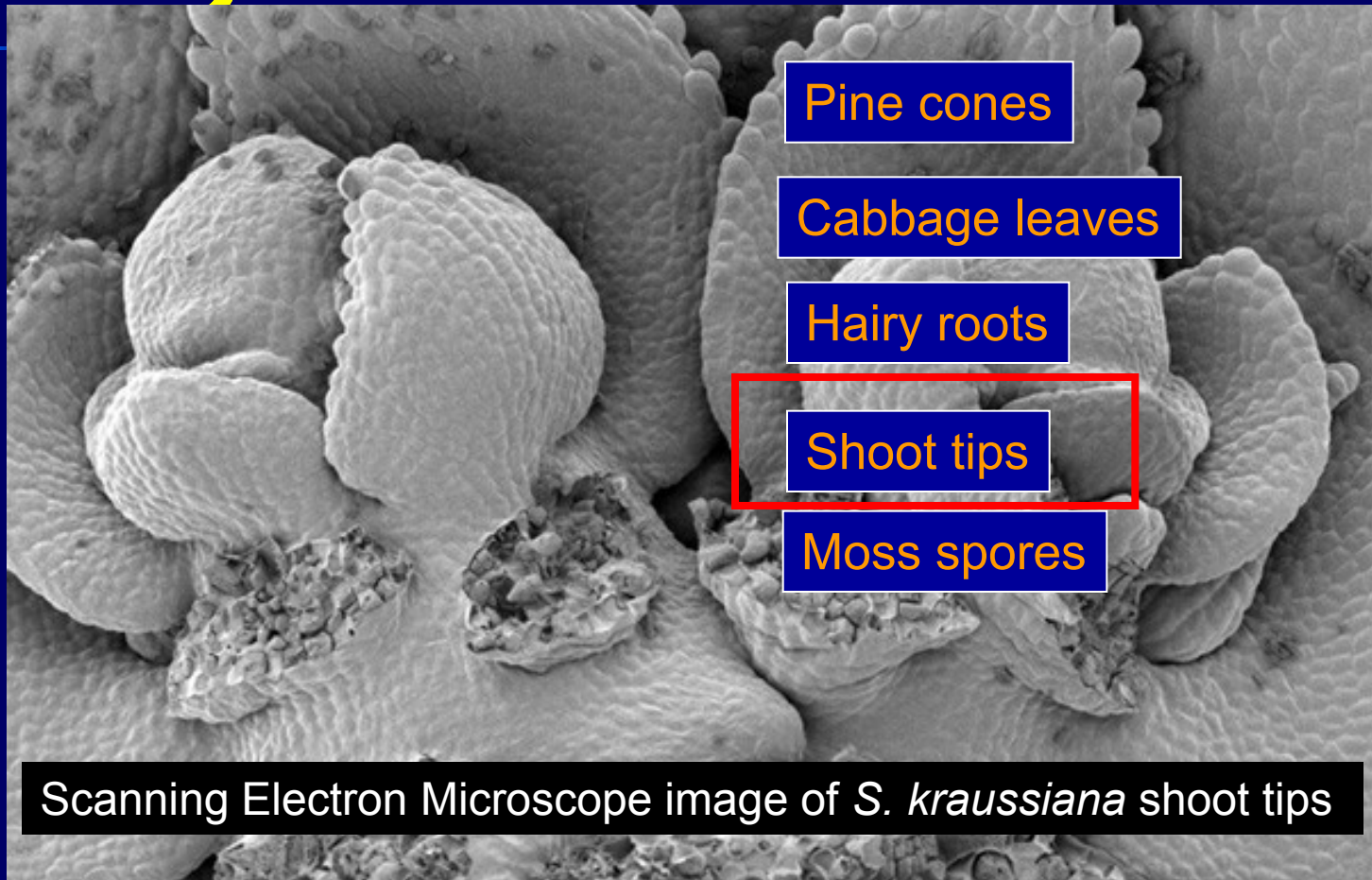
What are the clustered objects ?



