

Curriculum Vitae

Patrick T. Rohner

Department of Biology, Indiana University
915 E 3rd St, 102 Myers Hall
Bloomington, Indiana, 47405
United States

Phone: +1 812 325 17 45
Email: prohner@iu.edu
Web: www.patrickrohner.org

DEGREES

PhD in Evolutionary Biology , University of Zurich, Switzerland	2015-2018
MSc in Systematics and Evolution , University of Zurich, Switzerland	2014-2015
BSc in Biology , University of Zurich, Switzerland	2011-2014

APPOINTMENTS

Postdoctoral Research Fellow , Indiana University, Department of Biology, USA	2019-2021
Postdoctoral Researcher , University of Zurich, Department of Evolutionary Biology and Environmental Studies, Switzerland	2018-2019

GRANTS & AWARDS

First runner-up John Maynard Smith Prize (ESEB)	2021
Wenner-Gren Postdoc Fellowship in conjunction with David Berger (Uppsala University)	2020
Postdoc.Mobility fellowship of the Swiss National Science Foundation	2020
Alfred Russel Wallace Award of the Royal Entomological Society for an outstanding PhD	2019
Early Postdoc.Mobility fellowship of the Swiss National Science Foundation	2018
Forschungskredit of the University of Zurich	2015
Semester prize of the University of Zurich for best undergraduate student project	2012

PUBLICATIONS IN PEER-REVIEWED JOURNALS (31 in total)

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- 2021** Blanckenhorn W.U., Berger D., Rohner P.T., Walters R.J. and Schäfer M.A. (2021, in press) Comprehensive thermal performance curves for yellow dung fly life history traits and the temperature-size-rule. *Journal of Thermal Biology*.
- Rohner P.T., Linz D.M. and Moczek A.P. (2021) *Doublesex* mediates species-, sex-, environment-, and trait-specific exaggeration of size and shape. *Proceedings of the Royal Society B*. 288: 20210241. [\[doi\]](#)
- Rohner P.T. (2021, in press) A role for sex determination genes in life history evolution? *Doublesex* mediates sexual size dimorphism in the gazelle dung beetle. *Journal of Evolutionary Biology*. [\[doi\]](#)
- Blanckenhorn W.U., Baur J., Roy J., van Koppenhagen N., Gourgoulianni N., Puniamoorthy N., Busso J.P., Schäfer M.A. and Rohner P.T. (2021) Congruent sexual selection in field and laboratory in closely related sepsid flies. accepted in *Animal Behaviour* 175: 219-230. [\[doi\]](#)
- 2020** Rohner P.T., Macagno A.L.M. and Moczek, A.P. (2020) Evolution and plasticity of morph-specific integration in the bull-headed dung beetle *Onthophagus taurus*. *Ecology and Evolution* 10: 10558-10570. [\[doi\]](#)

- Rohner P.T.** and Moczek A.P. (2020) Rapid differentiation of plasticity in life history and morphology during invasive range expansion and concurrent local adaptation in the horned beetle *Onthophagus taurus*. *Evolution* 74: 2059-2072. [\[doi\]](#)
- Blanckenhorn W.U., Baur J., Busso J.P., Giesen A., Gourgoulianni N., van Koppenhagen N., Roy J., Schäfer M.A., Wegmann A. and **Rohner P.T.** (2020) Sexual size dimorphism is associated with reproductive life history trait differentiation in coexisting sepsid flies. *Oikos* 129:1152-1162. [\[doi\]](#)
- Crabtree J.R., Macagno A.L.M., Moczek A.P., **Rohner P.T.** and Hu Y. (2020) Notch signaling patterns head horn shape in the bull-headed dung beetle *Onthophagus taurus*. *Genes Development and Evolution* 230:213-225. [\[doi\]](#)
- Rohner P.T.** (2020) Evolution of multivariate wing allometry in schizophoran flies (Diptera: Schizophora). *Journal of Evolutionary Biology* 33:831-841. [\[doi\]](#)
- Baur J., Roy J., Schäfer M.A., Puniamoorthy N., Blanckenhorn W.U. and **Rohner P.T.** (2020) Intraspecific mating system evolution and its effect on complex male secondary sexual traits: Does male-male competition increase selection on size or shape? *Journal of Evolutionary Biology* 33:297-308. [\[doi\]](#)
- van Koppenhagen N., Gourgoulianni N., **Rohner P.T.**, Roy J., Wegmann A. and Blanckenhorn W.U. (2020) Sublethal effects of the parasiticide ivermectin on male and female reproductive and behavioral traits in the yellow dung fly. *Chemosphere* 242:125240. [\[doi\]](#)
- Baur J., Giesen A., **Rohner P. T.**, Blanckenhorn W. and Schäfer M. (2020) Exaggerated male forelegs are not more differentiated than wing morphology in two widespread sister species of black scavenger flies. *Journal of Zoological Systematics and Evolutionary Research* 58:159-173. [\[doi\]](#)
- 2019** Khelifa R., Blanckenhorn W., Roy J., **Rohner P. T.** and Mahdjoub H. (2019) Usefulness and limitations of thermal performance curves in predicting ectotherm development under global change. *Journal of Animal Ecology* 88: 1901-1912. [\[doi\]](#)
- Rohner P. T.**, Roy J., Schäfer M. A., Berger D. and Blanckenhorn W. U. (2019) Does thermal plasticity predict clinal variation in wing size and shape? An inter- and intraspecific comparison in two sepsid flies. *Journal of Evolutionary Biology* 32:463-475. [\[doi\]](#)
- Zeender V., Roy J., Wegmann A., Schäfer M. A., Gourgoulianni N., Blanckenhorn W. U. and **Rohner P. T.** (2019) Comparative reproductive dormancy differentiation in European black scavenger flies (Diptera: Sepsidae). *Oecologia* 189:905-917. [\[doi\]](#)
- Laux A., Wegmann A., Roy J., Gourgoulianni N., Blanckenhorn W. U. and **Rohner P. T.** (2019) The role of larval substrate specialization and female oviposition in mediating species diversity of closely-related sepsid flies (Diptera: Sepsidae). *European Journal of Entomology* 116:75-84. [\[doi\]](#)

