

Curriculum Vitae

Jeremias N. Brand

Contact

Jeremias N. Brand

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Languages

German ■■■

English ■■■

French ■□□

Spanish ■□□

IT Skills

R, Python, bash, javascript,

HTML, PHP, git, vim,

snakemake, SQL,

MS Office, Illustrator,

Photoshop, GIMP, ImageJ

Wetlab Skills

Microscopy (DIC, SBFSEM,

TEM), RNA extraction, PCR,

Gel electrophoresis,

Chromatography

Education

11.2015 – 07.2020 PhD in Zoology, University of Basel, CH.
Summa cum laude, Supervised by PD Dr. Lukas Schärer

11.2017 – 03.2018. Visiting Scholar at University of Idaho, USA.
Supervised by Prof. Luke J. Harmon

08.2013 – 04.2015 Master of Animal Biology, University of Basel, CH.
Grade – 5.8/6.0. Specialization in Evolutionary Biology

08.2009 – 06.2013 Bachelor of Organismal Biology, University of Basel, CH.
Grade – 5.0/6.0. Specialization in Parasitology, Ecology,
Evolutionary Biology and Plant Science

Courses

09.2018 GreifOlution: 1st Greifswald Summer School on
Mathematics of Evolution (7 days), Institute of
Mathematics and Computer Science, University of
Greifswald, DE.

09.2018 Comparative Genomics (3 days), Swiss Institute for
Bioinformatics, Lausanne, CH.

05.2017 Computational Molecular Evolution (10 days), European
Bioinformatics Institute,
Wellcome Genome Campus, Hinxton, Cambridge, UK.

09.2017 Talking Science (1 day), University of Basel, CH.

01.2016 Workshop on Genomics (14 days), Cesky Krumlov, CZ.

06.2014 Summer School in Evolutionary Biology (7 days),
Guarda, CH.

Employment history

Since 01.2021 Postdoc, Department of Tissue Dynamics and
Regeneration, Max Planck Institute for Biophysical
Chemistry, Göttingen, DE.

08. – 12.2020 Postdoc, Schärer group, University of Basel, CH.

11.2015 – 04.2020 PhD candidate in Zoology, University of Basel, CH.
Supervised by PD Dr. Lukas Schärer

04. – 11.2015 Civil Service. Research Assistant at Institute for organic
farming (FiBL), Frick, CH.

02. – 0.8.2012 Civil Service. Technician and Research Assistant at
Institute for Ecopreneurship, University of Applied
Sciences and Arts Northwestern Switzerland, Muttensz,
CH.

07. – 09.2011 Civil Service. Nature conservation work. Verein mum,
Zürich, CH.

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Publications

- Brand J. N.**, G. Viktorin, R. A. W. Wiberg, C. Beisel, and L. Schärer. 2022. *Large-scale phylogenomics of the genus Macrostomum (Platyhelminthes) reveals cryptic diversity and novel sexual traits*. Molecular Phylogenetics and Evolution. 166:107296.
- Wiberg, R. A. W., **J. N. Brand**, and L. Schärer. 2021. *Faster Rates of Molecular Sequence Evolution in Reproduction-Related Genes and in Species with Hypodermic Sperm Morphologies*. Molecular Biology and Evolution, doi: 10.1093/molbev/msab276.
- Brand J. N.**, L. J. Harmon, and L. Schärer. 2021. *Frequent origins of traumatic insemination involve convergent shifts in sperm and genital morphology*. bioRxiv 2021/431427.
- Brand J. N.**, R. A. W. Wiberg, R. Pjeta, P. Bertemes, C. Beisel, P. Ladurner & L. Schärer. 2020. *RNA-Seq of three free-living flatworm species suggests rapid evolution of reproduction-related genes*. BMC Genomics 21:462.
- Schärer, L., **J. N. Brand**, P. Singh, K. S. Zadesenets, C.-P. Stelzer, and G. Viktorin. 2020. *A phylogenetically informed search for an alternative Macrostomum model species, with notes on taxonomy, mating behavior, karyology, and genome size*. Journal of Zoological Systematics and Evolutionary Research 58:41–65. <https://doi.org/10.1111/jzs.12344>
- Neves R., **Brand J. N.**, Gan Q. and Reichert H. 2016. *First time surveying meiofauna in Singapore*. Raffles Bulletin of Zoology Supplement 34(I): 8-12. <http://zoobank.org/urn:lsid:zoobank.org:pub:52431AAA-09BD-4305-B9B7-EA78F989D8D7>

