

Curriculum vitae

Lenka Procházková

lenka.prochazkova@natur.cuni.cz

Born 1984 April 1st, Prague, Czech Republic; married, daughter Ludmila (*2013)

Address:

Charles University, Faculty of Science, Department of Ecology, Viničná 7, 128 44, Prague 2, Czech Republic

Study and practice

Since 2014: Research assistant at the Charles University, Faculty of Science, Department of Ecology – part time position

Since 2010: PhD study in Ecology: Charles University, Faculty of Science, Department of Ecology

2007–2010: Master study in Ecology: Charles University, Faculty of Science, Department of Ecology

Thesis topic: Phytoplankton of the Tatra lakes: factors influencing taxonomic composition and biomass

2004–2007: Bachelor study in Biology: Charles University, Faculty of Science, Department of Ecology

Thesis topic: Phytoplankton of high alpine lakes: factors influencing species composition and biomass

Field research expeditions in last three years

Alps (Austria, Switzerland, Slovenia)

High Tatra Mountains (Slovakia, Poland)

Svalbard (Norway)

Krkonoše, Šumava, Jeseníky (Czech Republic)

Research interests:

Ecology, physiology and taxonomy of snow algal communities in Alpine-Arctic ecosystems

Limnology and ecology of phytoplankton of mountain lakes

Water quality monitoring based on phytoplankton analysis

Projects (a team member):

2018–2020 Ecophysiological diversity of snow algae – a combined field and laboratory study
Czech Science Foundation Project 18-02634S

2017–2019 Very long chain fatty acids from microorganisms
Czech Science Foundation Project 17-00027S

2014–2016 Microorganisms as a source of essential fatty acids with focus on extremophile strains; Czech Science Foundation Project 14-00227S

International collaboration

with dr. Daniel Remias (University of Applied Sciences Upper Austria, Wels, Austria)

2017–2020 Metabolomics and Biodiversity of Snow and Ice Phototrophs (FWF P29959)

Membership in Scientific Societies:

Since 2018 Phycology Section in the German Society for Plant Sciences (DBG)
Since 2009 Czech Phycological Society
Since 2009 Czech Limnological Society

Teaching activities at the Faculty of Science, Charles University:

Field course in ecology - natural systems, communities and organisms are research objects allowing to formulate sound hypotheses and to verify them

Microscopic techniques - introduction into the theory of electron microscopy and preparation of specimens. Demonstration of work with transmission electron microscope

Overview of publication activity:

- 14 papers in ISI-covered journals (including those in press), 1 paper in another peer-reviewed journal, 1 national patent

Citation metrics (WoS, November 2019): 53 citations, H-index: 4

WoS Researcher ID: V-5813-2019

ORCID: 0000-0003-3995-6483

Publications in SCI journals

Remias D, **Procházková L**, Nedbalová L & Andersen R A (in press): Two new *Kremastochryopsis* species, *K. austriaca* sp. nov. and *K. americana* sp. nov. (Chrysophyceae). *Journal of Phycology*, doi: 10.1111/jpy.12937.

Procházková L, Remias D, Řezanka T & Nedbalová L (2019): Ecophysiology of *Chloromonas hindakii*, sp. nov. (Chlorophyceae), causing orange snow blooms at different light conditions. *Microorganisms* 7(10): 434.

Lutz S, **Procházková L**, Benning LG, Nedbalová L & Remias D (2019): Evaluating amplicon high-throughput sequencing data of microalgae living in melting snow: improvements and limitations. *Fottea*, 19(2): 115–131.

Procházková L, Leya T, Křížková H & Nedbalová L (2019): *Sanguina nivaloides* and *Sanguina aurantia* gen. et spp. nov. (Chlorophyta): the taxonomy, phylogeny, biogeography and ecology of two newly recognised algae causing red and orange snow. *FEMS Microbiology Ecology* 95(6): fiz064.

Osterrothová K, Culka A, Němečková K, Kaftan D, Nedbalová L, **Procházková L** & Jehlička J (2019): Analyzing carotenoids of snow algae by Raman microspectroscopy and high-performance liquid chromatography. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 212: 262–271.

Remias D, **Procházková L**, Holzinger A & Nedbalová L (2018): Ecology, cytology and phylogeny of the snow alga *Scotiella cryophila* K-1 (Chlamydomonadales, Chlorophyta) from the Austrian Alps. *Phycologia* 57(5): 581–592.

Procházková L, Remias D, Řezanka T & Nedbalová L (2018): *Chloromonas nivalis* subsp. *tatrae*, subsp. nov. (Chlamydomonadales, Chlorophyta): re-examination of a snow alga from the High Tatra Mountains (Slovakia). *Fottea* 18(1): 1–18.

Procházková L, Remias D, Holzinger A, Řezanka T & Nedbalová L (2018): Ecophysiological and morphological comparison of two populations of *Chlainomonas* sp. (Chlorophyta) causing red snow on ice-covered lakes in the High Tatras and Austrian Alps. *European Journal of Phycology* 53(2): 230–243.

