

16th STUDENT DAYS OF PLANT BIOLOGY CS 2021

7-8 September

ONLINE



Přírodovědecká
fakulta
Faculty
of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

Jana Albrechtová

Czech Society of Experimental Plant Biology



CHARLES UNIVERSITY
Faculty of Science



Institute of Experimental
Botany of the AS CR, v. v. i.

Main organizers:



Martin Janda



Přírodovědecká
fakulta
Faculty
of Science

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

Faculty of Science, University of South Bohemia in České Budějovice;
Czech Society of Experimental Plant Biology)



Jana Albrechtová



CHARLES UNIVERSITY
Faculty of Science

Faculty of Science, Charles University,
Czech Society of Experimental Plant Biology



biologia plantarum



PARTICIPANTS: 61 students applied + members of SC + Chairs of Sessions – usually 50-75 participants in streaming
10 countries
21 institutions

Austria:

- IST Vienna

Belgium

- VIB-UGent Center for Plant Systems Biology

Bulgaria:

- Sofia University, Faculty of Biology, Sofia

Czechia:

- Charles University, Faculty of Science, Dept. Exp. Plant Biol., Prague
- Institute of Microbiology of the Czech Academy of Sciences
- Institute of Experimental Botany of the Czech Academy of Sciences, Prague and Olomouc
- Palacký University, Department of Botany,
- University of South Bohemia in České Budějovice, Faculty of Science
- Biology Centre, Czech Academy of Sciences, České Budějovice
- Mendel University in Brno
- University of Chemistry and Technology Prague
- Masaryk University, Brno

Germany:

- University of Bonn

Slovakia:

- Comenius University in Bratislava, Faculty of Natural Science, Department of Plant Physiology
- Institute of Plant Genetics and Biotechnology, Plant Science and Biodiversity Centre, Slovak Academy of Sciences

Slovenia:

- DEPARTMENT OF BIOLOGY, BIOTECHNICAL FACULTY, UNIVERSITY OF LJUBLJANA
- Faculty of Science, University of Zagreb

Turkey:

- Ege University, Izmir, Turkey

Ukraine:

- Educational and Scientific Center “Institute of Biology and Medicine”, Taras Shevchenko National University of Kyiv

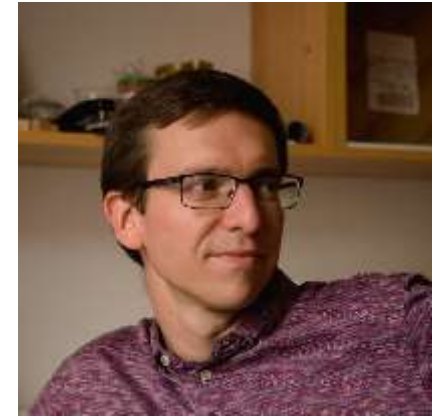
United Kingdom:

- Biochemistry Department, University of Cambridge

SESSIONS, 7th September

10:45 Plant Interactions with Biotic Factors

Chair: **Dr. Petr Kohout**, Inst. Microbiology CAS; Charles Univ.,
Fac. Sci., Prague, CZ



10:45 – 11:00 **Nikoleta Rubil**: Specialist aphids cause local activation of salicylic and jasmonic acid signaling in *Arabidopsis* veins

11:00 – 11:15 **Shubhi Mishra**: Chronic ionizing radiation: Inhibitor or booster for plant immunity?

11:15 – 11:30 **Dominik Bleša**: Endophytic associations of orchid mycorrhizal fungi in cereals as biological protection against fungal pathogens

11:30 – 11:45 **Daniel Stehlík**: Upregulation of gene *LmHxt1* reduces virulence of *Leptosphaeria maculans* on *Brassica napus*

SESSIONS, 7th September

10:45 Plant Interactions with Biotic Factors

Chair: **Dr. Petr Kohout**, Inst. Microbiology CAS; Charles Univ.,
Fac. Sci., Prague, CZ



Selection of the Chair of the Session:

Dominik Bleša: Endophytic associations of orchid mycorrhizal fungi in cereals as biological protection against fungal pathogens

SESSIONS, 7th September

12:45 Photosynthesis

Chair: **Ondřej Prášil** (*Centrum Algatech, Inst. of Microbiology, CAS*)

12:45 – 13:00 **João Artur da Câmara Manoel**: Rapid screening test to estimate temperature optima for microalgae growth using photosynthesis activity measurements

13:00 – 13:15 **Myriam Canonico**: Gradual response of cyanobacterial thylakoids to acute high-light stress – importance of carotenoids accumulation

13:15 – 13:30 **Anxhela Hania**: N₂ fixation in the filamentous cyanobacterium *Trichodesmium* – are there strain-specific differences?

13:30 – 13:45 **Marie Grulichová**: Determination of photosynthetic pigments content in the seeds and their effect on seed quality



SESSIONS, 7th September

12:45 Photosynthesis

Chair: Ondřej Prášil (Centrum Algatech, Inst. of Microbiology, CAS)

Selection of the Chair of the Session:

Anxhela Hania: N₂ fixation in the filamentous cyanobacterium *Trichodesmium* – are there strain-specific differences?