■ CW = cell wall

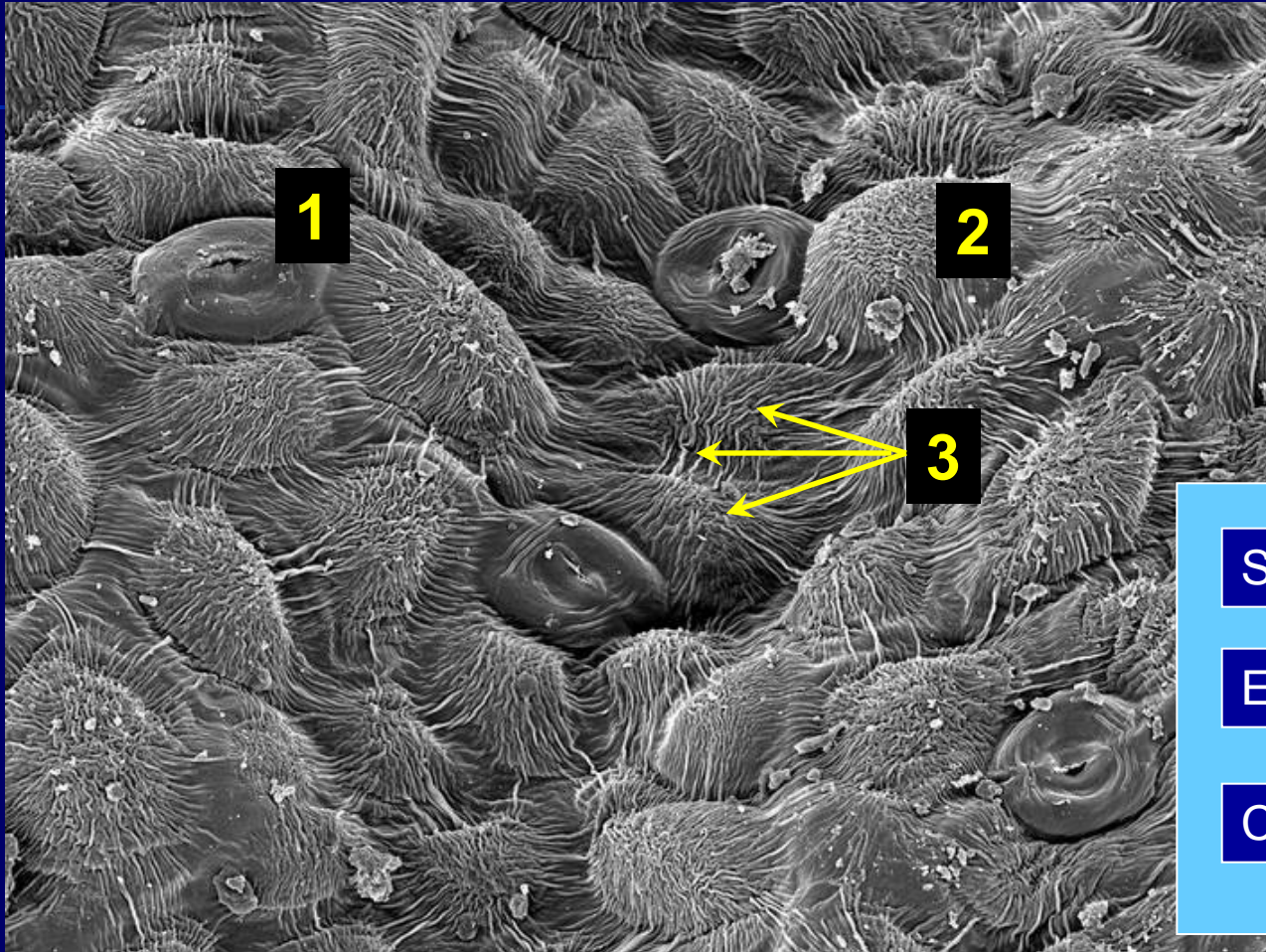
Source of photo: <http://oparka.bio.ed.ac.uk/>

What about this? What are you looking at?



