

# Petr Kohout

## Curriculum vitae (16. 02. 2015)

Born: 26.06.1986

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### Employers

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Ph.D. student:  
Institute of Ecology and Earth Sciences  
University of Tartu  
40 Lai, 51005 Tartu, Estonia

Researcher:  
Department of Mycorrhizal Symbioses  
Institute of Botany, AS CR  
Lesní 322, 252 43 Průhonice, Czech Republic

Department of Experimental Plant Biology  
Charles University in Prague, Faculty of Science  
Viničná 5, 128 44 Prague, Czech Republic

### Education

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2012 - present	PhD study, Department of Botany, University of Tartu, Estonia (Dr. Leho Tedersoo, prof. Urmas Kõljalg)
2008 – 2011	Master Degree, Department of Experimental Plant Biology, Faculty of Science, Charles University in Prague, Czech Rep. (Dr. Martin Vohník, prof. Jana Albrechtová)
2005 - 2008	Bachelor Degree, Department of Experimental Plant Biology, Faculty of Science, Charles University in Prague, Czech Rep.

### Research Interests

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Diversity and ecology of mycorrhizal fungi  
Diversity and ecology of root endophytes  
Mycorrhizal symbiosis of invasive plants  
DNA barcoding of fungal species

### Expertise

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Microbial community ecology  
Methods of molecular identification and phylogenetic analyses of mycorrhizal fungi  
454-sequencing and bioinformatics (Mothur, Usearch, PlutoF, CLOTU)  
Isolation and cultivation of pure cultures of orchid, ericoid and ectomycorrhizal fungi  
*In-vitro* cultivation of experimental plants and fungi

### Grants and Fellowships

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2009 – 2010	Grant Agency of Charles University: “Is fitness of <i>Pinus strobus</i> , an invasive species in the Czech Republic, influenced by Ericaceae
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	and their symbiotic fungi? A comparison with native <i>Pinus sylvestris</i> ” ( <b>project leader</b> )
2010 – 2013	Czech Science Foundation: “Arbuscular mycorrhizal fungi and dark septate endophytes colonising the roots of submerged aquatic macrophytes, <i>Isoetes lacustris</i> and <i>I. echinospora</i> ” ( <b>researcher</b> )
2010 – 2013	Czech Science Foundation: “Factors affecting germination and mycorrhizal associations in an endangered species <i>Pseudorchis albida</i> (Orchidaceae)” ( <b>researcher</b> )
2010 – 2012	COST OC 10058, The Ministry of Education of the Czech Republic: “Ectomycorrhizae of Norway spruce in montane forests of Central Europe: distribution, biomass production/carbon allocation and interactions with understory vegetation” ( <b>researcher</b> )
2011 – 2012	Grant Agency of Charles University: “Is the diversity of arbuscular mycorrhizal fungi influenced by the specific conditions of serpentine soils?” ( <b>researcher</b> )
2011 – present	Czech Science Foundation: “Response of plant communities to invasion: trans-continental biogeographical comparisons of the effects of alien and native dominants“ ( <b>researcher</b> )
2011 – 2013	Grant Agency of Charles University: “The role of DSE (Dark Septate Endophytes) in plant communities in forest ecosystem” ( <b>researcher</b> )
2013 - present	Mycorrhizal community dynamics during succession on mining heaps in relation to changes in vegetation and soil development ( <b>researcher</b> )

### Awards

2012	Prize of prof. Jaroslav Heyrovský for the best diploma thesis in Natural Sciences in the Charles University in Prague.
2010	Award for one of the best young scientist oral presentation on 12 <sup>th</sup> Conference on Experimental Plant Biology 2010, Prague, Czech Rep.
2008	Award for the best young scientist presentation on Plant-Microbial Interactions 2008, Kraków, Poland.

### Review assignments

New Phytologist, PLoS One, Soil Biology and Biochemistry, Annals of Botany, Pedosphere, Mycorrhiza, Canadian Journal of Microbiology

### Publications (12)

2015

Oja J, Kohout P, Tedersoo L, Kull T, Kõljalg U (2015). Temporal patterns of orchid mycorrhizal fungi in meadows and forests as revealed by 454 pyrosequencing. Early online in *New Phytologist* 2014

Kohout P, Sudová R, Janoušková M, Čtvrtlíková M, Hejda M, Pánková H, Slavíková R, Štajerová K, Vosátka M, Sýkorová Z (2014). Comparison of commonly used primer sets for evaluation of arbuscular mycorrhizal fungal communities: Is there a universal solution? *Soil Biology and Biochemistry* 68: 482-493.

Leho Tedersoo, Mohammad Bahram, Sergei Põlme, Urmas Kõljalg, Nourou S. Yorou, Ravi Wijesundera, Sandra Abell, Luis Villarreal Ruiz, Pham Quang Thu, Ave Suija, Matthew E. Smith, Cathy Sharp, Erki Saluveer, Alessandro Saitta, Miguel Rosas, Taavi Riit, David Ratkowsky, Karin Pritsch, Kadri Põldmaa, Meike Piepenbring, Cherdchai Phosri, Marko Peterson, Kaarin Parts, Kadri Pärtel, Aida Vasco Palacios, Eveli Otsing, Eduardo Nouhra, André L. Njounkou, R. Henrik Nilsson, Jordan Mayor, Tom W. May, Luiza Majuakim, Su See Lee, Karl-Henrik Larsson, **Petr**

**Kohout**, Kentaro Hosaka, Indrek Hiiesalu, Terry W. Henkel, Helery Harend, Liang-dong Guo, Alina Greslebin Gwen Grelet, Jozsef Geml, Genevieve Gates, William Dunstan, Chris Dunk, Rein Drenkhan, John Dearnaley, André De Kesel, Tan Dang, Xin Chen, Franz Buegger, Francis Q. Brearley, Gregory Bonito, Sten Anslan, Kessy Abarenkov (2014). Global diversity and geography of soil fungi. *Science* (2014) 346: 1256688.