SESSIONS, 7th September

15:00 Plant Cell Biology

Chair: **Viktor Žárský** (*Charles Univ., IEB CAS*)

15:00 – 15:15 **Starodubtseva Anastasiia:**

Phosphatidylinositol 4-kinases $\beta 1$ and $\beta 2$ are involved in non-host resistance by mediating PEN1 trafficking

15:15 – 15:30 **Kateřina Hlaváčková:** Involvement of alfalfa SIMK in root nodulation analyzed using immunolocalization methods and advanced microscopy

15:30 – 15:45 **Jana Pilátová:** Paradigm shift in eukaryotic biocrystallization

15:45 – 16:00 **Katarina Kurtović:** The role of auxin in *Chara braunii*; endogenous content, growth effects and identification of specific auxin carriers



SESSIONS, 7th September

15:00 Plant Cell Biology

Chair: **Viktor Žárský** (*Charles Univ., IEB CAS*)

Selection of the Chair of the Session:

Kateřina Hlaváčková: Involvement of alfalfa SIMK in root nodulation analyzed using immunolocalization methods and advanced microscopy

Jana Pilátová: Paradigm shift in eukaryotic biocrystallization



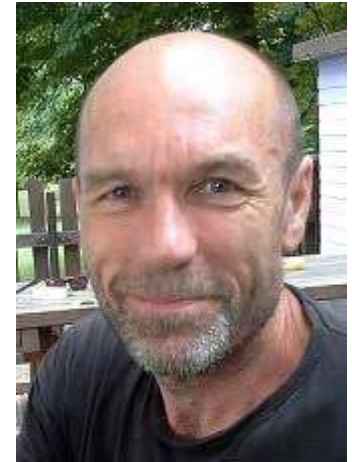
SESSIONS, 7th September

Session: Plant Growth Regulators

Chairs:

Miroslav Strnad (*IEB CAS, CRH, Univ. Palacky*)

Martin Fellner (*IEB CAS, Univ. Palacky*)



16:30 – 16:45 **Lukas Fiedler**: Effects of auxin signal transduction cascades on root growth and hypocotyl elongation in *Arabidopsis thaliana*

16:45 – 17:00 **Daniel Nedvěd**: Mathematical Modelling of Cytokinin Uptake in Tobacco BY-2 Cell Culture

17:00 – 17:15 **Michelle Gallei**: MAX2-independent Strigolactone perception and signaling emanating from mitochondria

17:15 – 17:30 **Monika Kubalová**: Auxin coreceptor IAA17/AXR3 and regulation of root growth

SESSIONS, 7th September

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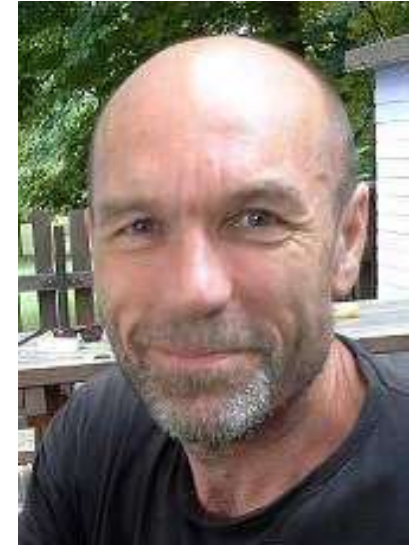


SESSIONS, 7th September

Session: Plant Growth Regulators

Chairs:

Martin Fellner (*IEB CAS, Univ. Palacky*)



Selection of the Chair of the Session:

Lukas Fiedler: Effects of auxin signal transduction cascades on root growth and hypocotyl elongation in *Arabidopsis thaliana*

SESSIONS, 8th September

9:00 Plant Interactions with Abiotic Environment, Plant Nutrition

Chairs: **Martin Bačkor** (*P. J. Safarik University*)
Jiří Šantrůček (*Univ. South Bohemia*)



9:00 – 9:15 **Berivan Özlem Gümüş**: An investigation on the role of CLE peptides in response to endoplasmic reticulum stress in *Arabidopsis thaliana*

9:15 – 9:30 **Balzhan Askanbayeva**: Amphistomy level is linked to leaf internal CO₂ concentration inferred from carbon isotope composition of epicuticular wax.

9:30 – 9:45 **Nil Demircan**: The Effects Of Metal Toxicity On Unfolded Protein Response In *Arabidopsis Thaliana*

9:45 – 10:00 **A. Anicet Batcho**: Identification & Characterisation of Photoreceptor Gene Family in Tomato and their Expression under Abiotic Stress

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9:00 Plant Interactions with Abiotic Environment, Plant Nutrition

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A. Anicet Batcho: Identification & Characterisation of
Photoreceptor Gene Family in Tomato and their
Expression under Abiotic Stress



SESSIONS, 8th September

11:30 Plant Reproduction and Evolution

Chair: Boris Vyskot (*Inst. Biophysics CAS*)

11:30 – 11:45 **Veronika Sedláková**: Physical dormancy of chickpea seeds

11:45 – 12:00 **Nikolas Balog**: Selection tools in breeding program of hemp

12:00 – 12:15 **Miroslav Klobučník**: Introgression in *Pinus sylvestris* x *mugo* hybrid zone: A genetic study of hybridization process on Zuberec locality, northern Slovakia



SESSIONS, 8th September

11:30 Plant Reproduction and Evolution

Chair: **Boris Vyskot** (*Inst. Biophysics CAS*)

Selection of the Chair of the Session:

Veronika Sedláková: Physical dormancy of chickpea seeds



SESSIONS, 8th September

13:15 Plant Genetics and Genomics

Chair: **Jaroslav Doležel** (*IEB CAS; Univ. Palacky*)

13:15 – 13:30 **Veronika Mikitová**: Chitinases of carnivorous plants and their use in terms of plant protection against biotic stress

13:30 – 13:45 **Rostislav Blume**: Genome-Wide Identification and Characterization of the Tubulin Genes Family in *Camelina sativa*

13:45 – 14:00 **Tamara Vuk**: Role of BPM1 protein in a control of methylation patterns of CML41 and FWA genes through RdDM pathway in *Arabidopsis thaliana* L.