Scanning Electron Microscope image of *S. kraussiana* shoot tips

**Please make your guess
what is indicated by the numbers.**

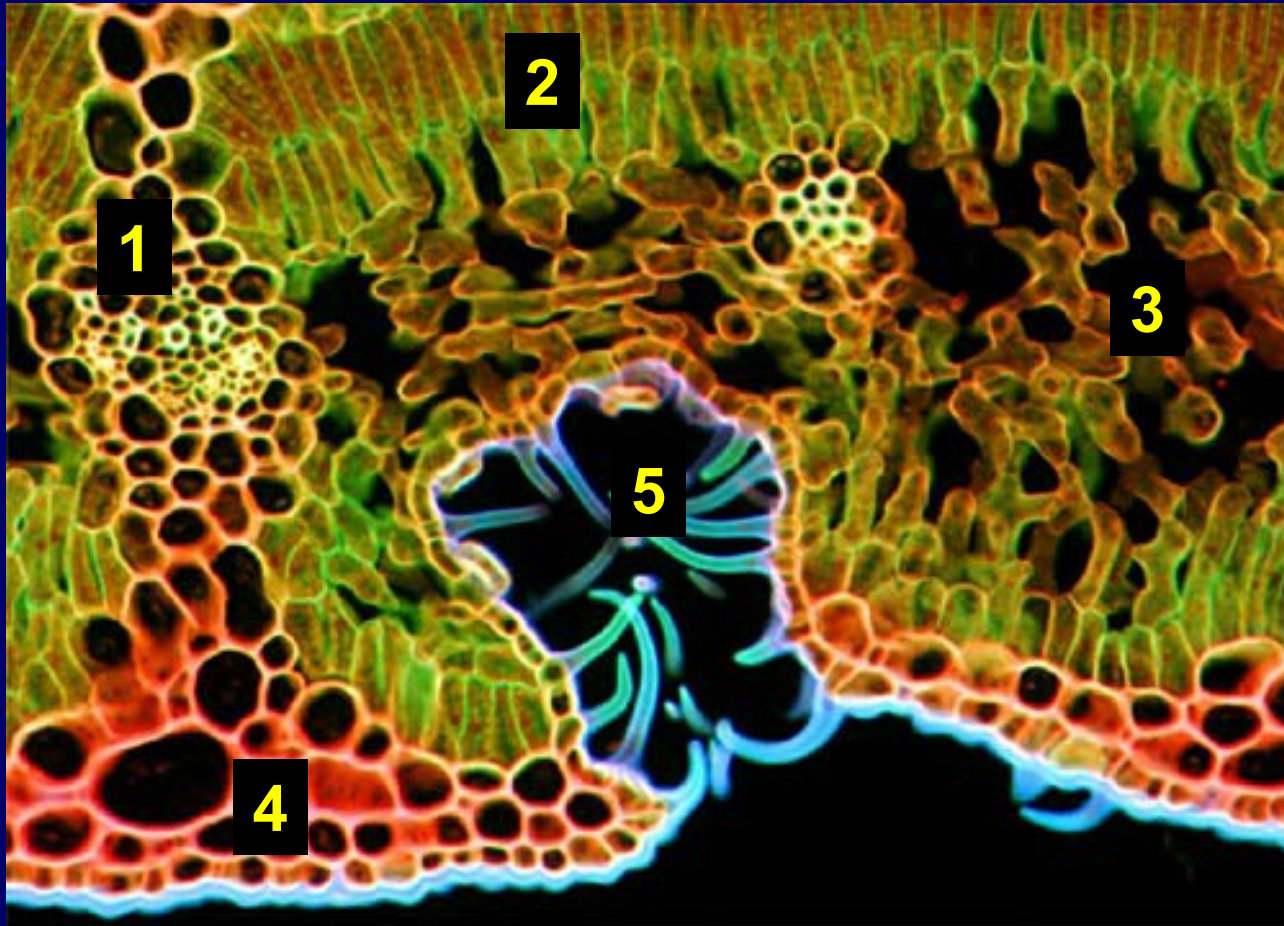


Stomatal cells

Epidermal cell

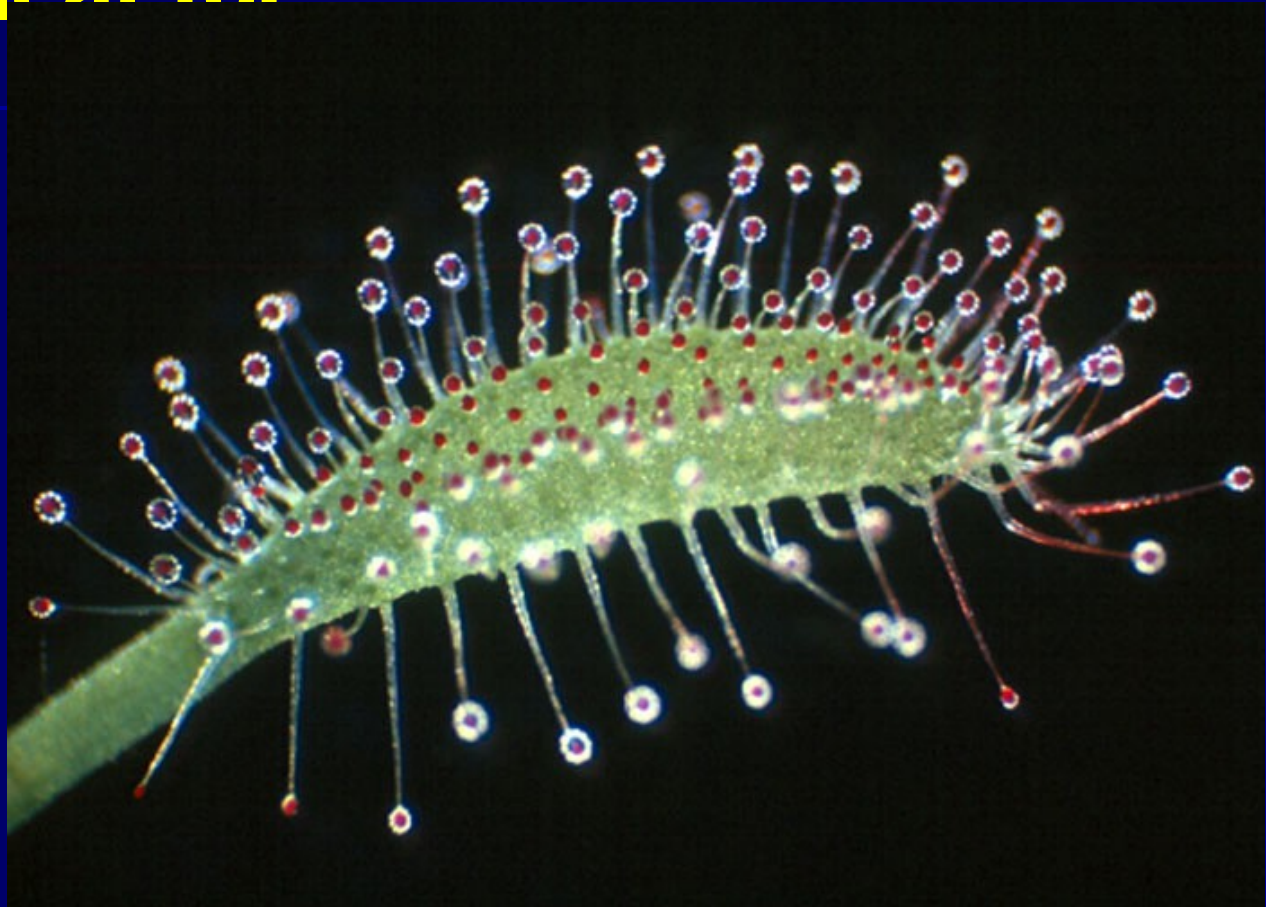
Cuticular wax

Please tell me your opinion what relates to the numbers



- Oleander, *Nerium oleander*, is an ornamental evergreen plant
- Source of photo: <http://www.microscopyu.com/staticgallery/dxm1200/oleanderleaf.html>

Please describe what is the the leaf for



- Source of photo: <http://www.microscopyu.com>

**This is something
common.**



Vitis vinifera (grape)

- Source of photo: <http://www.microscopyu.com>

The only one of the following words fits



Deconvulation

Demolition

Desertification

Denaturation

The only one of the following words fits



Restriction
Recondition

Recuperation

Reforestation

Describe what you see. What is your first impression?



