

Research Molecular Parasitology 2024

Publications

- Fathoni I, Ho TCS, Chan AHY, Leeper F.J, Matuschewski K, Saliba K (2024) Identification and characterization of thiamin analogues with antiplasmodial activity. **Antimicrob. Agents Chemother.** 68: e0109624. doi: 10.1128/aac.01096-24
- Ferreira SCM, Jarquín-Díaz VH, Planillo A, Ďureje Ľ, Martincová I, Kramer-Schadt S, Forslund-Startceva SK, Heitlinger E (2024) Eco-evolutionary dynamics of host–microbiome interactions in a natural population of closely related mouse subspecies and their hybrids. **Proc. R. Soc. B.** 291: 20241970. doi: 10.1098/rspb.2024.1970
- Fraser M, Curtis B, Phillips P, Yates PA, Lam KS, Netzel O, van Dooren GG, Ingmundson A, Matuschewski K, McLeod MD, Maier AG (2024) Harnessing cholesterol uptake of malaria parasites for therapeutic applications. **EMBO Mol. Med.** 16: 1511-1532. doi: 10.1038/s44321-024-00087-1
- Jarquín-Díaz VH, Ferreira SCM, Balard A, Ďureje Ľ, Macholán M, Piálek J, Bengtsson-Palme J, Kramer-Schadt S, Forslund-Startceva SK, Heitlinger E (2024) Aberrant microbiomes are associated with increased antibiotic resistance gene load in hybrid mice. **ISME Commun.** 4: ycae053. doi: 10.1093/ismecomms/ycae053
- Jost J, Hirzmann J, Ďureje Ľ, Maaz D, Martin P, Stach T, Heitlinger E, Jarquín-Díaz VH (2024) Dentition patterns and molecular diversity of *Mastophorus muris* (Gmelin, 1790) (Nematoda: Spiruroidea) support a host-associated subdivision. **Parasitol. Res.** 123: 237. doi: 10.1007/s00436-024-07768-4
- Kithinji HK, Dayou O, Botton-Divet L, Stach T, Wicke S. (2024) 2D and 3D visualization of herbaceous plant–plant contact zones using high-resolution X-ray computed tomography (HRXCT). **Plants People Planet**, *in press*. doi: 10.1002/ppp3.10509
- Klirs Y, Novosolov M, Gissi C, Garić R, Pupko T, Stach T, Huchon D (2024) Evolutionary insights from the mitochondrial genome of *Oikopleura dioica*: sequencing challenges, RNA editing, gene transfers to the nucleus, and tRNA loss. **Genome Biol. Evol.** 16: evae181. doi: 10.1093/gbe/evae181
- Lee J, Matuschewski K, van Dooren G, Maier AG, Rug M (2024) Lipid droplet dynamics are essential for the development of the malaria parasite *Plasmodium falciparum*. **J. Cell Sci.** 137: jcs262162. doi: 10.1242/jcs.262162
- Macholán M, Baird SJE, Fornůšková A, Ďureje Ľ, Burgstaller JP, Goüy de Bellocq J, Heitlinger E, Klusáčková P, Koshev Y, Piálek J (2024) A reappraisal of mitochondrial DNA introgression in the *Mus musculus musculus*/*Mus musculus domesticus* hybrid zone suggests ancient North-European associations between mice and humans. **Zool. J. Linn. Soc.** 202: zlae110. doi: 10.1093/zoolinnean/zlae110
- Oelschlegel AM, Bhattacharjee R, Wenk P, Harit K, Rothkötter HJ, Koch SP, Boehm-Sturm P, Matuschewski K, Budinger E, Schlüter D, Goldschmidt J, Nishanth G (2024) Beyond the microcirculation: sequestration of infected red blood cells and reduced flow in large draining veins in experimental cerebral malaria. **Nat. Commun.** 15: 2396. doi: 10.1038/s41467-024-46617-w

Publications (contin.)

- Scheiner M, Burda PC, Ingmundson A (2024) Moving on: How malaria parasites exit the liver. **Mol. Microbiol.** 121: 328-340. [Review] doi: 10.1111/mmi.15141
- Scholz C, Jarquín-Díaz VH, Planillo A, Radchuk V, Scherer C, Schulze C, Ortmann S, Kramer-Schadt S, Heitlinger E (2024) Host weight, seasonality and anthropogenic factors contribute to parasite community differences between urban and rural foxes. **Sci. Total Environ.** 173355. doi: 10.1016/j.scitotenv.2024.173355
- Timm L, Roskopf SP, Werb O, van Schaik J, Schaer J (2024) Europe-wide distribution and bat-host specific lineages in the malarial parasite *Polychromophilus murinus* revealed through genetic screening of bat flies. **Infect. Genet. Evol.** 127, 105707. doi: 10.1016/j.meegid.2024.105707
- Tsague KJ, Bakwo-Fils EM, Atanga JP, Mbeng DW, Palm L, Tchuinkam T, Schaer J (2024) Molecular detection of trypanosomes of the *Trypanosoma livingstonei* species group in diverse bat species in Central Cameroon. **Parasitol. Res.** 123: 280. doi: 10.1007/s00436-024-08303-0
- Werb O, Matuschewski K, Weber N, Hillers A, Garteh J, Jusu A, Turay BS, Wauquier N, Escalante AA Pacheco MA, Schaer J (2024) New member of *Plasmodium* (*Vinckeia*) and *Plasmodium cyclopsi* discovered in bats in Sierra Leone - nuclear sequence and complete mitochondrial genome analyses. **Int. J. Parasitol.** 54: 475-484. doi: 10.1016/j.ijpara.2024.05.002

