Eduard Szöcs

Personal

Date of birth	16.06.1987
Nationality	german
Marital Status	single
Languages	German (native), English (very good), Romanian (good)

Education

04.2014–present	**Ph.D. Environmental Sciences**, *University of Koblenz-Landau*, Landau. Quantification of large scale effects of pesticides on freshwater ecosystems.
04.2012–03.2014	**M. Sc. Ecotoxicology**, *University of Koblenz-Landau*, Landau. Thesis: Analysing mesocosm experiments: Principal Response Curves vs. Multivariate Generalized Linear Models.
11.2011	**B. Sc. Umweltwissenschaften**, *University of Koblenz-Landau*, Landau. Thesis: Effects of salinity and pesticides on community structure of macroinvertebrates in Australian streams.
09.2007–11.2011	**Dipl. Umweltwissenschaften**, *University of Koblenz-Landau*, Landau.

Work Experience and Teaching

02.2016 – present	**Research Assistant**, *University of Koblenz-Landau*, Landau. Field Study in Romania, Data analyses, maintenance of databases and servers, PhD research.
11.2015 – present	**Freelance Scientist & Consultant**. Data sourcing, cleaning and analysis with specialization in Environmental & Ecological data. Courses in ecological statistics with the software "R".
04.2015 – 01.2016	**Research Assistant**, *University of Koblenz-Landau*, Landau. UBA Project: "PSM in Kleingewässern" (FKZ 3714674040/1). Building, maintaining and analysing a nation-wide german pesticide monitoring database.
05.2014 – 04.2015	**Research Assistant**, *University of Koblenz-Landau*, Landau. Data analyses, maintenance of databases and servers, PhD research.

12.2014 – 02.2015	**Teaching Assistant**, *University of Koblenz-Landau*, Landau. Multivariate Statistics Course.
12.2013 – 02.2014	**Teaching Assistant**, *University of Koblenz-Landau*, Landau. Multivariate Statistics Course.
12.2013	**Research Assistant**, *University of Koblenz-Landau*, Landau. Development of a PostgreSQL-database of german physico-chemical data.
12.2012 – 02.2013	**Teaching Assistant**, *University of Koblenz-Landau*, Landau. Multivariate Statistics Course.
12.2012	**Research Assistant**, *Department System Ecotoxicology, UFZ – Helmholtz Centre for Environmental Research*, Leipzig. Development of rspear R-package.
05.2012 – 07.2012	**Internship**, *Department System Ecotoxicology, UFZ – Helmholtz Centre for Environmental Research*, Leipzig. Field Study on the effects of pesticides on macroinvertebrates.
12.2011 – 02.2012	**Teaching Assistant**, *University of Koblenz-Landau*, Landau. Multivariate Statistics Course.
07.2010	**Teaching Assistant**, *University of Koblenz-Landau*, Landau. Aquatic Field Course.
06.2006 – 07.2007	**Internship**, *Landschaftspflegeverband Südpfalz e. V.*, Landau. Freiwilliges Ökologisches Jahr.

Programming Skills

Expert	R
Intermediate	PostgreSQL, PostGIS, GrassGIS, LaTeX, git, regex, html, xml, xpath, cloud computing
Beginner	Python, bash, NetLogo, C++, CDK, openbabel

(Beginner = *"I know the basics and can get the job done"*; Intermediate = *"I can effectively apply these tools"*; Expert = *"I can develop and expand these tools."*)

Software

I have developed or contributed to the following open source software for the R computing environment:

- The **taxize** package (together with Scott Chamberlain) allows taxonomic search, retrieval and handling in R.
- The **webchem** package to retrieve chemical information from the web.
- Contributions to the **vegan** package.
- The **rspear** package calculates SPEAR$_{pesticides}$ in R (deprecated).
- A web application to calculate statistical power for population endpoints in mesocosm experiments (currently offline / deprecated).
- Various other R packages and functions related to eco(toxico-)logy.

All software is freely available from my github account (`https://github.com/EDiLD`), homepage or CRAN.

Publications and Conference contributions

Articles

[1] Laurent Lagadic, Ralf B. Schäfer, Marc Roucaute, **Eduard Szöcs**, Sébastien Chouin, Jérôme de Maupeou, Claire Duchet, Evelyne Franquet, Benoit Le Hunsec, Céline Bertrand, and et al. "No association between the use of Bti for mosquito control and the dynamics of non-target aquatic invertebrates in French coastal and continental wetlands". In: *Science of The Total Environment* 553 (2016), 486–494.

