

Gediminas Valkiūnas

CONTACT INFORMATION

Adresas Akademijos Str. 2, Vilnius LT-08412, Lithuania
Tel. Nr.: +370 5 2729269
El. paštas: gediminas.valkiunas@gamtc.lt
<https://orcid.org/0000-0003-0594-0280>
<https://www.researchgate.net/profile/Gediminas-Valkiunas-2>

EDUCATION AND ACADEMIC DEGREES

1974 – 1979 **Master Degree** (biology). Kaliningrad State University.
1980 – 1984 **PhD studies**. Institute of Zoology and Parasitology, Lithuanian Academy of Sciences.
1984 **Doctoral dissertation**. Zoological Institute, St. Peterburg.
1996 **Doctor of Science dissertation**. Zoological Institute, St. Peterburg.

PROFESSIONAL EXPERIENCE

2018 05 – now **Chief Researcher. Head, P. B. Šivickio Laboratory of Parasitology.** Nature Research Centre.
2003 02 – 2018 05 **Chief Researcher. Head, P. B. Šivickio Laboratory of Parasitology.** Institute of Ecology of Vilnius University and Nature Research Centre.
1996 12 – 2003 02 **Chief Researcher. Head, Laboratory of Protist ecology.** Institute of Ecology.
1987 12 – 1996 12 **Senior Researcher. Head, Laboratory of Protozoology.** Institute of Zoology and Parasitology.
1985 01 – 1987 12 **Researcher. Laboratory of Protozoology.** Institute of Zoology and Parasitology.
1984 12 – 1985 01 **Junior Researcher. Laboratory of Protozoology.** Institute of Zoology and Parasitology.
1984 10 – 1984 12 **Chief Technician. Laboratory of Protozoology.** Institute of Zoology and Parasitology.
1980 10 – 1984 09 **PhD student.** Institute of Zoology and Parasitology, Lithuanian Academy of Sciences, Vilnius.

RESEARCH INTERESTS

Research area: parasitology, functions of parasites in ecosystems, diversity and evolutionary biology of malaria and related blood parasites. The research has centred on translating concepts from molecular biology of malaria and other haemosporidian parasites into these pathogens' basic biology and mechanisms of transmission, particularly how molecular data can improve research to inform the parasite diagnostics, control and elimination programs. The work is aimed to deepening our understanding of malaria and related haemosporidian parasites' diversity by combining phenotypic and molecular approaches, including the innovative comparative genomic methods.

PUBLICATIONS

Scientific articles published in journals (books), indexed in „Clarivate Analytics Web of Science“ database (with citation index):

Two books, two book chapters and over 190 research articles in WOS database.

WOS H-index, $h=47$.

Main recent research articles (2018-2022):