SESSIONS, 8th September

13:15 Plant Genetics and Genomics

Chair: Jaroslav Doležel (IEB CAS; Univ. Palacky)



Selection of the Chair of the Session:

Veronika Mikitová: Chitinases of carnivorous plants and their use in terms of plant protection against biotic stress

SESSIONS, 8th September

15:30 Plant Development

Chair: Jiří Friml (*IST Austria*)

15:30 - 15:45 **Felipe Yamashita**: Glutamate receptor AtGLR3.7 in growth development and physiology of Arabidopsis seedlings

15:45 – 16:00 **Barbora Klčová**: Analysis of seed coat-imposed dormancy in pea

16:00 – 16:15 **Andrea Zounková**: The Role of StBEL11 Transcription Factor in Potato, (*Solanum tuberosum*) Tuber Formation

16:15 - 16:30 **Jure Mravlje**: Cold plasma for effective fungal decontamination of buckwheat seeds



SESSIONS, 8th September

15:30 Plant Development

Chair: Jiří Friml (*IST Austria*)



Selection of the Chair of the Session:

Jure Mravlje: Cold plasma for effective fungal decontamination of buckwheat seeds

16th STUDENT DAYS OF PLANT BIOLOGY CS 2021
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INVITED SPEAKERS

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Martin Janda

Univ. South Bohemia,
CSEPB Award 2021

Sept 7, 9:45



„News on extracellular vesicles produced by
Pseudomonas syringae“

introduced by **Jiří Šantrůček** (*Univ. South Bohemia*)



INVITED SPEAKERS

Roman Pleskot

Inst. Exp. Bot., Prague

Sept 7, 14:15



„Structural basis for the evolution of the endocytic TSET complex in plants“

introduced by **Viktor Žárský** (*Charles Univ., IEB CAS*)



INVITED SPEAKERS

Viktor Demko

*Comenius Uni. Bratislava; Inst. Bot. Plant
Sci. & Biodiv. SAS*

Sept 8, 10:30



„Membrane-anchored calpain DEK1 governs
developmental transitions in plants and is regulated at
multiple levels“

introduced by **Alexander Lux** (Comenius University Bratislava)



INVITED SPEAKERS

Matouš Glanc

VIB Gent, BE;
winner of the FESPB Award 2021

Sept 8, 14:30



„Cell polarity and cell division: two sides of the same coin“

introduced by **Jiří Friml** (*IST Austria*)



Czech Society of Experimental Plant Biology

www.csebr.cz

Bulletin of CSEPB and the PS SBS

– please, write
a feedback on
the conference!

csebr@csebr.cz



bulletin

OF THE CZECH SOCIETY OF EXPERIMENTAL
PLANT BIOLOGY
AND
THE PHYSIOLOGICAL SECTION
OF THE SLOVAK BOTANICAL SOCIETY

1/2019



PLANT BIOLOGY CS 2019
PROGRAMME AND BOOK OF ABSTRACTS

1) CSEPB Award

1,000 Euro

+ plenary lecture at Student Days of Plant Biology CS or Int. Conf of EPB

2019 Jan Fíla, Inst. Exp. bot., CAS



2021 Martin Janda, Univ. South Bohemia



2) Nomination to FESPB Award

2,000 Euro + plenary lecture and review in JEXB, Physiologia Plantarum
+ plenary lecture at Student Days of Plant Biology CS or Int. Conf of EPB

2021 Matouš Glanc won FESPB award, VIB-UGent Center for Plant Systems Biology



1) CSEPB Award

1,000 Euro

+ plenary lecture at Student Days of Plant Biology CS or Int. Conf of EPB

2) Nomination to FESPB Award

2,000 Euro + plenary lecture and review in JEXB, Physiologia Plantarum
+ plenary lecture at Student Days of Plant Biology CS or Int. Conf of EPB

In the year of FESPB PBE Congress 2022? 2023? In Marseille CSEPB organizes competition for:

APPLY FOR!!!!

Will be announced in Newsletter of CSEPB

Czech Society of Experimental Plant Biology

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**YOU ARE WELCOME TO JOIN
CSEPB**

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Next Student Days of Plant Biology CS 2023?
in person or hybrid?



CHARLES UNIVERSITY
Faculty of Science

biologia plantarum



Czech Society of Experimental Plant Biology

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Where and when to organize next CSEPB meeting:

• Annual Conferences of Students of Experimental Plant Biology

- **2008**, the 6th Conf., **Nove Hrad**, Jiří Šantrůček from the University of South Bohemia in České Budějovice.
- **2009** the 7th Conf., **Brno, Mendel University** - Vilem Reinohl - and **Masaryk University** - Helena Vlašínová and Jaroslava Dubová.
- **2010**, the 8th Conf. at **Charles University in Prague** – Jana Albrechtová, Lubomír Nátr and colleagues from the **Czech University of Life Sciences Prague**, particularly Václav Hejnák.
- **2011** the 9th Conf. at **Charles University in Prague**, Jana Albrechtová and Lubomír Nátr
- **2012**, the 10th Conf.. at the **Institute of Biophysics of the Czech Academy of Sciences in Brno**, the main organizer Boris Vyskot and his collaborators from the Biomania, a society of students of the Faculty of Science, Masaryk University in Brno – namely Pavlína Šteflová.
- **2013**, the 11th **Conf. at the Pavol Jozef Šafárik University in Košice**, the main organizer Martin Bačkor
- **2014**, **12th Conf. at the University of Palacky in Olomouc**, main organizer Lukáš Spíchal
- **2015**, **13th Conf. at the Czech Globe and Mendel University , Brno**, main organizers Michal V. Marek, Ladislav Havel, Mirka Šprtová, Otmar Urban
- **2017**, **14th Conf., Bratislava, Slovakia, Faculty of Natural Sciences, Comenius University**, Marek Vaculík, Alexander Lux
- **2019**, 15th Conf. Plant Biology CS, Students´Days, Jiří Šantrůček, Marie Hronková
- **2021**, **16th Student Days of Plant Biology CS online**, Martin Janda, Jana Albrechtová