It is a rice, of course.

What do they harvest ?



- A peat is harvested from the bogs,

Source of photos: http://www.turfdiag.com/rootzone_amendments.htm

Just practise your knowledge of prepositions and verbs

- How many people **are there** in your family?
- I get up at 8 o'clock **in the** morning.
- Where are you going **on** Friday?
- come to my party next Saturday?
- What **did you do** in London last weekend?
(do)
- I'm going to Sainsbury's **to buy** some food.
(Buy)

Please fill in a proper form of the word: **agree**

■ I him on that point.

■ I wish she would my proposal. .

agree with,

agree to

Phrasal verbs: source of exercise: http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm



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Please fill in a proper form of the word:

get

- When will you
- I tried calling you, but I couldn't
- Today I at 10 am

get back,

get through

got up

Phrasal verbs: source of exercise: http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm



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Please fill in a proper form of the word:

give

- He his car to his brother
- Why does she always her brother?
- Are you sure you want to your career?

gave ... away,

give to

give up

Phrasal verbs: source of exercise: http://www.englisch-hilfen.de/grammar/phrasal_verbs.htm



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Please translate

- Brad Ripley is a plant ecophysiologicalist, specialising in the ecophysiology and ecology of: Coastal sand-dune plants, alien vegetation, and indigenous and crop plants as effected by environmental and biotic factors.

Please learn the two words if they are unknown for you.

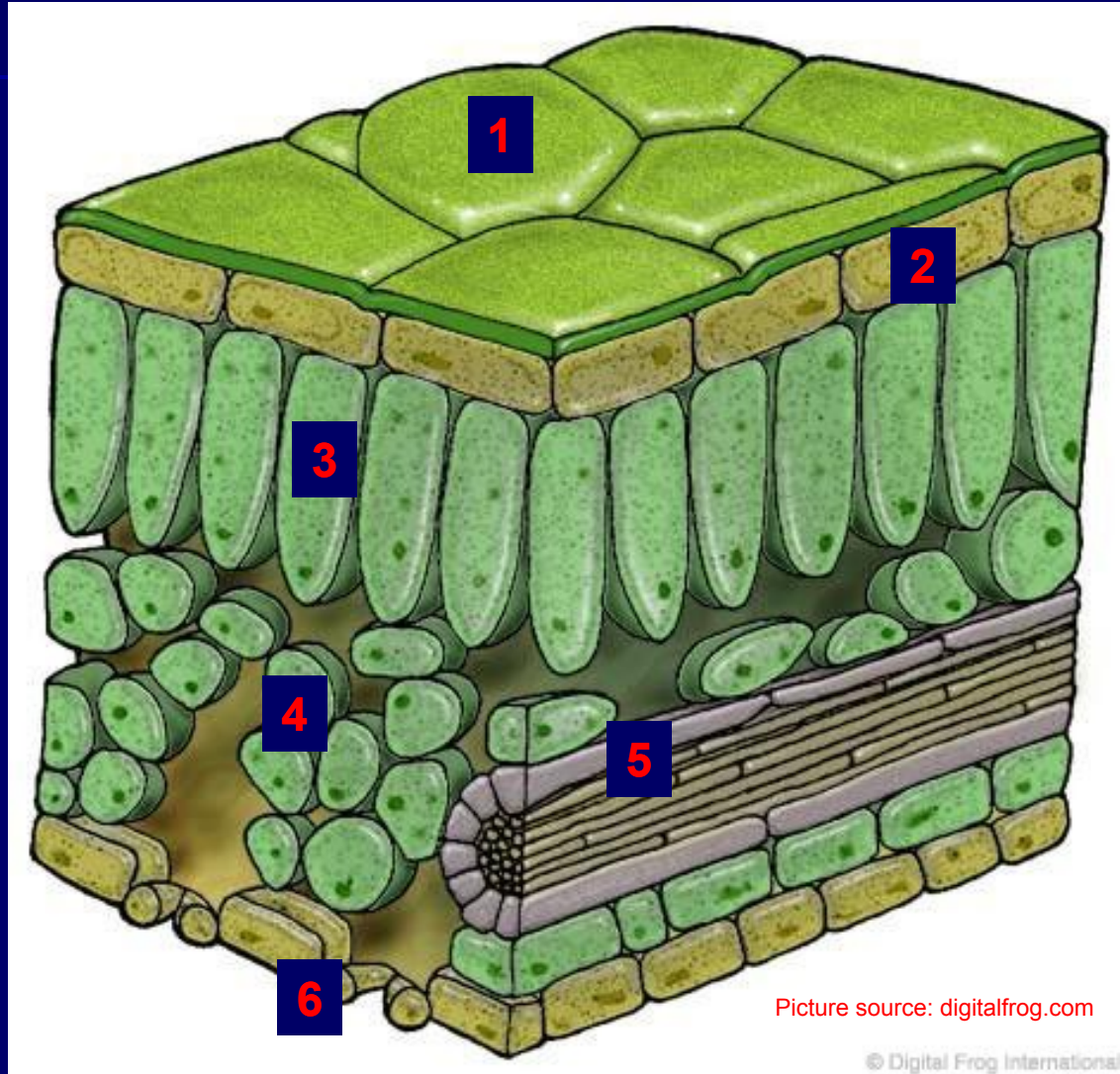
Source of the text: <http://www.ru.ac.za/Botany/Staff>



