

CURRICULUM VITAE

Assoc. Prof., Mgr. **Jan Šobotník**, Ph.D.

Born: 9th of May 1974 in České Budějovice, Czech Republic

Status: married, 2 kids (2008, 2013)

Education:

1992 – 1995 Bc. studies in biology at the *Faculty of Science, University of South Bohemia in České Budějovice*

1995 – 1997 M.Sc. studies in biology at the *Faculty of Sciences, Charles University in Prague, Department of Zoology, specialization Entomology*

1997 – 2003 Ph.D. studies at the *Faculty of Sciences, Charles University in Prague, Department of Zoology, specialization Entomology and Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague, Research Team of Infochemicals*; Ph.D. Thesis: „*Morphological and functional aspects of exocrine organs in termite family Rhinotermitidae*“ (Supervisor: Prof. I. Hrdý)

2016 Associate professor at the *Faculty of Tropical Agriculture, Czech University of Life Sciences Prague*; Habilitation: „*How do termites relate to their environment?*“

Employed:

1997-2012 at the Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague, Infochemicals Research Team (Head: Prof. Irena Valterová, Ph.D.)

2012-2019 at the Czech University of Life Sciences Prague, Faculty of Forestry and Wood Sciences, Department of Forest Protection and Entomology (Head: Prof. Jaroslav Holuša, Ph.D.)

Since **2020** at the Czech University of Life Sciences Prague, Faculty of Tropical AgriSciences, Department of Sustainable Technologies (Head: Prof. Jan Banout)

Postdoctoral stay:

2006: 12 months at the *Department of Evolutionary Biology and Ecology* (Université Libre de Bruxelles, Belgium) under supervision of *Prof. Yves Roisin*; Topic: The social behaviour of *Prorhinotermes canalifrons* (Isoptera: Rhinotermitidae) with special regard to defence *sensu lato*.

Research interests: Termite biology, ecology, physiology, ontogeny, phylogeny; Termite-microbe associations and food digestion; Structure and function of insect body; Exocrine glands and their function; Arthropod defences

Teaching:

Tropical Entomology: Faculty of Tropical AgriSciences, Czech University of Life Sciences, since 2021

General Entomology: Department of Zoology (Faculty of Science, Charles University in Prague), since 2003

Biology of Social Insects: Department of Zoology (Faculty of Science, Charles University in Prague), and Faculty of Science (University of South Bohemia in České Budějovice), since 2008

Tutor of 11 Postdoctoral researchers in the past (Rafal Piskorski, David Sillam-Dussès, Olivier Delattre, Pavel Jedlička, Veronika Steinbauerová, Cecilia Dahlsjö, Aleš Buček, Kateřina Votýpková, Shulin He, Amrita Chakraborty, Juan José Gonzales Plaza).

Tutor of 1 Postdoctoral researchers at the moment (Johanna E. Romero-Arias).

Currently supervisor of 2 Ph.D. and 3 M.Sc. theses.

Defended theses:

Dolejšová K. 2009: Nestmate recognition in termites (Isoptera). Bachelor thesis defended at Faculty of Science, Charles University in Prague.

Dolejšová K. 2012: Specific behaviour of soldiers towards reproductives of termite genus *Prorhinotermes* (Isoptera: Rhinotermitidae). Master thesis defended at Faculty of Science, Charles University in Prague.

Dubcová D. 2013: Alarm communication in social insects. Bachelor thesis defended at Faculty of Science, Charles University in Prague.

Homolka P. 2013: Termite behaviour and polyethisms during colony defence. Bachelor thesis defended at Faculty of Science, Charles University in Prague.

Bažilová J. 2015: Biology of myrmecophilous beetles. Bachelor thesis defended at Faculty of Science, Charles University in Prague.

Jašková D. 2015: Symbiosis in wood-degrading insect. Bachelor thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Cintulová E. 2016: Biology and evolution of termite genus *Neocapritermes* (Blattodea: Termitoidea: Termitidae: Termitinae). Bachelor thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Kopecká J. 2016: Defensive glands of termite s exemplified by *Spinitermes* (Blattodea: Termitoidea: Termitidae: Termitinae) soldiers. Bachelor thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Vacek K. 2016: Intercaste differences in inner anatomy of termite *Embiratermes neotenicus* (Termitidae: Syntermitinae). Bachelor thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Bažilová J. 2017: Integration of myrmecophiles into the host colonies. Master thesis defended at Faculty of Science, Charles University in Prague.

Soukup P. 2017: Symbiotic microorganisms of *Nasutitermes octopilis* (Blattodea: Termitoidea: Termitidae: Nasutitermitinae). Master thesis defended at Faculty of Tropical Agriculture, Czech University of Life Sciences.

