

Appendix

Curriculum vitae

Education

- 2014-2017 Bachelor's degree program in Molecular biology and biochemistry of organisms, Department of Parasitology, Faculty of Science, Charles University, Prague
Thesis: Biology of *Leishmania enriettii* species complex.
Supervisor: RNDr. Jovana Sádlová, PhD.
- 2017-2019 Master's degree in Parasitology, Department of Parasitology, Faculty of Science, Charles University, Prague
Thesis: *Leishmania* of the subgenus *Mundinia*: genetical analysis and experimental infections of rodents and vectors.
Supervisor: RNDr. Jovana Sádlová, PhD.
- 2019 – present PhD. study – Department of Parasitology, Faculty of Science, Charles University, Prague
Title – Experimental animal models and vectors of *Leishmania* (*Mundinia*)
Supervisor: doc. RNDr. Jovana Sádlová, PhD.

Internships

- 2017 Sir William Dunn School of Pathology, University of Oxford,
Laboratory of prof. Eva Gluenz
Duration: 3 weeks
Topic: Preparation of chitinase (LmxM.16.0790) knock-out *Leishmania mexicana* cell lines using CRISPR-Cas9 technology
- Laboratory of Trypanosomatid Biology, University of Ostrava
Duration: 1 week
Topic: Whole genome sequencing training
- 2018 Sir William Dunn School of Pathology, University of Oxford,
Laboratory of prof. Eva Gluenz
Duration: 5 weeks
Topic: qPCR assay preparation and double knock out of *L. mexicana* cell lines using CRISPR-Cas9 technology
- 2019 Sir William Dunn School of Pathology, University of Oxford,
Laboratory of prof. Eva Gluenz
Duration: 2 weeks
Topic: Fluorescent tagging of *L. major*

2022	Wellcome Centre for Integrative Parasitology, Institute of Infection, Immunity and Inflammation, College of Medical Veterinary and Life Sciences, University of Glasgow Duration: 2 months Topic: Addback generation of double knock out <i>L. mexicana</i> cell line and cloning training
2023	Department of Protozoology, Institute for Tropical Medicine in Antwerp, Belgium Duration: 1 month Topic: SureSelect and Spliced-Leader sequencing training

Courses

2020	Certificate of professional competence to design experiments and experimental projects under Section 15d (3) of Act No. 246/1992 Coll., on the protection of Animals against Cruelty, number: CZ03965
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Teaching

2019 – present	teacher, Subject: Microscopic techniques MB160C45 Charles University, Prague
2023	teacher, Subject: Field Course in fish parasitology II, MB160T69 Charles University, Prague

Scientific projects

2021-2023	Investigator in the project GAČR 21-15700S <i>Leishmania</i> -sand fly interaction: new approaches to answer old questions
2023-2025	Investigator in the project GAČR 23-06299S Transmission cycles of <i>Leishmania major</i> in natural reservoir hosts: local analyses with global implications
2021-2026	Investigator in the project Wellcome Trust 221944/Z/20/Z Defining the molecular determinants required for <i>Leishmania</i> life cycle progression and virulence
2022-2025	Investigator in the project HORIZON Europe 101057690 CLIMOS - Climate Monitoring and Decision Support Framework for Sand Fly-borne Diseases Detection and Mitigation with Cost-benefit and Climate-policy Measures
2018-2022	Investigator in the project Medical Research Council MRC: MR/R014973/1 Development of a human challenge model of <i>Leishmania major</i> infection as a tool for assessing vaccines against leishmaniasis

2020-2022	Investigator in the project GAUK 180220 Development of <i>Sauroleishmania</i> in sand flies and geckos
2017-2019	Investigator in the project GAUK 288217 Comparison of different rodent species as hosts of leishmania
2021-2023	Principal investigator in the project START/SCI/083 Development of <i>Mundinia</i> in vectors and hosts: comparison with other <i>Leishmania</i> subgenera

International conferences

Leishmaniasis 2018, 1st International Caparica Congress on Leishmaniasis – 29th – 31st October 2018, Caparica, Portugal

Shotgun presentation and poster: **Tomáš Bečvář**, Jovana Sádlová, Barbora Vojtková, Paul Bates and Petr Volf: Development of *Leishmania* of the subgenus *Mundinia* in sand flies and guinea pigs

ISOPS X, 10th International Symposium On Phlebotomine Sandflies – 15th – 19th July 2019 San Cristobal – Galapagos

Poster: **Tomáš Bečvář**, Jovana Sádlová, Barbora Vojtková, Paul Bates, Padet Siriyasatien and Petr Volf: Development of *Leishmania* of the subgenus *Mundinia* in sand flies and guinea pigs

Worldleish 7, 7th World Congress on Leishmaniasis, 1st – 6th August 2022, Cartagena, Colombia