- Rohner P.T., Haenni J.-P., Giesen A., Busso J.P. Schäfer M. A., Püchel-Wieling F. and Blanckenhorn W. U. (2019) Temporal niche partitioning of Swiss black scavenger flies in relation to season and substrate age (Diptera: Sepsidae). *Alpine Entomology* 3:1-10. [doi]
- 2018** Rohner P.T. and Blanckenhorn W.U. (2018) A comparative study of the role of sex-specific condition dependence in the evolution of sexually dimorphic traits. *The American Naturalist* 192:E202-E215. [doi]
- Schäfer M.A., Berger D., Rohner P.T., Kjaersgaard A., Bauerfeind S.S., Guillaume F., Fox C.W. and Blanckenhorn W. U. (2018) Geographic clines in wing morphology relate to colonization history in New World but not Old World populations of yellow dung flies. *Evolution* 72:1629-1644. [doi]
- Conforti S., Dietrich J., Kuhn T., van Koppenhagen N., Baur J., Schäfer M.A., Rohner P.T. and Blanckenhorn W.U. (2018) Comparative effects of the common parasiticide ivermectin on adult survival and reproduction of nine sepsid fly species. *Ecotoxicology and Environmental Safety* 163:215-222. [doi]
- Roy J., Blanckenhorn W.U. and Rohner P.T. (2018) Largely flat latitudinal life history clines in the dung fly *Sepsis fulgens* across Europe (Diptera: Sepsidae). *Oecologia*. 187:851-862. [doi]
- Rohner P.T., Pitnick S., Blanckenhorn W.U., Snook R.R., Bächli G. and Lüpold S. (2018) Interrelations of global macroecological patterns in wing and thorax size, sexual size dimorphism, and range size of the Drosophilidae. *Ecography* 41:1707-1717. [doi]
- Rohner P. T., Teder T., Esperk T., Lüpold S. and Blanckenhorn W.U. (2018) The evolution of male-biased sexual size dimorphism is associated with increased body size plasticity in males. *Functional Ecology* 32:581-591. [doi]
- 2017** Rohner P. T., Blanckenhorn W.U. and Schäfer M. A. (2017) Critical weight mediates sex-specific body size plasticity and sexual dimorphism in the yellow dung fly *Scathophaga stercoraria* (Diptera: Scatophagidae). *Evolution & Development* 19:147-156. [doi]
- 2016** Rohner P.T., Blanckenhorn, W.U. and Puniamoorthy, N. (2016). Sexual selection on male size drives the evolution of male-biased sexual size dimorphism via the prolongation of male development. *Evolution* 70:1-11. [doi]
- Blanckenhorn W. U., Rohner P. T., Bernasconi M. V., Haugstetter J. and Buser A. (2016). Is quantitative mass barcoding of dung fauna biodiversity feasible? *Environmental Toxicology and Chemistry* 35:1970–1977. [doi]
- Rohner P. T. and Bächli G. (2016). Faunistic data of Sepsidae (Diptera) from Switzerland and additional countries including the first Swiss record of *Meroplus fukuharai* (Iwasa, 1984). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 89:237-260. [doi]
- 2015** Ang Y., Rohner P. T. and Meier R. (2015). Across the Baltic: a new record for a Swedish fly, *Zuskamira inexpectata* (Pont, 1987) (Sepsidae) in Finland. *Biodiversity Data Journal* 3:e4308. [doi]