Nedbalová L, Mihál M, Kvíderová J, **Procházková L**, Řezanka T & Elster J (2017): Identity, ecology and ecophysiology of planktic green algae dominating in ice-covered lakes on James Ross Island (northeastern Antarctic Peninsula). *Extremophiles* 21(1): 187–200.

Řezanka T, Nedbalová L, Lukavský L, **Procházková L** & Sigler K (2017): Lipidomic analysis of two closely related strains of the microalga *Parietochloris* (Trebouxiophyceae, Chlorophyta). *Algal Research* 25: 473–482.

Lang P, Meis S, **Procházková L**, Carvalho L, Mackay E B, Woods H J, Pottie J, Milne I, Taylor C, Maberly SC & Spears BM (2016): Phytoplankton community responses in a shallow lake following lanthanum-bentonite application. *Water Research* 97(15): 55–68.

Řezanka T, Nedbalová L, **Procházková L** & Sigler K (2014): Lipidomic profiling of snow algae by ESI-MS and silver-LC/APCI-MS. *Phytochemistry* 100: 34–42.

Lukeš M, **Procházková L**, Shmidt V, Nedbalová L & Kaftan D (2014): Temperature dependence of photosynthesis and thylakoid lipid composition in the red snow alga *Chlamydomonas* cf. *nivalis* (Chlorophyceae). *FEMS Microbiology Ecology* 89(2): 303–315.

Procházková L, Houk V & Nedbalová L (2012): *Discostella tatrlica* sp. nov. (Bacillariophyceae) – a small centric diatom from the Tatra Mountain lakes (Slovakia/Poland). *Fottea* 12(1): 1–12.

Publication in non-impacted journal

Lang P, **Procházková L**, Krkokowski J, Meis, S, Spears B, Milne I & Pottie J (2014): The bizarre Eustigmatacean alga, *Pseudostaurastrum limneticum* (Borge) Chodat, in a shallow, nutrient-enriched Scottish loch: new to the British Isles. *The Glasgow Naturalist* 26: 107–109.

Patent

Řezanka T, Lukavský J, Cepák V & **Procházková L** (2018): A production strain of the *Bracteacoccus bullatus* alga for the production of oils containing essential unsaturated fatty acids, a method of producing these oils and the use of this strain for the industrial production of these oils. *CZ patent 2017-331 (application number), 307402 (document number)*

Presentations at conferences:

Procházková L, Remias D, Nedbalová L & Řezanka T (2019): A new *Chloromonas* species (Volvocales, Chlorophyceae) causing snow blooms in habitats with very different light conditions. 7th European Phycological Congress, Zagreb, Croatia, 25.–30.8. 2019. (talk)

Remias D, Nicoletti C, **Procházková L**, Nedbalová L & Holzinger A (2019): A new croissant-shaped Trebouxiophyceae from volcanic soil at Iceland exhibits high levels of unsaturated fatty acids. 7th European Phycological Congress, Zagreb, Croatia, 25.–30.8. 2019. (talk)

Procházková L (2019): Life in melting mountain snow – a colourful phenomenon. 23rd Alpine Glaciology Meeting, Innsbruck, Austria, 28.2.–1.3. 2019. (talk)

Kaftan D, **Procházková L**, Strunecký O & Nedbalová L (2019): Ecophysiology of European cryotrophic Chlamydomonadales (Chlorophyta). 8th Polar and Alpine Microbiology Conference, Hamilton, New Zealand, 4.–8.2.2019. (talk)

Procházková L, Remias, D, Řezanka T & Nedbalová L (2018): *Chloromonas* sp. WP129, a snow alga capable to grow in very different light conditions. 2nd Snow Algae Meeting, Potsdam, Germany, 15.–16.11.2018. (talk)

Procházková L, Remias D, Řezanka T & Nedbalová L (2018): The snow alga *Chloromonas krienitzii* from the High Tatras (Poland): Ecophysiology and morphology. 12th International Congress of Extremophiles, Ischia, Italy, 16.–20.9. 2018. (talk)

Remias D, **Procházková L**, Nedbalová L, Nicoletti C & Raymond J (2018): Cellular survival strategies of *Kremastochrysis* sp. (Chrysophyceae), a microalga withstanding melting snow as a habitat. 12th International Congress of Extremophiles, Ischia, Italy, 16.–20.9. 2018. (poster)

Procházková L, Remias D, Řezanka T & Nedbalová L. (2018): Ecophysiology and morphology the of snow alga *Chloromonas krienitzii* (Chlorophyceae) from the High Tatra Mountains. 17th Scientific Conference of the Phycology Section of the German Botanical Society, Berchtesgaden, Germany, 11.–14.3.2018. (talk)