PhD theses

- Gramolini L. Gene expression profiling of two fish helminths throughout their complex life cycles. Are parasite's life stages genetically decoupled? (PIs: D. Benesh; E. Heitlinger)

PhD projects

- Okwuonu E (University of Nigeria) Molecular characterization of haemosporidian (malaria) parasites of cave-dwelling bats (PI: J. Schaer)

MSc theses

- Burfeind H. Aktuelle wissenschaftliche Evidenz zu den Unterschieden und Gemeinsamkeiten des Neandertalers und des Sapiens vor dem Hintergrund von Artkonzepten zur Einschätzung, ob der Artstatus gerechtfertigt ist oder ob eine Unterscheidung im Sinne von zwei Unterarten stärker von aktuellen Forschungsergebnissen unterstützt wird (PI: T. Stach)
- Scholz N. Characterization of protective CD8⁺ T cell antigens against *Plasmodium berghei* infections. (PI: K. Matuschewski)
- Gustke J. Phylogenetics of the Haemosporidian genus *Polychromophilus* in Europe based on whole mitochondrial genomes isolated from their bat fly vector (PIs: J. van Schaik, J. Schaer)

MSc projects

- Hanssmann N. Histological investigations of *Hepaticocystis* parasite infections (PI: J. Schaer)

BSc theses

- Brückner F. Charakterisierung der Zerkarien-Transmission in der Potsdamer Havel auf Hermannswerder (Potsdam) (PIs: T. Stach; K. Matuschewski)
- Brzoska-Schmid. Vergleichend anatomische Untersuchung der Appendikularie *Megalocercus huxleyi* (Tunicata, Appendicularia) (PI: T. Stach)
- Erdmann R. Quantification of anti-microbial resistance genes in the gastrointestinal tract of house mice (PIs: E. Heitlinger; V. Jarquin-Diaz)
- Hoffmann K. Characterization of exflagellation in *Plasmodium falciparum* gametocytes (PI: K. Matuschewski)
- Kaiser C. Vergleichend anatomische Untersuchung der Appendikularie *Stegosoma magnum* (Langerhans, 1880) (PI: T. Stach)
- Landau M. Saisonale Untersuchung von Trematodeninfektionen in Schnecken von Berliner Freizeitseen deckt *Echinostoma revolutum*-Infektionen auf (PIs: T. Stach; K. Matuschewski)
- Lawrenz F. Vergleichend anatomische und ultrastrukturelle Untersuchungen des Endostyls von *Fritillaria borealis* Lohmann, 1896 (PI: T. Stach)
- Marunczak M. Untersuchung der biologischen Homogenisierung urbaner Lebensräume unter Verwendung bürgerwissenschaftlicher Daten (PI: E. Heitlinger)
- Mouzakis D. Molecular cloning of a CRISPR plasmid for genome editing of *Plasmodium falciparum* (PI: K. Matuschewski)
- Polito L. Characterization of an Australian terrestrial leech (PIs: A. Maier; K. Matuschewski)
- Schild NK. Vergleichend anatomische Untersuchung des Gehirns von *Fritillaria haplostoma* Fol, 1872 (Tunicata, Appendicularia, Fritillariidae) (PI: T. Stach)
- Schmidt Villavicencio A. A novel genotyping system for *Cryptosporidium tyzzeri* (PI: E. Heitlinger)
- Stelzl L. Role of two transporters in malaria transmission (PI: K. Matuschewski)
- Stock J. Vergleichende Anatomie und Ultrastruktur des Gehirns von *Fritillaria borealis* Lohmann, 1896 (Tunicata, Appendicularia) (PI: T. Stach)

BSc projects

- Brückner F. Mapping of recreational lakes in the greater Berlin area as possible habitats for trematode transmission (PIs: T. Stach; K. Matuschewski)
- Ghanbari S. Kopflausbefall in Berliner Schulen und Kindertagesstätten (PI: K. Matuschewski)
- Hartmann L. Molecular screening for blood parasite infections in African bats and rodents (PI: J. Schaer)
- Hoffmann K. Cultivation of *Plasmodium falciparum* sexual stages (PI: K. Matuschewski)
- Hügel Y. Mapping of snail populations in Berlin lakes with a focus on trematode infections (PIs: T. Stach; K. Matuschewski)
- Kaiser C. Einführung in histologische Techniken und Methoden der 3D-Rekonstruktion am Beispiel von *Stegosoma magnum* (PI: T. Stach)

BSc projects (contin.)

Kanan-Hassan M. Sind Zecken ein Problem in Berlin? (PI: K. Matuschewski)

Lawrenz F. Einführung in histologische und elektronenmikroskopische Methoden am Beispiel von *Fritillaria borealis* (PI: T. Stach)

Mai S.P. Skabiesbefall in Berliner Schulen. (PI: K. Matuschewski)

Marunczak M. Bürgerwissenschaftliche Daten zu Vögeln in Städten (PI: E. Heitlinger)

Mutschelknaus J. Mapping of Wertach, Augsburg, for potential habitats of trematode transmission (PIs: T. Stach; K. Matuschewski)

Schäfer H. Redirecting a Plasmodium protein out of the host nucleus to study the impact of its effector function. (PI: A. Ingmundson)

Schild NK. Einführung in histologische Techniken und Methoden der 3D-Rekonstruktion am Beispiel von *Fritillaria haplostoma* (PI: T. Stach)

Stock J. Einführung in histologische und elektronenmikroskopische Methoden am Beispiel von *Fritillaria borealis* (PI: T. Stach)