Rohner, P.T. (2015). An updated checklist of the Sepsidae (Diptera) of Switzerland, including the first record of *Themira superba* (Haliday, 1833). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft* 88: 371–377. [doi]

Rohner P. T., Bächli G., Pollini L., Duelli P., Obrist M., Jochmann R. and Blanckenhorn W. U. (2015). Distribution, diversity gradients and Rapoport's elevational rule in the black scavenger flies of the Swiss Alps (Diptera: Sepsidae). *Insect Conservation and Diversity* 8:367-376. [doi]

2014 Rohner P. T., Ang Y., Zhao L., Puniamorthy N., Blanckenhorn W.U. and Meier R. (2014). Genetic data confirm the species status of *Sepsis nigripes* Meigen, 1826 (Diptera: Sepsidae) and adds one species to the Alpine fauna while questioning the synonymy of *Sepsis helvetica* Munari, 1985. *Invertebrate Systematics* 28:555-563. [doi]

MANUSCRIPTS CURRENTLY UNDER PEER-REVIEW

Rohner P.T., Secondary sexual trait coloration in 'black' scavenger flies: nutritional plasticity and its evolution.

Rohner P.T. and Moczek A.P. Evolutionary and plastic variation in larval growth and digestion reveal the complex underpinnings of size and age at maturation in dung beetles.

Rohner P.T., Yoong K.S., Tuan M.J.M. and Meier R. The cost of sex in male sepsid flies (Diptera: Sepsidae).

Walters R.J., Berger D., Blanckenhorn W.U., Bussière L.F., **Rohner** P.T., Jochmann R., Thüler K. and Schäfer M.A. Growth rate mediates hidden developmental plasticity of female yellow dung fly reproductive morphology in response to environmental stressors.

EDITORIAL BOARD MEMBERSHIP

Subject Editor for *Alpine Entomology* (Diptera, Evolution, Ecology; alpineentomology.net)

REVIEWER FUNCTIONS (publons.com/a/1051154)

<i>Animal Behaviour</i>	<i>Insect Conservation and Diversity</i>
<i>Behavioral Ecology and Sociobiology</i>	<i>Insect Science</i>
<i>Biological Journal of the Linnean Society</i>	<i>Integrative Organismal Biology</i>
<i>Biology Letters</i>	<i>Journal of Animal Ecology</i>
<i>BMC Evolutionary Biology</i>	<i>Journal of Evolutionary Biology</i>
<i>Cladistics</i>	<i>Journal of Morphology</i>
<i>Ecology Letters</i>	<i>Nature Ecology and Evolution</i>
<i>Ecological Entomology</i>	<i>Oikos</i>
<i>Ecology and Evolution</i>	<i>Oecologia</i>
<i>Entomologica Experimentalis et Applicata</i>	<i>PeerJ</i>
<i>Entomological Science</i>	<i>Physiological Entomology</i>
<i>Ethology</i>	<i>Proceedings B</i>
<i>EvoDevo</i>	<i>Scientific Reports</i>
<i>Evolution</i>	<i>Zoology</i>
<i>Evolution & Development</i>	