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It is a good idea to check your knowledge of plant anatomy, isn't it?

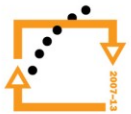


Picture source: digitalfrog.com

© Digital Frog International



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Please read and associate with some plant part

weeding
wedding
willing
wilting
warning
warming
winding
welling
whaling



Please find out to what picture the term is related.

What is the two-wheel vehicle for?

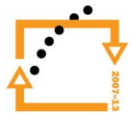
Lawn, of course



Do you know how to call the vehicle in English?
Do you know how to call all the green all around?

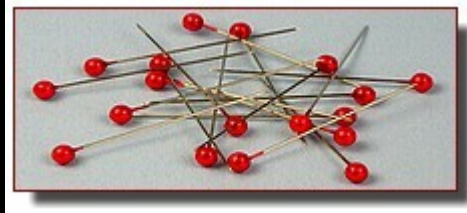


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It is a repetition of vocabulary that you should know.

primate
private
pinhead
pinnate
pancake
panther
pathfinder
pimiento



Please find out to what picture the term is related.

sources: pin.primate.wisc.edu, <http://www.autotodays.com/2010/09/20/2011-nissan-pathfinder/>, atlanka.net, tastydays.com

**Ladies and gentlemen,
thank you for your attention**

See you next week.



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What is she doing?



She is Sarah Parsen with samples for a pH test at the new Soils and Plant Analysis Lab

Source: <http://news.cals.wisc.edu/photos/photo419.jpg>

What is that for ?



- <http://ultra-health.org/wp-content/uploads/2009/02/lidia.jpg>



This is Chris Still doing something. What is that?

Chris Still measuring photosynthesis in *Eragrostis grandis*, a C4 grass endemic to the Hawaiian Islands

mangrove



<http://www.floridaadventuring.com/images/red-mangrove.jpg>

The
forest type is
called...



<http://www.susanscott.net/OceanWatch2008/images/P1110359.jpg>

Describe, what you see.



Source: http://www.europe-center.org/ec-blog/wp-content/blogs.dir/2/files/2008/08/080331_cutting_trees_06_rkk_send.jpg

This is experimental breeding station. What do they breed?