Cintulová E. 2018: Phylogeny of termite family Kalotermitidae (Blattodea: Termitoidea). Master thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Soukupová S. 2019: Fungi and bacteria associated with *Hylesinus* bark beetles in Litovelské Pomoraví. Master thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Křížková B. 2020: Evolution of cephalic glands in termites. Ph.D. thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Beránková T. 2020: Oral gland of termites. Master thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Füllsacková A. 2020: Rostral gland in soldiers of *Verrucositermes* sp. (Termitidae: Nasutitermitinae). Master thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Stiblík P. 2020: Evolutionary Ecology of Termites. Ph.D. thesis defended at Faculty of Forestry and Wood Sciences, Czech University of Life Sciences.

Invited Talks and Courses:

Chemical Ecology of Termites: 6 hours of lectures and 24 hours of practical course, July 2012, Post-graduate program in entomology, Federal University of Viçosa, Brazil (Prof. O. de Souza).

Stop or I Will Blow Myself up! Ecology and evolution of termite defence strategies (in Czech): "Čtvrťky ve Viničné" (scientific seminar), March 2013, Faculty of Sciences, Charles University in Prague (Doc. L. Kratochvíl).

Termites and their Feeding Ecology; Termite defenses: 2 talks at internal conference "Lab retreat", May 2013, Max Planck Institute for Terrestrial Microbiology, Germany (Prof. A. Brune)

Insect Chemical Ecology: 5 hours of lectures and 5 hours of practical course, June 2013, Ethology program, Université Paris 13, France (Dr. D. Sillam-Dussès).

Defence Strategies of Termites: Talk and discussion at regular seminar Evolution and Ecology Colloquium, January 2014, Free University of Berlin, Germany (Doc. R. Radek).

Evolution of Termite Defences: Seminar for Master students of Ethology programme, November 2014, Université Paris 13, France (Dr. D. Sillam-Dussès).

Evolution of Termite Defences; Termites and their Feeding Ecology: 2 talks at internal conference "Current termitology", November 2014, Faculty of Sciences, University of Chile, Santiago de Chile (Dr. D. Aguilera-Olivares)

Evolution of Termite Defences: Talk at 3rd International TBCC (Tropical Biology and Conservation Conference), November the 8th, 2016, University of Life Sciences, Prague (Dr. O. Leuner)

Termite Communication, Termite Feeding Biology, Termite Defences, Termites of the World: 4 talks at "Termite Biology and Control" course, Ft. Lauderdale Research and Education Center, University of Florida, USA, June 19th to 23rd, 2017 (Dr. T. Chouvenc)

The World According to Termites: Plenary lecture at ZooDny 2018, CULS, February 8th 2018 (Dr. M. Knapp)

Termite Communication, Termite Feeding Biology, Termite Defences, Termites of the World: 4 talks at "Termite Biology and Control" course, Ft. Lauderdale Research and Education Center, University of Florida, USA, June 3rd to 8th, 2019 (Dr. T. Chouvenc)

Termite defences: 2nd International Student Course in Behavioural Biology. Institut Francien d'Étologie, Paris, September the 19th, 2019

Termites of the World: talk at internal conference "Lab retreat", September 2019, Max Planck Institute for Terrestrial Microbiology, Germany (Prof. A. Brune)

Termite Ecology and my contribution to the termite science: talk on September the 22nd, 2021, at CSK HP Agricultural University, Palampur, Himachal Pradesh, India (Prof. R.S. Chandel)

Recent advances in Termitology and my contribution to the termite science: talk on September the 28th, 2021, at Sri Venkateswara College, University of Delhi, India (Prof. V. Mathur)

Recent advances in Termitology: talk on April the 11th, 2022, at University of Agricultural and

Horticultural Sciences, Shivamogga, India (Prof. C.M. Kalleshwaraswamy)
Termites of the world- overview of termite diversity, Termite feeding groups and ecology, Pheromone and vibratory communication, Defense strategies in termites: 4 talks at “Termite Biology and Control” course, Ft. Lauderdale Research and Education Center, University of Florida, USA, June 23rd to 30th, 2022 (Dr. T. Chouvenc)

About 30 additional contributions at seminars of other Czech Universities.

Other experiences:

2005 - 2009 member of Czech Science Foundation, panel General and Ecological Biology (206)
since **2007** member of the Scientific council of Phytosanitary department, Crop Research Institute, Prague

2009-2019 member of the Commission for Ph.D. studies, Faculty of Science, University of South Bohemia in České Budějovice

2010-2021 member of the Editorial board of European Journal of Entomology
since **2012** member of the board of the Biology Centre of the Academy of Sciences of the Czech Republic, v. v. i. (one of the largest scientific institutions in the Czech Republic established in 2006 by consolidation of the Institute of Entomology, the Institute of Hydrobiology, the Institute of Parasitology, the Institute of Plant Molecular Biology, and the Institute of Soil Biology)

2013-2015 member of Czech Science Foundation, Chairman of panel Animal and Plant Ecology (505)

2015 Guest Editor of Arthropod Structure & Development Special Issue (44, 5): *Exocrine Glands in Insects*

2017-2021 member of Czech Science Foundation, panel Animal and Plant Ecology (505)
since **2021** member of the Editorial board of Journal of Tropical Ecology
since **2021** Editor-in-Chief of European Journal of Entomology

Popularisation:

2016-2017 principal advisor of movie “The World According to Termites”. Awards:
The Major Award winner of 7th Life Science Film Festival 2017
The winner in the category *Science* at Vaasa Wildlife Festival 2018
The best story of the documentary movie, Ekotopfilm
Part of competition at New Earth International Film Festival, International Ecological Film Festival TO SAVE AND PRESERVE, Matsalu Nature Film Festival, Ekofilm, Academia film

6 papers in popular science magazines, 4 photo exhibitions, more than 20 radio contributions, 4 TV contributions, 5 discussions within film festivals, 8 interviews to Czech newspapers, 2 living scientific streams.