2013

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**Kohout P**, Malinová T, Roy M, Vohník M and Jersáková J (2013) Diverse fungal community associated with roots of *Pseudorchis albida* (Orchidaceae). *Fungal Ecology* 6: 50-64.

Bahram M, Kõljalg U, **Kohout P**, Mirshahvaladi S and Tedersoo L (2013) Ectomycorrhizal fungal community and diversity of exotic pine plantations in relation to native Fagales in Iran: evidence of host switch of local symbionts to distantly related exotic host taxa. *Mycorrhiza* 23: 11-19.

Doubková P, **Kohout P**, Sudová R (2013). Soil nutritional status, not inoculum identity primarily determines the effect of different arbuscular mycorrhizal fungi on the growth of *Knautia arvensis* plants. *Mycorrhiza* 23: 561-572.

Vohník M, Mrnka L, Lukešová T, Bruzone MC, **Kohout P** and Fehrer J (2013). The cultivable endophytic community of Norway spruce ectomycorrhizae from microhabitats lacking ericaceous hosts is dominated by ericoid mycorrhizal *Meliniomyces variabilis*. *Fungal Ecology* 6: 281-292.

Kõljalg U, Nilsson RH, Abarenkov A, Tedersoo T, Taylor AFS, Bahram M, Bates ST, Bruns TD, Bengtsson-Palme J, Martin T, Callaghan, Douglas B, Drenkhan T, Eberhardt U, Dueñas M, Grebenc T, Griffith GW, Hartmann M, Kirk PM, **Kohout P**, Larsson E, Lindahl BD, Lücking R, Martín MP, Matheny PB, Nguyen NH, Niskanen T, Oja J, Peay KG, Peintner U, Peterson M, Põldmaa K, Saag L, Saar I, Schüßler A, Senés C, Smith ME, Suija A, Taylor L, Telleria MT, Weiß M and Larsson KH (2013). Towards a unified paradigm for sequence-based identification of Fungi. *Molecular Ecology* 22: 271-277.

2012

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**Kohout P**, Sýkorová Z, Čtvrtlíková M, Rydlová J, Suda J, Vohník M and Sudová R (2012) Surprising spectra of root associated fungi in submerged aquatic plants. *FEMS Microbiology Ecology* 80: 216-235.

Vohník M, Sadowsky JJ, **Kohout P**, Lhotáková Z, Nestby R and Kolařík M (2012) Novel root-fungus symbiosis in Ericaceae: sheathed ericoid mycorrhiza formed by a hitherto undescribed lineage in Agaricomycetes. *PLoS ONE* 7: e39524.

2011

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**Kohout P**, Sýkorová Z, Bahram M, Hadincová V, Albrechtová J, Tedersoo L and Vohník M (2011) Understorey ericaceous shrubs affect ectomycorrhizal fungal community of the invasive *Pinus strobus* and native *Pinus sylvestris* in a pot experiment. *Mycorrhiza* 21: 403-412.

Tedersoo L, Abarenkov K, Nilsson RH, Schüßler A, Grelet GA, **Kohout P**, Oja J, Bonito GM, Veldre V, Jairus T, Ryberg M, Larsson KH and Kõljalg U (2011) Tidying up GenBank: quality and metadata annotation of ITS sequences of mycorrhizal fungi. *PLoS ONE* 6: e24904.

### **Submitted papers (6)**

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**Kohout P**, Doubková P, Bahram M, Suda J, Tedersoo L, Voříšková J, Sudová R. Niche specialization and community structuring of arbuscular mycorrhizal fungi in a temperate grassland on a local scale. Submitted to the *Molecular Ecology*

**Kohout P**, Bahram M, Põlme S, Tedersoo L. Altitude, space and host plant biogeography origin structure Ericaceae root associated fungal communities on Papua New Guinea. Submitted to the *New Phytologist*

Bahram M, **Kohout P**, Anslan S, Harend H, Abarenkov K, Tedersoo L. Fine-scale spatial patterns of soil biota provide evidence for the predominance of stochastic processes in community assembly. Submitted to the *ISME Journal*

Lukešová T, **Kohout P**, Albrechtová J, Větrovský T, Vohník M (2015). The potential of Dark Septate Endophytes to form root symbioses with ectomycorrhizal and ericoid mycorrhizal middle European forest plants. Submitted to the *PLoS One*

Põlme S, **Kohout P**, Bahram M, Oja J, Kõljalg U, Moora M, Zobel M, Öpik M, Tedersoo L.  
Arbuscular mycorrhizal fungi associating with roots of *Alnus* and *Rubus* in Europe and Middle  
East. Submitted to the *Fungal Ecology*

Sýkorová Z, Rydlová J, Slavíková R, Ness T, **Kohout P**, Püschel D. Appraisal of mycorrhizal  
inoculation in forest reclamation of fly ash deposits. Submitted to the *Soil Biology and  
Biochemistry*

#### **Citations**

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**WoS/Google Scholar:** 115/188

#### **H-index**

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**WoS/Google Scholar:** 6/8

#### **Supervised students**

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Mgr. Tomáš Antl, Mgr. Tereza Lukešová