Czech Society of Experimental Plant Biology

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Where and when to organize next CSEPB meeting:

2010: PRAGUE – Jana Albrechtová and Lubomír Nátr
Charles University in Prague, the Czech University of Life Sciences Prague

2013: KOŠICE – Martin Bačkor
the Pavol Jozef Šafárik University in Košice

2015: BRNO – Michal V. Marek and Ladislav Havel
CzechGlobe, Mendel University, Masaryk University

2019: ČESKÉ BUDĚJOVICE, PLANT BIOLOGY CS – Jiří Šantrůček, Marie Hronková
the University of South Bohemia and Biology Centre of the Czech Academy of Sciences in České Budějovice

2022? 2023? 2024?

student oral and poster presentations special prizes of CSEPB

with support of

Council of Scientific Societies of Czech Republic

Physiological Section of Slovak Botanical Society

Institute of Experimental Botany, CAS



special prizes of CSEPB

THE BEST ORAL PRESENTATION:

1st place: Invited review to *Biologia Plantarum* (for free) + 7 500 CZK / 300 EURO

2nd place: 5 000 CZK / 200 EUR

3rd place: 3 000 CZK / 120 EUR

The best oral talk was evaluated by the members of scientific committee at the end of the conference.

THE BEST POSTER PRESENTATION:

1st place: 5 000 CZK / 200 EUR

2nd place: 3 000 CZK / 120 EUR

3rd place: 2 000 CZK / 80 EUR

The best poster presentation will be evaluated by all participants until the 8th September 15:00. Participants will obtain the form for the evaluation and if you will want to evaluate the posters you can just send the filled form to email pbcs2021@csebr.cz.

The best presentation on Photosynthesis topic: Invited review to *Photosynthetica* (for free)

THE BEST POSTER PRESENTATION:

- 17:47 – 17:50 Antonio **Colussi**
THE ROLE OF IRON IN PHOTOSYNTHESIS REGULATION OF TRICHODESMIUM
- 17:51 – 17:54 Elizabeth **Figueroa** Valencia
INHIBITION OF THE HIGHLY RESILIENT GRAZER - COLPODA STEINII BY HIGH SALINITY MEDIUM IN THE CULTURE OF SYNECHOCYSTIS SALINA CCALA192
- 17:55 – 17:58 Lena **Hunt**
LIGHT, [CO₂], AND VARIETY INFLUENCE STOMATAL DENSITY AND PHYSIOLOGY IN BARLEY
- 17:59 – 18:02 Anna **Kampová**
WHAT IS THE ESSENCE OF ANTHHER DEHISCENCE FINALIZATION?
- 18:03 – 18:05 Juraj **Kleman**
PARASITISM AS A VIABLE LIFESTYLE FOR PLANTS
- 18:06 – 18:09 Anna **Kokavcová**
COPPER AND ZINC ACCUMULATION, DISTRIBUTION, AND TOLERANCE IN THE ROOTS OF PISTIA STRATIOTES (L.) AND ITS POTENTIAL FOR PHYTOREMEDIATION
- 18:10 – 18:13 Pavel **Kopecký**
FACTORS INFLUENCING DORMANCY AND GERMINATION OF VICIA CRACCA SEEDS
- 18:14 – 18:17 Dominik **Kostoláni**
PHYSIOLOGICAL RESPONSES OF YOUNG PEA SEEDLINGS TO PLASMA-ACTIVATED WATER
- 18:18 – 18:21 Elena **Kumanova**
THREE TILIA SPECIES DIFFER IN THEIR LEAF PHYSIOLOGY IN AUTUMN
- 18:22 – 18:25 Ajay **Kumar**
THE EXPRESSION PATTERN OF TWO CLOSE ARABIDOPSIS HOMOLOGS, ATSYT4 AND ATSYT5, INDICATES THEIR DIFFERENT ROLE IN PLANT DEVELOPMENT
- 18:26 – 18:29 Adriana **Mišúthová**
THE IMPACT OF SIMULTANEOUS EFFECT OF SILICON AND ARSENIC ON GROWTH, IONOMICS AND ANTIOXIDANT PERFORMANCE IN YOUNG MAIZE ROOTS
- 18:30 – 18:33 Vidya Chirappurathu Sukumaran **Nair**
ROLE OF ARBUSCULAR MYCORRHIZA AND SILICON IN ALLEVIATING ANTIMONY TOXICITY IN MAIZE
- 18:34 – 18:37 Michaela **Neubergerová**
SALICYLIC ACID AND PHOSPHATIDYLINOSITOL-4-KINASES β 1 AND β 2 REGULATE MICROSOMAL PROTEOME IN ARABIDOPSIS
- 18:38 – 18:41 Dalibor **Novokmet**
THE ROLE OF M6A RNA METHYLATION IN PHYSCOMITRIUM PATENS
- 18:42 – 18:45 Buse **PINAR**
THE ROLE OF SUMO METABOLISM IN ENDOPLASMIC RETICULUM STRESS TOLERANCE OF ARABIDOPSIS THALIANA
- 18:46 – 18:49 Karel **Raabe**
CHARACTERIZATION OF EIF3 SUBUNIT A IN ARABIDOPSIS THALIANA
- 18:50 – 18:53 Alexander **Tomov**
AQUAPONICS AS PHYTOEFFECTOR FOR THE TERRESTRIAL ORCHID LUDISIA DISCOLOR
- 18:54 – 18:57 María Guadalupe **Trejo-Arellano**
TRANSCRIPTOME AND H3K27ME3 DISTRIBUTION PROFILING DURING SEEDLING ESTABLISHMENT IN ARABIDOPSIS THALIANA



