Curriculum vitae

Dr. Moritz David Lürig

**14.04.1986, Mülheim an der Ruhr, Germany*

Postdoctoral scholar

Lund University
Department of Biology
Evolutionary Ecology Unit

Lund University | Office C212
Sölvegatan 37 | 22362 Lund | Sweden

moritz.lurig@biol.lu.se
https://www.luerig.net

Education

Dr. Sc. ETH Zürich 04/2015 - 09/2019	**ETH Zürich (Eidgenössische Technische Hochschule Zürich)**. Supervisors: Blake Matthews and Jukka Jokela. Thesis: *Species interactions - from phenotypes to ecosystems*. Defense: 28.06.2019. Opponent: Stewart Plaistow. [PDF][DOI]
M. Sc. (Marine Environmental Sciences) 10/2011 - 03/2015	**Carl von Ossietzky University of Oldenburg**. Supervisors: Jay Stachowicz (University of California, Davis) and Helmut Hillebrand. Thesis: *Microhabitat partitioning in seagrass mesograzers is driven by consistent species choices across multiple predator and competitor contexts*. [PDF][DOI]
B. Sc. (Environmental Sciences) 10/2006 - 9/2011	**Carl von Ossietzky University of Oldenburg.** Supervisors: Andreas Kunzmann (University of Bremen) and Meinhard Simon. Thesis: *Effects of short term aragonite undersaturation and elevated temperature on the physiology of Stylophora pistillata*. [PDF][DOI]

Academic positions

Lund University since 07/2020	**Postdoctoral scholar** with Erik I. Svensson. Project: *Phenomics and evolution of sexual colour polymorphism in damselflies*. Funded i) by the European Commission (Marie Skłodowska Curie Actions - Individual Fellowship) and ii) by the Swiss National Science Foundation (Early Postdoc.Mobility fellowship).
Eawag 01/2020 - 06/2020	**Postdoctoral scholar** with Ole Seehausen, Jukka Jokela, and Jan Wegner. Project: *Development of a high throughput phenotyping toolbox*. Funded by the Eawag directorate (Discretionary Funding Scheme).
ETH Zürich/ Eawag 04/2015 - 12/2019	**Doctoral student** with Blake Matthews and Jukka Jokela at Eawag (Swiss Federal Institute of Aquatic Science and Technology). Funded by the Center for Adaptation to a changing environment (ACE, ETH Zürich).

Peer reviewed publications

2022	**Lürig, M. D.** (2022). phenopype : A phenotyping pipeline for Python. Methods in Ecology and Evolution / British Ecological Society, 13(3), 569–576. [DOI]
	Best, R.J. and **Lürig, M. D.**. The Ecological Importance of Crustacean Diversity. Book chapter in: Gutow, L., Poore, A. and Thiel, M. (Eds.), The Natural History of the Crustacea: The Ecological Role and Conservation of Crustaceans. Oxford University Press. *In press*.
2021	Lafuente, E.,**Lürig, M.D.**, Rövekamp, M., Matthews, B., Buser, C., Vorburger, C., and Räsänen, K. (2021). Building on 150 Years of Knowledge: The Freshwater Isopod Asellus aquaticus as an Integrative Eco-Evolutionary Model System. Frontiers in Ecology and Evolution, 9. [DOI]

Russo, S., Besmer, M. D., Blumensaat, F., Bouffard, D., Disch, A., Hammes, F., Hess, A., **Lürig, M.D.**, Matthews, B., Minaudo, C., Morgenroth, E., Tran-Khac, V., and Villez, K. (2021). The value of human data annotation for machine learning based anomaly detection in environmental systems. Water Research, 117695, 117695. [DOI]

Moosmann, M., Cuenca-Cambronero, M., De Lisle, S., Greenway, R., Hudson, C. M., **Lürig, M.D.**, and Matthews, B. (2021). On the evolution of trophic position. Ecology Letters. Ecology Letters, 24(12), 2549–2562. [DOI]

Lürig, M.D., Narwani, A., Penson, H., Wehrli, B., Spaak, P., and Matthews, B. (2021). Non-additive effects of foundation species determine the response of aquatic ecosystems to nutrient perturbation. Ecology 102(7), e03371. [DOI]

Lürig, M.D., Donoughe, S., Svensson, E.I., Porto, A., and Tsuboi, M. (2021). Computer Vision, Machine Learning, and the Promise of Phenomics in Ecology and Evolutionary Biology. Frontiers in Ecology and Evolution 9:642774. [DOI]

Lürig, M.D., and Matthews, B. (2021). Dietary-based developmental plasticity affects juvenile survival in an aquatic detritivore. Proceedings of the Royal Society B: Biological Sciences 288:20203136. [DOI]

Lürig, M.D., Best, R.J., Dakos, V., and Matthews, B. (2021). Submerged macrophytes affect the temporal variability of aquatic ecosystems. Freshw. Biol. 66(3), 104869, [DOI]

2020 Russo, S., **Lürig, M.D.**, Hao, W., Matthews, B., and Villez, K. (2020). Active learning for anomaly detection in environmental data. Environmental Modelling & Software 134, 104869. [DOI]