Publications in preparation

- Brand J. N.**, L. J. Harmon & L. Schärer. In preparation. *The evolution of sex allocation and its correlates in a genus of simultaneous hermaphrodites*. (Chapter IV of PhD thesis)
- Brand J. N.** & L. Schärer. In preparation. *Synapomorphies and molecular data suggest a radiation of Macrostomum flatworms in Lake Tanganjika*.
- Singh P., **J. N. Brand** & L. Schärer. In preparation. *Evolution of the suck behaviour, a postcopulatory female resistance trait in a hermaphroditic flatworm genus*.

Contributions to international conferences

Oral presentations

- Brand J. N.**, Harmon L. J., & Schärer L. 2021. *Frequent origins of traumatic insemination predict convergent shifts in sexual trait morphology and sex allocation*. Virtual Evolution 2021.
- Brand J. N.**, Harmon L. J., & Schärer L. 2021. *The evolution of sex allocation and its correlates in 120 Macrostomum species*. Simultaneous and Sequential Hermaphroditic Organisms Workshop, Online Event, Basel, CH.
- Brand J. N.**, Harmon L. J., & Schärer L. 2020. *The evolution of sex allocation and its correlates in 120 Macrostomum species*. 13th International Macrostomum Meeting, Online Event, Innsbruck, AU.
- Brand J. N.**, Viktorin G., Beisel C., Harmon L. J., & Schärer L. 2019. *Frequent transitions to a hypodermic sperm design and correlated effects on copulatory organ morphology in Macrostomum flatworms*. Biology of Spermatozoa 15, Nynäsgård, SE.
- Brand J. N.**, Viktorin G., Beisel C., Harmon L. J., & Schärer L. 2019. *Evolution of sex allocation and its correlates in the flatworm genus Macrostomum*. Simultaneous and Sequential Hermaphroditic Organisms Workshop, Salford, UK.
- Brand J. N.**, Viktorin G., Beisel C. & Schärer L. 2019. *Frequent convergent evolution of hypodermic mating in a flatworm genus revealed by phylogenomics*. Biology 19, Zürich, CH.

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Brand J. N., Viktorin G. & Schärer L. 2018. *Transcriptome based phylogenomics reveal convergent evolution of hypodermic insemination in Macrostomum flatworms*. 17. Annual Meeting of the Swiss Systematics Society, Bern, CH.

Brand J. N., Viktorin G. & Schärer L. 2018. *Frequent origins of hypodermic insemination in a free-living flatworm genus*. International Symposium on Flatworm Biology, Alghero, IT.

Brand J. N. & Schärer L. 2017. *Plastic adjustment of sex allocation tracked in individual hermaphrodites*. Simultaneously Hermaphroditic Organisms Workshop, Lund, SE.

Brand J. N. & Schärer L. 2016. *A phylogenomic approach to understand sexual trait evolution in hermaphrodites*. 10th International Macrostomum Meeting, Basel, CH.

Brand J. N. & Schärer L. 2015. *Flexible sex allocation in Macrostomum lignano*. 9th International Macrostomum Meeting, Innsbruck, AU.

Poster presentations

Brand J. N., Viktorin G. & Schärer L. 2018. *Frequent origins of hypodermic insemination in a free-living flatworm genus*. 1. Summer school on Biomathematics, Greifswald, DE

Brand J. N., Salvenmoser W. & Schärer L. 2017. *Exaggeration of a sperm trait in four newly discovered flatworm species*. Biology of Spermatozoa 14, Sheffield, GB

Brand J. N., Janssen T., Vizoso D. B. & Schärer L. 2017. *Comparing phylogenies inferred with few or many genes in a flatworm genus*. Conference of the European Society of Evolutionary Biology, Groningen, NL

Brand J. N. & Schärer L. 2015. *Comparative phylogenetic analysis of sex allocation evolution in the hermaphroditic flatworm genus Macrostomum*. Conference of the European Society of Evolutionary Biology, Lausanne, CH

Institutional responsibilities

02.2016 – 12.2017 Host and organization “Interaction Seminar”, Zoological Institute, Basel, CH.