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**CSEPB Award for
THE BEST POSTER
PRESENTATION:
3rd place: Anna Kampová**

2 000 CZK / 80 EUR

16th STUDENT DAYS OF PLANT BIOLOGY CS 2021

7th and 8th September 2021, online

Czech Society of Experimental Plant Biology Award for
BEST POSTER PRESENTATION

3rd PLACE

ANNA KAMPOVÁ

(Charles University, Faculty of Science, Department of Experimental Plant Biology)

For the outstanding poster presentation at the meeting.



Prof. Jana Albrechtová

Faculty of Science, Charles University, Prague; Czech Society of Experimental Plant Biology

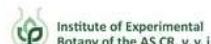
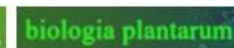
Dr. Martin Janda

Faculty of Science, University of South Bohemia, ČB; Czech Society of Experimental Plant Biology

Assoc. Prof. Marek Vaculík

Comenius University in Bratislava; Plant Sci. and Biodiv. Center SAS; Slovak Botanical Society

Partners of the competition(s)



CSEPB Award for

THE BEST POSTER PRESENTATION:

3rd place: Anna Kampová

2 000 CZK / 80 EUR



What is the essence of anther dehiscence finalization?

Anna Kampová^a, Jan Petrášek^{a,b}, Stanislav Vosolsobě^a

^aDepartment of Experimental Plant Biology, Faculty of Science, Charles University, Prague, Czech Republic; ^bInstitute of Experimental Botany of the Czech Academy of Sciences, Prague, Czech Republic
www.bimimlab.mobot.cz

Introduction
 Anther dehiscence is a process of pollen grains release. Anther consists of various cell types, some of them are degraded during anther maturation, but this alone does not enable anther opening. Last but not less important step is anther dehydration and outward bending of anther walls. In nature, timing of anther dehiscence strongly depends on weather. We designed an experimental system for dew simulation where we were able to study exposition of anthers (and flowers) to dew. We found out that, when anthers are exposed to dew, anther dehiscence is paused before dehydration.

We studied several fluorescent marker lines in order to find out what the status of epidermal and endothelial cells was before anther dehiscence finalization – before and after dew application stopped. We also wanted to examine whether PCD is involved.

What is the physiological status of anther cells right before completion of anther dehiscence?
Is anther opening passive or autonomous process?

Chamber for dew simulation

Anther walls consist only of epidermis and endothecium. These two cell types are the only ones left at this stage of anther dehiscence.

Conclusions

- Dew unequivocally but temporarily blocks the final stage of anther dehiscence.
- Plasma membrane and vacuoles of anther cells are intact just before the anther walls start bending outward.
- Anther cells undergo some type of cell-autonomous destructive process but involvement of classical PCD has not been confirmed yet.

What happens with vacuoles?
 We observed *A. thaliana* anthers stably expressing *PUBQ10::TomM*, where a free GFP is in cytoplasm and RFP is localized in vacuole. Tonoplast rupture leads to merging of the two signals (orange). We were able to clearly distinguish signals of GFP and RFP in cells of anthers which were still exposed to artificial dew (Fig. 1). Only once the water treatment stopped, tonoplast rupture appeared (Fig. 2). Tonoplast of epidermal cells usually stayed intact longer than of endothelial cells.

What is the condition of tonoplast?
 We investigated anthers of *A. thaliana* fluorescent marker line expressing *PUBQ10::VAMP711-YFP* to see tonoplasts of vacuoles in anther cells. We found out that tonoplasts were intact just before anther walls started to bend outward which is a result of anther dehydration. According to our observations, no disruption of tonoplasts appeared if anthers were exposed to dew (Fig. 3). Only after dew treatment stopped, tonoplasts started to undergo degeneration as the anther opened (Fig. 4).

How is plasma membrane affected?
A. thaliana expressing tagged aquaporin *p35S::PIP2-GFP* allowed us to observe plasma membrane. There were no visible changes in the tagged aquaporins localization till the moment the dew application was interrupted (Fig. 5). After that, plasma membrane was subjected to catabolic process (Fig. 6). Plasma membranes of some cells stayed intact even after 1 hour. In comparison, we also noticed changes on the level of plasma membrane of filament cells – in an area where the filament is connected to the anther.

Is programmed cell death involved?
 To answer this question, we examined both young and mature anthers of *A. thaliana* PCD marker line expressing *pPASP3::H2A-GFP*. *PASP3* is an aspartic protease expressed in selected cells prior to PCD. We only confirmed tapetum-restricted expression of GFP in early anther developmental stages², not interesting for us (Fig. 7). Later, there were no nuclei-localized GFP expression in either epidermis nor endothecium of mature anther (Fig. 8). Analysis of another PCD marker lines is already planned.