1. Pendl, H., Hernandez Lara, C., Kubacki, J., Borel, N., Albini, S., & **Valkiūnas, G.** (2022). Exo-erythrocytic development of *Plasmodium matutum* (lineage pLINN1) in a naturally infected roadkill fieldfare *Turdus pilaris*. *Malaria journal*, 21(1), 1-13. doi:10.1186/s12936-022-04166-x [Science Citation Index Expanded (Web of Science); Scopus] [IF: 3,469; AIF: 5,074; IF/AIF: 0,683; Q2 (2021, InCites JCR SCIE)] [CiteScore: 5,20; SNIP: 1,277; SJR: 1,307; Q1 (2021, Scopus Sources)]
2. **Valkiūnas, G.**, Duc, M. Y. L., & Iezhova, T. A. (2022). Increase of avian *Plasmodium circumflexum* prevalence, but not of other malaria parasites and related haemosporidians in northern Europe during the past 40 years. *Malaria journal*, 21(1), 1-11. doi:10.1186/s12936-022-04116-7 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 3,469; AIF: 5,074; IF/AIF: 0,683; Q2 (2021, InCites JCR SCIE)] [CiteScore: 5,20; SNIP: 1,277; SJR: 1,307; Q1 (2021, Scopus Sources)]
3. Hernandez Lara, C., Duc, M., Ilgūnas, M., & **Valkiūnas, G.** (2021). Massive infection of lungs with exo-erythrocytic meronts in European robin *Erithacus rubecula* during natural *Haemoproteus attenuatus* haemoproteosis. *Animals*, 11(11), 1-15. doi:10.3390/ani11113273 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 3,231; AIF: 2,507; IF/AIF: 1,288; Q1 (2021, InCites JCR SCIE)] [CiteScore: 2,70; SNIP: 1,130; SJR: 0,610; Q2 (2021, Scopus Sources)]
4. Duc, M. Y. L., Ilgūnas, M., Kubiliūnaitė, M., & **Valkiūnas, G.** (2021). First report of haemoproteus (Haemosporida, haemoproteidae) megalomeronts in the brain of an avian host, with description of megalomerogony of *haemoproteus pastoris*, the blood parasite of the common starling. *Animals*, 11(10), 1-17. doi:10.3390/ani11102824 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 3,231; AIF: 2,507; IF/AIF: 1,288; Q1 (2021, InCites JCR SCIE)] [CiteScore: 2,70; SNIP: 1,130; SJR: 0,610; Q2 (2021, Scopus Sources)]
5. Romeiro Fernandes Chagas, C., Harl, J., & **Valkiūnas, G.** (2021). Co-infections of *Plasmodium relictum* lineages pSGS1 and pGRW04 are readily distinguishable by broadly used PCR-based protocols, with remarks on global distribution of these malaria parasites. *Acta tropica*, vol. 217, 1-10. doi:10.1016/j.actatropica.2021.105860 [Science Citation Index Expanded (Web of Science); Scopus; ScienceDirect] [IF: 3,222; AIF: 3,861; IF/AIF: 0,834; Q2 (2021, InCites JCR SCIE)] [CiteScore: 5,50; SNIP: 1,241; SJR: 0,757; Q1 (2021, Scopus Sources)]
6. **Valkiūnas, G.**, Ilgūnas, M., Romeiro Fernandes Chagas, C., Bernotienė, R., & Iezhova, T. A. (2020). Molecular characterization of swallow haemoproteids, with description of one new *Haemoproteus* species. *Acta tropica*, 207, 1-10. doi:10.1016/j.actatropica.2020.105486 [Science Citation Index Expanded (Web of Science); Scopus; ScienceDirect] [IF: 3,112; AIF: 3,292; IF/AIF: 0,945; Q1 (2020, InCites JCR SCIE)] [CiteScore: 5,20; SNIP: 1,264; SJR: 0,969; Q1 (2020, Scopus Sources)]
7. Inumaru, M., Aratani, S., Shimizu, M., Yamamoto, M., Sato, Y., Murata, K., & **Valkiūnas, G.** (2020). Penguins are competent hosts of *Haemoproteus* parasites: The first detection of gametocytes, with molecular characterization of *Haemoproteus* larvae. *Parasites and vectors*, 13(1), 1-15. doi:10.1186/s13071-020-04176-1 [Science Citation Index Expanded (Web of

