

Mgr. Tomáš Pánek, Ph.D.

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Scientific Metrics

- researcherID: S-8539-2017
- scientific articles in journals with impact factor: 14
- h-index: 8 (Web of Science Core Collection)

https://www.researchgate.net/profile/Tomas_Panek

<https://scholar.google.cz/citations?user=2LWRBQwAAAAJ&hl=cs>



Education

- 2009 Bachelor of Science, Charles University in Prague (summa cum laude); B.Sc. thesis: Heterolobosea – diversity and evolution (supervisor: prof. RNDr. Ivan Čepička, Ph.D.)
- 2011 Master of Science, Charles University in Prague (summa cum laude); M.Sc. thesis: Evolution of anaerobic Heterolobosea (supervisor: prof. RNDr. Ivan Čepička, Ph.D.)
- 2015 Doctor of Philosophy (Ph.D.) in Zoology, Charles University in Prague; Ph.D. thesis: Diversity and evolution of anaerobic heteroloboseans (supervisor: prof. RNDr. Ivan Čepička, Ph.D.)

Professional positions

- 2011 – Sept 2015 Research Scientist (Charles University, Faculty of Science, Department of Zoology, Ivan Čepička laboratory)
- Oct 2015 – Aug 2019 Postdoctoral fellow (University of Ostrava, Department of Biology and Ecology, Marek Eliáš laboratory)
- Set 2019 – on Assistant Professor, Charles University, Faculty of Science, Department of Zoology

Research visits

- Jun 26 – Oct 01, 2013 Visiting graduate student, prof. Andrew Roger laboratory, Dalhousie University, Halifax, Canada. Purpose of the visit: Transcriptomic characterization of anaerobic mitochondria.
- Sep 01, 2018 – Apr 01, 2019 Fulbright Visiting Scholar (Fulbright Grant for Scholars and Researchers); Matthew W. Brown laboratory; Mississippi State

University, Starkville, USA. Purpose: Phylogenomics and transcriptomics of neglected eukaryotic lineages.

Research interests

Evolution of the Eukaryotic Cell; Molecular Phylogenetics and Phylogenomics, Diversity of Neglected Eukaryotic Lineages; Genetic Code Evolution; Flagellar Apparatus; Mitochondrion; Evolution of anaerobiosis.

Courses (lecturer) and students (supervisor, co-supervisor)

2011 – 2015 Exercise in Protistology (Charles University in Prague, partially)
2015 - on Practical Course of Bioinformatics (University of Ostrava, partially)
2016 - on Biology of Protists and Fungi (University of Ostrava, partially)
2016 - on Principles of Molecular Systematics (University of Ostrava, partially)
2019 – on Exercise in Protistology (Charles University in Prague, partially)

I was also supervisor of one bachelor student (Martin Sokol) who successfully defended his thesis “Evolution of non-canonical genetic codes” in May 2017 (University of Ostrava). Currently, I am co-supervisor of one PhD student (David Žihala, University of Ostrava).

Other professional activities

Selected international conferences:

Jul 13-16, 2011 Joint Meeting of the Phycological Society of America, International Society of Protistologists & Northwest Algal Symposium, Seattle, USA (talk)

Jul 29 – Aug 3, 2012 Protist 2012 (ISOP 62th and ISEP XIX), Oslo, Norway (poster)

Jul 28 – Aug 2, 2013 14th International Congress of Protistology, Vancouver, Canada (talk)

Aug 3-8, 2014 Protist 2014, Banff, Canada (talk)

Sep 5-10, 2015 7th European Congress of Protistology, Sevilla, Spain (talk and poster)

Jun 6-10, 2016 Protist 2016, Moscow, Russian Federation (talk)

Jul 30 – Aug 4, 2017 15th International Congress of Protistology, Prague, Czech Republic (talk)

Oct 14-19, 2017 EMBO workshop on Comparative genomics of eukaryotic microbes: Dissecting sources of evolutionary diversity, Sant Feliu de Guíxols, Spain (talk)

Jul 29 – Aug 2, 2018 PSA/ISOP Joint Meeting, Vancouver, Canada (talk)

Jul 28 – Aug 2, 2019 VIII European Congress of Protistology – ISOP Joint Meeting, Rome, Italy

Workshops (participant):

Jan 11 - 22, 2016 Workshop on Genomics, Cesky Krumlov, Czech Republic

Oct 12-14, 2016 Elixir-Excelerate course in genome assembly and annotation, Prague, Czech Republic

Jul 19 – 25, 2016 EukRef 1st workshop, Vancouver, Canada

May 29 – Jun 2, 2017 OstraPy –Python workshop for Biologists, Ostrava, Czech Republic