Raspberry, of course.



Source: http://www.cals.ncsu.edu/hort_sci/highlights/raspberry01l.jpg



What do you think is her field of study?

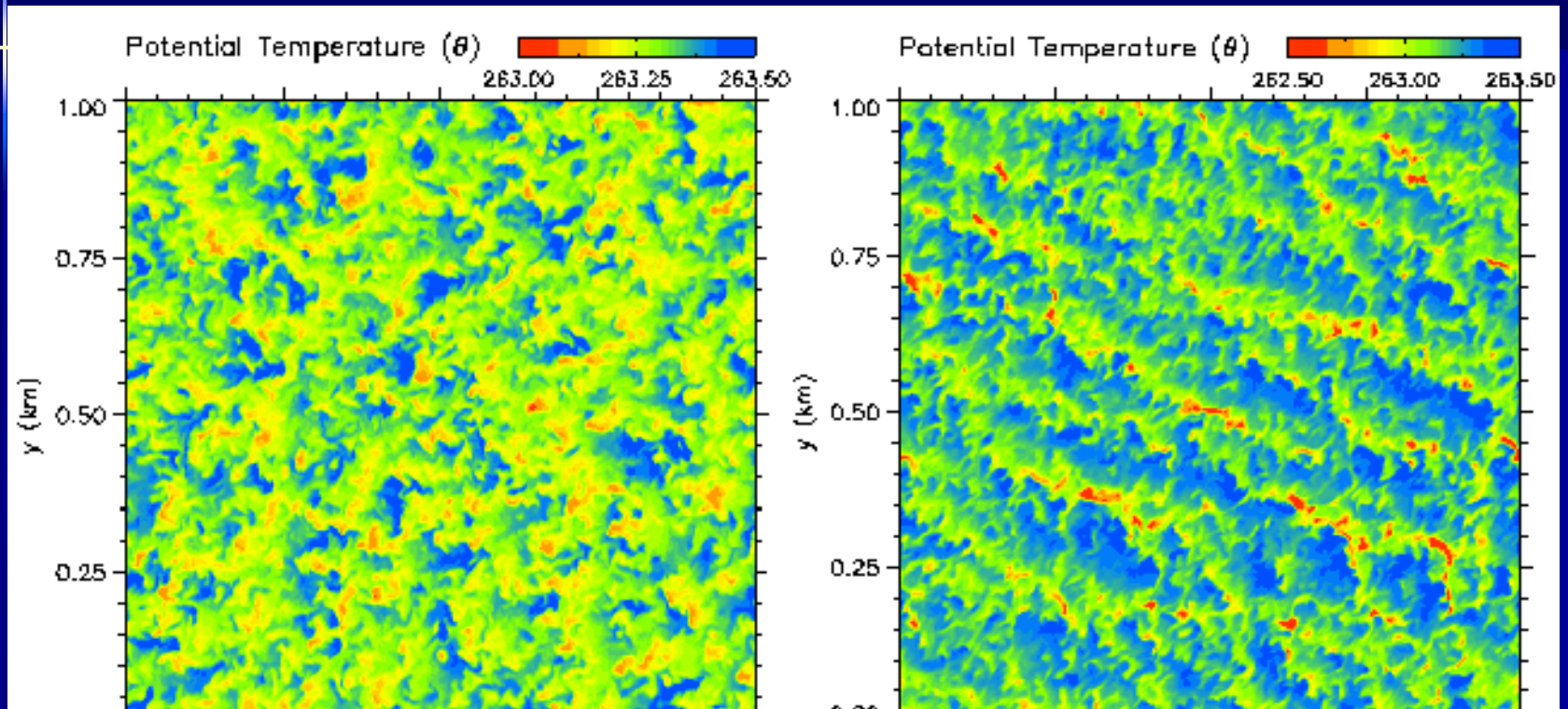
I am currently an Environmental Studies major and undergraduate researcher in the Damschen Lab. I am interested in plant ecology, especially in the effects of climate change on plants and plant communities. My current research focuses on patterns of plant stress along gradients of aspect and slope for mountainous systems in Southwestern Oregon