02.2009 – 12.2009 Member of Student Parliament, Studierendenrat, SKUBA, Two terms, University of Basel, CH.

Supervision of junior researchers

Tanja Koch and Anaïs Galli (3rd year BSc., 6 week project). 02.-03.2017.
Hypodermic insemination and selfing in newly discovered Macrostomum species.
Block course “Zoology and Evolution”. Project co-supervisor. University of Basel, CH.

Alessandra Lochmatter and Michaela Zwyer (3rd year BSc., 6 week project). 02.-03.2016.
Sperm dynamics in Macrostomum hystrix after hypodermic self-insemination.
Block course “Zoology and Evolution”. Project co-supervisor. University of Basel, CH.

Naomi Reichlin (High school student, High school thesis, 3 month project). 01.-03.2014.
Schwimmgeschwindigkeit in Abhängigkeit der Körpergrösse in Macrostomum Plattwürmern. Supervisor.
University of Basel, CH.

Teaching activities

Morphometrics and Image Analysis Teaching assistant in 8h practical (3rd year BSc.)
03.2017 & 03.2019, University of Basel, CH.

Marine Biology and Biogeochemistry Teaching assistant in 10 day field course (MSc. Level).
06.2015 & 06. – 07.2017, University of Basel, Elba, IT.

Flatworm Biology Teaching assistant in 8h practical (3rd year BSc.)
03.2015, 03.2016, 03.2017, University of Basel, CH.

Wikipedia Writing Week Teaching assistant in one week of practical (3rd year BSc.)
02.2016, University of Basel, CH

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Scientific reviewing activities

Reviewer for: **Ethology, Ecology & Evolution** (ISSN: 0394-9370), **Evolution** (ISSN: 1558-5646), **Zoologischer Anzeiger** (ISSN: 0044-5231), **Zoological Letters** (ISSN: 2056-306X), and **Zoological Science** (ISSN: 0289-0003)

Active memberships in scientific societies

European Society of Evolutionary Biology, Society for the Study of Evolution, Swiss Systematics Society

Organization of conferences

- 11.2016** 10th International Macrostomum Meeting
Assisted in planning and organizing of the conference, Basel, CH
- 07.2012** Conference on Managed Aquifer Recharge (MAR), Main organiser, Basel, CH.
Meeting for EU-Project partners from India and Germany
- 03.2011** Theme week "Critical Science", Main organiser, Biozentrum, Basel, CH
One week of discussion and lectures with scientists, journalists and educators
- 08.2009 – 12.2015** Co-founder and organizer of a lecture series every semester for "Freethinkers Basel"
An organization for the promotion of critical thinking and interdisciplinary exchange

Outreach activities

Brand J. N. 2017. *Sex and Violence in the Beach*. Science Slam 17, Basel, CH

Brand J. N. 2011. Theme week – „Critical Science“. Biozentrum University of Basel, CH
Main organiser. *One week of interdisciplinary discussion and lectures with scientists, journalists and educators.*

Awards and grants

Awards

- 09.2018** Best Poster Award at 1st Summer School for Biomathematics, Greifswald, DE
- 10.2017** 2nd Place Basel Science Slam 17, Basel, CH.

Grants

- 09.2019** Travel Grant, University of Basel, (880 CHF)
- 09.2018** Deutscher Akademischer Austauschdienst (DAAD)– Sponsored participation in Summerschool
- 09.2018** Deutscher Akademischer Austauschdienst (DAAD) – Travel Grant: 250 EURO
- 08.2017** Travel Grant, University of Basel (360 CHF)
- 06.2017** Travel Grant, University of Basel (1750 CHF)
- 02.2011** Grant for Theme Week "Critical Science", Mercator Foundation Switzerland, 4500 CHF