Abbreviations: The authors are grateful to Marjolijn Hendriks, JIP-Plant, Marjolijn Hendriks and MEdiScience for valuable comments and advice, and to Petra Chmelová, Jan Hradek and Josef Benka for their help. Supported by 05/18, grant number 05/18. KAMPAVA, J. PETRASEK, S. VOSOLSIBE, J. CHMELOVA, T. et al. *Plant Physiol* 186, 2020 (2020), 1. Golek, S. et al. *Plant J* 86, 109–119 (2016). 4. Zhou, S. et al. *Plant Cell* 25, 510–527 (2013).

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CSEPB Award for

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PRESENTATION:**

2nd place: Lena Hunt

3 000 CZK / 120 EUR



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**Czech Society of Experimental Plant Biology Award for
BEST POSTER PRESENTATION**

2nd PLACE

LENA HUNT

(Charles University, Faculty of Science, Department of Experimental Plant Biology)

For the outstanding poster presentation at the meeting.



Prof. Jana Albrechtová

Jana Albrechtová
Faculty of Science, Charles University, Prague; Czech Society of Experimental Plant Biology

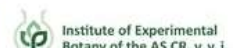
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Lena Hunt



LIGHT, [CO₂], AND VARIETY INFLUENCE STOMATAL DENSITY AND PHYSIOLOGY IN BARLEY

Lena Hunt^a, Michal Fuksa, Karel Klem^b, Zuzana Lhotakova^a, Otmar Urban^b, Jana Albrechtova^a

^a Department of Experimental Plant Biology, Faculty of Science, Charles University, Praha, Czech Republic
^b Global Change Research Institute, Czech Academy of Sciences, Brno, Czech Republic

Introduction:

- Water use efficiency (WUE) is determined by the ratio of carbon assimilated by the plant per amount of water used.
- Stomata regulate the exchange of CO₂ and water vapor and are a major determining factor for WUE.
- In the short-term, stomata conductance is regulated by signalling cascades. Accumulation of the stress hormone, abscisic acid (ABA) induces stomatal closure. ABA-mediated stomatal closure relies on reactive oxygen species (ROS) as signalling components.
- In the long-term, stomatal pores may develop more densely on leaf surfaces according to environmental conditions and genetic background.

Questions:

- How does growth in various light and CO₂ environments affect the WUE of barley plants?
- Is stomatal density the most influential factor regarding WUE?
- Do different varieties of barley adapt differently to the same environmental conditions?

Hypotheses:

- Barley will follow established patterns of reduced stomatal density in low light and elevated CO₂ conditions and increased stomatal density in high light and low CO₂ conditions.
- Differences will exist between the two varieties of barley in terms of stomatal density, conductance, leaf morphology, and ABA accumulation.

Key Findings: Genotype plays a key role in barley's response to light and CO₂ conditions

- Barke – higher stomatal density, greater variability between treatments, higher WUE (even at lower ABA levels)
- Bojos – lower variability for stomatal density, but higher variability in leaf morphology

Barley Cultivars

Barke


Sensitive to oxidative stress
Hydroxybenzoic acids predominant

Bojos

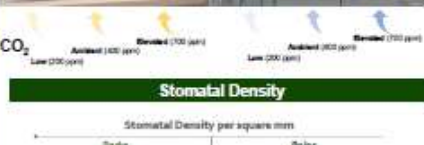
Sensitive to oxidative stress
Hydroxycinnamic acids predominant

Experimental Conditions

High Light 1500 μmol PAR

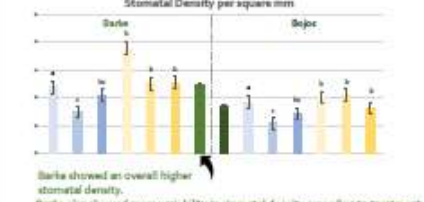


Low Light 400 μmol PAR



CO₂ treatments: Ambient (400 ppm), Elevated (700 ppm), Low (200 ppm)

Stomatal Density

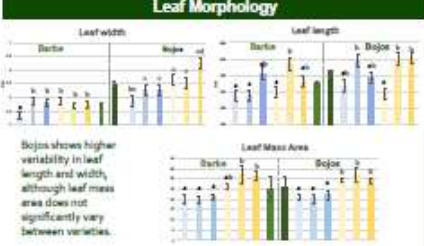


Barke showed an overall higher stomatal density.
Barke also showed more variability in stomatal density according to treatment.
The stomatal densities of Bojos leaves were less influenced by light and CO₂.

Conclusions

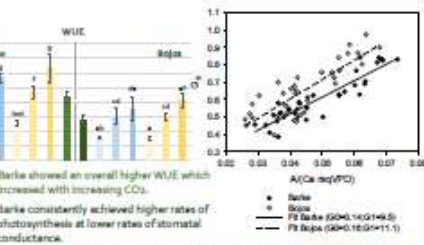
- Stomatal density of barley plants was significantly affected by both [CO₂] and light conditions.
- Barke showed a higher stomatal density, and more variable stomatal density between treatments. By contrast, the stomatal density of Bojos was less variable, although Bojos showed more variability in leaf width and length among treatments.
- Despite having a higher stomatal density, Barke showed a greater WUE. Barke also showed lower levels of ABA.
- Barke is a variety known to be more sensitive to oxidative stress and have fewer hydroxycinnamic acids, which may make it more sensitive to the ROS inhibited ABA signalling cascade.