PRESENTATIONS AT NATIONAL AND INTERNATIONAL MEETINGS

ORAL CONTRIBUTIONS

- Rohner** P.T., Linz D. M. and Moczek, A.P. (2021) *Developmental underpinnings of sexual dimorphism, sex-specific plasticity, and the resolution of sexual conflict: Insights from studying dung beetle size and shape*. Virtual Evolution 2021.
- Rohner** P.T., Linz D. M. and Moczek, A.P. (2021) *Entwicklungsbiologische Ursachen sexueller Merkmale bei Mistkäfern: Wie macht man lange Beine?* Annual conference of the Swiss Entomological Society (virtual).
- Rohner** P.T., Linz D. M. and Moczek, A.P. (2021) *Developmental underpinnings of sexual dimorphism, sex-specific plasticity, and the resolution of sexual conflict: Insights from studying dung beetle size and shape*. Virtual Asilomar 2021 (virtual stand-alone conference of the American Society of Naturalists).
- Rohner** P.T. and Berger D. (2019) *Does thermal plasticity align with local adaptation? – An interspecific comparison of wing shape and size in sepsid flies*. Evolution Evolving in Cambridge, United Kingdom.
- Rohner** P.T., Blanckenhorn W.U. and Lüpold S. (2017). *Global macroecology of size, dispersal and range extent in drosophilids*. Biology17 in Bern, Switzerland.
- Rohner** P.T., Puniamoorthy N. and Blanckenhorn W. U. (2016). *Multiple origins of reversals in sexual size dimorphism and sexual selection in black scavenger flies*. Biology16 in Lausanne, Switzerland.
- Rohner** P.T., Bächli G., Pollini L. P., Duelli P., Obrist M., Jochmann R. and Blanckenhorn W.U. (2015). *Distribution, diversity gradients and Rapoport's elevational rule in the Sepsidae*. Entomo.ch in Zurich, Switzerland.
- Rohner** P.T., Ang Y., Zhao L., Puniamoorthy N., Blanckenhorn W.U. and Meier R. (2014) *Morphology vs. molecules – species boundaries in two rare dung fly species (Diptera; Sepsidae)*. Swiss Systematics Society Meeting 2014 in Geneva, Switzerland.
- Rohner** P. T., Blanckenhorn W.U. and Puniamoorthy N. (2014). *Cross-continental variation in sexual selection and its effect on the contrasting reversal of sexual size dimorphism in closely related sepsid fly species*. 8th International Congress of Dipterology in Potsdam, Germany.

POSTER PRESENTATIONS

- Rohner** P.T. and Blanckenhorn W.U. (2018). *A comparative study of the role of sex-specific condition dependence in the evolution of sexually dimorphic traits*. Biology18 in Neuchâtel, Switzerland.
- Dallo R., **Rohner** P. T., Blanckenhorn W.U. and Martin O. (2018). *How costly is sex? - Insights from a fly in benign vs. stressful environments*. Biology18 in Neuchâtel, Switzerland.
- Rohner** P.T., Pitnick S., Blanckenhorn W.U., Snook R.R., Bächli G. and Lüpold S. (2017) *Clinal variation in wing and body size of drosophilids: Selection for increased dispersal capacity in the cold?* 16th Congress of the European Society for Evolutionary Biology in Groningen, the Netherlands.

Rohner P. T. and Blanckenhorn W.U. (2014). *A shitload of flies: Surprisingly rich alpine fauna of dung flies in Switzerland (Diptera: Sepsidae).* 8th International Congress of Dipterology in Potsdam, Germany.

Rohner P. T., Ang Y., Zhao L., Puniamoorthy N., Blanckenhorn W.U. and Meier R. (2014). *Genetic data confirm the species status of Sepsis nigripes Meigen, 1826 (Diptera: Sepsidae) and adds one species to the Alpine fauna while questioning the synonymy of Sepsis helvetica Munari, 1985.* 8th International Congress of Dipterology in Potsdam, Germany.

Rohner P. T., Blanckenhorn W.U. and Puniamoorthy N. (2014). *Cross-continental variation in sexual selection: Contrasting reversal of sexual size dimorphism in closely related sepsid flies.* biology14 conference in Geneva, Switzerland.

Rohner P. T., Blanckenhorn W.U. and Puniamoorthy N. (2013). *Cross-continental variation in sexual selection: Contrasting reversal of sexual size dimorphism in closely related sepsid flies.* 14th Congress of the European Society for Evolutionary Biology in Lisbon, Portugal.

TEACHING AND MENTORING OF UNDERGRADUATES

TEACHING ASSISTANCE at the University of Zurich:

- Ecology (BIO329)
- Principles of Evolution (BIO352)
- Biology of Reproduction (BIO361)
- Diversität der Wirbellosen [invertebrate diversity, in german] (BIO114)
- Research Practical in Evolutionary Biology (BIO 378)

UNDERGRADUATE MENTORING at Indiana University, USA:

- Levi Burdine. The Science, Technology, and Research Scholars (STARS) program: *Local adaptation during rapid range expansions.*

UNDERGRADUATE MENTORING at the University of Zurich, Switzerland:

- Sheena Conforti, Jana Dietrich, Thierry Kuhn and Nicola van Koppenhagen. Research Practical in Evolutionary Biology (BIO 378): *Comparative effects of the common parasiticide ivermectin on adult survival and reproduction of nine sepsid fly species.*
- Emil Birnstiel, David Inauen, Remo Wuetherich, Ecology (BIO 329): *Niche differentiation in sepsid flies.*

UNDERGRADUATE MENTORING at the Swiss Federal Institute of Technology in Zurich (ETH):

- Ramon Dallo. Semesterarbeit: *How costly is sex? - Insights from a fly in different environments.*