- Science); Scopus; SpringerLink] [IF: 3,876; AIF: 3,292; IF/AIF: 1,177; Q1 (2020, InCites JCR SCIE)] [CiteScore: 5,70; SNIP: 1,501; SJR: 1,404; Q1 (2020, Scopus Sources)]
8. Venugopal, K., Hentzschel, F., **Valkiūnas, G.**, & Marti, M. (2020). Plasmodium asexual growth and sexual development in the haematopoietic niche of the host. *Nature reviews microbiology*, 18(3), 177-189. doi:10.1038/s41579-019-0306-2 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 60,633; AIF: 5,079; IF/AIF: 11,937; Q1 (2020, InCites JCR SCIE)] [CiteScore: 40,70; SNIP: 10,521; SJR: 11,496; Q1 (2020, Scopus Sources)]
 9. Chagas, C. R. F., Binkienė, R., Ilgūnas, M., Ježova, T., & **Valkiūnas, G.** (2020). The buffy coat method: A tool for detection of blood parasites without staining procedures. *Parasites and vectors*, 13(1), 3977-3988. doi:10.1186/s13071-020-3984-8 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 3,876; AIF: 3,292; IF/AIF: 1,177; Q1 (2020, InCites JCR SCIE)] [CiteScore: 5,70; SNIP: 1,501; SJR: 1,404; Q1 (2020, Scopus Sources)]
 10. Ilgūnas, M., Romeiro Fernandes Chagas, C., Bukauskaitė, D., Bernotienė, R., Ježova, T., & **Valkiūnas, G.** (2019). The life-cycle of the avian haemosporidian parasite *Haemoproteus majoris*, with emphasis on the exoerythrocytic and sporogonic development. *Parasites & vectors*, 12(1), 1-15. doi:10.1186/s13071-019-3773-4 [Science Citation Index Expanded (Web of Science); Scopus; SpringerLink] [IF: 2,824; AIF: 2,728; IF/AIF: 1,035; Q1 (2019, InCites JCR SCIE)] [CiteScore: 5,30; SNIP: 1,257; SJR: 1,406; Q1 (2019, Scopus Sources)]
 11. **Valkiūnas, G.**, Ilgūnas, M., Bukauskaitė, D., Romeiro Fernandes Chagas, C., Bernotienė, R., Himmel, T., Harl, J., Weissenböck, H., & Ježova, T. (2019). Molecular characterization of six widespread avian haemoproteids, with description of three new *Haemoproteus* species. *Acta tropica*, 197, 1-17. doi:10.1016/j.actatropica.2019.105051 [Science Citation Index Expanded (Web of Science); Scopus; ScienceDirect] [IF: 2,555; AIF: 2,728; IF/AIF: 0,936; Q1 (2019, InCites JCR SCIE)] [CiteScore: 4,60; SNIP: 1,140; SJR: 0,991; Q1 (2019, Scopus Sources)]
 12. Himmel, T., Harl, J., Kübber-Heiss, A., Konicek, C., Fernández, N., Juan-Sallés, C., Ilgūnas, M., **Valkiūnas, G.**, & Weissenböck, H. (2019). Molecular probes for the identification of avian *Haemoproteus* and *Leucocytozoon* parasites in tissue sections by chromogenic in situ hybridization. *Parasites & vectors*, 12, 1-10. doi:10.1186/s13071-019-3536-2 [Science Citation Index Expanded (Web of Science); Scopus; MEDLINE] [IF: 2,824; AIF: 2,728; IF/AIF: 1,035; Q1 (2019, InCites JCR SCIE)] [CiteScore: 5,30; SNIP: 1,257; SJR: 1,406; Q1 (2019, Scopus Sources)]
 13. Bukauskaitė, D., Ježova, T., Ilgūnas, M., & **Valkiūnas, G.** (2019). High susceptibility of the laboratory-reared biting midges *Culicoides nubeculosus* to *Haemoproteus* infections, with review on *Culicoides* species that transmit avian haemoproteids. *Parasitology*, 146(3), 333-341. doi:10.1017/S0031182018001373 [Science Citation Index Expanded (Web of Science); Scopus] [IF: 2,783; AIF: 3,072; IF/AIF: 0,905; Q2 (2019, InCites JCR SCIE)] [CiteScore: 4,80; SNIP: 1,109; SJR: 1,106; Q1 (2019, Scopus Sources)]
 14. Ortiz-Catedral, L., Brunton, D., Stidworthy, M. F., Elsheikha, H. M., Pennycott, T., Schulze, C., Braun, M., Wink, M., Gerlach, H., Pendl, H., Gruber, A. D., Ewen, J., Perez-Tris, J., **Valkiūnas, G.**, & Olias, P. (2019). *Haemoproteus minutus* is highly virulent for Australasian and South American parrots. *Parasites & vectors*, 12, 1-10. doi:10.1186/s13071-018-3255-0 [Science Citation Index Expanded (Web of Science); Scopus; PubMed] [IF: 2,824; AIF: 2,728; IF/AIF: 1,035; Q1 (2019, InCites JCR SCIE)] [CiteScore: 5,30; SNIP: 1,257; SJR: 1,406; Q1 (2019, Scopus Sources)]
 15. **Valkiūnas, G.**, & Ježova, T. (2018). Keys to the avian malaria parasites. *Malaria journal*, 17(1), 311-357. doi:10.1186/s12936-018-2359-5 [Science Citation Index Expanded (Web of

Science); Scopus] [IF: 2,798; AIF: 3,161; IF/AIF: 0,885; Q1 (2018, InCites JCR SCIE)] [CiteScore: 2,71; SNIP: 1,104; SJR: 1,901; Q1 (2018, Scopus Sources)].

Main research monographs and book chapters:

- **Valkiūnas, G.** 2005. *Avian malaria parasites and other haemosporidia* (CRC Press, Boca Raton, 2005; cited over 1000 times in WOS database).
- **Valkiūnas, G.,** Atkinson, C. T. 2020. Introduction to life cycles, taxonomy, distribution, and basic research techniques. In: Santiago-Alarcon, D., Marzal, A., editors. *Avian malaria and related parasites in the tropics: ecology, evolution and systematics*. Berlin: Springer. P. 45-80.

PARTICIPATION IN INTERNATIONAL AND NATIONAL SCIENTIFIC PROGRAMMES AND PROJECTS (2018-2023)