Source:

biology4.wustl.edu/faculty/damschen/Barry.html

Canopy. Source: www.asr.ucar.edu/2004/MMM/img/patton_surface2.png

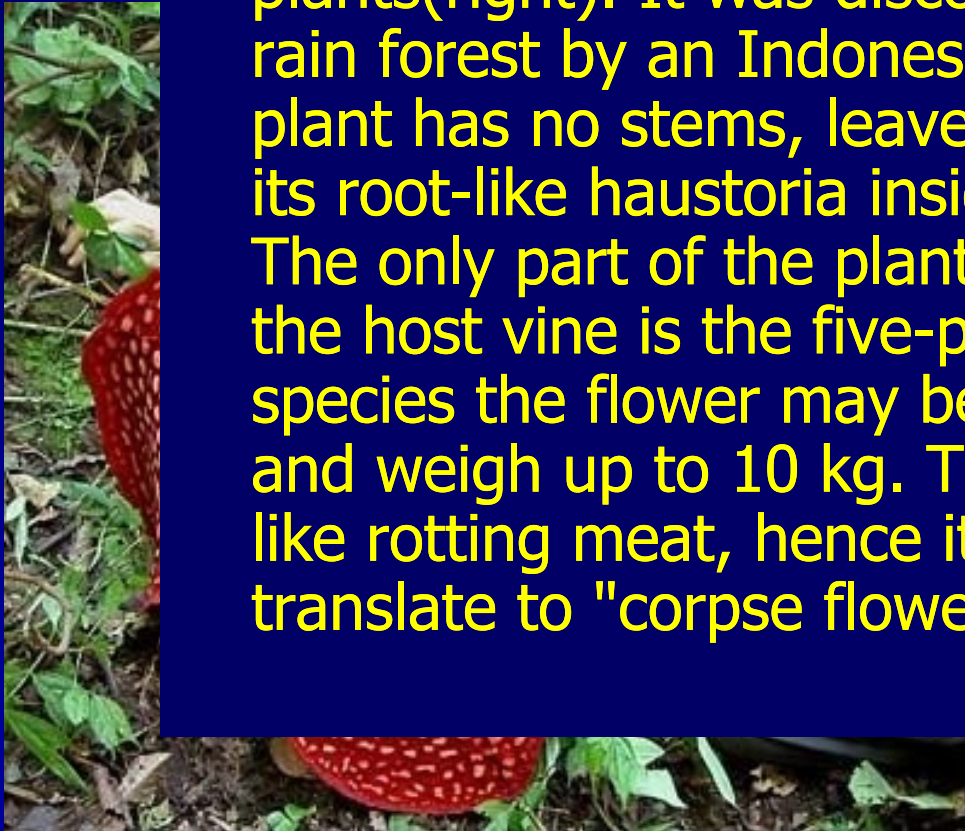
What are you looking at?



Using high-resolution large-eddy simulations, E. Patton and Peter Sullivan are investigating the interplay between stable stratification and canopy turbulence. Compared to simulations with no vegetation, a stably stratified canopy reduces the height of the nocturnal jet and the pressure drag alters the momentum balance resulting in lower turbulence levels

Some strange plants

- Rafflesia is a genus of parasitic flowering plants(right). It was discovered in the Indonesian rain forest by an Indonesian guide in 1818. The plant has no stems, leaves or true roots. It spreads its root-like haustoria inside the tissue of a vine. The only part of the plant that can be seen outside the host vine is the five-petaled flower. In some species the flower may be over 100 cm in diameter, and weigh up to 10 kg. The flowers look and smell like rotting meat, hence its local names which translate to "corpse flower" or "meat flower".



What is she doing?



- Cornell Student Taran Sirvent prepares *Hypericum perforatum* for chemical analysis. A glass funnel directs the plant matter into an Erlenmeyer flask.

Lesson No. 8

- Repetition:
- terminology related to negative effects of volcanic activity on plants
- What are they doing?
- Exercises