[2] **Eduard Szöcs** and Ralf B Schäfer. "Statistical hypothesis testing—To transform or not to transform?" In: *Integrated Environmental Assessment and Management* 12.2 (2016), 398–400.

[3] **Eduard Szöcs** and Ralf B. Schäfer. "webchem: an R Package to retrieve Chemical Information from the Web". In: *Journal of Statistical Software* (under Review, 2016).

[4] John G. Mbaka, **Eduard Szöcs**, and Ralf B. Schäfer. "Meta-analysis on the responses of traits of different taxonomic groups to global and local stressors". In: *Acta Oecologica* 69 (2015), 65–70.

[5] **Eduard Szöcs**, Paul J. van den Brink, Laurent Lagadic, Thierry Caquet, Marc Roucaute, Arnaud Auber, Yannick Bayona, Matthias Liess, Peter Ebke, Alessio Ippolito, Cajo J. F. ter Braak, Theo C. M. Brock, and Ralf B. Schäfer. "Analysing chemical-induced changes in macroinvertebrate communities in aquatic mesocosm experiments: a comparison of methods". In: *Ecotoxicology* 24.4 (2015), 760–769.

[6] **Eduard Szöcs** and Ralf B. Schäfer. "Ecotoxicology is not normal: A comparison of statistical approaches for analysis of count and proportion data in ecotoxicology". In: *Environmental Science and Pollution Research* 22.18 (2015), 13990–13999.

[7] **Eduard Szöcs**, Eckhard Coring, Jürgen Bäthe, and Ralf B. Schäfer. "Effects of anthropogenic salinization on biological traits and community composition of stream macroinvertebrates". In: *Science of The Total Environment* 468–469 (2014), 943–949.

[8] Scott A. Chamberlain and **Eduard Szöcs**. "taxize: taxonomic search and retrieval in R [v2; ref status: indexed, http://f1000r.es/24v]". In: *F1000Research* 2.191 (2013). DOI: 10.12688/f1000research.2-191.v2.

[9] Ralf B. Schäfer, Mirco Bundschuh, Duncan A. Rouch, **Eduard Szöcs**, Peter C. von der Ohe, Vincent Pettigrove, Ralf Schulz, Dayanthi Nugegoda, and Ben J. Kefford. "Effects of pesticide toxicity, salinity and other environmental variables on selected ecosystem functions in streams and the relevance for ecosystem services". In: *Science of the Total Environment* 415.1 (2012), 69–78.

[10] **Eduard Szöcs**, Ben J. Kefford, and Ralf B. Schäfer. "Is there an interaction of the effects of salinity and pesticides on the community structure of macroinvertebrates?" In: *Science of the Total Environment* 437.1 (2012), 121–126.

Poster

[1] **Eduard Szöcs** and Ralf B. Schäfer. "Ecotoxicology is not normal". SETAC Europe; Barcelona, 2015.

[2] **Eduard Szöcs** and Scott A. Chamberlain. "taxize: taxonomic search and retrieval in R". International Statistical Ecology Conference; Montpellier, 2014.

[3] **Eduard Szöcs**, Ben J. Kefford, V. Pettigrove, and Ralf B. Schäfer. "Einfluss von Pestiziden und Salinität auf Makroinvertebratengemeinschaften". SETAC GLB; Landau, 2011.

As a service to the scientific community I performed a total of 4 reviews for the journals *Proceedings of the Royal Society B, PhytoKeys, Zookeys* and *Environmental Toxicology and Chemistry*.

Workshops held

07.2015 **Data analysis in freshwater ecology using R**, *9th Symposium for European Freshwater Sciences*, Geneva.
Workshop held together with Dr. Ralf B. Schäfer and Avit Kumar Bhowmik. Workshop homepage: `https://github.com/EDiLD/sefs9_Rworkshop`

11.2015 **Data Visualization with ggplot2**, *Workshop held at Young Academics Conference 2015 - Land-Water-Interactions*, Klingenmünster.
Workshop homepage: `https://github.com/EDiLD/r_landau_2015`

Neustadt a.d. Weinstraße, July 20, 2016