Leaf Morphology



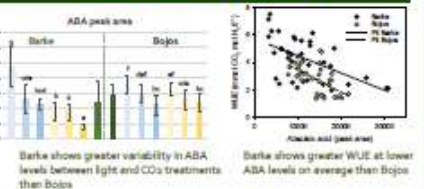
Bojos shows higher variability in leaf length and width, although leaf mass area does not significantly vary between varieties.

Water Use Efficiency



Barke showed an overall higher WUE, which increased with increasing CO₂.
Barke consistently achieved higher rates of photosynthesis at lower rates of stomatal conductance.

Abscisic Acid (ABA) Sensitivity



Barke shows greater variability in ABA levels between light and CO₂ treatments than Bojos.
Barke shows greater WUE at lower ABA levels on average than Bojos.

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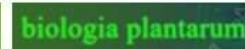
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Anna Kokavcová¹, Filip Morina², Ana Mijovilovic³, Syed Nadeem Husain Bokhari², Peter Mojsa², Jana Kohanová¹, Alexander Lux¹ and Hendrik Köpper^{2,3}

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³University of South Bohemia, Faculty of Science, Department of Experimental Plant Biology, 370 05 České Budějovice, Czech Republic
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Introduction

The free-floating aquatic macrophyte *Pistia stratiotes* (L.), also known as water lettuce, is considered an invasive species that belongs to the family Araceae. In recent years it became common in standing waters of Central Europe, including Slovakia [1]. The individual layers of the root develop from the root apical meristem located in the apex of the root. Every root forms a protective layer that prevents direct contact of the root apex with the soil substrate. This structure is called the root cap. Some types of aquatic plants, such as *P. stratiotes*, form a special type of the root cap called a root pocket different to terrestrial species. When exposed to the abiotic or biotic stress, plant roots develop specific checkpoints in form of specialized cells and tissues, that control the accumulation of water and elements. Therefore distribution and translocation of potentially toxic substances from the root surface to the xylem and to the shoots is regulated by several checkpoints: such as the root cap, endodermis or exodermis. [2]. *Pistia* is a good accumulator of some toxic elements, such as chromium (Cr) and lead (Pb), but also copper (Cu) and zinc (Zn) [3]. The aim of our work was to determine the changes in distribution of selected elements in roots affected by the presence of Cu and Zn that are present in the nutrient solution in various concentrations. The studied parameters were distribution of selected elements using micro X-ray fluorescence spectroscopy (μXRF) [4] and chlorophyll fluorescence kinetics (OJIP) [5].

Experimental setup

We worked with control plants and experimental plants with increased concentrations of copper or zinc in modified nutrient solution optimized for aquatic plants [6]. The plants were kept in the greenhouse throughout the whole pre-cultivation and experimental period, with following conditions: the temperature of air and water 25 ± 2 °C, photoperiodic light cycle 16/8 hours daylight by supplementing external light with LED as uniaxial cycle, max. 400 μmol m⁻² s⁻¹. Each aquarium was wrapped with black foil from the sides and with transparent plastic from the top to maintain humidity. Constant flow of nutrient solution and aeration were provided. Each experiment was 14 days long. *Pistia* plants were treated with 0.1, 0.3 and 1.0 μM concentration of Cu (added as CuSO₄ · 5H₂O) and with 0.3, 1.0 and 3.0 μM concentration of Zn (added as ZnSO₄ · 7H₂O). Basal concentration of Cu in the nutrient solution was 0.03 μM and 0.10 μM of Zn. The pH was 6.8 – 6.9.



Fig. 1: Experimental aquaria used for all treatments and control plants in the aquaria.

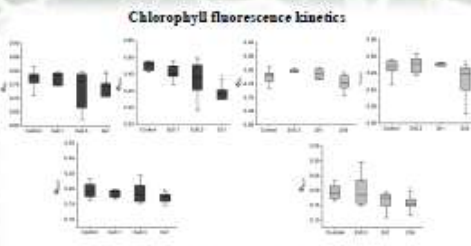


Fig. 2: The box and whisker plot show measured values of F_v/F_m , F_v/F_o , and F_v/F_i in plants treated with different concentrations of Cu and Zn. The measurements were always made in one leaf of one plant ($n = 6$). The boxes represent 50% of all measurements and the whiskers represent the highest and lowest values. Significant differences among the treatments are indicated by asterisk. The values were evaluated by Mann-Whitney U test ($p < 0.05$). Values: Control – without additional Zn or Cu, Zn 0.3 – 0.3 μM Zn, Zn 1 – 1 μM Zn, Zn 3 – 3 μM Zn, Cu 0.1 – 0.1 μM Cu, Cu 0.3 – 0.3 μM Cu, Cu 1 – 1 μM Cu.

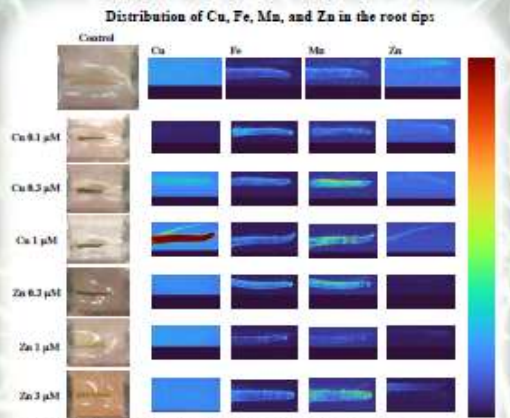


Fig. 3: The fluorescence maps provided by μXRF of Cu, Fe, Mn, and Zn with the scale bar (the highest metal concentration is red). The root caps were removed and placed next to it to the root for measurement. Intense hot spots signal metal contamination on algae.