2018 – 2022	European Research Council, Advanced Grant (HORIZON). Grant no. 742646. <i>Immunity in ecology and evolution: Hidden' costs of disease, immune function and their consequences for Darwinian fitness</i> . Project principal investigator Prof. Dennis Lennart Hasselquist. Subcontract with Lund University (2018-05-08). Subcontract project leader in Lithuania. 230000 EUR (laboratory grant).
2021 – 2022	Institute of Pathology, University of Veterinary Medicine, Vienna. Subcontract on project (P33480-B) <i>Further insights into the pathogenesis of avian malaria</i> . Project leader Prof Dr. Herbert Weissenböck. Subcontract with Institute of Pathology (2021-01-29). Subcontract project leader in Lithuania. 15000 EUR.
2023 – 2026	Project leader . MIP- P-MIP-23-71. <i>New insights into the biology of haemosporidian parasites</i> . Lithuanian Research Council (RCL). 150000 EUR.
2015 – 2018	Project leader . MIP-045/2015. <i>Mechanisms of virulence in protozoan parasites</i> . RCL. 120000 EUR.
2017 – 2020.	Project leader . Postdoc project 09.3.3-LMT-K-712-02-0004. <i>Molecular characterization of avian haemosporidian parasites and determination of their vector</i> . RCL. 42500 EUR.
2021 – 2023	Project leader . Postdoc project 09.3.3-LMT-K-712-23-0010. <i>Insights into the pathogenesis of avian leucocytozoosis</i> . RCL. 85000 EUR.
2020 – 2022	Project leader . Postdoc project P09.3.3-LMT-K-712-19-0005. <i>Mechanisms of the pathogenesis due to internal organ damage during avian haemosporidiosis</i> . RCL. 66500 EUR.
2022 – 2024	Project leader . Postdoc project Nr. S-PD-22-71. <i>Exo-erythrocytic development during neglected avian haemoproteosis</i> . RCL. 89600 EUR.
2017 – 2021	Program leader , NRC. Lithuanian government. <i>Molecular bases of wildlife biodiversity and ecology</i> . Long-term research program funded by Lithuanian government.

INTERNSHIP AND TRAINING (2018-2022)

2017 – 07	Immunology research in parasitology. Helsinki University, Helsinki, Finland.
2017 – 11	Blood parasite caused diseases in zoological gardens. Beijing Normal University, China.
2019 – 11	Virulence research during haemosporidiosis. Glasgow University, Glasgow, the United Kingdom.

PARTICIPATION IN SCIENTIFIC CONFERENCES

Invited plenary talks were given at international symposia, conferences and congresses in the UK, Iceland, Australia, Sweden, Germany, France, USA, Russia, Finland, China and other countries.

International research conferences (2018-2022):

- 2018. Invited plenary lecture. *Tissue merogony of haemosporidian parasites*. 4th International Conference on Malaria and Related Haemosporidian Parasites of Wildlife. Beijing Normal University, Beijing, China.
- 2020. 9th Conference of the Scandinavian-Baltic Society for Parasitology. Scandinavian-Baltic Society for Parasitology (SBSP), Nature Research Centre, Lithuanian Academy of Sciences – Young Academy. Vilnius, Lithuania.
- 2021. International Online Conference on Blood Parasites of Wildlife Bielefeld University, Germany.
- 2022. 5th International Conference on Malaria and Related Haemosporidian Parasites of Wildlife, Bielefeld, Germany, September 05-08, 2022.

PARTICIPATION IN THE STUDY PROCESS

Supervising PhD students (2018-2022):

Research area: Natural sciences (N000), Zoology (N014)

Dovilė Bukauskaitė	Avian haemosporidian parasites (Haemosporida): sporogonic development and determination of vectors.	2014 – 2018
Mikas Ilgūnas	Exo-erythrocytic development of avian malaria parasites and haemoproteids: completing the cycle.	2015 – 2019
Mélanie Duc	Y. Evolution of exo-erythrocytic development in haemosporidian parasites.	2019 – 2023

OTHER

Postdoctoral training (2018-2022):

2017-2020	Dr. Carolina Romeiro Fernandes Chagas, Brazil. Project <i>Molecular characterization of avian haemosporidian parasites and determination of their vector</i> .
2020-2022	Dr. Carolina Hernández-Lara, Mexico. Project <i>Mechanisms of the pathogenesis due to internal organ damage during avian haemosporidiosis</i> .
2021-2023	Dr. Carolina Romeiro Fernandes Chagas, Brazil. Project <i>Insights into the pathogenesis of avian leucocytozoosis</i> .
2022-2024	Dr. Mélanie Adèle Tchoumbou, Cameroon. Project <i>Exo-erythrocytic development during neglected avian haemoproteosis</i> .

Research awards, Academy membership:

- 1999 ***Lithuanian State Award in Science*** for monograph *Bird Haemosporida*, Institute of Ecology, Vilnius.
- 2006 ***Baltic Assembly Award in Science*** for monograph *Avian malaria parasites and other haemosporidian*, CRC Press, Boca Raton.
- 2009 ***R. Barclay McGhee Award in Science*** for avian blood parasite research. American Society of Parasitologists, USA.
- 2019 ***Academician P. B. Šivickis Award***. Lithuanian Academy of Sciences.
- 2011 ***Full member of the Lithuanian Academy of Sciences*** (2011-).