Jul 29, 2018 Protist Taxonomy: navigating the nomenclatural code, species, and practical considerations, Vancouver, Canada

Membership and activities in professional associations

Czech Society for Parasitology, Section of Protozoology
(www.parazitologie.cz/en/index.html)

- Member of the Society since 2008
- Member of the Executive Committee of the Section of Protozoology (2011-2013)
- Main organizer of the 42nd Jirovec's Protozoological Days, Kletečná, Czech Republic (May 7-11, 2012)

International Society of Protistologists
(<https://protistologists.org>)

- Member of the Society since 2010
- Student Member of the Executive Committee (2011 – 2014)
- Member of Nominating committee (2014 – 2015)
- Executive Secretary of the Society (2016 – on)
- Member of Constitution and Bylaws Committee (2017 – on)
- Member of Programme Committee (2018 – on)

Member of Scientific Committee, 15th International Congress of Protistology, Prague, Czech Republic (<http://www.icop2017.org/committees/>)

Honors, awards and fellowships

2011 The Dean' Award for the outstanding diploma thesis (Charles University in Prague)

2011 - 2015 Supporting Talented PhD Research Students Program Scholarship (Charles University in Prague)

2018 The Dean' Award for outstanding research in 2017 (Faculty of Science, Ostrava University)

2018 - 2019 Fulbright Grant for Scholars and Researchers

Community service

2007 – 2011 Workgroup of Czech Biology Olympiad for A,B categories

I also co-authored two booklets for high school students who participate in the competition:

Čepička I., Faltejsek L., Kolář F., Lišková J., **Pánek T.** (2009): Multicellularity. Czech University of Life Sciences and Central Board of Czech Biology Olympiad (in czech; editor and co-author).

Fíla J., **Pánek T.**, Sekereš J. (2011): Shapes in Living Nature. Czech University of Life Sciences and Central Board of Czech Biological Olympiad (in czech; co-author).

Editorial Boards (member)

Jul 2018 – on Zootaxa (for Protistology)

Publications

Papers submitted or under review in journals with impact factor (last update 26.9.2019):

Horváthová, L., Žárský, V., **Pánek, T.**, Derelle, R., Pyrih, J., Motyčková, A., Klápšťová, V., Klimeš, V., Petřů, M., Vaitová, Z., Čepička, I., Harant, K., Gray, M.W., Guilvout, I., Francetic, O., Lang, F.B., Vlček, Č., Tsaousis, A., Eliáš, M., Doležal, P. (under review). Ancestral mitochondrial protein secretion machinery. *Nature Communications*. Horváthová, Žárský, and Pánek contributed equally.

Papers published in journals with impact factor (last update 26.9.2019):

1. Karnkowska, A., Treitli, S.C., Brzoň, O., Novák, L., Vacek, V., Soukal, P., Barlow, L.D., Herman, E.K., Pipaliya, S., **Pánek, T.**, Žihala, D., Petrželková, R., Butenko, A., Eme, L., Stairs, C.W., Roger, A.J., Eliáš, M., Dacks, J.B.D., Hampl, V. (2019). The *Monocercomonoides exilis* genome displays canonical eukaryotic complexity in the absence of a mitochondrion. *Molecular Biology and Evolution* 36(10): 2292-2312. (Journal Impact Factor 2018 = 14.797).
2. Lahr, D.G., Kosakyan, A., Lara, E., Mitchell E.A.D., Morais, L., Porfírio-Sousa, A., Ribeiro, G.M., Tice, A.K., **Pánek, T.**, Kang, S., Brown, M.W. (2019). Phylogenomics and ancestral morphological reconstruction of Arcellinida testate amoebae demonstrate high diversity of microbial eukaryotes in the Neoproterozoic *Current Biology* 29(6), 991-1001. (Journal Impact Factor 2018 = 9.251)
3. Táborský, P., **Pánek, T.**, Čepička, I. (2017). Anaeramoebidae fam. nov., a novel lineage of anaerobic amoebae and amoebflagellates of uncertain phylogenetic position. *Protist* 168: 495-526. (Journal Impact Factor 2017 = 2.702)
4. Kang, S., Tice, A., Spiegel, F., Silberman, J., **Pánek, T.**, Čepička, I., Kostka, M., Kosakyan, A., Alcantara, D., Roger, A., Shadwick, L., Smirnov, A., Kudryavstev, A., Lahr, D., Brown, M.W. (2017). Between a pod and a hard test: the deep evolution of

amoebae. *Molecular Biology and Evolution* 34: 2258-2270. (Journal Impact Factor 2017 = 10.217)