Leal, M. C., Anaya-Rojas, J.M., Munro, M.H.G., Blunt, J.W., Melian, C.J., Calado, R., **Lürig, M. D.** (2020). Fifty years of capacity building in the search for new marine natural products. Proceedings of the National Academy of Sciences 17(39), 24165-24172. [DOI]

2019 **Lürig, M.D.**, Best, R.J., Svitok, M., Jokela, J., Matthews, B. (2019). The role of plasticity in the evolution of cryptic pigmentation in a freshwater isopod. Journal of Animal Ecology 88(4), 612–623. [DOI]

2016 **Lürig, M.D.**, Best, R.J., Stachowicz, J.J. (2016). Microhabitat partitioning in seagrass mesograzers is driven by consistent species choices across multiple predator and competitor contexts. Oikos 125, 1324-1333. [DOI]

2015 **Lürig, M.D.**, Kunzmann A. 2015). Effects of short term aragonite undersaturation and elevated temperature on the physiology of *Stylophora pistillata*. Journal of Sea Research 99, 26–33. [DOI]

Oral presentations (selected)

2022 **European Society for Evolutionary Biology, Annual Meeting, Prague, Czech Republic**: Phenomics of sexual conflict: how integrated are color and shape in a female limited polymorphism?.

IEES / Sorbonne, Paris, France(*invited*): Computer vision in evolutionary ecology: toward assembling a phenome.

2021 **East of Scotland Bioscience Doctoral Training Series, Aberdeen, Scotland (*invited*)**: Deep learning powered computer vision as a promising avenue for phenomics.

2019 **University of Hokkaido, Tomakomai, Japan (*invited*)**: *Asellus aquaticus* as an emerging model system in ecology and evolutionary research.

University of Ljubljana, Slovenia (*invited*): Isopods (*Asellus aquaticus*) as an emerging model system for eco-evo-devo.

European Society for Evolutionary Biology, Annual Meeting, Turku, Finland: Diet-based developmental plasticity and fitness in a detritivorous isopod (*Asellus aquaticus*).

2018 **British Ecological Society, Annual Meeting, Birmingham, UK**: Species interactions and the resilience of aquatic ecosystems to nutrient perturbation.

2017 **Dynatrait Programme Conference. Stephansstift, Hannover, Germany**: Interactive effects of selection and plasticity during rapid evolution of a freshwater isopod.

2013 **Western Society of Naturalists Annual Meeting. Oxnard, CA, USA**: Microhabitat selection by seagrass mesograzers: effects of predation, trait variation and species interactions.

Approved research projects

03/2020	**191 852 EUR**	Marie Skłodowska Curie Actions Individual Fellowship (European Commission; 24 month postdoc scholarship): Phenomics and evolution of sexual colour polymorphism in damselflies.
09/2019	**76 100 CHF**	Early Postdoc.Mobility Fellowship (Swiss National Science Foundation; 18 month postdoc fellowship): Phenomics and evolution of sexual colour polymorphism in damselflies
09/2019	**54 703 CHF**	Eawag Discretionary Funding (Eawag directorate; 6 month postdoc scholarship): development of a high-throughput phenotyping pipeline
04/2015	**168 919 CHF**	PhD Fellowship advertised by ETH Zürich through through the Center for Adaptation to a Changing Environment (36 months PhD fellowship).

Supervision of junior researchers

since 09/2022	PhD co-mentor for Sofie Nilén. Thesis title: TBD
11/2021 - 01/2022	BSc mentor for Kent Johansson. Thesis title: Phenomics of sexual conflict in Ischnura elegans (Lund University)
01/2020 - 06/2020	PhD co-mentor for Nare Ngoepe. Thesis title: Reconstructing the trophic radiation of Lake Victoria Cichlids (Eawag)
01/2018 - 12/2018	MSc co-mentor for Kim Kaltenbach. Thesis title: The Role of Predator-Mediated Selection on Isopod Pigmentation (Eawag)
06/2013 - 10/2013	BSc co-mentor for Elena Huynh: Thesis title: Effects of epiphyte-cover on the microhabitat preference of *Caprella californica* (UC Davis / Bodega Marine Lab)

Peer review

since 05/2016	Review of manuscripts for *Marine Biology*, *Zoology*, *Ecology and Society*, *Journal of Animal Ecology*, *Oikos*, *Methods in Ecology and Evolution*, *Biological Journal of the Linnean Society*, *Ecology and Evolution*, *Behavioural Ecology and Sociobiology*, *Freshwater Science*, *Current Zoology*, *Journal of the Royal Society - Interface*

Memberships in scientific societies

since 01/2016	Member of the European Society for Evolutionary Biology
since 08/2015	Member of the British Ecological Society

Organisation of conferences and symposia

02/2022	Computer vision for biodiversity monitoring (WSL, Switzerland).
11/2021	Second international *Asellus aquaticus* symposium.
05/2020	Computer vision and machine learning in ecology and evolution.
12/2018	First international *Asellus aquaticus* symposium.
05/2016	Aquatic Ecology PhD Symposium at Eawag.