Poster: **Tomáš Bečvář**, Barbora Vojtková, Barbora Vomáčková-Kykalová, Lenka Pacáková, Lucie Tichá, Petr Volf and Jovana Sádlová: Experimental infections of rodents with *Mundinia*

Leishmaniasis 2022, 3rd International Caparica Congress on Leishmaniasis – 24th – 26th October 2022, Caparica, Portugal

Poster and shotgun presentation: **Tomáš Bečvář**, Barbora Vojtková, Padet Siriyasatien, Jan Votýpka, David Modrý, Paul Bates, Simon Carpenter, Petr Volf and Jovana Sádlová: Biting midges: New important players in the field of leishmaniasis

Publications

Sadlova, J., Vojtkova, B., Hrcirova, K., Lestinova, T., Spitzova, T., **Becvar, T.**, ... & Volf, P. (2019). Host competence of African rodents *Arvicanthis neumanni*, *A. niloticus* and *Mastomys natalensis* for *Leishmania major*. *International Journal for Parasitology: Parasites and Wildlife*, *8*, 118-126.

Beneke, T., Demay, F., Hookway, E., Ashman, N., Jeffery, H., Smith, J., Valli, J., **Becvar, T.**,... & Gluenz, E. (2019). Genetic dissection of a *Leishmania* flagellar proteome demonstrates requirement for directional motility in sand fly infections. *PLoS pathogens*, *15*(6), e1007828.

Butenko, A., Kostygov, A. Y., Sádlová, J., Kleschenko, Y., **Bečvář, T.**, Podešvová, L., ... & Yurchenko, V. (2019). Comparative genomics of *Leishmania* (*Mundinia*). *BMC genomics*, *20*, 1-12.

Sadlova, J., Vojtkova, B., **Becvar, T.**, Lestinova, T., Spitzova, T., Bates, P., & Volf, P. (2020). Host competence of the African rodents *Arvicanthis neumanni*, *A. niloticus* and *Mastomys natalensis* for *Leishmania donovani* from Ethiopia and *L. (Mundinia)* sp. from Ghana. *International Journal for Parasitology: Parasites and Wildlife*, *11*, 40-45.

Becvar, T., Siriyasatien, P., Bates, P., Volf, P., & Sádlová, J. (2020). Development of *Leishmania (Mundinia)* in guinea pigs. *Parasites & vectors*, *13*(1), 1-6.

Sádlová, J., Podešvová, L., **Bečvář, T.**, Bianchi, C., Gerasimov, E. S., Saura, A., ... & Kraeva, N. (2021). Catalase impairs *Leishmania mexicana* development and virulence. *Virulence*, *12*(1), 852-867.

Ashwin, H., Sadlova, J., Vojtkova, B., **Becvar, T.**, Lypaczewski, P., Schwartz, E., ... & Kaye, P. M. (2021). Characterization of a new *Leishmania major* strain for use in a controlled human infection model. *Nature Communications*, *12*(1), 215.

Becvar, T., Vojtkova, B., Siriyasatien, P., Votypka, J., Modry, D., Jahn, P., ... & Sadlova, J. (2021). Experimental transmission of *Leishmania (Mundinia)* parasites by biting midges (Diptera: Ceratopogonidae). *PLoS Pathogens*, *17*(6), e1009654.

Zakharova, A., Albanaz, A. T., Opperdoes, F. R., Škodová-Sveráková, I., Zagirova, D., Saura, A., Chmelová, L., Gerasymov E.S., Leštinová, T., **Bečvář, T.**, ... & Yurchenko, V. (2022). *Leishmania guyanensis* M4147 as a new LRV1-bearing model parasite: phosphatidate phosphatase 2-like protein controls cell cycle progression and intracellular lipid content. *PLoS Neglected Tropical Diseases*, *16*(6), e0010510.

Sadlova, J., Bacikova, D., **Becvar, T.**, Vojtkova, B., England, M., Shaw, J., & Volf, P. (2022). *Porcisia* transmission by prediuresis of sand flies. *Frontiers in Cellular and Infection Microbiology*, *12*, 981071.

Sadlova, J., Vojtkova, B., Lestinova, T., **Becvar, T.**, Frynta, D., Benallal, K. E., ... & Volf, P. (2023). Infectiousness of Asymptomatic *Meriones shawi*, Reservoir Host of *Leishmania major*. *Pathogens*, *12*(4), 614.

Bečvář, T., Vojtková, B., Pacáková, L., Vomackova Kykalova, B., Tichá, L., Volf, P., & Sádlová, J. (2024). Steppe lemmings and Chinese hamsters as new potential animal models for the study of the leishmania subgenus *Mundinia* (Kinetoplastida: Trypanosomatidae). *bioRxiv*, 2024-01.