Conclusion

Our preliminary data show that:

- Cu concentration increased with the concentration of Cu treatments and it was colocalized with Zn showing the same trend.
- The distribution of Zn in Zn treatment changes with increasing Zn concentration, in the highest concentration is the Zn distributed in the part further from the apex, whereas in the lower concentrations and control it is localized in the root apex.
- Fe and Mn showed different distribution than Cu and Zn. Fe and Mn were always distributed in the root cap while Cu and Zn are always distributed in the root proper.
- The highest concentrations of Cu (1 μM) and Zn (3 μM) proved to be severely toxic and caused a significant damage to the photosynthetic apparatus at the PSI level.

Acknowledgement

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Reference:

[1] KOKAVCOVÁ, A., KUŠČEKOVÁ, Z., LEHITSKÁ, H., SEMERÁK, M., DÁNOČ, I.: 2019. Pistia stratiotes as an invader of water surface communities. In: Influence of abiotic and biotic stresses on properties of plants 2018. Pistia. Česká zemědělská univerzita v Praze, 140-150. ISBN 9788024210963, p. 140-142.
 [2] MARTINELA, M., VANCEK, M., LUX, A.: 2014. Plant cell response to cadmium and zinc. In: Applied Plant Cell Biology: Cellular Tools and Approaches for Plant Biotechnology. NICK, P., GRAYSON, Z. eds. Berlin-Heidelberg: Springer, p. 209-246. ISBN 9781447137811.
 [3] VICTOR, E.C., LADE, M., AGUIRE, A.O., CIBRELE, Y.D.A., SAUNDY, D.A.: 2006. Bioaccumulation of heavy metals from wastewater (Pb, Zn, Cu, Cr and Cd) in water hyacinth (Eichhornia crassipes) and water lettuce (Pistia stratiotes). International Journal of Chemical Research 9: 189-196.
 [4] MIJOVILOVIC, A., MORINA, F., BOKHARI, S.N., WOLFF, T., KÖPPER, H.: 2020. Analysis of trace metal distribution in plants with air-based microprobe X-ray fluorescence imaging. Plant Methods 16: 82.
 [5] KÖPPER, H., HINDRICHY, L., MORINA, F., ANDERSON, G., MORINA, A., TRILLER, M.: 2018. Analysis of OJIP chlorophyll fluorescence kinetics and O₂ evolution kinetics by direct fast imaging. Plant Physiology 179: 300-301.
 [6] THOMAS, G., STARK, H.J., WELLENREUTHER, G., DICKINSON, R.C., KÖPPER, H.: 2013. Effect of exogenous copper on water plants – Comparison of biochemical and histological mechanisms of deficiency and sublethal toxicity under environmental

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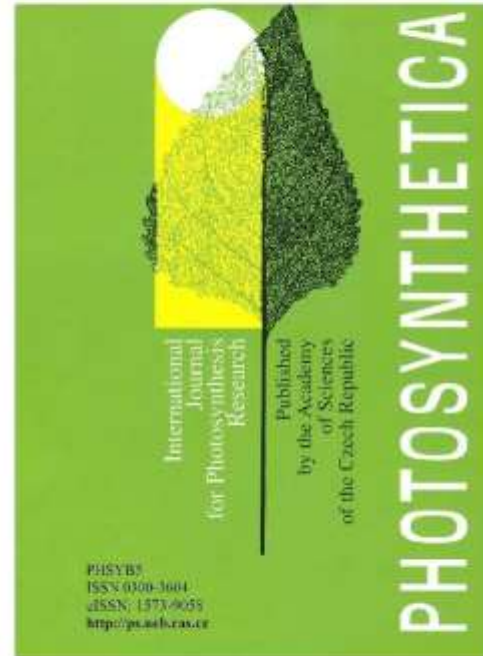
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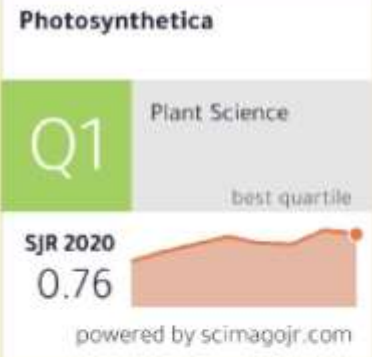
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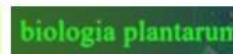
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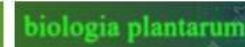
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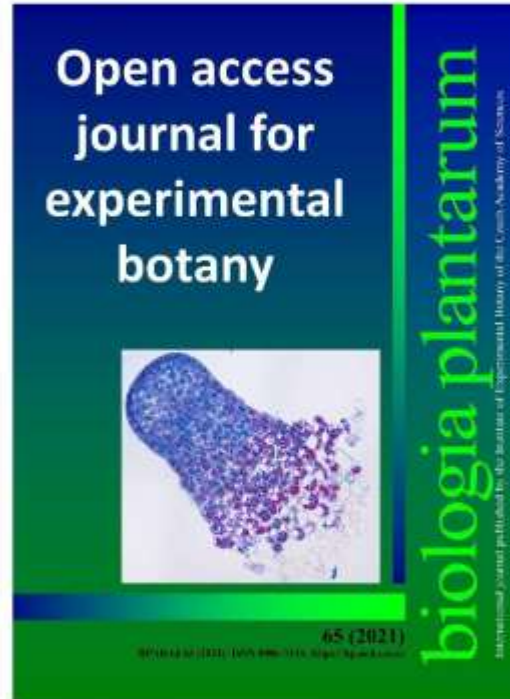
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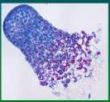
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