Field work:

Roughly three years in total spent on field campaigns during the last 20 years: **Cameroon** (10 months; 2011, 2015, 2016, 2017, 2018, 2x 2019, 2020, 2021, 2022), **French Guyana** (7 months;

2008, 2009, 2010, 2012, 2014, 2016, 2017, 2018), Brazil (3 months; 2012), India (6 weeks; 2021, 2022); China (1 month; 2016), Thailand (1 month; 2013), Kenya (1 month; 2015), Indonesia - West Papua (1 month; 2011), Iran (1 month; 2000), Libya (1 month; 2002), Syria (1 month; 1998); Australia (3 weeks; 2014, 2019), Madagascar (3 weeks; 2015), Papua New Guinea (3 weeks; 2016), Namibia (3 weeks; 2018), Panama (2 weeks; 2018), South Africa (2 weeks; 2008), Chile (1 week; 2014).

Scientific activities:

Author and co-author of 100 research articles in impacted journals, published or accepted, in 54 of them the first, the last or the corresponding author. Furthermore authored 12 articles in national journals, 2 book chapters, and over 70 conference presentations.

Article reviews for many international journals including *Ecology Letters*, *Proceedings of the Royal Society B: Biological Sciences*, *Communications Biology*, *FEMS Microbiology Ecology*, *Functional Ecology*, *Behavioral Ecology and Sociobiology*, *Biological Journal of the Linnean Society*, *Insect Conservation and Diversity* and many others.

Top 5 publications:

1. Šobotník J., Bourguignon T., Hanus R., Demianová Z., Pytelková J., Mareš M., Foltýnová P., Preisler J., Cvačka J., Krasulová J. & Roisin Y. 2012: Explosive backpack in old termite workers. *Science* **337**: 436. (Listed in the *Top 10 ScienceNOWs of 2012*, *Science*, 338, 1518.)
2. Šobotník J., Jirošová A. & Hanus R. 2010: Chemical warfare in termites. *Journal of Insect Physiology* **56**: 1012-1021. (Invited Review; 94 citations so far)
3. Bourguignon T., Lo N., Cameron S.L., Šobotník J., Hayashi Y., Shigenobu S., Watanabe D., Roisin Y., Miura T. & Evans T.A. 2015: The evolutionary history of termites as inferred from 66 mitochondrial genomes. *Molecular Biology and Evolution* **32**: 406-421. (188 citations so far)
4. Buček A., Šobotník J., He S., Shi M., McMahon D.P., Holmes E.C., Roisin Y., Lo N. & Bourguignon T. 2019: Evolution of termite symbiosis informed by transcriptome-based phylogenies. *Current Biology* **29**: 3728-3734.
5. Wen X.-L., Wen P., Dahlsjö C.A.L., Sillam-Dussès D. & Šobotník J. 2017: Breaking the cipher: ant eavesdropping on the variational trail pheromone of its termite prey. *Proceedings of the Royal Society B, Biological Sciences* **284**: 20170121.

Scientometry (WoS): H-index 25, 1963 citations (308 in 2021; 1559 without self-citations), 1148 citing articles (1067 without self-citations).

Scientometry (Scholar): H-index 30, 2814 citations (541 in 2021), i10 index 62.

Projects:

Principal investigator of projects with overall budget about 3.1 M € so far.

The impact of juvenile hormone analogue on inner anatomy of termites. *Czech Science Foundation* 206/06/1643, 2006-8, Principal investigator.

Strepsiptera of the genus *Stylops* (Stylopidae): evolution of host specificity, chemical ecology and behaviour of parasitized host. *Czech Science Foundation* P506/10/1466, 2010-12, Principal

investigator.

Do symbionts influence global patterns of termite abundance? *Czech Science Foundation* 16-05318S, 2016-18, Principal investigator.

Mechanisms of soil organic matter turnover in the Congo Basin along the land-use gradient. *Czech Science Foundation* 18-20020S, 2018-2020, Principal investigator.

Nutrient recycling in tropical forests: Termite hologenomes and the functional significance of their members. Project "EVA4.0", No. CZ.02.1.01/0.0/0.0/16_019/0000803 financed by OP RDE. Sub-project team leader.

Team member several bigger Czech projects; principal investigator or team member of about 20 smaller projects from several universities and science foundations.