5. Ishemgulova, A., Butenko, A., Kortiřová, L., Boucinha, C., Grybchuk-Ieremenko, A., Morell, K.A., Tesařová, M., Kraeva, N., Grybchuk, D., **Pánek, T.**, Flegontov, P., Lukeř, J., Votýpka, J., Oppendoes, F.R., Spodareva, V., d'Avila-Levy, C.M., Kostygov, A., Yurchenko, V. (2017). Molecular mechanisms of thermal resistance of the insect trypanosomatid *Crithidia thermophila*. *PLoS ONE* 12: e0174165. (Journal Impact Factor 2017 = 2.766)
6. **Pánek, T.**, Žihala, D., Sokol, M., Derelle, R., Klimeř, V., Hradilová, M., Zadrobílková, E., Susko, E., Roger, A.J., Čepička, I., Eliáš, M. (2017). Nuclear genetic codes with a different meaning of the UAG and the UAA codon. *BMC Biology* 15:8. (Journal Impact Factor 2017 = 5.770)
7. ***Pánek, T.**, Zadrobílková, E., Walker, G., Brown, M. W., Gentekaki, E., Hroudová, M., ... & Čepička, I. (2016). First multigene analysis of Archamoebae (Amoebozoa: Conosa) robustly reveals its phylogeny and shows that Entamoebidae represents a deep lineage of the group. *Molecular Phylogenetics and Evolution* 98: 41-51. (Journal Impact Factor 2016 = 4.419)
8. ***Pánek, T.**, Táborský, P., Pachiadaki, M. G., Hroudová, M., Vlček, Č., Edgcomb, V. P., & Čepička, I. (2015). Combined culture-based and culture-independent approaches provide insights into diversity of jakobids, an extremely plesiomorphic eukaryotic lineage. *Frontiers in Microbiology* 6. (Journal Impact Factor 2015 = 4.165)
9. Zhang, Q., Táborský, P., Silberman, J. D., **Pánek, T.**, Čepička, I., & Simpson, A. G. (2015). Marine Isolates of *Trimastix marina* form a plesiomorphic deep-branching lineage within Preaxostyla, separate from other known trimastigids (*Paratrimastix* n. gen.). *Protist* 166: 468-491. (Journal Impact Factor 2015 = 2.898)
10. Céza, V., **Pánek, T.**, Smejkalová, P., & Čepička, I. (2015). Molecular and morphological diversity of the genus *Hypotrichomonas* (Parabasalia: Hypotrichomonadida), with descriptions of six new species. *European Journal of Protistology* 51: 158-172. (Journal Impact Factor 2015 = 2.553)
11. Yubuki, N., **Pánek, T.**, Yabuki, A., Čepička, I., Takishita, K., Inagaki, Y., & Leander, B. S. (2015). Morphological Identities of Two Different Marine Stramenopile Environmental Sequence Clades: *Bicosoeca kenaiensis* (Hilliard, 1971) and *Cantina marsupialis* (Larsen and Patterson, 1990) gen. nov., comb. nov. *Journal of Eukaryotic Microbiology* 62: 532-542. (Journal Impact Factor 2015 = 2.738)
12. **Pánek, T.**, Simpson, A. G., Hampl, V., & Čepička, I. (2014). *Creneis carolina* gen. et sp. nov. (Heterolobosea), a novel marine anaerobic protist with strikingly derived morphology and life cycle. *Protist* 165: 542-567. (Journal Impact Factor 2014 = 3.045)
13. **Pánek, T.**, Ptáčková, E., & Čepička, I. (2014). Survey on diversity of marine/saline anaerobic Heterolobosea (Excavata: Discoba) with description of seven new species. *International Journal of Systematic and Evolutionary Microbiology* 64: 2280-2304. (Journal Impact Factor 2014 = 2.511)

14. **Pánek, T.**, Silberman, J. D., Yubuki, N., Leander, B. S., & Cepicka, I. (2012). Diversity, evolution and molecular systematics of the Psalteriomonadidae, the main lineage of anaerobic/microaerophilic heteroloboseans (Excavata: Discoba). *Protist* 163: 807-831. (Journal Impact Factor 2012 = 3.136)

(* I am corresponding author of this paper

Chapters in scientific monographs:

Pánek, T., Čepička, I.: Diversity of Heterolobosea. (2012). In Caliskan M (ed) Genetic Diversity in Microorganisms. InTech, Rijeka, pp. 3–26.

***Pánek T.**, Simpson A.G.B., Brown M.W., Dexter-Dyer B. Heterolobosea (2016). In Archibald J.M., Simpson A.G.B., Slamovits C. (eds) Handbook of Protists. Springer, doi:10.1007/978-3-319-32669-6_10-1.

(* I am corresponding author of this chapter