Remias D, **Procházková L**, Nedbalová L, Nicoletti C and Raymond J (2018): *Ochromonas* sp. DR75b (Chrysophyceae) isolated from alpine snow: physiological and biochemical characterization. 17th Scientific Conference of the Phycology Section of the German Botanical Society, Berchtesgaden, Germany, 11.–14.3. 2018. (talk)

Procházková L, Remias D, Holzinger A, Řezanka T & Nedbalová L (2017): *Chlainomonas* sp. (Chlorophyceae), an alga causing red snow on ice-covered lakes: Ecophysiological and morphological comparison of two populations (High Tatras vs. Austrian Alps). 58th meeting of the Czech phycological society, Ostrava, Czech Republic, 18.–20.9. 2017. (talk)

Procházková L, Remias D & Nedbalová (2017): Ecophysiological and taxonomic re-evaluation of three *Chloromonas* spp. living in snow: cosmopolitan species turn out to be local ones. 11th International Phycological Congress, Szczecin, Poland, 13.–29.8.2017. (poster)

Remias D, Lutz S, **Procházková L**, Benning LG & Nedbalová L (2017): Applying high throughput sequencing (HTS) on snow algae: current state, knowledge gaps and future perspectives. 11th International Phycological Congress, Szczecin, Poland, 13.–29.8.2017. (talk)

Procházková L & Nedbalová L (2016): Ultrastructural morphology and genetics of the cosmopolitan species *Chlamydomonas nivalis*. 1st Snow Algae Meeting, Potsdam, Germany, 18.–19.5. 2016. (talk)

Procházková L, Remias D & Nedbalová L (2016): Comparing snow algae from High Tatra Mountains vs. Austrian Alps: morphology and physiology in relationship to phylogenetic affiliations. 57th meeting of the Czech Phycological Society, Prague, Czech Republic, 18.–21.9.2016. (talk)

Procházková L, Kaftan D & Nedbalová L. (2015): Light and temperature dependence of photosynthesis in Chlamydomonads isolated from snow. 6th Polar and Alpine Microbiology conference, České Budějovice, Czech Republic, 6.–10.9.2015. (poster)

Procházková L & Nedbalová (2015): Phylogeny, morphology and ecophysiology of snow algae causing red snow. 56th Conference of the Czech Phycological Society, Prague, Czech Republic, 20.–24.9.2015. (talk, in Czech)

Řezanka T, Nedbalová L & **Procházková L** (2014): Snow algae – new resources of biotechnologically important polyunsaturated fatty acids with 16 carbon atoms. 10th International Congress on Extremophiles, Saint Petersburg, Russia, 7.–11.9.2014. (poster)

Procházková L & Hořická Z (2013): Long-term changes in phytoplankton composition in water dams in Jizera Mountains (Souš, Josefův Důl) in the context of their recovery from acidification. Water Supply Biology Conference, Prague, Czech Republic, 6.–7.2.2013. (talk, in Czech)

Nedbalová L, **Procházková L**, Kvíderová, J & Kociánová M (2013): Red snow algae from the Krkonoše Mts.: phylogeny and ecophysiological characteristics. Mountain protected areas in a changing world. Špindlerův Mlýn, Czech Republic, 21.–24.5.2013. (poster)

Hořická Z, Bímová T, **Procházková L**, Stuchlík E & Vondrák D (2012): Biological recovery of reservoirs in the Jizera Mountains (North Bohemia, Czech Republic) and their tributaries from acidification (1992–2011). 28th Task Force ICP Waters, Verbania Pallanza, Italy, 8.–10.10.2012. (talk)

Procházková L, Dřížhalová M, Kvíderová J & Nedbalová L (2012): Ecophysiology of snow algae. 53rd Conference of the Czech Phycological Society, Ostrava, Czech Republic, 18.–20.9.2012. (talk, in Czech)

Procházková L & Hořická Z (2012): Phytoplankton of water dams in Jizera Mountains in the periods of acidification and recovery from the acidification. XIV. Conference Slovak and Czech Limnological Society, Jasná, Slovakia, 25.–29.6.2012. (poster, in Czech)

Procházková L, Houk V, Nedbalová L & Stuchlík E (2012): Planktonic diatoms in Tatra Mountains lakes (Slovakia/Poland). XIV. Conference Slovak and Czech Limnological Society, Jasná, Slovakia, 25.–29.6.2012. (talk, in Czech)

Procházková L & Nedbalová L (2011): Phytoplankton of Tatra Mountain lakes: species richness and biomass pattern in a lake district recovering from acidity. 4th Polar and Alpine Microbiology, Ljubljana, Slovenia, 4.–8.9.2011. (talk)

Procházková L, Nedbalová L & Kaftan D (2011): Temperature and irradiance dependent photosynthesis of snow alga *Chlamydomonas* cf. *nivalis*. 52nd Conference of the Czech Phycological Society, Prague, Czech Republic, 13.–16.9.2011. (talk, in Czech)